Mayor Mallotto
Mayor Pro Tem O'Keefe
Council Member Downs
Council Member Fromberg Edelstein
Council Member Weill

Thursday, December 4, 2025, 1:00 PM
City Council Chamber
69-825 Highway 111
Rancho Mirage, CA 92270

REGULAR MEETING OF THE RANCHO MIRAGE CITY COUNCIL AND COMMUNITY SERVICES DISTRICT, ENERGY AUTHORITY, HOUSING AUTHORITY, JOINT POWERS FINANCE AUTHORITY, LIBRARY AND OBSERVATORY, AND REDEVELOPMENT SUCCESSOR AGENCY BOARDS

AGENDA

1. GENERAL

1.A. Call to Order

1.B. Flag Salute

1.C. Roll Call: Downs, Fromberg Edelstein, Weill, O'Keefe, Mallotto

2. COUNCIL MEMBER COMMENTS/REPORTS

3. CITY MANAGER COMMENTS/REPORTS

4. CONSENT CALENDAR (A-G)

4.A. Waive Full Reading of Any Ordinance Introduced or Adopted Pursuant to this Agenda

4.B. November 20, 2025, Regular City Council Meeting Minutes

— RECOMMENDED ACTION: Approve the November 20, 2025, Regular City Council Meeting Minutes as presented.

4.C. Annual and Five-Year Development Impact Fee Report

— RECOMMENDED ACTION: Receive and file the Development Impact Fee Annual and Five-Year Report, and make the findings referenced in the staff report.

4.D. Annual Comprehensive Financial Report (ACFR) for the Year Ended June 30, 2025, and Other Related Audit Reports

— RECOMMENDED ACTION: Receive and file the Annual Comprehensive Financial Report (ACFR) for the year ended June 30, 2025, and other related audit reports.

4.E. Recognized Obligations Payment Schedule (ROPS) and Administrative Budget for Fiscal Year 2026-2027 Pursuant to AB 26x1 and AB 1484

— RECOMMENDED ACTION: Adopt Resolution No. 2025-SA-(Next-in-Order), Approving and Adopting a Recognized Obligation Payment Schedule and Administrative Budget for Fiscal Year 2026-2027 Pursuant to Assembly Bills 26x1 and 1484.

4.F. Contracts

— RECOMMENDED ACTION: Approve the terms of the contracts as presented and authorize the City Manager to execute the subject contracts.

4.G. Demands

— RECOMMENDED ACTION: Approve the demands as presented.

5. PUBLIC HEARINGS

5.A. CONTINUED FROM 11/20/2025 CITY COUNCIL MEETING - Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) – Applicant: Phillip Fomotor. Consideration of a 16-Lot Residential Subdivision on 19.81 Gross Acres. The Project Requests Approval of a Minor Variance to the Residential Estate (R-E) Minimum Required Lot Size. Located North of the Intersection of Mirage Cove Drive and Peterson Road (APN's: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022)

— RECOMMENDED ACTION: 1) Approve the filing of a Mitigated Negative Declaration (SCH# 2025070800) based on Environmental Assessment Case No. EA24-0009; 2) Approve Minor Variance Case No. VAR24-0005; and, 3) Approve Tentative Tract Map Case No. TTM24-0003 (TTM 38971), subject to the Conditions of Approval, and based on the content and Findings in the staff report.

6. ACTION CALENDAR

6.A. 2025 Building Code Adoption

— RECOMMENDED ACTION: 1) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.02 "Adopted California and Uniform Codes" of Title 15 "Buildings and Construction" of the Rancho Mirage Municipal Code to Adopt the 2025 California Energy Code, 2025 California Historical Building Code, 2025 California Existing Building Code, and 2025 California Green Building Standards Code; 2) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.04 "California Building Code, 2022 Edition" of Title 15 "Buildings and Construction" of the Rancho Mirage Municipal Code to Adopt the 2025 California Building Code; 3) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.08 "California Mechanical Code, 2022 Edition and California Plumbing Code, 2022 Edition" and adding Chapter 15.06 "California Plumbing Code, 2025 Edition" to Title 15 "Buildings and Construction" of the Rancho Mirage Municipal Code to Adopt the 2025 California Mechanical Code and 2025 California Plumbing Code; 4) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.10 "California Electrical Code, 2022 Edition" of Title 15 "Buildings and Construction" of the Rancho Mirage Municipal Code to Adopt the 2025 California Electrical Code; 5) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.14 "California Residential Code, 2022 Edition" to Title 15 "Buildings and Construction" of the Rancho Mirage Municipal Code to Adopt the 2025 California Residential Code; and, 6) Introduce Ordinance No. (Next-in-Order), 1st Reading, Repealing and Replacing Chapter 15.12 "2022 California Fire Code" and adding Chapter 15.13 "California Wildland-Urban Interface Code ,2025 Edition to Title 15 "Buildings and Construction" of the Rancho Mirage Municipal Code to Adopt the 2025 California Fire Code.

6.B. IID (Imperial Irrigation District) Substation Funding and Reservation of Capacity Agreement

— RECOMMENDED ACTION: 1) Approve the Funding and Reservation of Capacity Agreement for Cook Street Substation, and authorize the City Manager or designee to execute the Agreement, subject to revisions approved by all other parties and approved by the City Manager in consultation with the City Attorney; and, 2) Authorize the City Manager to negotiate and execute an Amendment to the Agreement, reserving up to an additional 5,000kVA of capacity for the City on terms substantially the same as the Agreement, which is approximately 8% additional capacity at $3.2 million.

6.C. Shop Local Rancho Mirage Gift Card Program Proposed Holiday Bonus Campaign

— RECOMMENDED ACTION: Approve the implementation of the Shop Local Rancho Mirage Gift Card Holiday Bonus Program (running from Friday, December 5, 2025, through Tuesday, February 17, 2026), with the program utilizing a $50,000 bonus fund to offer a 50% matching incentive on gift card purchases.

7. NON-AGENDA PUBLIC COMMENTS

An opportunity for the public to speak on issues not on the agenda for a maximum of three (3) minutes per speaker.

8. CLOSED SESSION

8.A. Closed Session Agenda

— 1. CONFERENCE WITH LEGAL COUNSEL - EXISITING LITIGATION Pursuant to Government Code Section 54956.9(d) (1). Case Name: Ricky Martinez v. City of Rancho Mirage. Case No.: CVPS2503449.

— 2. CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION Pursuant to Government Code Section 54956.9(d)(1). Case name unspecified since disclosure may jeopardize existing settlement negotiations.

8.B. Recess to Closed Session

8.C. Reconvene Open Session

8.D. Closed Session Announcements

9. ADJOURNMENT

PUBLIC NOTICES

Agenda Materials: Any staff reports for agenda items considered in open session, as well as agenda materials for open session items provided to a majority of the legislative body(ies) following distribution of the agenda, are available for inspection in the City Clerk's Office at Rancho Mirage City Hall, located at 69-825 Highway 111, Rancho Mirage, CA 92270, during normal business hours.

Americans with Disabilities Act (ADA): If you are an individual with a disability and need a reasonable modification or accommodation pursuant to the ADA, please contact the City Clerk's Office at (760) 324-4511 Ext. 488, or via e-mail to CityClerk@RanchoMirageCA.gov, prior to the meeting. Providing notice at least 48 hours in advance of the meeting is suggested, so a determination may be made as to whether the request is feasible.

Livestream: This meeting may be viewed via Livestream on the City's website at www.RanchoMirageCA.gov.

Public Comments: Written public comments may be submitted to the City Clerk via email to CityClerk@RanchoMirageCA.gov or mail/delivery to ATTN: City Clerk, City of Rancho Mirage, 69-825 Highway 111, Rancho Mirage, CA 92270. Please submit written public comments at least three (3) hours in advance of the meeting to ensure they may be fully considered. Written public comments received during the meeting will be distributed to the legislative body(ies) and made available to the public following the meeting.

Oral public comments/testimony may be provided in person at the meeting during the non-agenda public comment period and during the public comment/testimony period for each agenda item. Public comments are limited to three (3) minutes per speaker. Please fill out a Request to Speak slip prior to the start of the meeting and submit it to the City Clerk. You will be called upon to speak at the appropriate time. Please submit a separate slip for each item on which you wish to speak.

Declaration of Posting: *I, Kristie Ramos, City Clerk of the City of Rancho Mirage, do hereby declare that the foregoing meeting agenda was posted on the City of Rancho Mirage website at www.RanchoMirageCA.gov, on the Rancho Mirage City Hall bulletin board at 69-825 Highway 111, Rancho Mirage, CA 92270, and at the Rancho Mirage Library & Observatory at 71-100 Highway 111, Rancho Mirage, CA 92270, at least 72 hours in advance of the meeting.*

Kristie Ramos

CITY OF RANCHO MIRAGE CALIFORNIA Incorporated August 3, 1973

Date Posted: November 26, 2025

City Council Staff Report

November 20, 2025, Regular City Council Meeting Minutes

DATE	ITEM #
December 4, 2025	CONSENT CALENDAR - 4B.
Presented To	**Presented By**
Mayor and City Council	Kristie Ramos, City Clerk

RECOMMENDED ACTION

Approve the November 20, 2025, Regular City Council Meeting Minutes as presented.

Attachments

Attachment 1 - Draft 11/20/2025 Regular City Council Meeting Minutes

ATTACHMENT 1

Mayor Mallotto
Mayor Pro Tem O'Keefe
Council Member Downs
Council Member Fromberg Edelstein
Council Member Weill

REGULAR MEETING OF THE RANCHO MIRAGE CITY COUNCIL AND COMMUNITY SERVICES DISTRICT, ENERGY AUTHORITY, HOUSING AUTHORITY, JOINT POWERS FINANCE AUTHORITY, LIBRARY AND OBSERVATORY, AND REDEVELOPMENT SUCCESSOR AGENCY BOARDS

69-825 Highway 111, Rancho Mirage, CA 92270

Thursday, November 20, 2025, 1:00 PM

DRAFT MINUTES

1. GENERAL

1.A. Call to Order

Mayor Weill called the meeting to order at 1:00 P.M.

1.B. Flag Salute

Mayor Weill led the flag salute.

1.C. Roll Call: Downs, Fromberg Edelstein, O'Keefe, Mallotto, Weill

All City Council Members were present.

2. ACTION CALENDAR

2.A. Appointment of Mayor and Mayor Pro Tem

— RECOMMENDED ACTION: Appoint Lynn Mallotto to serve as Mayor and Michael O'Keefe to serve as Mayor Pro Tem.

Mayor Weill commented on the past year serving as Mayor. Council Members then thanked Mayor Weill for his service and Mayor Pro Tem Mallotto presented him with a shadowbox to commemorate his year as Mayor.

Kristie Ramos, City Clerk, presented the staff report.

MOVED/SECONDED BY DOWNS/FROMBERG EDELSTEIN TO APPOINT LYNN MALLOTTO TO SERVE AS MAYOR AND MICHAEL O'KEEFE TO SERVE AS MAYOR PRO TEM. MOTION CARRIED 5/0.

Ms. Ramos administered the Oath of Office to Mayor Mallotto and Mayor Pro Tem O'Keefe. The City Council then posed for a group photo.

Mayor Mallotto thanked those in attendance and spoke of her upcoming year as Mayor.

3. COUNCIL MEMBER COMMENTS/REPORTS

Mayor Mallotto spoke regarding the recent passing of Cathedral City Council Member Mark Carnevale and acknowledged his contributions to the community.

Council Member Weill congratulated Mayor Mallotto on assuming the role of Mayor and wished her success in her term.

Council Member Downs spoke in favor of the Mayoral rotation method used in Rancho Mirage.

Mayor Pro Tem O'Keefe commended the Rancho Mirage Chamber of Commerce on its recent Business Expo & Job Fair. He expressed that he was honored to serve as Mayor Pro Tem and pledged to place the interests of the City of Rancho Mirage above any other agenda. He commended City staff for their work and shared that he looked forward to working with all Council Members. Lastly, he spoke highly of incoming Mayor Lynn Mallotto.

4. CITY MANAGER COMMENTS/REPORTS

None.

5. CONSENT CALENDAR (A-F)

Isaiah Hagerman, City Manager, presented the Consent Calendar items.

MOVED/SECONDED BY DOWNS/WEILL TO APPROVE THE CONSENT CALENDAR AS PRESENTED. MOTION CARRIED 5/0.

5.A. Waive Full Reading of Any Ordinance Introduced or Adopted Pursuant to this Agenda

5.B. Revision of the Library & Observatory Collection Development Policy in Compliance with the California Freedom to Read Act (AB 1825)

— RECOMMENDED ACTION: Adopt Ordinance No. 1226, 2nd Reading, Amending Section 9.30.072 (“Collection Development Policy”) of Chapter 9.30 (“Use of Library and Observatory”) of Division III ("Offenses Against Public Peace") of Title 9 ("Public Peace, Morals and Welfare") of the Rancho Mirage Municipal Code.

5.C. November 6, 2025, Regular City Council Meeting Minutes

— RECOMMENDED ACTION: Approve the November 6, 2025, Regular City Council Meeting Minutes as presented.

5.D. Rancho Mirage Mobilehome Fair Practices Commission Annual Report

— RECOMMENDED ACTION: Receive and file the 2024 Mobile Home Fair Practices Commission Annual Report as presented.

5.E. Contracts

— RECOMMENDED ACTION: Approve the terms of the contracts as presented and authorize the City Manager to execute the subject contracts.

5.F. Demands

— RECOMMENDED ACTION: Approve the demands as presented.

6. PUBLIC HEARINGS

6.A. Annexation No. 201 to Community Facilities District No. 1 in Connection with Tentative Parcel Map No. 38492. Location: Approximately 2,000 Feet South of Frank Sinatra Drive, on the West Side of Vista Del Sol. (Artemis Court)

— RECOMMENDED ACTION: Adopt Resolution No. 2025-(Next-in-Order) Calling an Election on Levying a Special Tax within the Area Proposed to be Annexed to Community Facilities District No. 1 (Annexation No. 201), Declaring the Election Results, Approving the Annexation of the Territory and Directing the Recordation of the Amendment of the Notice of Special Tax Lien.

Jacob De La Cruz, Financial Analyst, presented the staff report.

Kristie Ramos, City Clerk, declared the election results as follows: the ballot for the 6 eligible votes was received on October 24, 2025, and was in favor; therefore, votes cast in favor equal 100% of total votes cast.

No public testimony was provided.

MOVED/SECONDED BY WEILL/FROMBERG EDELSTEIN TO ADOPT RESOLUTION NO. 2025-45, CALLING AN ELECTION ON LEVYING A SPECIAL TAX WITHIN THE AREA PROPOSED TO BE ANNEXED TO COMMUNITY FACILITIES DISTRICT NO. 1 (ANNEXATION NO. 201), DECLARING THE ELECTION RESULTS, APPROVING THE ANNEXATION OF THE TERRITORY AND DIRECTING THE RECORDATION OF THE AMENDMENT OF THE NOTICE OF SPECIAL TAX LIEN. MOTION CARRIED 5/0.

6.B. Annexation No. 202 to Community Facilities District No. 1 in Connection with Preliminary Development Plan Case No. PDP24-0002. Location: South of Via Vail, West of Monterey Avenue, and East of the Rancho Mirage Dog Park. (Rosette Apartments)

— RECOMMENDED ACTION: Adopt Resolution No. 2025-(Next-in-Order) Calling an Election on Levying a Special Tax within the Area Proposed to be Annexed to Community Facilities District No. 1 (Annexation No. 202), Declaring the Election Results, Approving the Annexation of the Territory and Directing the Recordation of the Amendment of the Notice of Special Tax Lien.

Jacob De La Cruz, Financial Analyst, presented the staff report.

No public testimony was provided.

Kristie Ramos, City Clerk, declared the election results as follows: the ballot for the 10 eligible votes was received on October 12, 2025, and was in favor; therefore, votes cast in favor equal 100% of total votes cast.

MOVED/SECONDED BY O'KEEFE/DOWNS TO ADOPT RESOLUTION NO. 2025-46, CALLING AN ELECTION ON LEVYING A SPECIAL TAX WITHIN THE AREA PROPOSED TO BE ANNEXED TO COMMUNITY FACILITIES DISTRICT NO. 1 (ANNEXATION NO. 202), DECLARING THE ELECTION RESULTS, APPROVING THE ANNEXATION OF THE TERRITORY AND DIRECTING THE RECORDATION OF THE AMENDMENT OF THE NOTICE OF SPECIAL TAX LIEN. MOTION CARRIED 5/0.

6.C. CONTINUED FROM 11/06/2025 CITY COUNCIL MEETING - Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) – Applicant: Phillip Fomotor. Consideration of a 16-Lot Residential Subdivision on 19.81 Gross Acres. The Project Requests Approval of a Minor Variance to the Residential Estate (R-E) Minimum Required Lot Size of 1 Acre to .98 Acre for Two Lots. Located North of the Intersection of Mirage Cove Drive and Peterson Road (APN's: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022)

— RECOMMENDED ACTION: Continue the item to the December 4, 2025, regularly scheduled City Council meeting.

Majna Dukic, Director of Development Services, reported that staff recommended a continuance in order to further review the project.

MOVED/SECONDED BY DOWNS/FROMBERG EDELSTEIN TO CONTINUE ITEM NO. 6C TO THE DECEMBER 4, 2025, REGULAR CITY COUNCIL MEETING. MOTION CARRIED 5/0.

7. NON-AGENDA PUBLIC COMMENTS

The following individuals provided non-agenda public comments: Susan Ragsdale, Patrick Lowry, Trevor Ryan, and Wally Melendez.

8. CLOSED SESSION

8.A. Closed Session Agenda

— 1. CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION Pursuant to Government Code Section 54956.9(d)(1). Case name unspecified since disclosure may jeopardize existing settlement negotiations.

Colin Kirkpatrick, City Attorney, announced that the City Council would recess to Closed Session to confer with legal counsel regarding one existing litigation item, pursuant to Government Code Section 54956.9(d)(1), noting the case name was unspecified since disclosure may jeopardize existing settlement negotiations.

8.B. Recess to Closed Session

Mayor Mallotto recessed the meeting to Closed Session at 2:00 P.M.

8.C. Reconvene Open Session

Mayor Mallotto reconvened the meeting at 2:36 P.M.

8.D. Closed Session Announcements

Colin Kirkpatrick, City Attorney, reported that no reportable action was taken during Closed Session.

9. ADJOURNMENT

Mayor Mallotto adjourned the meeting at 2:36 P.M.

Date Approved by City Council:

City Council Staff Report

Annual and Five-Year Development Impact Fee Report

DATE	ITEM #
December 4, 2025	CONSENT CALENDAR - 4C.
Presented To	**Presented By**
Mayor and City Council	Jacob De La Cruz, Financial Analyst

RECOMMENDED ACTION

Receive and file the Development Impact Fee Annual and Five-Year Report, and make the findings referenced in the staff report.

DISCUSSION

The City of Rancho Mirage Development Impact Fee (DIF) program was established in 2004 (Ordinance 881), transitioning the City from the License Tax Fee which was in place from 1973-2004.

Government Code §§ 66000-66025 (the "Mitigation Fee Act") regulates how public agencies collect, maintain, and spend impact fees imposed on developers for the purpose of defraying costs of public facilities. It includes requirements for accounting, spending, and annually reporting the fees and related interest earnings, and for findings if funds remain unspent for five or more years after receipt, and refunds if certain criteria are not met.

Government Code § 66006(b)(1) sets forth the specific reporting requirements that should be included in this report, the basics of which are detailed below.

- A brief description of the type of fee in each account or fund;
- The amount of the fee;
- The beginning and ending balance of the account or fund;
- The amount of the fees collected and the interest earned;
- An identification of each public improvement for which fees were expended and the amount of each expenditure;
- An identification of the approximate date by which the construction of the public improvement will commence;
- A description of any inter-fund transfer or loan and the public improvement on which the transferred funds will expend;
- The amount of refunds made and any allocations of unexpended fees that are not refunded.

The attached document was prepared pursuant to the requirements set forth above and addresses them accordingly.

The City's Development Impact Fee Nexus Analysis identifies a list of improvements for which this fee is to be used, as well as the portion of improvements to be funded by impact fee revenues. This study can be found on the Finance page of the City's website. Specific other sources and amounts of funding anticipated to be used to complete improvements are determined on a project-by-project basis and are documented in the City's annual Capital Improvement Program adopted by City Council. The exact date of impact fee collection and deposit of funding is impossible to predict, as impact fee revenue is dependent on economic cycles associated with development activity.

Further, Government Code Section (d)(1) requires the following finding be made for any fees that are not expended within 5 or more years after deposit, and must be made every five years thereafter:

- Identify the purpose to which the fee is put.
- Demonstrate a reasonable relationship between the fee and the purpose for which it is charged.
- Identify all sources and amounts of funding anticipated to complete financing in incomplete improvements identified in Government Code 66001(a)(2).
- Designate the approximate dates on which funding referred to above is expected to be deposited into the appropriate account of funds.

Findings Pursuant to Government Code Section (d)(1):

Purpose of Fees:

The City maintains six DIF categories, each with a defined purpose:

1. General Government Facilities – Acquisition, construction, or expansion of general government buildings and equipment required to serve future development.
2. Fire Facilities – Acquisition, construction, or expansion of fire stations, apparatus, and related facilities required to meet increased demand results from new development.
3. Transportation Facilities – Construction or expansion of arterial roads, intersection improvements, traffic signalization, and related transportation infrastructure necessitated by new development.
4. Parks and Recreation Facilities – Acquisition or expansion of parkland, park facilities, and recreational amenities to serve future development.
5. Library Facilities – Acquisition, construction, or expansion of library facilities to serve future development.
6. Infrastructure Undergrounding – Undergrounding of utilities necessary to accommodate new development.

Reasonable Relationship:

The City reaffirms that a reasonable relationship continues to exist between:

a. the fee and the type of development on which it is imposed; and
b. the public facilities for which the fee is collected.

Development activity requiring public facilities—including transportation capacity, fire protection infrastructure, parks, library services, general government space, and undergrounding improvements—has continued during the reporting period. The capital improvements identified in the Nexus Analysis are still required to ensure that new development does not reduce existing service standards. Without additional general government facilities, fire facilities, transportation facilities, parks and recreation facilities, library facilities and infrastructure undergrounding, the increase in demand associated with new development would result in a reduction in the level of service provided to all development and/or residents, as applicable, in the City. There is a reasonable relationship between the use of the fees and development projects on which the fee is imposed because the facilities funded by the fees are needed to accommodate the incremental burdens generated by the new development upon which the fee is imposed. Additionally, the developments paying for the fees receive a benefit from the facilities funded by the fees.

Because these public facility needs remain, the balances being held continue to be reasonably related to the impacts generated by new development.

Funding Sources:

For each DIF category, the Nexus Analysis identifies the improvements to be funded and the portion of the improvement costs attributable to new development. The total cost of each improvement is anticipated to be funded through a combination of development impact fees, General Fund capital allocations, grants, regional transportation funding, and other available capital sources.

The fees held by the City represent only a portion of the total resources required to complete these improvements. Additional funding is anticipated to be appropriated through the City's annual Capital Improvement Program or obtained from external sources. No DIF category contains sufficient balance to fully fund every identified improvement; therefore, continued accumulation of DIF revenues is necessary to assemble adequate resources to commence construction.

Approximate Construction Dates

Based on current development activity, capital planning timelines, and the availability of matching funds, the City currently anticipates expending the DIF balances on the following schedule:

Short-Term (1–3 years):
– Transportation corridor improvements and traffic signal upgrades
– Fire facility capacity-expanding upgrades
– General government facility expansions
– Parks and recreational facility expansions

Mid-Term (3–5 years):
– Library facility improvements

Long-Term (5+ years or when sufficient revenues accumulate):
– Large-scale transportation improvements
– Multi-phase undergrounding projects
– Major facility acquisition, construction, or expansions requiring multiple funding sources

The City will continue to evaluate and prioritize projects annually through its Capital Improvement Program. Projects will commence as soon as sufficient resources are available to fully fund design, environmental (if applicable), and construction.

Determination:

Based on the content and findings set forth herein and in the attached Report, the City Council determines that:

- The DIF balances have been collected for valid and continuing public facility purposes.
- A reasonable relationship continues to exist between the fees and the impacts of new development.
- The funds are necessary to complete identified facilities and are part of a multi-year financing plan that requires assembling adequate resources before construction can commence.
- The anticipated timelines for project delivery remain appropriate given the nature of the improvements and the dependency on development-driven revenue.
- Accordingly, no refund of Development Impact Fee revenues is required, and all unexpended balances are properly retained for their intended purposes.

Public Availability:

The Development Impact Fee Annual and Five-Year Report was made available to the public on November 6, 2025. A copy of the annual report was posted to the City's Finance Division website and was delivered to the City Clerk for public accessibility at City Hall.

FISCAL IMPACT

No fiscal impact is created by accepting this annual report.

Attachments

Attachment 1- Development Impact Fee Annual & Five-Year Report

Attachment 2 - Response from DVBA

CITY OF RANCHO MIRAGE

DEVELOPMENT IMPACT FEE ANNUAL AND FIVE-YEAR REPORT

NOVEMBER 6, 2025

CITY OF RANCHO MIRAGE - Development Impact Fee Report

Annual and Five-Year Report

The following information was prepared to comply with Government Code 66001. In May of 2019, following a duly noticed public hearing, the City Council adopted Resolution No. 2019-18, approving a Development Impact Fee Nexus Analysis and updating the development impact fees, based in part on the Development Impact Fee Nexus Analysis prepared by Willdan Financial Services (the "Report"). When the DIF program was established in 2004 (Ordinance 881) there were a total of 10 DIF categories or funds. With the adoption of Resolution 2019-18, five of the original transportation related DIF funds collapsed into a single category. With the adoption of Resolution 2019-18, there are now a total a six DIF categories or funds. The following tables are representative of the original DIF categories and their associated fees. The table on the right side of the page identifies the updated DIF categories and their representative fees.

ORIGIANAL DIF CATEGORIES AND FEES (ORDINANCE 881)

Development Type	Dev. Unit	Streets/ Intchgs	Traffic Signals	Median Islands	Bus Shelters	Parks	Bike Paths	City Hall/Corp Yard	Fire	U'grd Utilities	Public Library	Total Fees per Unit
Residential-Hillside Rsrv.	DU	670	143	183	32	2,134	130	998	5,689	1,150	0	11,129
Residential-Estate	DU	670	143	183	32	2,134	130	998	3,792	1,150	0	9,232
Residential-Low Density 2	DU	670	143	183	32	2,134	130	998	1,580	920	0	6,790
Residential-Low Density 3	DU	670	143	183	32	2,134	130	998	1,138	805	0	6,233
Residential-Med. Density	DU	469	100	128	32	2,134	130	998	813	575	0	5,379
Residential-High Density	DU	402	86	110	32	2,134	130	998	356	414	0	4,662
Mobile Home	DU	402	86	110	31	2,028	126	948	356	276	0	4,363
Office	KSF	2,345	500	639	57	0	77	1,746	327	230	0	5,921
Commercial-Neighborhood	KSF	1,340	286	365	49	0	22	499	164	115	0	2,840
Commercial-General	KSF	1,340	286	365	49	0	22	499	164	115	0	2,840
Commercial-Community	KSF	1,340	286	365	49	0	22	499	164	115	0	2,840
Resort Hotel	KSF	268	57	73	66	0	30	674	164	115	0	1,447
Commercial-Mixed Use	KSF	1,340	286	365	49	0	22	499	164	115	0	2,840
Industrial-Light	KSF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hospital	KSF	670	143	183	33	0	44	998	164	115	0	2,350

A brief description of the above listed fees and their accounts/funds is below.

Streets and Interchanges – As determined by the City of Rancho Mirage Public Works Department, fees are collected to address street, interchange, and intersection improvements needed to serve future development.

Traffic Signals – As determined by the City of Rancho Mirage Public Works Department, fees are collected to address traffic signals needed to serve future development.

Median Islands – As determined by the City of Rancho Mirage Public Works Department, fees are collected to address raised medians needed as a result of projected increases in traffic due to future development.

Bus Shelters – As determined by the City of Rancho Mirage Public Works Department, fees are collected to address bus shelters needed to serve future development.

Park Improvements – As determined by the City of Rancho Mirage Planning Department, fees are collected to address park improvements needed to serve future development.

Bike Paths – As determined by the City of Rancho Mirage Public Works Department, fees are collected to address bike paths needed to serve future development. The term bike path is intended to include facilities that also serve as golf cart routes as well as some sidewalks required to meet ADA access requirements.

City Hall and Corporation Yard – As determined by the City of Rancho Mirage Public Works Department, fees are collected to address additions to City Hall and Corporation Yard needed to serve future development.

Fire Facilities and Equipment – As determined by the City of Rancho Mirage Public Works Department, fees are collected to address fire protection facilities and equipment needed to serve future development. The City of Rancho Mirage contracts with the Riverside County Fire Department (RCFD) for fire protection and emergency medical first responder services.

Underground Utilities – As determined by the City of Rancho Mirage Public Works Department, fees are collected to address undergrounding of overhead utility lines.

Public Library – As determined by the Rancho Mirage Library and City of Rancho Mirage Public Works Department, fees are collected to address additions to the Library needed to serve future development.

DEVELOPMENT IMPACT FEE SCHEDULE – Resolution 2020-34					
	Residential		Non-Residential (per 1,000 sq.ft.)		
Facility Type	Single Family	Multi-Family	Commercial	Office	Industrial
General Govt.	$ 1,001	$ 792	$ 310	$ 808	$ 300
Fire Facilities	452	361	313	817	304
Transportation	4,172	2,570	2,850	6,780	894
Park and Rec	1,733	1,383	-	-	-
Library	1,153	921	-	-	-
Undergrounding	272	272	272	272	272
TOTAL	**$ 8,783**	**$ 6,306**	**$ 3,747**	**$ 8,683**	**$ 1,773**

A brief description of the above listed fees and their accounts/funds in below.

General Government Facilities – The purpose of this fee is to ensure that new development funds its fair share of general government facilities. A fee schedule is presented based on the existing

facilities standard of general government facilities in the City of Rancho Mirage to ensure that new development provides adequate funding to meet its needs.

Fire Facilities – The purpose of the fire impact fee is to fund the fire facilities needed to serve new development.

Transportation Facilities – The purpose of this fee is to ensure the development of transportation facilities keeps pace with and can accommodate new development.

Park and Recreation Facilities – The purpose of the parkland and park facilities impact fee is to fund the park facilities needed to serve new development.

Library Facilities – The purpose of this fee is to ensure new library facilities are adequate to serve new development.

Infrastructure Undergrounding – The purpose of this fee is to ensure infrastructure undergrounding is adequate to serve new development.

The following pages contain annual summaries for FY 2020/21 through FY 2024/25, as well as five-year reports for each fund. Included within the tables is each fund's balance, interest earned, fees collected, and annual summaries including a list of public improvements funded by each fee, approximate construction dates for public improvements, interfund transfers or loans, and refunds.

The City's Development Impact Fee Nexus Analysis located on the Finance page of the City's website identifies a list of improvements for which this fee is to be used, as well as the portion of improvements to be funded by impact fee revenues. Specific other sources and amounts of funding anticipated to be used to complete improvements are determined on a project-by-project basis and are documented in the City's annual Capital Improvement Program adopted by City Council.

The exact date of impact fee collection and deposit of funding is impossible to predict, as impact fee revenue is dependent on economic cycles associated with development activity.

PUBLIC AVAILABILITY

This report was made available to the public on November 6th, 2025.

DEVELOPMENT IMPACT FEE REPORT – FISCAL YEAR 2020-21

	Transportation Facilities	General Government Facilities	Fire Facilities	Infrastructure Undergrounding	Parks and Recreation Facilities	Library Facilities
REVENUE						
Fees Collected	$269,188	$314,280	$237,725	$24,448	$93,386	$62,038
Interest Earnings	19,915	15,439	21,616	9,848	2,574	1,804
Net Increase (Decrease) In Investment Fair Value	(12,000)	(6,292)	(14,476)	(9,912)	(144)	(3,408)
Miscellaneous	-	-	-	-	-	-
TOTAL REVENUE	**277,103**	**323,427**	**244,865**	**24,384**	**95,816**	**60,434**
EXPENDITURES						
General Government	-	-	-	-	-	-
Capital Projects	188,786	-	-	29,013	35,272	123,411
TOTAL EXPENDITURES	**188,786**	**-**	**-**	**29,013**	**35,272**	**123,411**
OTHER FINANCING SOURCES (USES)						
Interfund Loans	-	-	-	-	-	-
External Loans	-	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	**-**	**-**	**-**	**-**	**-**	**-**
Total Change in Fund Balances	88,317	323,427	244,865	(4,629)	60,544	(62,977)
Fund Balances at Beginning of Year	994,900	712,407	1,128,135	590,634	90,092	146,343
Fund Balances, End of Year (20/21)	**$1,083,217**	**$1,035,834**	**$1,373,000**	**$586,005**	**$150,636**	**$83,366**

List of Public Improvements Funded by Each Fee

- $188,786 was expended in Transportation Facilities as payments for the Butler Abrams Trail pavement rehabilitation project.
- $24,360 was expended in Infrastructure Undergrounding as payment for traffic signal conduit and fiber line upgrades to expand the traffic signal synchronization on Bob Hope Dr. from the bridge to Rancho Los Palmas Dr.
- $4,653.20 was expended in Infrastructure Undergrounding as payment for geotechnical and material testing related to the utility undergrounding on Vista Del Sol.
- $35,272 was expended in Parks and Recreation Facilities as payment for the expansion of Wolfson Park
- $123,411 was expended in Library Facilities as payment for the Annenberg Room improvements.

Approximate Construction Dates for Public Improvements

Nothing to report as sufficient funds to complete financing on an incomplete public improvement have not yet been collected.

Interfund Transfers or Loans

Nothing to report as no transfer or loan was made.

Refunds

Nothing to report as no refunds were made or required.

DEVELOPMENT IMPACT FEE REPORT – FISCAL YEAR 2021-22

	Transportation Facilities	General Government Facilities	Fire Facilities	Infrastructure Undergrounding	Parks and Recreation Facilities	Library Facilities
REVENUE						
Fees Collected	$188,738	$236,625	$178,596	$10,608	$67,573	$44,951
Interest Earnings	21,245	21,441	23,410	10,665	2,478	2,049
Net Increase (Decrease) In Investment Fair Value	(70,968)	(66,712)	(60,176)	(33,552)	(7,832)	(6,510)
Miscellaneous	-	-	-	-	-	-
TOTAL REVENUE	**139,014**	**191,354**	**141,830**	**(12,279)**	**62,219**	**40,490**
EXPENDITURES						
General Government	-	-	-	-	-	-
Capital Projects	4,595	-	-	-	88,564	-
TOTAL EXPENDITURES	**4,595**	**-**	**-**	**-**	**88,564**	**-**
OTHER FINANCING SOURCES (USES)						
Interfund Loans	-	-	-	-	-	-
External Loans	-	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	**-**	**-**	**-**	**-**	**-**	**-**
Total Change in Fund Balances	134,419	191,354	141,830	(12,279)	(26,346)	40,490
Fund Balances at Beginning of Year	1,083,217	1,035,834	1,373,000	586,005	150,636	83,366
Fund Balances, End of Year (21/22)	**$1,217,637**	**$1,227,188**	**$1,514,830**	**$573,726**	**$124,290**	**$123,856**

List of Public Improvements Funded by Each Fee

- $4,595 was expended in Transportation Facilities as payments for the Butler Abrams Trail pavement rehabilitation project.
- $88,564 was expended in Parks and Recreation Facilities as payment for the expansion of Wolfson Park

Approximate Construction Dates for Public Improvements

Nothing to report as sufficient funds to complete financing on an incomplete public improvement have not yet been collected.

Interfund Transfers or Loans

Nothing to report as no transfer or loan was made.

Refunds

Nothing to report as no refunds were made or required.

DEVELOPMENT IMPACT FEE REPORT – FISCAL YEAR 2022-23

	Transportation Facilities	General Government Facilities	Fire Facilities	Infrastructure Undergrounding	Parks and Recreation Facilities	Library Facilities
REVENUE						
Fees Collected	$207,729	$163,206	$121,618	$13,973	$58,922	$39,202
Interest Earnings	17,572	17,426	14,699	7,511	2,003	1,740
Net Increase (Decrease) In Investment Fair Value	(19,170)	(18,244)	(14,247)	(5,497)	(3,098)	(1,465)
Miscellaneous	-	-	-	-	-	-
TOTAL REVENUE	**206,131**	**162,389**	**122,069**	**15,988**	**57,827**	**39,478**
EXPENDITURES						
General Government	-	-	-	-	-	-
Capital Projects	-	-	589,042	-	5,966	24,114
TOTAL EXPENDITURES	**-**	**-**	**589,042**	**-**	**5,966**	**24,114**
OTHER FINANCING SOURCES (USES)						
Interfund Loans	-	-	-	-	-	-
External Loans	-	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	**-**	**-**	**-**	**-**	**-**	**-**
Total Change in Fund Balances	206,131	162,389	(466,973)	15,988	51,861	15,364
Fund Balances at Beginning of Year	1,217,637	1,227,188	1,514,830	573,726	124,290	123,856
Fund Balances, End of Year (22/23)	**$1,423,767**	**$1,389,577**	**$1,047,857**	**$589,714**	**$176,152**	**$139,220**

List of Public Improvements Funded by Each Fee

- $589,042 was expended in Fire Facilities as part of the seismic and building upgrades project.
- $5,966 was expended in Parks and Recreation Facilities as payment for the expansion of Wolfson Park.
- $24,114 was expended in Library Facilities as payment for the installation of new interlocking pavers.

Approximate Construction Dates for Public Improvements

Nothing to report as sufficient funds to complete financing on an incomplete public improvement have not yet been collected.

Interfund Transfers or Loans

Nothing to report as no transfer or loan was made.

Refunds

Nothing to report as no refunds were made or required.

DEVELOPMENT IMPACT FEE REPORT – FISCAL YEAR 2023-24

	Transportation Facilities	General Government Facilities	Fire Facilities	Infrastructure Undergrounding	Parks and Recreation Facilities	Library Facilities
REVENUE						
Fees Collected	$108,708	$46,566	$29,936	$7,123	$27,728	$32,284
Interest Earnings	19,438	18,176	13,628	7,567	2,507	2,139
Net Increase (Decrease) In Investment Fair Value	40,301	41,189	31,256	17,972	4,387	3,321
Miscellaneous	-	-	-	-	-	-
TOTAL REVENUE	**168,447**	**105,930**	**74,820**	**32,663**	**34,622**	**37,744**
EXPENDITURES						
General Government	-	-	-	-	-	-
Capital Projects	-	-	-	-	7,961	-
TOTAL EXPENDITURES	-	-	-	-	**7,961**	-
OTHER FINANCING SOURCES (USES)						
Interfund Loans	-	-	-	-	-	-
External Loans	-	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	-	-	-	-	-	-
Total Change in Fund Balances	168,447	105,930	74,820	32,663	26,661	37,744
Fund Balances at Beginning of Year	1,423,767	1,389,577	1,047,857	589,714	176,152	139,220
Fund Balances, End of Year (23/24)	**$1,592,215**	**$1,495,507**	**$1,122,677**	**$622,377**	**$202,813**	**$176,964**

List of Public Improvements Funded by Each Fee

- $7,961 was expended in Parks and Recreation Facilities as payment for the expansion of Wolfson Park.

Approximate Construction Dates for Public Improvements

Nothing to report as sufficient funds to complete financing on an incomplete public improvement have not yet been collected.

Interfund Transfers or Loans

Nothing to report as no transfer or loan was made.

Refunds

Nothing to report as no refunds were made or required.

DEVELOPMENT IMPACT FEE REPORT – FISCAL YEAR 2024-25

	Transportation Facilities	General Government Facilities	Fire Facilities	Infrastructure Undergrounding	Parks and Recreation Facilities	Library Facilities
REVENUE						
Fees Collected	$431,126	$107,181	$81,019	$37,720	$27,728	$55,344
Interest Earnings	62,515	52,567	39,467	21,622	7,560	7,258
Net Increase (Decrease) In Investment Fair Value	50,266	44,919	33,699	18,608	6,305	5,666
Miscellaneous	-	-	-	-	-	-
TOTAL REVENUE	**543,907**	**204,668**	**154,184**	**77,951**	**41,593**	**68,268**
EXPENDITURES						
General Government	-	-	-	-	-	-
Capital Projects	-	-	-	-	-	-
TOTAL EXPENDITURES	-	-	-	-	-	-
OTHER FINANCING SOURCES (USES)						
Interfund Loans	-	-	-	-	-	-
External Loans	-	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	-	-	-	-	-	-
Total Change in Fund Balances	543,907	204,668	154,184	77,951	41,593	68,268
Fund Balances at Beginning of Year	1,592,215	1,495,507	1,122,677	622,377	202,813	176,964
Fund Balances, End of Year (24/25)	**$2,136,122**	**$1,700,175**	**$1,276,861**	**$700,328**	**$244,406**	**$245,232**

List of Public Improvements Funded by Each Fee

- None

Approximate Construction Dates for Public Improvements

Nothing to report as sufficient funds to complete financing on an incomplete public improvement have not yet been collected.

Interfund Transfers or Loans

Nothing to report as no transfer or loan was made.

Refunds

Nothing to report as no refunds were made or required.

TRANSPORTATION FACILITIES – FIVE-YEAR REPORT

TRANSPORTATION FACILITIES	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUE					
Fees Collected	269,188	188,738	207,729	108,708	431,126
Interest Earnings	19,915	21,245	17,572	19,438	62,515
Net Increase (Decrease) In Investment Fair Value	(12,000)	(70,968)	(19,170)	40,301	50,266
Miscellaneous	-	-	-	-	-
TOTAL REVENUE	277,103	139,014	206,131	168,447	543,907
EXPENDITURES					
General Government	-	-	-	-	-
Capital Projects	188,786	4,595	-	-	-
TOTAL EXPENDITURES	188,786	4,595	-	-	-
OTHER FINANCING SOURCES (USES)					
Interfund Loans	-	-	-	-	-
External Loans	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	-	-	-	-	-
Total Change in Fund Balances	88,317	134,419	206,131	168,447	543,907
Fund Balances at Beginning of Year	994,900	1,083,217	1,217,637	1,423,767	1,592,215
Fund Balances as of June 30	1,083,217	1,217,637	1,423,767	1,592,215	2,136,122
FIVE-YEAR REVENUE TESTS USING FIRST-IN FIRST-OUT METHOD					
Available Revenue Current Year	277,103	139,014	206,131	168,447	543,907
Available Revenue Prior Fiscal Year (2-yr Old Funds)	178,034	277,103	139,014	206,131	168,447
Available Revenue Prior Fiscal Year (3-yr Old Funds)	82,685	178,034	277,103	139,014	206,131
Available Revenue Prior Fiscal Year (4-yr Old Funds)	52,907	82,685	178,034	277,103	139,014
Available Revenue Prior Fiscal Year (5-yr Old Funds)	210,740	52,907	82,685	178,034	277,103
Available Revenue Greater than Five Fiscal Years	281,748	487,893	540,800	623,485	801,519
Total Revenue Available	**1,083,217**	**1,217,637**	**1,423,767**	**1,592,215**	**2,136,122**

GENERAL GOVERNMENT FACILITIES – FIVE-YEAR REPORT

GENERAL GOVERNMENT FACILITIES	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUE					
Fees Collected	314,280	236,625	163,206	46,566	107,181
Interest Earnings	15,439	21,441	17,426	18,176	52,567
Net Increase (Decrease) In Investment Fair Value	(6,292)	(66,712)	(18,244)	41,189	44,919
Miscellaneous	-	-	-	-	-
TOTAL REVENUE	323,427	191,354	162,389	105,930	204,668
EXPENDITURES					
General Government	-	-	-	-	-
Capital Projects	-	-	-	-	-
TOTAL EXPENDITURES	-	-	-	-	-
OTHER FINANCING SOURCES (USES)					
Interfund Loans	-	-	-	-	-
External Loans	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	-	-	-	-	-
Total Change in Fund Balances	323,427	191,354	162,389	105,930	204,668
Fund Balances at Beginning of Year	712,407	1,035,834	1,227,188	1,389,577	1,495,507
Fund Balances as of June 30	1,035,834	1,227,188	1,389,577	1,495,507	1,700,175
FIVE-YEAR REVENUE TESTS USING FIRST-IN FIRST-OUT METHOD					
Available Revenue Current Year	323,427	191,354	162,389	105,930	204,668
Available Revenue Prior Fiscal Year (2-yr Old Funds)	230,891	323,427	191,354	162,389	105,930
Available Revenue Prior Fiscal Year (3-yr Old Funds)	234,609	230,891	323,427	191,354	162,389
Available Revenue Prior Fiscal Year (4-yr Old Funds)	97,951	234,609	230,891	323,427	191,354
Available Revenue Prior Fiscal Year (5-yr Old Funds)	87,366	97,951	234,609	230,891	323,427
Available Revenue Greater than Five Fiscal Years	61,590	148,956	246,907	481,516	712,407
Total Revenue Available	**1,035,834**	**1,227,188**	**1,389,577**	**1,495,507**	**1,700,175**

FIRE PROTECTION FACILITIES – FIVE-YEAR REPORT

FIRE PROTECTION FACILITIES	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUE					
Fees Collected	237,725	178,596	121,618	29,936	81,019
Interest Earnings	21,616	23,410	14,699	13,628	39,467
Net Increase (Decrease) In Investment Fair Value	(14,476)	(60,176)	(14,247)	31,256	33,699
Miscellaneous	-	-	-	-	-
TOTAL REVENUE	244,865	141,830	122,069	74,820	154,184
EXPENDITURES					
General Government	-	-	-	-	-
Capital Projects	-	-	589,042	-	-
TOTAL EXPENDITURES	-	-	589,042	-	-
OTHER FINANCING SOURCES (USES)					
Interfund Loans	-	-	-	-	-
External Loans	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	-	-	-	-	-
Total Change in Fund Balances	244,865	141,830	(466,973)	74,820	154,184
Fund Balances at Beginning of Year	1,128,135	1,373,000	1,514,830	1,047,857	1,122,677
Fund Balances as of June 30	1,373,000	1,514,830	1,047,857	1,122,677	1,276,861
FIVE-YEAR REVENUE TESTS USING FIRST-IN FIRST-OUT METHOD					
Available Revenue Current Year	244,865	141,830	122,069	74,820	154,184
Available Revenue Prior Fiscal Year (2-yr Old Funds)	197,346	244,865	141,830	122,069	74,820
Available Revenue Prior Fiscal Year (3-yr Old Funds)	54,832	197,346	244,865	141,830	122,069
Available Revenue Prior Fiscal Year (4-yr Old Funds)	15,928	54,832	197,346	244,865	141,830
Available Revenue Prior Fiscal Year (5-yr Old Funds)	45,396	15,928	54,832	197,346	244,865
Available Revenue Greater than Five Fiscal Years	814,634	860,029	286,914	341,747	539,093
Total Revenue Available	**1,373,000**	**1,514,830**	**1,047,857**	**1,122,677**	**1,276,861**

INFRASTRUCTURE UNDERGROUNDING – FIVE-YEAR REPORT

INFRSTRUCTURE UNDERGROUNDING	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUE					
Fees Collected	24,448	10,608	13,973	7,123	37,720
Interest Earnings	9,848	10,665	7,511	7,567	21,622
Net Increase (Decrease) In Investment Fair Value	(9,912)	(33,552)	(5,497)	17,972	18,608
Miscellaneous	-	-	-	-	-
TOTAL REVENUE	24,384	(12,279)	15,988	32,663	77,951
EXPENDITURES					
General Government	-	-	-	-	-
Capital Projects	29,013	-	-	-	-
TOTAL EXPENDITURES	29,013	-	-	-	-
OTHER FINANCING SOURCES (USES)					
Interfund Loans	-	-	-	-	-
External Loans	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	-	-	-	-	-
Total Change in Fund Balances	(4,629)	(12,279)	15,988	32,663	77,951
Fund Balances at Beginning of Year	590,634	586,005	573,726	589,714	622,377
Fund Balances as of June 30	586,005	573,726	589,714	622,377	700,327
FIVE-YEAR REVENUE TESTS USING FIRST-IN FIRST-OUT METHOD					
Available Revenue Current Year	24,384	(12,279)	15,988	32,663	77,951
Available Revenue Prior Fiscal Year (2-yr Old Funds)	32,101	24,384	(12,279)	15,988	32,663
Available Revenue Prior Fiscal Year (3-yr Old Funds)	54,832	32,101	24,384	(12,279)	15,988
Available Revenue Prior Fiscal Year (4-yr Old Funds)	15,928	54,832	32,101	24,384	(12,279)
Available Revenue Prior Fiscal Year (5-yr Old Funds)	45,396	15,928	54,832	32,101	24,384
Available Revenue Greater than Five Fiscal Years	413,364	458,759	474,687	529,519	561,620
Total Revenue Available	**586,005**	**573,726**	**589,714**	**622,377**	**700,327**

PARKS and RECREATION FACILITIES – FIVE-YEAR REPORT

PARKS AND RECREATION FACILITIES	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUE					
Fees Collected	93,386	67,573	58,922	27,728	27,728
Interest Earnings	2,574	2,478	2,003	2,507	7,560
Net Increase (Decrease) In Investment Fair Value	(144)	(7,832)	(3,098)	4,387	6,305
Miscellaneous	-	-	-	-	-
TOTAL REVENUE	95,816	62,219	57,827	34,622	41,593
EXPENDITURES					
General Government	-	-	-	-	-
Capital Projects	35,272	88,564	5,966	7,961	-
TOTAL EXPENDITURES	35,272	88,564	5,966	7,961	-
OTHER FINANCING SOURCES (USES)					
Interfund Loans					
External Loans					
TOTAL OTHER FINANCING SOURCES (USES)	-	-	-	-	-
Total Change in Fund Balances	60,544	(26,346)	51,861	26,661	41,593
Fund Balances at Beginning of Year	90,092	150,636	124,290	176,152	202,813
Fund Balances as of June 30	150,636	124,290	176,152	202,813	244,406
FIVE-YEAR REVENUE TESTS USING FIRST-IN FIRST-OUT METHOD					
Available Revenue Current Year	95,816	62,219	57,827	34,622	41,593
Available Revenue Prior Fiscal Year (2-yr Old Funds)	12,882	62,071	62,219	57,827	34,622
Available Revenue Prior Fiscal Year (3-yr Old Funds)	41,938	-	56,106	62,219	57,827
Available Revenue Prior Fiscal Year (4-yr Old Funds)	-	-	-	48,145	110,364
Available Revenue Prior Fiscal Year (5-yr Old Funds)	-	-	-	-	-
Available Revenue Greater than Five Fiscal Years	-	-	-	-	-
Total Revenue Available	**150,636**	**124,290**	**176,152**	**202,813**	**244,406**

LIBRARY FACILITIES – FIVE-YEAR REPORT

LIBRARY FACILITIES	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
REVENUE					
Fees Collected	62,038	44,951	39,202	32,284	55,344
Interest Earnings	1,804	2,049	1,740	2,139	7,258
Net Increase (Decrease) In Investment Fair Value	(3,408)	(6,510)	(1,465)	3,321	5,666
Miscellaneous	-	-	-	-	-
TOTAL REVENUE	60,434	40,490	39,478	37,744	68,268
EXPENDITURES					
General Government	-	-	-	-	-
Capital Projects	123,411	-	24,114	-	-
TOTAL EXPENDITURES	123,411	-	24,114	-	-
OTHER FINANCING SOURCES (USES)					
Interfund Loans	-	-	-	-	-
External Loans	-	-	-	-	-
TOTAL OTHER FINANCING SOURCES (USES)	-	-	-	-	-
Total Change in Fund Balances	(62,977)	40,490	15,364	37,744	68,268
Fund Balances at Beginning of Year	146,343	83,366	123,856	139,220	176,964
Fund Balances as of June 30	83,366	123,856	139,220	176,964	245,232
FIVE-YEAR REVENUE TESTS USING FIRST-IN FIRST-OUT METHOD					
Available Revenue Current Year	60,434	40,490	39,478	37,744	68,268
Available Revenue Prior Fiscal Year (2-yr Old Funds)	12,550	60,434	40,490	39,478	37,744
Available Revenue Prior Fiscal Year (3-yr Old Funds)	5,793	12,550	59,252	40,490	39,478
Available Revenue Prior Fiscal Year (4-yr Old Funds)	(788)	5,793	-	59,252	40,490
Available Revenue Prior Fiscal Year (5-yr Old Funds)	1,966	(788)	-	-	59,252
Available Revenue Greater than Five Fiscal Years	3,411	5,377	-	-	-
Total Revenue Available	**83,366**	**123,856**	**139,220**	**176,964**	**245,232**

ATTACHMENT 2

DVBA
desert valleys builders association

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Gretchen Gutierrez

DIRECTORS
Fred Bell/ ***2025 PAC Chairman***
Nobell Energy Solutions
Brian Benedetti
Brian Benedetti Construction
Mark Benedetti
Mario Gonzales – Presidents Council
GHA Companies
Joe Hayes – Presidents Council (dec.)
Dave Lippert
Lippert Construction, Inc
Bruce Maize
Orr Builders
Russ Martin
Mission Springs Water
District
Deborah McGarrey
Southern California Gas Company
Alan Pace
Petra GeoSciences
Kevin Pillow
AC Houston Lumber
John Powell, Jr.
Coachella Valley Water District
Mike Rowe
Dudek Engineering
Phil Smith – Presidents Council
Sunrise Company
Alissa Vatter
Fidelity National Title
Michelle Witherspoon
MSA Consulting

November 12, 2025

City of Rancho Mirage
Isaiah Hagerman, City Manager
c/o Jacob De La Cruz, Financial Analyst
69-85 Highway 111
Rancho Mirage, CA 92270

Dear Mr. Hagerman and Mr. De La Cruz,

The Desert Valleys Builders Association appreciates the opportunity to review the City of Rancho Mirage's *Development Impact Fee Annual and Five-Year Report, for fiscal year 2024/2025.* During our review of this document, we noticed several items of concern, including failures in meeting the Five-Year Test. As these funds are subject to a possible refund, **please explain how these funds are encumbered and the time frame for these projects to commence**. Parks and Recreation and the Library Fund are the only two fund accounts that passed the Five-Year Test.

In 2020-21 the use of $188,786 for the "rehabilitation" of the Butler Abrams Trail is inappropriate. This Fund account needs to be reimbursed from another source.

Please explain the $123,411 of Library Funds used for the Annenberg Room Improvements. If these funds were used for anything other than the expansion in capacity of this room, this Fund account needs to be reimbursed from another source.

In 2021-22 Transportation Funds were again used to support the Butler Abrams Trail pavement rehabilitation project. This Fund account needs to be reimbursed from another source.

In 2022-23 the use of Fire Facilities Funds in the amount of $589,042 for seismic and building upgrades is an inappropriate use of Mitigation Fee Act funds. This Fund account needs to be reimbursed from another source.

Sincerely,

James Brownyard
Executive Officer

550 Oleander Road • Palm Springs, CA • 92262
(760) 776-7001 office • (760) 776-7002 fax
www.TheDVBA.org

City Council Staff Report

Annual Comprehensive Financial Report (ACFR) for the Year Ended June 30, 2025, and Other Related Audit Reports

DATE	ITEM #
December 4, 2025	CONSENT CALENDAR - 4D.
Presented To	**Presented By**
Mayor and City Council	Kofi Antobam, Director of Administrative Services

RECOMMENDED ACTION

Receive and file the Annual Comprehensive Financial Report (ACFR) for the year ended June 30, 2025, and other related audit reports.

DISCUSSION

Annually, the City retains an independent auditor to perform an audit of its financial activities. The FY 2024-25 audit was performed by the external audit firm, Eide Bailly LLP, Certified Public Accountants. The results of the audit and related reports were reviewed with the City staff and final reports issued.

The ACFR for the Year Ended June 30, 2025, and other related audit reports were issued on November 18, 2025. The City received an Unmodified Opinion, which is a clean opinion, from the City's external independent auditors on the June 30, 2025, ACFR. A copy of the ACFR is publicly available on the City's website. The auditors did not report any internal control deficiencies over financial reporting, compliance and other matters. The ACFR will be submitted to the Government Finance Officers Association (GFOA) award program for excellence in financial reporting.

There was no Single Audit - a separate audit required under Federal law for entities that spend $750,000 or more in federal funds in a fiscal year – since the City did not meet this threshold for the period ended June 30, 2025.

In addition to ACFR, the Library and Observatory, and Writers Festival Foundations' standalone reports received clean audit opinions and will be presented to their respective Board of Directors for approval.

The following reports are on file with the City Clerk:

1. Annual Comprehensive Financial Report
2. Internal Control Report
3. GANN Limit Agreed Upon Procedures Report
4. SAS 114 Communication Letter
5. Library and Observatory Foundation standalone financial statements and related reports
6. Writers Festival Foundation standalone financial statements and related reports

City Council Staff Report

Recognized Obligations Payment Schedule (ROPS) and Administrative Budget for Fiscal Year 2026-2027 Pursuant to AB 26x1 and AB 1484

DATE	ITEM #
December 4, 2025	CONSENT CALENDAR - 4E.
Presented To	**Presented By**
Redevelopment Successor Agency Board	Kofi Antobam, Director of Administrative Services

RECOMMENDED ACTION

Adopt Resolution No. 2025-SA-(Next-in-Order), Approving and Adopting a Recognized Obligation Payment Schedule and Administrative Budget for Fiscal Year 2026-2027 Pursuant to Assembly Bills 26x1 and 1484.

DISCUSSION

With the dissolution of redevelopment agencies under AB 26x1, as subsequently amended by AB 1484, redevelopment successor agencies have been required to prepare a Recognized Obligation Payment Schedule ("ROPS") for approval by the local oversight board and the California Department of Finance ("DOF"). Health & Safety Code Section 34177(m) requires successor agencies to submit the ROPS in the manner prescribed by DOF following approval by their oversight boards. The ROPS is reported on an annual basis.

The attached ROPS 26-27 covering the Fiscal Year 2026-27 period is due to DOF on February 1, 2026, and is scheduled for consideration and approval by the Countywide Oversight Board at its regular meeting on January 15, 2026. If a successor agency does not submit its ROPS by the deadlines prescribed by DOF, the city that created the former redevelopment agency shall be subject to a civil penalty equal to $10,000 per day for every day the schedule is not submitted to DOF.

FISCAL IMPACT

The Successor Agency requests $9,283,401 during the Fiscal Year 2026-27 cycle as follows:

- Debt Service payments and related costs of $5,693,401.
- Shortfall of $3,340,000 in funds available for debt service payments.
- Administrative Costs of $250,000.

Attachments

Attachment 1 - Draft Resolution

ATTACHMENT 1

RESOLUTION NO. 2025-SA-_____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE ACTING AS SUCCESSOR AGENCY TO THE FORMER RANCHO MIRAGE REDEVELOPMENT AGENCY APPROVING AND ADOPTING A RECOGNIZED OBLIGATION PAYMENT SCHEDULE AND ADMINISTRATIVE BUDGET FOR FISCAL YEAR 2026-2027 PURSUANT TO ASSEMBLY BILLS 26x1 AND 1484

WHEREAS, the City of Rancho Mirage ("City") agreed to serve as the successor agency to the Rancho Mirage Redevelopment Agency (the "RDA") commencing upon the dissolution of the RDA on February 1, 2012 pursuant to Assembly Bill x1 26 ("AB 26"); and

WHEREAS, on June 27, 2012 as part of the Fiscal Year 2012-2013 State budget bill, the Governor signed into law Assembly Bill 1484 ("AB 1484") which modified some of the provisions of AB 26, including Health & Safety Code Section 34177(m) which requires that the Recognized Obligation Payment Schedule ("ROPS") for the Fiscal Year 2026-2027 be approved and submitted by the former RDA successor agency ("Successor Agency") and its oversight board ("Oversight Board") to the County Auditor-Controller, the State Controller, and Department of Finance ("DOF") by February 1, 2026, and post the approved ROPS on the Successor Agency's website; and

WHEREAS, the Oversight Board dissolved by operation of law on or after July 1, 2018, pursuant to Health and Safety Code Section 34179, and the Riverside County-wide oversight board ("County Oversight Board") assumed all fiduciary responsibilities to holders of enforceable obligations and the taxing entities that benefit from distributions of property tax and other revenues pursuant to Health and Safety Code Section 34188; and

WHEREAS, the Successor Agency is obligated under the 2003A-1 Tax Allocation Bond Indenture to make debt service payments, and such obligation has been a long standing duly Recognized Obligation of the Successor Agency; and

WHEREAS, the 2003A-1 Tax Allocation Bond Indenture debt service payment of $3,340,000 became due on April 1, 2025 (the "Debt Service"), but was inadvertently omitted from the ROPS for Fiscal Year 2024-2025; and

WHEREAS, the Successor Agency desires to recognize the omitted 2003A-1 Tax Allocation Bond Indenture debt service payment pursuant to Health & Safety Code Section 34177 as a new enforceable obligation to be listed on the ROPS for Fiscal Year 2026-2027.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE ACTING AS SUCCESSOR AGENCY TO THE FORMER RANCHO MIRAGE REDEVELOPMENT AGENCY DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. **Recitals.**

That the Recitals set forth above are true and correct and incorporated herein by reference.

Section 2. **Approval of ROPS 26-27.**

That the City, acting as the Successor Agency, hereby approve and adopt the ROPS for Fiscal Year 2026-2027 ("ROPS 26-27"), in substantially the same form as that attached hereto as Exhibit "A," which shall be submitted to the DOF on the preferred forms provided by the DOF.

Section 3. **Approval of Administrative Budget.**

That the City, acting as the Successor Agency, hereby approve and adopt the Administrative Budget for the Fiscal Year 2026-2027 as reported in ROPS 26-27, which shall be submitted to the DOF on the preferred forms provided by the DOF.

Section 4. **Recognition of New Enforceable Obligation.**

The Successor Agency hereby establishes an enforceable obligation and directs that this Debt Service obligation be included on the ROPS 26-27 and submitted to the County Oversight Board and DOF for approval.

Section 5. **Director of Administrative Services Acting for Successor Agency.**

That the City's Director of Administrative Services acting for the Successor Agency is hereby authorized to submit the ROPS 26-27 to the County Oversight Board for approval, and that the Director of Administrative Services is directed to post a copy of the ROPS 26-27 on the City's (as Successor Agency) website and take whatever additional actions necessary pursuant to AB 26 and AB 1484.

Section 6. **City Clerk Acting for Successor Agency.**

That the City Clerk acting for the Successor Agency shall certify to the passage of this Resolution and enter it into the book of original resolutions and take any other actions and/or perform any other duties required by law.

Section 7. **Severability.**

That should any provision, section, paragraph, sentence or word of this Resolution be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this Resolution as hereby adopted shall remain in full force and effect.

Section 8. **Repeal of Conflicting Provisions.**

That all the provisions heretofore adopted by the City Council, acting on behalf of the Successor Agency, that are in conflict with the provisions of this Resolution are hereby repealed.

Section 9. **Certification.**

That the City Clerk acting for the Successor Agency shall certify to the passage and adoption of this Resolution and enter it into the book of original resolutions.

Section 10. **Effective Date.**

That this Resolution shall take effect immediately upon adoption.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

PASSED, APPROVED AND ADOPTED this 4th day of December 2025.

CITY OF RANCHO MIRAGE ACTING AS SUCCESSOR AGENCY TO THE FORMER RANCHO MIRAGE REDEVELOPMENT AGENCY

_____
Lynn Mallotto, Mayor acting for Successor Agency

ATTEST:

_____
Kristie Ramos, City Clerk acting for Successor Agency

APPROVED AS TO FORM:

_____
Colin D. Kirkpatrick, City Attorney acting for Successor Agency

EXHIBIT “A”

RECOGNIZED OBLIGATION PAYMENT SCHEDULE
FOR FISCAL YEAR 2026-2027

[SEE ATTACHED]

Recognized Obligation Payment Schedule (ROPS 26-27) - Summary
Filed for the July 1, 2026 through June 30, 2027 Period

Successor Agency: Rancho Mirage

County: Riverside

Current Period Requested Funding for Enforceable Obligations (ROPS Detail)	26-27A Total (July - December)	26-27B Total (January - June)	ROPS 26-27 Total
A Enforceable Obligations Funded as Follows (B+C+D)	**$ -**	**$ -**	**$ -**
B Bond Proceeds	-	-	-
C Reserve Balance	-	-	-
D Other Funds	-	-	-
E Redevelopment Property Tax Trust Fund (RPTTF) (F+G)	**$ 6,339,201**	**$ 2,944,200**	**$ 9,283,401**
F RPTTF	6,339,201	2,944,200	9,283,401
G Administrative RPTTF	-	-	-
H Current Period Enforceable Obligations (A+E)	**$ 6,339,201**	**$ 2,944,200**	**$ 9,283,401**

Certification of Oversight Board Chairman:

Pursuant to Section 34177 (o) of the Health and Safety code, I hereby certify that the above is a true and accurate Recognized Obligation Payment Schedule for the above named successor agency.

Name Title

/s/

Signature Date

Rancho Mirage
Recognized Obligation Payment Schedule (ROPS 26-27) - ROPS Detail
July 1, 2026 through June 30, 2027

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Item #	Project Name	Obligation Type	Agreement Execution Date	Agreement Termination Date	Payee	Description	Project Area	Total Outstanding Obligation	Retired	ROPS 26-27 Total	ROPS 26-27A (Jul - Dec)					26-27A Total	ROPS 26-27B (Jan - Jun)					26-27B Total
											Fund Sources						Fund Sources					
											Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF		Bond Proceeds	Reserve Balance	Other Funds	RPTTF	Admin RPTTF	
								$52,351,311		$9,283,401	$-	$-	$-	$6,339,201	$-	$6,339,201	$-	$-	$-	$2,944,200	$-	$2,944,200
1	Tax Allocation Bond Servicing	Fees	01/01/ 2001	12/31/2040	U.S. Bank/ Willdan Financial	Debt Service Administration	Merged	55,000	N	$55,000	-	-	-	55,000	-	$55,000	-	-	-	-	-	$-
2	Tax Allocation Bond Payments - Interest	Bonds Issued On or Before 12/31/10	01/01/ 2001	12/31/2040	U.S. Bank	Bond Payments - Interest	Merged	11,341,370	N	$1,184,076	-	-	-	592,038	-	$592,038	-	-	-	592,038	-	$592,038
3	Tax Allocation Bond Payments - Principal	Bonds Issued On or Before 12/31/10	01/01/ 2001	12/31/2040	U.S. Bank	Bond Payments - Principal	Merged	31,236,027	N	$3,575,000	-	-	-	1,787,500	-	$1,787,500	-	-	-	1,787,500	-	$1,787,500
8	Administrative Cost Reimbursement	Admin Costs	07/01/ 2014	12/31/2014	City of Rancho Mirage, Quintanilla and Associates, Vavrinek, Trine Day and varied for other services needed.	Reimbursement of Successor Agency Administrative Costs; including supplies, legal, consultants, auditing services, and etc.	Merged	250,000	N	$250,000	-	-	-	125,000	-	$125,000	-	-	-	125,000	-	$125,000
21	Housing Tax Allocation Bonds- Interest	Bonds Issued On or Before 12/31/10	01/01/ 2003	12/31/2040	US Bank	Debt Service Requirement for the Housing Tax Allocation Bonds- Interest	Merged	1,048,914	N	$244,325	-	-	-	122,163	-	$122,163	-	-	-	122,162	-	$122,162
22	Housing Tax Allocation Bonds- Principal	Bonds Issued On or Before 12/31/10	01/01/ 2003	12/31/2040	US Bank	Debt Service Requirement for the Housing Tax Allocation Bonds- Principal	Merged	5,080,000	N	$635,000	-	-	-	317,500	-	$317,500	-	-	-	317,500	-	$317,500
77	Tax Allocation Bond Payments - Principal & Interest	Bonds Issued On or Before 12/31/10	01/01/ 2001	12/31/2040	U.S. Bank	Shortfall in Funds available for Debt Service Payments		3,340,000	N	$3,340,000	-	-	-	3,340,000	-	$3,340,000	-	-	-	-	-	$-

Rancho Mirage
Recognized Obligation Payment Schedule (ROPS 26-27) - Report of Cash Balances
July 1, 2023 through June 30, 2024
(Report Amounts in Whole Dollars)

Pursuant to Health and Safety Code section 34177 (l), Redevelopment Property Tax Trust Fund (RPTTF) may be listed as a source of payment on the ROPS, but only to the extent no other funding source is available or when payment from property tax revenues is required by an enforceable obligation.

A	B	C	D	E	F	G	H
	ROPS 23-24 Cash Balances (07/01/23 - 06/30/24)	**Fund Sources**					**Comments**
		Bond Proceeds		**Reserve Balance**	**Other Funds**	**RPTTF**	
		Bonds issued on or before 12/31/10	Bonds issued on or after 01/01/11	Prior ROPS RPTTF and Reserve Balances retained for future period(s)	Rent, grants, interest, etc.	Non-Admin and Admin	
1	**Beginning Available Cash Balance (Actual 07/01/23)** RPTTF amount should exclude "A" period distribution amount.	3,020,058				-	
2	**Revenue/Income (Actual 06/30/24)** RPTTF amount should tie to the ROPS 23-24 total distribution from the County Auditor-Controller	2,610				10,783,753	
3	**Expenditures for ROPS 23-24 Enforceable Obligations (Actual 06/30/24)**	1,175,679				10,783,753	
4	**Retention of Available Cash Balance (Actual 06/30/24)** RPTTF amount retained should only include the amounts distributed as reserve for future period(s)	1,846,989					
5	**ROPS 23-24 RPTTF Prior Period Adjustment** RPTTF amount should tie to the Agency's ROPS 23-24 PPA form submitted to the CAC		No entry required				
6	**Ending Actual Available Cash Balance (06/30/24) C to F = (1 + 2 - 3 - 4), G = (1 + 2 - 3 - 4 - 5)**	**$-**	**$-**	**$-**	**$-**	**$-**	

Rancho Mirage
Recognized Obligation Payment Schedule (ROPS 26-27) - Notes
July 1, 2026 through June 30, 2027

Item #	Notes/Comments
1	
2	
3	
8	
21	
22	
77	

EXHIBIT “B”

ADMINISTRATIVE BUDGET

[SEE ATTACHED]

ROPS 26-27: ADMIN CALCULATION

Inputs and Adjustments *(Enter as a **positive** number)*		
1	**25-26A Total Distributed RPTTF (this should include Admin RPTTF)**	2,870,192
2	**25-26A Distributed Admin RPTTF**	125,000
3	**25-26A City/County Loan Repayments {Pursuant to HSC 34191.4 (b) only}**	0
4	**25-26B Total Distributed RPTTF (this should include Admin RPTTF)**	2,815,191
5	**25-26B Distributed Admin RPTTF**	125,000
6	**25-26B City/County Loan Repayments {Pursuant to HSC 34191.4 (b) only}**	0
7	**Other Adjustments**	0

FY 26-27 Admin Cost Allowance Calculation	
AUTHORIZED ACA CAP	**250,000**

City Council Staff Report

Contracts

DATE	ITEM #
December 4, 2025	CONSENT CALENDAR - 4F.
Presented To	**Presented By**
Mayor and City Council	Kofi Antobam, Director of Administrative Services

RECOMMENDED ACTION

Approve the terms of the contracts as presented and authorize the City Manager to execute the subject contracts.

DISCUSSION

Attached hereto is a contracts list that staff is requesting the City Council to approve. These are contracts for Fiscal Year 2025-2026 for services for which costs and terms were negotiated.

Attachments

Attachment 1 - Contract List

ATTACHMENT 1

Contracts List

#	Name	Terms	Scope	Effective Date	Expiration Date	Compensation	Sole Source Yes/No	Department	Staff
1	Michael Baker International Inc.	7 Months	Extend On-Call Engineering Services Agreement	12/04/2025	6/30/2026	$25,000.00	No	Public Works	Ryan Stendell
2	County of Riverside	3 Years	Animal Field and Shelter Services	7/1/2025	06/30/2028	$314,415.00	Yes	Code Compliance	Pam Birky

CITY OF RANCHO MIRAGE ©

CONTRACT SUMMARY

FROM: Ryan Stendell, Assistant City Manager
Charles Nesbit, Project manager

DATE: December 4, 2025

SUBJECT: Approval of a Professional Services Agreement Amendment with Michael Baker International Inc.

Background:

September 2, 2021 - The City Council awarded a multi-year agreement with Michael Baker International for on-call engineering services in the amount of $40,000.00. Since the original execution of the agreement, staff has extended both the term and total compensation as needed during each fiscal year. On-call contracts can be a very useful tool for staff in accommodating the needs of the City without hiring additional full time staff members.

Staff would like to continue using Michael Baker International for on-call engineering services and extend the current contract until June 30, 2026. Additionally, MBI has updated its fees and charges and is attached.

Fiscal Impact:

Add $25,000 to the existing contract taking its cumulative amount to $120,000 since calendar year 2021. Funds are available in 10131000. This is an on-call contract, the vendor can only bill for services rendered to the City.

Attachments:

1. MBI Hourly Rate Schedule

Michael Baker
INTERNATIONAL

October 17, 2025

Mr. Charles Nesbit
Project Manager
City of Rancho Mirage
69-825 Highway 111,
Rancho Mirage, CA, 92270
760-770-3224 Ext. 523
Delivered via email to charlesn@RanchoMirageCA.gov

Subject: On Call Compensation Increase

Dear Mr. Nesbit,

Michael Baker International is pleased to submit this proposal to extend our existing on call contract. The original on call contract was executed on September 2, 2021 for $40,000 till June 30, 2022. Amendment 1 added $10,000 and extended the contract till June 30, 2024. Amendment 2 added an additional $20,000. Amendment 3 extended the contract till June 30, 2025. Amendment 4 added an additional $25,000, and extending the completion date to June 30, 2026.

Amendment 5 requests an additional $25,000, increasing our total to $120,000.

Attached for your review is an updated hourly rate schedule in Exhibits "A". Upon your review, please call me to discuss any questions you may have.

Thank you for the opportunity to submit this proposal. We look forward to working with you and your team on this project.

Sincerely,

Lonnie Druliner, PE
Project Manager

Primary Contact Information

Firm Name:
Michael Baker International

Address:
75410 Gerald Ford Drive
Suite 100
Palm Desert, CA 92211

Contact:
Lonnie Druliner, PE
Department Manager

Phone:
951-506-2072

Cell:
818-730-9723

Email:
Lonnie.Druliner@mbakerintl.com

EXHIBIT "A"
HOURLY RATE SCHEDULE
Effective 2025

OFFICE PERSONNEL	$/ Hour Rate Range
Senior Principal	335.00 - 370.00
Principal	260.00 - 310.00
QA/QC Manager	280.00 - 310.00
Senior Project Manager	265.00 - 295.00
Senior Environmental Project Manager	190.00 - 240.00
Project Manager	225.00 - 255.00
Environmental Project Manager	150.00 - 200.00
Senior Technical Manager	210.00 - 240.00
Senior Engineer	200.00 - 230.00
Senior Planner/Scientist	170.00 - 220.00
Senior Archaeologist/Paleontologist	140.00 - 220.00
Associate Planner/Scientist	130.00 - 160.00
Project Engineer/Planner	190.00 - 220.00
Assistant Engineer	125.00 - 155.00
Assistant Planner/Scientist	120.00 - 150.00
Engineering Aid/Planning Aid	100.00 - 130.00
Structural Engineer	260.00 - 315.00
Environmental Specialist	165.00 - 195.00
Field Archaeologist/Paleontologist	80.00 - 150.00
Biologist	195.00 - 225.00
Design Engineer/Senior Designer	185.00 - 215.00
Designer/Planner	165.00 - 195.00
Senior GIS Analyst	150.00 - 210.00
GIS Analyst	100.00 - 150.00
Environmental Analyst/Staff Planner	140.00 - 170.00
Design Technician	150.00 - 185.00
Office Support/ Clerical	95.00 - 125.00

SURVEY PERSONNEL	
2-Person Survey Crew	325.00 - 360.00
1-Person Survey Crew	225.00 - 260.00
Licensed Surveyor	250.00 - 280.00
Field Supervisor	240.00 - 270.00
Survey Analyst	150.00 - 180.00

GRANT PERSONNEL	
Grants Manager	195.00 - 230.00
Technical/Grant Writer	165.00 - 200.00
Technical Specialist/Public Finance	130.00 - 175.00

Note: Ranges listed above have been developed to consider for a one year term. Placement of individual staff within the ranges provided are determined by skill level and years of experience. Any adjustment to the rates and/or classifications listed above must be approved in writing by the Tribe.

Blueprinting, reproduction, messenger service and other direct expenses will be charged as an additional cost plus 15%. A Sub-consultant Management Fee of fifteen-percent (15%) will be added to the direct cost of all sub-consultant services to provide for the cost of administration, sub-consultant consultation and insurance. Vehicle mileage will be charged as an additional cost at the IRS approved rate.

CITY OF RANCHO MIRAGE ©

CONTRACT SUMMARY

DATE: December 4, 2025

FROM: Pamela Birky, Code Compliance Manager

SUBJECT: Riverside County Animal and Field Services

Background:

The City of Rancho Mirage contracts with the Riverside County Department of Animal Services for field and shelter services. The contract is designed to supplement the City's existing Animal Services Division in the following ways:

1. Provide a facility for the housing and adoption of animals.
2. Pet licensing.
3. Provide after-hours emergency field services to cover after-hours, weekends, and holidays.

Fiscal Impact:

This agreement term is three (3) years and will terminate June 30, 2028. The contract amounts are estimated based on historical usage and will be billed quarterly based on actual use. The City budgeted for these services in Fiscal Year 25-26.

Shelter Services:	**Cost:**
FY 25-26	$50,583.00
FY 26-27	$92,458.00
FY 27-28	$120,374.00
Field Services	**Cost**
FY 25-26	$15,000.00
FY 26-27	$17,000.00
FY 27-28	$19,000.00

City Council Staff Report

Demands

DATE	ITEM #
December 4, 2025	CONSENT CALENDAR - 4G.
Presented To	**Presented By**
Mayor and City Council	Kofi Antobam, Director of Administrative Services

RECOMMENDED ACTION

Approve the demands as presented.

Attachments

Attachment 1 - Demands

ATTACHMENT 1

CITY OF RANCHO MIRAGE

We hereby accept as files checks issued thru November 21, 2025:

City Funds **$ 3,086,353.79**

ordered paid as stated below.

Date: December 4, 2025 _____

Mayor

DEMANDS\GEN

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 1005 CHECKING

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
9227	11/21/2025	EFT	642	ALLIANT INSURANCE SERVICES INC	90398	09/10/2025		11212025	3,381.44
Invoice: 90398						RMWF SPECIAL LIABILITY INSURANCE 9/29/25-26			
				3,381.44 244 7851		INSURANCE & BONDS			
						CHECK 9227 TOTAL:			3,381.44
9228	11/21/2025	EFT	188	JONI D ALMY	81280	11/19/2025		11212025	3,135.60
Invoice: 81280						MEDICAL REIMBURSEMENT 12/2025			
				3,135.60 10151000 7200		GROUP INSURANCE-MEDICAL			
						CHECK 9228 TOTAL:			3,135.60
9229	11/21/2025	EFT	2110	ANNIE SANFILLIPPO	81283	11/19/2025		11212025	1,683.66
Invoice: 81283						MEDICAL REIMBURSEMENT 12/2025			
				1,683.66 10151000 7200		GROUP INSURANCE-MEDICAL			
						CHECK 9229 TOTAL:			1,683.66
9230	11/21/2025	EFT	1650	AQUA-SERV ENGINEERS, INC	125627	10/31/2025	20260002	11212025	615.00
Invoice: 125627						CH & LIB COOLING TOWER TREATMENT 10/2025			
				307.50 10133300 7612		MAINTENANCE			
				307.50 24281000 7612		MAINTENANCE			
						CHECK 9230 TOTAL:			615.00
9231	11/21/2025	EFT	333	BECK OIL INC	188287	11/04/2025		11212025	728.60
Invoice: 188287						FUEL PE 11/4/2025			
				88.19 10132000 7623		VEHICLE FUEL			
				398.28 10132000 7634		EQUIPMENT MAINT & FUEL			
				242.13 10133000 7623		VEHICLE FUEL			
				BECK OIL INC	188994	11/11/2025		11212025	637.02
Invoice: 188994						FUEL PE 11/11/2025			
				161.78 10133000 7623		VEHICLE FUEL			
				75.65 21800000 7623		VEHICLE FUEL			
				201.35 10132000 7623		VEHICLE FUEL			
				158.29 10141000 7623		VEHICLE FUEL			
				39.95 10123000 7623		VEHICLE FUEL			
						CHECK 9231 TOTAL:			1,365.62
9232	11/21/2025	EFT	74	RANDAL BYNDER	81295	11/19/2025		11212025	1,693.36
Invoice: 81295						MEDICAL REIMBURSEMENT 12/2025			
				1,693.36 10151000 7200		GROUP INSURANCE-MEDICAL			

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CASH ACCOUNT: 999 1005 CHECKING

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
						CHECK	9232 TOTAL:		1,693.36
9233	11/21/2025	EFT	2860	CHARTER COMMUNICATIONS HOLDINGS,	189394201110125	11/01/2025		11212025	38.24
Invoice: 189394201110125						SERVICE PE 11/30/2025 (ACCT# 189394201)			
					38.24 21500690 7826	INTERNET ACCESS & SERVICE			
				CHARTER COMMUNICATIONS HOLDINGS,	129838601110125	11/01/2025		11212025	1,015.00
Invoice: 129838601110125						SERVICE PE 11/30/2025 (ACCT# 129838601)			
					1,015.00 10151000 7824	COMMUNICATION MAIN/SERV			
				CHARTER COMMUNICATIONS HOLDINGS,	129828601110125	11/01/2025		11212025	1,015.00
Invoice: 129828601110125						SERVICE PE 11/30/2025 (ACCT# 129838601)			
					1,015.00 10151000 7824	COMMUNICATION MAIN/SERV			
				CHARTER COMMUNICATIONS HOLDINGS,	189395601110725	11/07/2025		11212025	130.64
Invoice: 189395601110725						SERVICE PE 12/8/2025 (ACCT #189395601)			
					130.64 10151000 7824	COMMUNICATION MAIN/SERV			
				CHARTER COMMUNICATIONS HOLDINGS,	189395901110725	11/07/2025		11212025	1,688.80
Invoice: 189395901110725						SERVICE PE 12/8/2025 (ACCT# 189395901)			
					1,688.80 10151000 7824	COMMUNICATION MAIN/SERV			
				CHARTER COMMUNICATIONS HOLDINGS,	189396001110725	11/07/2025		11212025	1,027.97
Invoice: 189396001110725						SERVICE PE 12/8/2025 (ACCT #189396001)			
					1,027.97 10151000 7824	COMMUNICATION MAIN/SERV			
				CHARTER COMMUNICATIONS HOLDINGS,	189400201110725	11/07/2025		11212025	304.19
Invoice: 189400201110725						SERVICE PE 12/8/2025 (ACCT #189400201)			
					304.19 21500500 7826	INTERNET ACCESS & SERVICE			
						CHECK	9233 TOTAL:		5,219.84
9234	11/21/2025	EFT	359	NOEL CHICAS	81288	11/19/2025		11212025	2,377.36
Invoice: 81288						MEDICAL REIMBURSEMENT 12/2025			
					2,377.36 10151000 7200	GROUP INSURANCE-MEDICAL			
						CHECK	9234 TOTAL:		2,377.36
9235	11/21/2025	EFT	124	LELAND COLE	81291	11/19/2025		11212025	1,698.33
Invoice: 81291						MEDICAL REIMBURSEMENT 12/2025			
					1,698.33 10151000 7200	GROUP INSURANCE-MEDICAL			
						CHECK	9235 TOTAL:		1,698.33
9236	11/21/2025	EFT	2314	CREATIVE LIGHTING & ELECTRICAL ,	4155660	11/19/2025	20260016	11212025	303.00
Invoice: 4155660						LIGHTING MAINTENANCE 11/18/2025			
					303.00 10133310 7612	MAINTENANCE			

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CASH ACCOUNT: 999 1005 CHECKING

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
						CHECK	9236 TOTAL:		303.00
9237	11/21/2025	EFT	2263	SIMPLEVIEW WORLDWIDE, INC	INV00181257	11/01/2025		11212025	5,880.00
	Invoice: INV00181257					MARKETING SUPPORT-SENSEI CREEK PE 4/30/2026			
					5,880.00 107 7872	PUBLIC RELATIONS			
						CHECK	9237 TOTAL:		5,880.00
9238	11/21/2025	EFT	2469	EMPLOYMENT RISK MANAGEMENT AUTHOR	PER-00068-1Q26	10/30/2025		11212025	18,881.50
	Invoice: PER-00068-1Q26					Q1 BILLING CLIAMS 2024			
					18,881.50 10154000 7400	PROFESSIONAL/TECHNICAL			
						CHECK	9238 TOTAL:		18,881.50
9239	11/21/2025	EFT	73	ESGIL, LLC	2692188	11/05/2025	20260049	11212025	17,383.74
	Invoice: 2692188					PLAN REVIEW SERVICES 10/2025			
					17,383.74 10122000 7400	PROFESSIONAL/TECHNICAL			
						CHECK	9239 TOTAL:		17,383.74
9240	11/21/2025	EFT	1929	FARMER BROTHERS CO.	70672418	11/14/2025		11212025	524.43
	Invoice: 70672418					COFFEE SUPPLIES			
					524.43 24281000 8000	SUPPLIES			
						CHECK	9240 TOTAL:		524.43
9241	11/21/2025	EFT	547	LETICIA GALLEGOS-GALLARDO	81292	11/19/2025		11212025	1,254.34
	Invoice: 81292					MEDICAL REIMBURSEMENT 12/2025			
					1,254.34 10151000 7200	GROUP INSURANCE-MEDICAL			
						CHECK	9241 TOTAL:		1,254.34
9242	11/21/2025	EFT	2227	GLORIA GRIEGO	81289	11/19/2025		11212025	3,135.60
	Invoice: 81289					MEDICAL REIMBURSEMENT 12/2025			
					3,135.60 10151000 7200	GROUP INSURANCE-MEDICAL			
						CHECK	9242 TOTAL:		3,135.60
9243	11/21/2025	EFT	3023	MARK D HENSLEY	11263	11/19/2025		11212025	455.00
	Invoice: 11263					LEGAL SERVICES PE 10/31/2025			
					455.00 28000000 7400	PROFESSIONAL/TECHNICAL			
						CHECK	9243 TOTAL:		455.00

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
9244	11/21/2025	EFT	10	ICMA RETIREMENT TRUST-401	81229	11/19/2025		11212025	4,658.34
Invoice: 81229						ICMA 401A PE 11/14/25			
				4,658.34 101 2236		401A DEF COMP - ICMA			
						CHECK	9244 TOTAL:		4,658.34
9245	11/21/2025	EFT	34	ICMA RETIREMENT TRUST-457	81230	11/19/2025		11212025	31,304.96
Invoice: 81230						ICMA 457 PE 11/14/25			
				31,304.96 101 2235		DEFERRED COMP - ICMA			
						CHECK	9245 TOTAL:		31,304.96
9246	11/21/2025	EFT	3286	IMPERIAL BAG & PAPER CO. LLC	39737379	11/17/2025		11212025	753.60
Invoice: 39737379						JANITORIAL SUPPLIES			
				753.60 21892000 8000		SUPPLIES			
				IMPERIAL BAG & PAPER CO. LLC	39737378	11/17/2025		11212025	296.09
Invoice: 39737378						JANITORIAL SUPPLIES			
				296.09 10133310 8000		SUPPLIES			
						CHECK	9246 TOTAL:		1,049.69
9247	11/21/2025	EFT	2452	JACOB DE LA CRUZ	81197	11/17/2025		11212025	60.00
Invoice: 81197						2026 CSMFO MEMBER DUES			
				60.00 10155000 7818		DUES & SUBSCRIPTIONS			
						CHECK	9247 TOTAL:		60.00
9248	11/21/2025	EFT	2785	JENNIFER S. YOUNT	110125CVS	10/06/2025	20260129	11212025	750.00
Invoice: 110125CVS						PHOTOGRAPHY SERVICES			
				750.00 10172000 7494		AMPHITHEATER PROGRAMMING			
				JENNIFER S. YOUNT	102825RMSC	10/06/2025	20260129	11212025	750.00
Invoice: 102825RMSC						PHOTOGRAPHY SERVICES			
				750.00 107 7478		MARKETING PROGRAM			
				JENNIFER S. YOUNT	102325AF	10/06/2025	20260129	11212025	1,000.00
Invoice: 102325AF						PHOTOGRAPHY SERVICES			
				1,000.00 10172000 7494		AMPHITHEATER PROGRAMMING			
				JENNIFER S. YOUNT	100425NNO	10/06/2025	20260129	11212025	500.00
Invoice: 100425NNO						PHOTOGRAPHY SERVICES			
				500.00 10172000 7494		AMPHITHEATER PROGRAMMING			
						CHECK	9248 TOTAL:		3,000.00

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
9249	11/21/2025	EFT	645	KIMLEY-HORN & ASSOCIATES INC	33929048	10/31/2025	20260046	11212025	15,447.50
Invoice: 33929048						RM TS INTERCONNECT DESIGN SERVICES PE PE10/31/2025			
				15,447.50 10134000 9524		CTYWD TRF SIGL INT CNTRL			
						CHECK	9249 TOTAL:		15,447.50
9250	11/21/2025	EFT	1578	RICHARD KITE	81294	11/19/2025		11212025	1,019.30
Invoice: 81294						MEDICAL REIMBURSEMENT 12/2025			
				1,019.30 10151000 7200		GROUP INSURANCE-MEDICAL			
						CHECK	9250 TOTAL:		1,019.30
9251	11/21/2025	EFT	238	BERNARD B. KOPP	81284	11/19/2025		11212025	776.42
Invoice: 81284						MEDICAL REIMBURSEMENT 12/2025			
				776.42 10151000 7200		GROUP INSURANCE-MEDICAL			
						CHECK	9251 TOTAL:		776.42
9252	11/21/2025	EFT	3009	KRAZAN & ASSOCIATES	INV K601193 - 31222	10/31/2025		11212025	14,220.00
Invoice: INV K601193 - 31222						SOIL TECH SERVICES 10/2025			
				14,220.00 10134000 9018		PAVEMENT REHABILITATION			
						CHECK	9252 TOTAL:		14,220.00
9253	11/21/2025	EFT	127	DAVID MARTIN	81282	11/19/2025		11212025	2,377.36
Invoice: 81282						MEDICAL REIMBURSEMENT 12/2025			
				2,377.36 10151000 7200		GROUP INSURANCE-MEDICAL			
						CHECK	9253 TOTAL:		2,377.36
9254	11/21/2025	EFT	3309	MAZZETTI INC	0110389	11/17/2025	20260072	11212025	43,477.02
Invoice: 0110389						RMEA ENERGY EFFICIENCY CONSULTANT 10/2025			
				43,477.02 600 7426		SUSTAINABILITY REBATES & PRGRM			
						CHECK	9254 TOTAL:		43,477.02
9255	11/21/2025	EFT	1295	MICHAEL BAKER INTERNATIONAL INC	1267715	11/18/2025	20260073	11212025	5,752.80
Invoice: 1267715						CP 22-374: FRANK SINATRA			
				5,752.80 10131000 7400		PROFESSIONAL/TECHNICAL			
						CHECK	9255 TOTAL:		5,752.80

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
9256	11/21/2025	EFT	1317	MISSION LINEN SUPPLY	524922167	11/07/2025	20260009	11212025	41.00
Invoice: 524922167						BI-WEEKLY RENTAL SERVICE			
				41.00 21500500 8002		EQUIPMENT RENTAL			
				MISSION LINEN SUPPLY	524915461	11/06/2025	20260009	11212025	35.00
Invoice: 524915461						BI-WEEKLY RENTAL SERVICE			
				35.00 21500690 8002		EQUIPMENT RENTAL			
				MISSION LINEN SUPPLY	524494165	08/29/2025	20260009	11212025	54.00
Invoice: 524494165						BI-WEEKLY RENTAL SERVICE			
				54.00 10133310 8002		EQUIPMENT RENTAL			
				MISSION LINEN SUPPLY	525001139	11/20/2025	20260009	11212025	35.00
Invoice: 525001139						BI-WEEKLY RENTAL SERVICE			
				35.00 21500690 8002		EQUIPMENT RENTAL			
				MISSION LINEN SUPPLY	525001136	11/20/2025	20260009	11212025	39.66
Invoice: 525001136						BI-WEEKLY RENTAL SERVICE			
				39.66 10133300 8002		EQUIPMENT RENTAL			
				MISSION LINEN SUPPLY	525012214	11/20/2025	20260009	11212025	41.00
Invoice: 525012214						BI-WEEKLY RENTAL SERVICE			
				41.00 21500500 8002		EQUIPMENT RENTAL			
				MISSION LINEN SUPPLY	525012212	11/21/2025	20260009	11212025	54.00
Invoice: 525012212						BI-WEEKLY RENTAL SERVICE			
				54.00 10133300 8002		EQUIPMENT RENTAL			
						CHECK	9256 TOTAL:		299.66
9257	11/21/2025	EFT	468	NATIONWIDE	81234	11/19/2025		11212025	2,022.25
Invoice: 81234						PT DEFERRED COMP PE 11/14/25			
				2,022.25 101 2241		NATIONAL - PART TIME			
						CHECK	9257 TOTAL:		2,022.25
9258	11/21/2025	EFT	133	SYLVIA NINO	81276	11/19/2025		11212025	1,019.30
Invoice: 81276						MEDICAL REIMBURSEMENT 12/2025			
				1,019.30 10151000 7200		GROUP INSURANCE-MEDICAL			
						CHECK	9258 TOTAL:		1,019.30
9259	11/21/2025	EFT	2287	ONYX PAVING COMPANY, INC	25-028-2	08/31/2025	20260037	11212025	20,520.00
Invoice: 25-028-2						CP 25-398 PAVEMENT REHABILITATION			
				21,600.00 236 9018		PAVEMENT REHABILITATION			
				-1,080.00 101 2050		RETENTION PAYABLE			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
							CHECK	9259 TOTAL:	20,520.00
9260	11/21/2025	EFT	295	OVERDRIVE INC	01187CO25362261	11/17/2025		11212025	560.69
	Invoice: 01187CO25362261				EBOOKS & AUDIOBOOKS				
				560.69	E LB_ELECT -UNDEFINED -UNDEFINED -UNDEFINED 24281000 7912 FOUNDATION - COLLECTION				
				OVERDRIVE INC	01187CO25364062	11/18/2025		11212025	21.25
	Invoice: 01187CO25364062				AUDIOBOOKS				
				21.25	E LB_ELECT -UNDEFINED -UNDEFINED -UNDEFINED 24281000 7912 FOUNDATION - COLLECTION				
				OVERDRIVE INC	01187DA25364570	11/18/2025		11212025	12.99
	Invoice: 01187DA25364570				EBOOKS				
				12.99	E LB_ELECT -UNDEFINED -UNDEFINED -UNDEFINED 24281000 7912 FOUNDATION - COLLECTION				
				OVERDRIVE INC	01187DA25364589	11/18/2025		11212025	285.00
	Invoice: 01187DA25364589				EBOOKS				
				285.00	E LB_ELECT -UNDEFINED -UNDEFINED -UNDEFINED 24281000 7912 FOUNDATION - COLLECTION				
							CHECK	9260 TOTAL:	879.93
9261	11/21/2025	EFT	116	PARKHOUSE TIRE	2030254315	11/12/2025		11212025	881.71
	Invoice: 2030254315				NEW TIRES - 2007 FORD RANGER				
				881.71	10133000 7624 VEHICLE MAINTENANCE				
							CHECK	9261 TOTAL:	881.71
9262	11/21/2025	EFT	1808	PATRICK PRATT	81279	11/19/2025		11212025	1,679.15
	Invoice: 81279				MEDICAL REIMBURSEMENT 12/2025				
				1,679.15	10151000 7200 GROUP INSURANCE-MEDICAL				
							CHECK	9262 TOTAL:	1,679.15
9263	11/21/2025	EFT	558	PFM ASSET MGMT LLC	15011673	11/13/2025		11212025	297.83
	Invoice: 15011673				INVESTMENT SERVICES PE 10/31/2025				
				297.83	276 7400 PROFESSIONAL/TECHNICAL				
				PFM ASSET MGMT LLC	15011672	11/13/2025		11212025	14,505.80
	Invoice: 15011672				INVESTMENT SERVICES PE 10/31/2025				
				14,505.80	10151000 7400 PROFESSIONAL/TECHNICAL				

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
						CHECK	9263	TOTAL:	14,803.63
9264	11/21/2025	EFT	728	FIRE PROTECTION SERVICE CORPORATI	7346823	11/12/2025		11212025	28.87
	Invoice: 7346823					MONITORING SERVICE 11/12/2025			
					28.87 24282000 7613	OBSERVATORY MAINTENANCE			
						CHECK	9264	TOTAL:	28.87
9265	11/21/2025	EFT	728	FIRE PROTECTION SERVICE CORPORATI	7346813	11/12/2025		11212025	789.48
	Invoice: 7346813					BATTERY REPLACEMENT - LIBRARY			
					789.48 24281000 7612	MAINTENANCE			
						CHECK	9265	TOTAL:	789.48
9266	11/21/2025	EFT	966	KRISTIE L. RAMOS	81240	11/18/2025		11212025	658.93
	Invoice: 81240					EXP REIMB - EMPLOYEE RECOGNITION 11/05/2025			
					658.93 10112000 8000	SUPPLIES			
						CHECK	9266	TOTAL:	658.93
9267	11/21/2025	EFT	232	RMEA MEMBERSHIP	81233	11/19/2025		11212025	960.00
	Invoice: 81233					RMEA DUES PE 11/14/25			
					960.00 101 2255	RMEA MEMBERSHIP			
				RMEA MEMBERSHIP	81237	11/19/2025		11212025	25.90
	Invoice: 81237					RMEA PREPAID LEGAL PE 11/14/25			
					25.90 101 2256	RMEA PREPAID LEGAL			
				RMEA MEMBERSHIP	81238	11/19/2025		11212025	33.90
	Invoice: 81238					RMEA PREPAID LEGAL PE 11/14/25			
					33.90 101 2256	RMEA PREPAID LEGAL			
						CHECK	9267	TOTAL:	1,019.80
9268	11/21/2025	EFT	2080	ROGER MANNING	81290	11/19/2025		11212025	3,135.60
	Invoice: 81290					MEDICAL REIMBURSEMENT 12/2025			
					3,135.60 10151000 7200	GROUP INSURANCE-MEDICAL			
						CHECK	9268	TOTAL:	3,135.60
9269	11/21/2025	EFT	1810	RON HALL	81281	11/19/2025		11212025	776.42
	Invoice: 81281					MEDICAL REIMBURSEMENT 12/2025			
					776.42 10151000 7200	GROUP INSURANCE-MEDICAL			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
							CHECK	9269 TOTAL:	776.42
9270	11/21/2025	EFT	2972	SCA OF CA, LLC	CA25003931	11/15/2025	20260088	11212025	8,973.90
	Invoice: CA25003931					CITYWIDE STREET SWEEPING 11/2025			
					8,973.90 248 7615	STREET SWEEPING			
							CHECK	9270 TOTAL:	8,973.90
9271	11/21/2025	EFT	2423	MICHAEL SCHLANGE	81286	11/19/2025		11212025	2,339.00
	Invoice: 81286					MEDICAL REIMBURSEMENT 12/2025			
					2,339.00 10151000 7200	GROUP INSURANCE-MEDICAL			
							CHECK	9271 TOTAL:	2,339.00
9272	11/21/2025	EFT	195	SHIRLEY NYEKI	81293	11/19/2025		11212025	1,683.66
	Invoice: 81293					MEDICAL REIMBURSEMENT 12/2025			
					1,683.66 10151000 7200	GROUP INSURANCE-MEDICAL			
							CHECK	9272 TOTAL:	1,683.66
9273	11/21/2025	EFT	2528	CAUPAIN LLC	9212	11/17/2025		11212025	367.70
	Invoice: 9212					REFRESHMENTS - YOUTH THEATER 11/22/2025			
					367.70	E LL_YTHEATR-UNDEFINED -UNDEFINED -UNDEFINED			
					24281000 7919	FOUNDATN-LITERARY LEGACY			
							CHECK	9273 TOTAL:	367.70
9274	11/21/2025	EFT	317	SIGNATURE PARTY RENTALS, LLC	454591	10/30/2025		11212025	1,171.13
	Invoice: 454591					EVENT RENTALS - DEVELOPMENT SUMMIT 10/2025			
					1,171.13 24281000 8002	EQUIPMENT RENTAL			
				SIGNATURE PARTY RENTALS, LLC	454911	11/06/2025		11212025	5,126.70
	Invoice: 454911					AMPHITHEATER RENTALS 10/31/2025			
					5,126.70 10172000 7494	AMPHITHEATER PROGRAMMING			
							CHECK	9274 TOTAL:	6,297.83
9275	11/21/2025	EFT	332	IRIS SMOTRICH	81287	11/19/2025		11212025	1,019.30
	Invoice: 81287					MEDICAL REIMBURSEMENT 12/2025			
					1,019.30 10151000 7200	GROUP INSURANCE-MEDICAL			
							CHECK	9275 TOTAL:	1,019.30

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
9276	11/21/2025	EFT	2751	SOLOMON N NIMAKO	107	11/12/2025	20260066	11212025	5,280.00
Invoice: 107						GIS SERVICES 10/2025			
					5,280.00 10156000 7400	PROFESSIONAL/TECHNICAL			
						CHECK	9276 TOTAL:		5,280.00
9277	11/21/2025	EFT	640	STEVEN B QUINTANILLA,	81159	11/13/2025		11212025	65,726.50
Invoice: 81159						LEGAL SERVICES 9/2025			
					62,622.50 10114000 7400	PROFESSIONAL/TECHNICAL			
					1,862.00 24281000 7400	PROFESSIONAL/TECHNICAL			
					1,122.00 28000000 7400	PROFESSIONAL/TECHNICAL			
					120.00 600 7400	PROFESSIONAL/TECHNICAL			
						CHECK	9277 TOTAL:		65,726.50
9278	11/21/2025	EFT	3325	THE NATELSON DALE GROUP INC	04049	10/31/2025	20260042	11212025	19,648.62
Invoice: 04049						CONSULTING SERVICES 10/2025			
					19,648.62 10172000 7476	COMMUNITY ECONOMIC DEVELOPMENT			
						CHECK	9278 TOTAL:		19,648.62
9279	11/21/2025	EFT	542	CHARLES TOWNSEND VINCI	81285	11/19/2025		11212025	1,019.30
Invoice: 81285						MEDICAL REIMBURSEMENT 12/2025			
					1,019.30 10151000 7200	GROUP INSURANCE-MEDICAL			
						CHECK	9279 TOTAL:		1,019.30
9280	11/21/2025	EFT	218	TRACY FINNELL, INC	139768	11/07/2025		11212025	262.89
Invoice: 139768						PM SERVICE - 2014 FORD F-450			
					262.89 10132000 7624	VEHICLE MAINTENANCE			
					.00 10132000 7624	VEHICLE MAINTENANCE			
				TRACY FINNELL, INC	139794	11/07/2025		11212025	1,042.84
Invoice: 139794						PM SERVICE - 2007 FORD RANGER			
					1,042.84 10133000 7624	VEHICLE MAINTENANCE			
						CHECK	9280 TOTAL:		1,305.73
9281	11/21/2025	EFT	1674	RANDALL J. VIEGAS	81277	11/19/2025		11212025	1,094.45
Invoice: 81277						MEDICAL REIMBURSEMENT 12/2025			
					1,094.45 10151000 7200	GROUP INSURANCE-MEDICAL			
						CHECK	9281 TOTAL:		1,094.45

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
						INVOICE DTL DESC			
9282	11/21/2025	EFT	2889	VINTAGE ASSOCIATES INC	238979	10/31/2025	20260100	11212025	265.25
Invoice: 238979						MAINLINE REPAIR			
				265.25 201 7612		MAINTENANCE			
				VINTAGE ASSOCIATES INC	239044	11/17/2025	20260070	11212025	195.00
Invoice: 239044						LANDSCAPE MAINTENANCE - WHISPERING WATERS 11/2025			
				195.00 28300000 7612		MAINTENANCE			
						CHECK 9282 TOTAL:			460.25
9283	11/21/2025	EFT	1542	WAXIE SANITARY SUPPLY	103204 2	11/12/2025		11212025	1,966.01
Invoice: 103204 2						JANITORIAL SUPPLIES			
				1,966.01 10133300 8000		SUPPLIES			
						CHECK 9283 TOTAL:			1,966.01
9284	11/21/2025	EFT	3397	WESTAIR GASES & EQUIPMENT INC	0012129401	11/13/2025		11212025	366.35
Invoice: 0012129401						HELIUM TANK			
				366.35 24281000 8000		SUPPLIES			
						CHECK 9284 TOTAL:			366.35
9285	11/21/2025	EFT	776	WILLDAN ENGINEERING	002-35436	08/05/2025	20260106	11212025	18,272.86
Invoice: 002-35436						PLAN CHECK AND INSPECTION SERVICES 7/2025			
				18,272.86 10122000 7430		PLAN CHECK SERVICES			
						CHECK 9285 TOTAL:			18,272.86
9286	11/21/2025	EFT	294	WILLDAN FINANCIAL SERVICES	010-63827	10/21/2025	20260128	11212025	1,875.00
Invoice: 010-63827						ASSESSMENT DISTRICT CONSULTANT SERVICES 10/3/2025			
				1,875.00 10131000 7400		PROFESSIONAL/TECHNICAL			
				WILLDAN FINANCIAL SERVICES	010-64174	11/17/2025	20260128	11212025	2,140.00
Invoice: 010-64174						ASSESSMENT DISTRICT CONSULTANT SERVICES 10/31/2025			
				2,140.00 10131000 7400		PROFESSIONAL/TECHNICAL			
				WILLDAN FINANCIAL SERVICES	010-64161	11/17/2025	20260043	11212025	1,400.00
Invoice: 010-64161						CFD ANNEXATION SERVICES FY 2026			
				1,400.00 28000000 7400		PROFESSIONAL/TECHNICAL			
						CHECK 9286 TOTAL:			5,415.00
9287	11/21/2025	EFT	313	TROY WILSON	81278	11/19/2025		11212025	776.42
Invoice: 81278						MEDICAL REIMBURSEMENT 12/2025			
				776.42 10151000 7200		GROUP INSURANCE-MEDICAL			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
						CHECK	9287	TOTAL:	776.42
9288	11/21/2025	EFT	1848	EMPLOYEE BENEFIT SPECIALISTS, INC	139907	11/17/2025		11212025	380.70
	Invoice: 139907					ADMIN FEE 11/2025			
					380.70 10151000 7400	PROFESSIONAL/TECHNICAL			
						CHECK	9288	TOTAL:	380.70
241945	11/21/2025	PRTD	3159	WEST COAST LANDCARE INC	57	10/01/2025	20260012	11212025	3,000.00
	Invoice: 57					LANDSCAPE MAINTENANCE SERVICES			
					3,000.00 21893000 7612	MAINTENANCE			
						CHECK	241945	TOTAL:	3,000.00
241946	11/21/2025	PRTD	2888	UNIVERSAL BUILDING MAINTENANCE, L	17789534	11/20/2025	20260111	11212025	100.00
	Invoice: 17789534					JANITORIAL SERVICES 11/2025			
					100.00 107 7872	PUBLIC RELATIONS			
				UNIVERSAL BUILDING MAINTENANCE, L	17789535	11/20/2025	20260111	11212025	200.00
	Invoice: 17789535					JANITORIAL SERVICES 11/2025			
					200.00 10172000 7494	AMPHITHEATER PROGRAMMING			
				UNIVERSAL BUILDING MAINTENANCE, L	17789536	11/20/2025	20260111	11212025	112.50
	Invoice: 17789536					JANITORIAL SERVICES 11/2025			
					112.50 10172000 7494	AMPHITHEATER PROGRAMMING			
				UNIVERSAL BUILDING MAINTENANCE, L	17789519	11/08/2025	20260111	11212025	200.00
	Invoice: 17789519					JANITORIAL SERVICES 10/2025			
					200.00 10172000 7494	AMPHITHEATER PROGRAMMING			
				UNIVERSAL BUILDING MAINTENANCE, L	17789533	11/20/2025	20260111	11212025	200.00
	Invoice: 17789533					JANITORIAL SERVICES 11/2025			
					200.00 10172000 7494	AMPHITHEATER PROGRAMMING			
				UNIVERSAL BUILDING MAINTENANCE, L	17574720	09/25/2025	20260111	11212025	1,940.00
	Invoice: 17574720					JANITORIAL SERVICES 9/30/2025			
					1,940.00 10172000 7494	AMPHITHEATER PROGRAMMING			
						CHECK	241946	TOTAL:	2,752.50
241947	11/21/2025	PRTD	56	ALTURA CREDIT UNION	81231	11/19/2025		11212025	176.00
	Invoice: 81231					CREDIT UNION PE 11/14/25			
					176.00 101 2245	EMPLOYEE CREDIT UNION			
						CHECK	241947	TOTAL:	176.00

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
241948	11/21/2025	PRTD	1767	ANGEL LIGHT ACADEMY	81299	11/19/2025		11212025	1,000.00
Invoice: 81299						CHARITABLE DONATION			
				1,000.00					
					E OKEEFE -UNDEFINED -UNDEFINED -UNDEFINED				
					10157000 7458 SUPPORT FOR NON-PROFITS				
						CHECK	241948 TOTAL:		1,000.00
241949	11/21/2025	PRTD	2862	AYANTRA INC	75500	11/10/2025		11212025	2,400.00
Invoice: 75500						GENERATOR MONITORING SERVICE PE 12/31/27			
				480.00	24281000 7612 MAINTENANCE				
				480.00	21500690 7612 MAINTENANCE				
				480.00	10133310 7612 MAINTENANCE				
				480.00	10133300 7612 MAINTENANCE				
				480.00	21500500 7612 MAINTENANCE				
						CHECK	241949 TOTAL:		2,400.00
241950	11/21/2025	PRTD	1527	BIO-TOX LABORATORIES	48145	10/23/2025		11212025	395.00
Invoice: 48145						DUI TESTING PE 8/18/2025			
				395.00	10141000 7400 PROFESSIONAL/TECHNICAL				
						CHECK	241950 TOTAL:		395.00
241951	11/21/2025	PRTD	2990	BUSHIDO TACTICAL LLC	20251114-04	11/14/2025		11212025	606.75
Invoice: 20251114-04						TACTICAL BALISTIC CARRIER VESTS - SHERIFF			
				606.75	10141000 8020 UNIFORMS				
						CHECK	241951 TOTAL:		606.75
241952	11/21/2025	PRTD	3403	CHEERS COFFEE LLC	0001	11/05/2025		11212025	4,500.00
Invoice: 0001						SPONSORSHIP- 17TH ARMENIAN FESTIVAL			
				4,500.00	10157000 7872 PUBLIC RELATIONS				
						CHECK	241952 TOTAL:		4,500.00
241953	11/21/2025	PRTD	275	CINTAS DOCUMENT MANAGEMENT	5302043302	11/10/2025		11212025	65.99
Invoice: 5302043302						FIRST AID SUPPLIES			
				65.99	21892000 8000 SUPPLIES				
				CINTAS DOCUMENT MANAGEMENT	5301850305	11/07/2025		11212025	105.77
Invoice: 5301850305						FIRST AID SUPPLIES			
				105.77	10133310 8000 SUPPLIES				
				CINTAS DOCUMENT MANAGEMENT	5302851905	11/13/2025		11212025	249.03
Invoice: 5302851905						FIRST AID SUPPLIES			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
					249.03 10151000 8000 SUPPLIES				
				CINTAS DOCUMENT MANAGEMENT	5302851905	11/13/2025		11212025	249.03
	Invoice: 5302851905				FIRST AID SUPPLIES				
					249.03 10133310 8000 SUPPLIES				
						CHECK	241953 TOTAL:		669.82
241954	11/21/2025	PRTD	11	COACHELLA VALLEY ASSOCIATION	81271	11/01/2025		11212025	11,360.00
	Invoice: 81271				TUMF FEES 10/25				
					11,360.00 702 2460 TUMF DEPOSITS				
						CHECK	241954 TOTAL:		11,360.00
241955	11/21/2025	PRTD	11	COACHELLA VALLEY ASSOCIATION	CV25619-25	06/30/2025		11212025	4,435.94
	Invoice: CV25619-25				AB2766/MSAPR QE 4/1/2025 - 6/30/2025				
					4,435.94 239 7484 CVAG ADMINISTRATION FEE				
						CHECK	241955 TOTAL:		4,435.94
241956	11/21/2025	PRTD	311	COACHELLA VALLEY CONSERVATION COM	81274	11/01/2025		11212025	6,811.20
	Invoice: 81274				MSHCP FEES 10/25				
					6,880.00 702 2473 MSHCP FEES				
					-68.80 101 4222 PROFESSIONAL SERVICE FEES				
						CHECK	241956 TOTAL:		6,811.20
241957	11/21/2025	PRTD	245	COACHELLA VALLEY RESCUE MISSION	81297	11/19/2025		11212025	1,000.00
	Invoice: 81297				CHARITABLE DONATION				
					1,000.00				
					E OKEEFE -UNDEFINED -UNDEFINED -UNDEFINED				
					10157000 7458 SUPPORT FOR NON-PROFITS				
						CHECK	241957 TOTAL:		1,000.00
241958	11/21/2025	PRTD	85	CONSOLIDATED ELECTRICAL DISTRIBUT	5725-1176963	11/05/2025		11212025	807.45
	Invoice: 5725-1176963				ELECTRICAL SUPPLIES				
					807.45 201 8004 REPAIR & MAINT SUPPLIES				
						CHECK	241958 TOTAL:		807.45
241959	11/21/2025	PRTD	3015	DAVID E BELL	73176	10/24/2025		11212025	480.00
	Invoice: 73176				TOWING SERVICES - SHERIFF 10/24/2025				
					480.00 10141000 7400 PROFESSIONAL/TECHNICAL				

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
						CHECK	241959 TOTAL:		480.00
241960	11/21/2025	PRTD	132	DEPARTMENT OF JUSTICE	002861	11/04/2025		11212025	64.00
	Invoice: 002861					FINGERPRINTS 10/2025			
					64.00 10141000 7400	PROFESSIONAL/TECHNICAL			
						CHECK	241960 TOTAL:		64.00
241961	11/21/2025	PRTD	1491	DESERT ARC	90337	10/31/2025		11212025	735.00
	Invoice: 90337					LANDSCAPE MAINTENANCE 10/2025			
					735.00 10133320 7612	MAINTENANCE			
						CHECK	241961 TOTAL:		735.00
241962	11/21/2025	PRTD	2803	OBK CORPORATION	063352	11/12/2025		11212025	137.95
	Invoice: 063352					REFRESHMENTS - CITY COUNCIL MEETING 11/6/2025			
					137.95 10151000 7806	MEETINGS/TRAINING/TRAVEL			
						CHECK	241962 TOTAL:		137.95
241963	11/21/2025	PRTD	1714	DUNN EDWARDS PAINTS	2019A58239	11/03/2025		11212025	214.56
	Invoice: 2019A58239					PAINT SUPPLIES			
					214.56 10133310 8004	REPAIR & MAINT SUPPLIES			
						CHECK	241963 TOTAL:		214.56
241964	11/21/2025	PRTD	1714	DUNN EDWARDS PAINTS	2019A57739	10/28/2025		11212025	214.67
	Invoice: 2019A57739					PAINT SUPPLIES			
					214.67 10133310 8004	REPAIR & MAINT SUPPLIES			
						CHECK	241964 TOTAL:		214.67
241965	11/21/2025	PRTD	322	ELEPHANT CAR WASH	91225887	11/07/2025		11212025	323.88
	Invoice: 91225887					CAR WASH PE 10/31/2025			
					26.99 10122000 7624	VEHICLE MAINTENANCE			
					26.99 10133000 7624	VEHICLE MAINTENANCE			
					26.99 10122000 7624	VEHICLE MAINTENANCE			
					26.99 10122000 7624	VEHICLE MAINTENANCE			
					26.99 10122000 7624	VEHICLE MAINTENANCE			
					26.99 10122000 7624	VEHICLE MAINTENANCE			
					26.99 10133000 7624	VEHICLE MAINTENANCE			
					26.99 10133000 7624	VEHICLE MAINTENANCE			
					26.99 10133000 7624	VEHICLE MAINTENANCE			
					26.99 10133000 7624	VEHICLE MAINTENANCE			
					26.99 10133000 7624	VEHICLE MAINTENANCE			
					26.99 10133000 7624	VEHICLE MAINTENANCE			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
						CHECK 241965 TOTAL:			323.88
241966	11/21/2025	PRTD	403	EMCOR SERVICE	910076066	11/04/2025	20260014	11212025	1,785.00
	Invoice: 910076066					TROUBLE SHOOT CHILLER - CITY HALL			
					1,785.00 10133300 7612	MAINTENANCE			
				EMCOR SERVICE	910076350	11/06/2025	20260014	11212025	550.60
	Invoice: 910076350					SWAMP COOLER REPLACEMENT			
					550.60 10133300 7612	MAINTENANCE			
				EMCOR SERVICE	910076378	11/07/2025	20260014	11212025	1,020.00
	Invoice: 910076378					HVAC MAINTENANCE - TROUBLE SHOOT CHILLER			
					1,020.00 10133300 7612	MAINTENANCE			
				EMCOR SERVICE	910076550	11/14/2025	20260014	11212025	2,519.00
	Invoice: 910076550					SWAMP COOLER MAINTENANCE 11/14/2025			
					2,519.00 10133310 7612	MAINTENANCE			
				EMCOR SERVICE	9110076522	11/13/2025	20260014	11212025	1,000.09
	Invoice: 9110076522					EXHAUST REPLACEMENT 11/6/2025			
					1,000.09 10133300 7612	MAINTENANCE			
				EMCOR SERVICE	910076523	11/13/2025	20260014	11212025	560.00
	Invoice: 910076523					HVAC MAINTENANCE 11/13/2025			
					560.00 10133300 7612	MAINTENANCE			
				EMCOR SERVICE	910076222	11/06/2025	20260014	11212025	9,253.25
	Invoice: 910076222					HVAC MAINTENANCE			
					4,616.20 10133300 7612	MAINTENANCE			
					438.72 21500500 7612	MAINTENANCE			
					497.33 21500690 7612	MAINTENANCE			
					329.41 21892000 7612	MAINTENANCE			
					3,371.59 24281000 7612	MAINTENANCE			
						CHECK 241966 TOTAL:			16,687.94
241967	11/21/2025	PRTD	3402	ERIC CUNNINGHAM	81312	11/13/2025		11212025	2,262.14
	Invoice: 81312					EXPENSE REIMB-TED NEXT CONFERENCE 11/8-11/2025			
					2,262.14 243 7806	MEETINGS/TRAINING/TRAVEL			
						CHECK 241967 TOTAL:			2,262.14
241968	11/21/2025	PRTD	3234	SAN LUIS AVIATION INC	20251112-04	11/13/2025		11212025	1,791.97
	Invoice: 20251112-04					BROADBAND COMMUNICATION SVCS			
					1,475.74 10142000 7824	COMMUNICATION MAIN/SERV			
					316.23 10156000 7639	COMPUTER MAINTENANCE			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
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						CHECK	241968 TOTAL:		1,791.97
241969	11/21/2025	PRTD	1528	FIND FOOD BANK	384829	05/01/2024		11212025	385.32
Invoice: 384829					MOBILE PANTRY 05/1/2024				
					96.33 28100000 7497	SPECIAL CONTRIBUTIONS			
					96.33 28300000 7497	SPECIAL CONTRIBUTIONS			
					96.33 28400000 7497	SPECIAL CONTRIBUTIONS			
					96.33 28600000 7497	SPECIAL CONTRIBUTIONS			
				FIND FOOD BANK	385915	05/01/2024		11212025	370.50
Invoice: 385915					FOOD FROM FOOD BANK 5/1/2024				
					92.63 28100000 7497	SPECIAL CONTRIBUTIONS			
					92.63 28300000 7497	SPECIAL CONTRIBUTIONS			
					92.63 28400000 7497	SPECIAL CONTRIBUTIONS			
					92.61 28600000 7497	SPECIAL CONTRIBUTIONS			
				FIND FOOD BANK	387102	06/26/2024		11212025	300.58
Invoice: 387102					FOOD FROM FOOD BANK 6/26/2024				
					75.15 28100000 7497	SPECIAL CONTRIBUTIONS			
					75.15 28300000 7497	SPECIAL CONTRIBUTIONS			
					75.15 28400000 7497	SPECIAL CONTRIBUTIONS			
					75.13 28600000 7497	SPECIAL CONTRIBUTIONS			
				FIND FOOD BANK	394989	02/12/2025		11212025	322.62
Invoice: 394989					FOOD FROM FOOD BANK 2/12/2025				
					80.66 28100000 7497	SPECIAL CONTRIBUTIONS			
					80.66 28300000 7497	SPECIAL CONTRIBUTIONS			
					80.66 28400000 7497	SPECIAL CONTRIBUTIONS			
					80.64 28600000 7497	SPECIAL CONTRIBUTIONS			
				FIND FOOD BANK	395967	03/12/2025		11212025	273.22
Invoice: 395967					FOOD FROM FOOD BANK 3/12/2025				
					68.31 28100000 7497	SPECIAL CONTRIBUTIONS			
					68.31 28300000 7497	SPECIAL CONTRIBUTIONS			
					68.31 28400000 7497	SPECIAL CONTRIBUTIONS			
					68.29 28600000 7497	SPECIAL CONTRIBUTIONS			
				FIND FOOD BANK	396869	04/09/2025		11212025	300.77
Invoice: 396869					FOOD FROM FOOD BANK 4/9/2025				
					75.19 28100000 7497	SPECIAL CONTRIBUTIONS			
					75.19 28300000 7497	SPECIAL CONTRIBUTIONS			
					75.19 28400000 7497	SPECIAL CONTRIBUTIONS			
					75.20 28600000 7497	SPECIAL CONTRIBUTIONS			
				FIND FOOD BANK	398076	05/14/2025		11212025	365.37
Invoice: 398076					FOOD FROM FOOD BANK 5/14/2025				
					91.34 28100000 7497	SPECIAL CONTRIBUTIONS			
					91.34 28300000 7497	SPECIAL CONTRIBUTIONS			
					91.34 28400000 7497	SPECIAL CONTRIBUTIONS			
					91.35 28600000 7497	SPECIAL CONTRIBUTIONS			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
				FIND FOOD BANK	399101	06/11/2025		11212025	494.38
	Invoice: 399101					FOOD FOR FOOD BANK 6/11/2025			
					123.60 28100000 7497	SPECIAL CONTRIBUTIONS			
					123.60 28300000 7497	SPECIAL CONTRIBUTIONS			
					123.60 28400000 7497	SPECIAL CONTRIBUTIONS			
					123.58 28600000 7497	SPECIAL CONTRIBUTIONS			
				FIND FOOD BANK	400000	07/09/2025		11212025	235.41
	Invoice: 400000					FOOD FROM FOOD BANK 7/9/2025			
					58.85 28100000 7497	SPECIAL CONTRIBUTIONS			
					58.85 28300000 7497	SPECIAL CONTRIBUTIONS			
					58.85 28400000 7497	SPECIAL CONTRIBUTIONS			
					58.86 28600000 7497	SPECIAL CONTRIBUTIONS			
				FIND FOOD BANK	402319	09/10/2025		11212025	224.58
	Invoice: 402319					FOOD FOR FOOD BANK 9/10/2025			
					56.15 28100000 7497	SPECIAL CONTRIBUTIONS			
					56.15 28300000 7497	SPECIAL CONTRIBUTIONS			
					56.15 28400000 7497	SPECIAL CONTRIBUTIONS			
					56.13 28600000 7497	SPECIAL CONTRIBUTIONS			
				FIND FOOD BANK	402954	10/08/2025		11212025	303.05
	Invoice: 402954					FOOD FOR FOOD BANK 10/8/2025			
					75.76 28100000 7497	SPECIAL CONTRIBUTIONS			
					75.76 28300000 7497	SPECIAL CONTRIBUTIONS			
					75.76 28400000 7497	SPECIAL CONTRIBUTIONS			
					75.77 28600000 7497	SPECIAL CONTRIBUTIONS			
						CHECK	241969 TOTAL:		3,575.80
241970	11/21/2025	PRTD	3120	GANNETT MEDIA CORP	0007411995	10/31/2025		11212025	502.03
	Invoice: 0007411995					PUBLIC HEAR NOTICES PE 10/31/2025 (ACCT #1252365)			
					502.03 10112000 7842	ADVERTISING/PUBLISHING			
						CHECK	241970 TOTAL:		502.03
241971	11/21/2025	PRTD	3212	ICC CODIFICATION INC	PG000043907	10/30/2025		11212025	221.00
	Invoice: PG000043907					PRINT - SUPPLEMENT NO. 5			
					221.00 10112000 7836	ORDINANCE CODIFICATION			
						CHECK	241971 TOTAL:		221.00
241972	11/21/2025	PRTD	3114	GRANITE TELECOMMUNICATIONS LLC	721605168	11/01/2025		11212025	811.73
	Invoice: 721605168					SERVICES PE 11/1/2025			
					192.52 28100000 7821	TELEPHONE			
					202.59 28600000 7821	TELEPHONE			
					282.68 28400000 7821	TELEPHONE			
					133.94 28300000 7821	TELEPHONE			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
						CHECK	241972 TOTAL:		811.73
241973	11/21/2025	PRTD	3176	HD SUPPLY INC	0882093667	10/07/2025		11212025	33.36
	Invoice: 0882093667					BATHROOM SUPPLIES			
					33.36 10133300 8004	REPAIR & MAINT SUPPLIES			
				HD SUPPLY INC	0882095781	10/08/2025		11212025	88.36
	Invoice: 0882095781					BATHROOM SUPPLIES			
					88.36 10133300 8004	REPAIR & MAINT SUPPLIES			
						CHECK	241973 TOTAL:		121.72
241974	11/21/2025	PRTD	3311	INLAND SOUTHERN CALIFORNIA UNITED	81236	11/19/2025		11212025	3.85
	Invoice: 81236					UNITED WAY PE 11/14/25			
					3.85 101 2250	DONATIONS-UNITED WAY			
						CHECK	241974 TOTAL:		3.85
241975	11/21/2025	PRTD	1857	JTB SUPPLY COMPANY	115891	11/11/2025		11212025	4,444.69
	Invoice: 115891					LED SIGN			
					4,444.69 10133310 7612	MAINTENANCE			
						CHECK	241975 TOTAL:		4,444.69
241976	11/21/2025	PRTD	1712	LUCAS COLOR CARD	72092	11/13/2025		11212025	988.10
	Invoice: 72092					COMMEMORATIVE LIBRARY CARDS & BOOKMARKS			
					988.10 24281000 7839	REPRODUCTION & PRINTING			
						CHECK	241976 TOTAL:		988.10
241977	11/21/2025	PRTD	2028	PJ CASTORENA, INC.	82294	11/13/2025		11212025	1,196.11
	Invoice: 82294					POWER CONTENT LABEL POSTCARDS			
					1,196.11 600 7842	ADVERTISING/PUBLISHING			
						CHECK	241977 TOTAL:		1,196.11
241978	11/21/2025	PRTD	2914	JORDAN FREEMAN	MWG2543	10/22/2025		11212025	1,137.05
	Invoice: MWG2543					SERVICE - SHERIFF MOTORCYCLE 10/22/2025			
					1,137.05 10141000 7624	VEHICLE MAINTENANCE			
				JORDAN FREEMAN	MWG2540	09/09/2025		11212025	639.54
	Invoice: MWG2540					SERVICE - SHERIFF MOTORCYCLE 9/9/2025			
					639.54 10141000 7624	VEHICLE MAINTENANCE			
				JORDAN FREEMAN	MWG2535	08/21/2025		11212025	2,354.89
	Invoice: MWG2535					SERVICE - SHERIFF MOTORCYCLE 8/21/2025			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
					2,354.89 10141000 7624	VEHICLE MAINTENANCE			
				JORDAN FREEMAN	MWG2534	08/20/2025		11212025	1,371.72
	Invoice: MWG2534					SERVICE - SHERIFF MOTORCYCLE 8/20/2025			
					1,371.72 10141000 7624	VEHICLE MAINTENANCE			
						CHECK	241978 TOTAL:		5,503.20
241979	11/21/2025	PRTD	437	NAI CONSULTING INC	2019-04.67	11/07/2025	20260063	11212025	346.00
	Invoice: 2019-04.67					CP 14-313: CALTRANS COMPLIANCE PE 9/30/2025			
					346.00 10134000 9523	RMN RD ST WID/FR RGT/SND			
						CHECK	241979 TOTAL:		346.00
241980	11/21/2025	PRTD	3000	LEGEND INVESTMENTS CORPORATION	225546	11/04/2025		11212025	3,428.61
	Invoice: 225546					REGULATORY SIGNS			
					3,428.61 10132000 8003	STREET SIGNS & MARKINGS			
						CHECK	241980 TOTAL:		3,428.61
241981	11/21/2025	PRTD	895	NV5 INC	482508	11/10/2025	20260082	11212025	2,025.00
	Invoice: 482508					ENGINEERING DESIGN SERVICES 10/2025			
					2,025.00 10131000 7400	PROFESSIONAL/TECHNICAL			
						CHECK	241981 TOTAL:		2,025.00
241982	11/21/2025	PRTD	447	ON THE FLY SERVICES, INC	408618	09/10/2025		11212025	250.00
	Invoice: 408618					BEE REMOVAL SERVICES			
					250.00 10133000 7612	MAINTENANCE			
				ON THE FLY SERVICES, INC	408249	09/05/2025	20260005	11212025	75.00
	Invoice: 408249					PEST CONTROL 9/2025			
					75.00 24282000 7613	OBSERVATORY MAINTENANCE			
				ON THE FLY SERVICES, INC	410946	10/07/2025	20260005	11212025	75.00
	Invoice: 410946					PEST CONTROL 10/2025			
					75.00 24282000 7613	OBSERVATORY MAINTENANCE			
				ON THE FLY SERVICES, INC	411681	10/15/2025	20260005	11212025	55.00
	Invoice: 411681					PEST CONTROL 10/2025			
					55.00 10133310 7612	MAINTENANCE			
				ON THE FLY SERVICES, INC	408473	09/08/2025	20260005	11212025	67.00
	Invoice: 408473					PEST CONTROL 9/2025			
					67.00 10133310 7612	MAINTENANCE			
				ON THE FLY SERVICES, INC	410862	10/06/2025	20260005	11212025	67.00
	Invoice: 410862					PEST CONTROL 10/2025			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
					67.00 10133310 7612 MAINTENANCE				
				ON THE FLY SERVICES, INC	410863	10/06/2025	20260005	11212025	47.00
				Invoice: 410863	PEST CONTROL 10/2025				
					47.00 21500500 7612 MAINTENANCE				
				ON THE FLY SERVICES, INC	408713	09/10/2025	20260005	11212025	47.00
				Invoice: 408713	PEST CONTROL 9/2025				
					47.00 21500690 7612 MAINTENANCE				
				ON THE FLY SERVICES, INC	410970	10/08/2025	20260005	11212025	47.00
				Invoice: 410970	PEST CONTROL 10/2025				
					47.00 21500690 7612 MAINTENANCE				
				ON THE FLY SERVICES, INC	12621-1	11/11/2025	20260005	11212025	350.00
				Invoice: 12621-1	PEST CONTROL - CITY HALL				
					350.00 10133300 7612 MAINTENANCE				
							CHECK	241982 TOTAL:	1,080.00
241983	11/21/2025	PRTD	99999	JOHN PEARSON	81224	11/12/2025		11212025	210.00
				Invoice: 81224	REIMBURSEMENT - PET ADOPTION				
					210.00 10157000 7420 ANIMAL SERVICES				
							CHECK	241983 TOTAL:	210.00
241984	11/21/2025	PRTD	99999	JULIE RICE	81131	11/04/2025		11212025	200.00
				Invoice: 81131	REIMBURSEMENT - PET ADOPTION				
					200.00 10157000 7420 ANIMAL SERVICES				
							CHECK	241984 TOTAL:	200.00
241985	11/21/2025	PRTD	99999	LGBTQ COMMUNITY CENTER OF THE DES	81262	11/19/2025		11212025	1,000.00
				Invoice: 81262	CHARITABLE DONATION				
					1,000.00				
					E OKEEFE -UNDEFINED -UNDEFINED -UNDEFINED				
					10157000 7458 SUPPORT FOR NON-PROFITS				
							CHECK	241985 TOTAL:	1,000.00
241986	11/21/2025	PRTD	99999	SEIDEN JUKU	81270	11/19/2025		11212025	1,000.00
				Invoice: 81270	CHARITABLE DONATIONS				
					1,000.00				
					E OKEEFE -UNDEFINED -UNDEFINED -UNDEFINED				
					10157000 7458 SUPPORT FOR NON-PROFITS				

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
							CHECK	241986 TOTAL:	1,000.00
241987	11/21/2025	PRTD	99999	SUNNY DUNES CLUBHOUSE	81260	11/19/2025		11212025	1,000.00
	Invoice: 81260					CHARITABLE DONATION			
				1,000.00		E OKEEFE -UNDEFINED -UNDEFINED -UNDEFINED			
						10157000 7458 SUPPORT FOR NON-PROFITS			
							CHECK	241987 TOTAL:	1,000.00
241988	11/21/2025	PRTD	99999	VARIETY CHILDREN'S CHARITY OF THE	81153	11/13/2025		11212025	3,000.00
	Invoice: 81153					SPONSORSHIP - WOMEN OF WONDER GALA 2/6/2026			
				3,000.00	10157000 7872	PUBLIC RELATIONS			
							CHECK	241988 TOTAL:	3,000.00
241989	11/21/2025	PRTD	472	PALM SPRINGS OPERA GUILD	81214	11/17/2025		11212025	10,000.00
	Invoice: 81214					OPERA UNDER THE STARS 11/1/20			
				10,000.00	10172000 7494	AMPHITHEATER PROGRAMMING			
				PALM SPRINGS OPERA GUILD	81317	11/01/2025	20260130	11212025	10,000.00
	Invoice: 81317					SPONOSRHIP - CV SYMPHONY EVENT 11/1/2025			
				10,000.00	10172000 7494	AMPHITHEATER PROGRAMMING			
							CHECK	241989 TOTAL:	20,000.00
241990	11/21/2025	PRTD	423	PATTON ENTERPRISES INC.	101961	11/10/2025		11212025	200.00
	Invoice: 101961					GATE SERVICE			
				200.00	21500690 7612	MAINTENANCE			
				PATTON ENTERPRISES INC.	101960	10/22/2025		11212025	200.00
	Invoice: 101960					GATE SERVICE - YARD			
				200.00	10133310 7612	MAINTENANCE			
							CHECK	241990 TOTAL:	400.00
241991	11/21/2025	PRTD	3401	PAUL CRACCHIOLO	20251201A	11/18/2025		11212025	300.00
	Invoice: 20251201A					ENTERTAINMENT FOR RMWF EVENT 12/1/2025			
				300.00	244 7400	PROFESSIONAL/TECHNICAL			
							CHECK	241991 TOTAL:	300.00
241992	11/21/2025	PRTD	485	PETROCHEM MANUFACTURING, LLC	3733-35	10/31/2025	20260125	11212025	455,670.93
	Invoice: 3733-35					CP 25-397: CITYWIDE REAS PROJECT PE 10/16/2025			
				479,653.61	224 9528	REAS ON VRIOUS PUB STRTS			
				-23,982.68	101 2050	RETENTION PAYABLE			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
				PETROCHEM MANUFACTURING, LLC	3526-28R	11/13/2025		11212025	4,569.54
				Invoice: 3526-28R		RETENTION - CP 25-399 PV VILLAS REAS PROJECT			
					4,569.54 101 2025	DEFERRED REVENUE			
				PETROCHEM MANUFACTURING, LLC	3665-67	10/01/2025	20260125	11212025	1,138,821.45
				Invoice: 3665-67		CP 25-397: CITYWIDE REAS PROJECT 9/30/2025			
					1,198,759.42 236 9528	REAS ON VRIOUS PUB STRTS			
					-59,937.97 101 2050	RETENTION PAYABLE			
						CHECK	241992 TOTAL:		1,599,061.92
241993	11/21/2025	PRTD	5	POWERS AWARDS	162680	11/13/2025		11212025	88.28
				Invoice: 162680		NAME PLATES			
					88.28 10151000 8000	SUPPLIES			
						CHECK	241993 TOTAL:		88.28
241994	11/21/2025	PRTD	3147	BRANDON MABE	1424	11/13/2025		11212025	900.00
				Invoice: 1424		PM SERIVCE - SKIDSTEER			
					900.00 10132000 7634	EQUIPMENT MAINT & FUEL			
						CHECK	241994 TOTAL:		900.00
241995	11/21/2025	PRTD	2647	QUADIENT LEASING USA, INC	Q2070240	10/23/2025	20260047	11212025	2,132.86
				Invoice: Q2070240		MAILROOM EQUIPMENT PE 2/23/2026			
					2,132.86 10151000 8220	LEASE PAYMENTS			
						CHECK	241995 TOTAL:		2,132.86
241996	11/21/2025	PRTD	1024	RAP FOUNDATION/	81154	11/13/2025		11212025	4,000.00
				Invoice: 81154		SPONSORSHIP - SENIOR INSPIRATION AWARDS 3/27/2026			
					4,000.00 10157000 7872	PUBLIC RELATIONS			
						CHECK	241996 TOTAL:		4,000.00
241997	11/21/2025	PRTD	147	RIVERSIDE COUNTY SHERIFFS DEPT	SH0000049175	10/17/2025		11212025	919,844.26
				Invoice: SH0000049175		LAW ENFORCEMENT BP #3 PE 9/17/2025			
					919,844.26 10141000 7404	SHERIFF SERVICES			
				RIVERSIDE COUNTY SHERIFFS DEPT	SH0000049262	10/31/2025		11212025	1,184.30
				Invoice: SH0000049262		EXTRA DUTY - ADDAMS FAMILY 10/24/2025			
					1,184.30 10141000 7404	SHERIFF SERVICES			
				RIVERSIDE COUNTY SHERIFFS DEPT	SH0000049264	10/31/2025		11212025	1,187.80
				Invoice: SH0000049264		EXTRA DUTY - ADDAMS FAMILY 10/26/25			
					1,187.80 10141000 7404	SHERIFF SERVICES			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
				RIVERSIDE COUNTY SHERIFFS DEPT	SH0000049263	10/31/2025		11212025	1,187.80
	Invoice: SH0000049263					EXTRA DUTY - ADDAMS FAMILY 10/25/25			
					1,187.80 10141000 7404	SHERIFF SERVICES			
				RIVERSIDE COUNTY SHERIFFS DEPT	SH0000049309	11/07/2025		11212025	1,433.40
	Invoice: SH0000049309					FUEL PE 10/24/2025			
					1,433.40 10141000 7623	VEHICLE FUEL			
						CHECK 241997 TOTAL:			924,837.56
241998	11/21/2025	PRTD	2917	CHESTER JOHNSON	12102025	10/17/2025		11212025	900.00
	Invoice: 12102025					PERFORMER FEE 12/10/2025 - GINGERBREAD EVENT			
					900.00 E LL_GINGER -UNDEFINED - - 24281000 7919	FOUNDATN-LITERARY LEGACY			
						CHECK 241998 TOTAL:			900.00
241999	11/21/2025	PRTD	61	SOUTHERN CALIFORNIA EDISON COMPAN	681210292025	11/03/2025		11212025	627.60
	Invoice: 681210292025					SERVICE PE 10/29/2025 (ACCT #700349196812)			
					343.39 21895000 7603	ELECTRICITY			
					285.31 21893000 7603	ELECTRICITY			
					-1.10 21892000 7603	ELECTRICITY			
				SOUTHERN CALIFORNIA EDISON COMPAN	008610312025	11/05/2025		11212025	1,733.44
	Invoice: 008610312025					SERVICE PE 10/31/2025 (ACCT# 700052520086)			
					1,733.44 10132000 7603	ELECTRICITY			
				SOUTHERN CALIFORNIA EDISON COMPAN	590311142025	11/14/2025		11212025	44.66
	Invoice: 590311142025					SERVICE PE 11/14/2025 (ACCT #700099905903)			
					44.66 201 7603	ELECTRICITY			
				SOUTHERN CALIFORNIA EDISON COMPAN	452411122025	11/12/2025		11212025	8,234.16
	Invoice: 452411122025					SERVICE PE 11/12/2025 (ACCT #700275914524)			
					8,234.16 10133300 7603	ELECTRICITY			
				SOUTHERN CALIFORNIA EDISON COMPAN	371411122025	11/17/2025		11212025	5,664.42
	Invoice: 371411122025					SERVICE PE 11/12/2025 (ACCT #700380343714)			
					5,664.42 10132000 7603	ELECTRICITY			
				SOUTHERN CALIFORNIA EDISON COMPAN	690511022025	11/18/2025		11212025	2,548.80
	Invoice: 690511022025					SERVICE PE 11/02/2025 (ACCT# 700394436905)			
					2,548.80 10132000 7618	TRAFFIC SIGNAL MAINT/ELEC			
				SOUTHERN CALIFORNIA EDISON COMPAN	163111122025	11/12/2025		11212025	64.31
	Invoice: 163111122025					SERVICE PE 11/12/2025 (ACCT #700405041631)			
					64.31 10133300 7603	ELECTRICITY			
				SOUTHERN CALIFORNIA EDISON COMPAN	873211122025	11/12/2025		11212025	188.96

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
Invoice: 873211122025					SERVICE PE 11/12/2025 (ACCT #700483708732)				
				115.93 204 7603	ELECTRICITY				
				56.27 203 7603	ELECTRICITY				
				16.76 205 7603	ELECTRICITY				
							CHECK	241999 TOTAL:	19,106.35
242000	11/21/2025	PRTD	234	DESERT LIMNOLOGISTS INC	11 - 23928	11/20/2025	20260004	11212025	415.00
Invoice: 11 - 23928					WATER FEATURE MAINTENANCE 11/2025				
				415.00 21893000 7612	MAINTENANCE				
				DESERT LIMNOLOGISTS INC	11 - 23929	11/11/2025	20260004	11212025	150.00
Invoice: 11 - 23929					WATER FEATURE MAINTENANCE 11/2025				
				150.00 21895000 7612	MAINTENANCE				
							CHECK	242000 TOTAL:	565.00
242001	11/21/2025	PRTD	153	STATE WATER RESOURCES CONTROL	SW-0323219	11/05/2025		11212025	10,920.00
Invoice: SW-0323219					ANNUAL PERMIT FEE - INDEX NO:660976 7/1/25-6/30/26				
				10,920.00 248 7854	ANNUAL ADMINISTRATIVE FEE				
							CHECK	242001 TOTAL:	10,920.00
242002	11/21/2025	PRTD	2824	T-MOBILE USA INC	L2510231452	10/23/2025		11212025	100.00
Invoice: L2510231452					RIVCO SHERIFF PE 7/19/2025				
				100.00 10141000 7400	PROFESSIONAL/TECHNICAL				
							CHECK	242002 TOTAL:	100.00
242003	11/21/2025	PRTD	2831	THERMAL TRUCK AND RV, INC	28751	10/13/2025		11212025	943.07
Invoice: 28751					PM SERIVCE - DUMP TRUCK				
				943.07 10132000 7624	VEHICLE MAINTENANCE				
							CHECK	242003 TOTAL:	943.07
242004	11/21/2025	PRTD	480	US BANK	7940504	10/24/2025		11212025	4,675.00
Invoice: 7940504					ADMIN FEES PE 9/30/2026				
				4,675.00 276 7440	BOND SERVICING				
							CHECK	242004 TOTAL:	4,675.00
242005	11/21/2025	PRTD	325	SHADE STRUCTURES INC	1348968	11/06/2025	20260099	11212025	6,024.63
Invoice: 1348968					SHADE STRUCTURE INSTALLATION - DOG PARK				
				6,024.63 21891000 7612	MAINTENANCE				

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
						CHECK	242005 TOTAL:		6,024.63
242006	11/21/2025	PRTD	174	VALLEY LOCK & SAFE	197100	11/12/2025		11212025	325.00
Invoice: 197100						NETWORK CONNECTIVITY - CITY HALL			
					325.00 10133300 7612	MAINTENANCE			
						CHECK	242006 TOTAL:		325.00
242007	11/21/2025	PRTD	3404	VICKI L HOBART	81314	11/19/2025		11212025	434.60
Invoice: 81314						MEDICAL REIMBURSEMENT 12/2025			
					434.60 10151000 7200	GROUP INSURANCE-MEDICAL			
						CHECK	242007 TOTAL:		434.60
242008	11/21/2025	PRTD	776	WILLDAN ENGINEERING	002-36293	11/04/2025	20260106	11212025	2,782.50
Invoice: 002-36293						PLAN CHECK AND INSPECTION SERVICES 10/2025			
					2,782.50 10122000 7430	PLAN CHECK SERVICES			
				WILLDAN ENGINEERING	002-36297	11/04/2025	20260106	11212025	3,150.00
Invoice: 002-36297						DMB PLAN CHECK SERVICES 10/2025			
					3,150.00 10122000 7430	PLAN CHECK SERVICES			
				WILLDAN ENGINEERING	002-36295	11/04/2025	20260106	11212025	1,522.50
Invoice: 002-36295						DAVIDSON PLAN CHECK SERVICES 10/2025			
					1,522.50 10122000 7430	PLAN CHECK SERVICES			
				WILLDAN ENGINEERING	002-36300	11/04/2025	20260106	11212025	420.00
Invoice: 002-36300						JOHNSTON PLAN CHECK SERVICES 10/2025			
					420.00 10122000 7430	PLAN CHECK SERVICES			
				WILLDAN ENGINEERING	002-36298	11/04/2025	20260106	11212025	105.00
Invoice: 002-36298						WOODBRIDGE PLAN CHECK SERVICES 10/2025			
					105.00 10122000 7430	PLAN CHECK SERVICES			
				WILLDAN ENGINEERING	002-36296	11/04/2025	20260106	11212025	630.00
Invoice: 002-36296						PENTA PLAN CHECK SERVICES 10/2025			
					630.00 10122000 7430	PLAN CHECK SERVICES			
				WILLDAN ENGINEERING	002-36299	11/04/2025	20260106	11212025	210.00
Invoice: 002-36299						B FOSTER PLAN CHECK SERVICES 10/2025			
					210.00 10122000 7430	PLAN CHECK SERVICES			
				WILLDAN ENGINEERING	002-36294	11/04/2025	20260106	11212025	2,047.50
Invoice: 002-36294						SHEA PLAN CHECK SERVICES 10/2025			
					2,047.50 10122000 7430	PLAN CHECK SERVICES			
						CHECK	242008 TOTAL:		10,867.50

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC				
242009	11/21/2025	PRTD	2881	WELTYS ENTERPRISES, INC	25-75316	11/17/2025		11212025	634.33
Invoice: 25-75316				634.33 244 7839		2026 RMWF ANGEL BOOK REPRODUCTION & PRINTING			
				WELTYS ENTERPRISES, INC	25-75236	11/14/2025		11212025	651.77
Invoice: 25-75236				651.77 24281000 7839		30TH ANNIVERSARY POSTERS REPRODUCTION & PRINTING			
				WELTYS ENTERPRISES, INC	25-75300	11/16/2025		11212025	137.11
Invoice: 25-75300				137.11 24281000 7839		FRAME PHOTOS REPRODUCTION & PRINTING			
				WELTYS ENTERPRISES, INC	25-75287	11/16/2025		11212025	290.90
Invoice: 25-75287				290.90 24281000 7839		RECIPE CARDS REPRODUCTION & PRINTING			
				WELTYS ENTERPRISES, INC	25-75235	11/14/2025		11212025	1,157.02
Invoice: 25-75235				1,157.02 24281000 7839		BOOK COVERS REPRODUCTION & PRINTING			
				WELTYS ENTERPRISES, INC	25-75018	11/07/2025		11212025	376.76
Invoice: 25-75018				376.76 24281000 7839		TIMELINE WINDOW GRAPHICS REPRODUCTION & PRINTING			
						CHECK 242009 TOTAL:			3,247.89

NUMBER OF CHECKS 127 *** CASH ACCOUNT TOTAL *** 3,086,353.79

	COUNT	AMOUNT
TOTAL PRINTED CHECKS	65	2,703,314.27
TOTAL EFT'S	62	383,039.52

*** GRAND TOTAL *** 3,086,353.79

City Council Staff Report

CONTINUED FROM 11/20/2025 CITY COUNCIL MEETING - Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) – Applicant: Phillip Fomotor. Consideration of a 16-Lot Residential Subdivision on 19.81 Gross Acres. The Project Requests Approval of a Minor Variance to the Residential Estate (R-E) Minimum Required Lot Size. Located North of the Intersection of Mirage Cove Drive and Peterson Road (APN's: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022)

DATE	ITEM #
December 4, 2025	PUBLIC HEARINGS - 5A.
Presented To	**Presented By**
Mayor and City Council	Ben Torres, Planning Manager

RECOMMENDED ACTION

1) Approve the filing of a Mitigated Negative Declaration (SCH# 2025070800) based on Environmental Assessment Case No. EA24-0009;

2) Approve Minor Variance Case No. VAR24-0005; and

3) Approve Tentative Tract Map Case No. TTM24-0003 (TTM 38971), subject to the Conditions of Approval, and based on the content and Findings in the staff report.

DISCUSSION

Background and Request

The applicant, Phillip Fomotor, is requesting approval of Tentative Tract Map No. 38971 to create a sixteen-lot single-family residential subdivision. The 19.81 acre project site is zoned Residential Estate (R-E) and currently consists of 8 lots located north of the intersection of Mirage Cove Drive and Peterson Road.

On November 6, 2025, the item was presented to the City Council but was continued to the November 20, 2025, City Council meeting per staff's recommendation to allow for further consideration of public comments received. The item was continued again on November 20, 2025, to the December 4, 2025, City Council meeting to allow staff additional time to work with the applicant on revising the project.

The project plans (Attachment 11) have been revised, and conditions of approval (Attachment 3) have been updated from those presented at the November 6th City Council meeting. The following is a summary of the modification made to the project based on the public comments received from the neighborhood:

- Peterson Road, Nielson Road, and Mirage Cove Drive (east of Peterson Road) will be classified from public to private streets. Kelley Lane will continue to remain a private street.
- The previously proposed 46 foot wide Right of Way south of Lot 7 is reduced to 15 feet for trail purposes.
- All prior conditions related to curb and gutter have been removed for the proposed private streets.

- A temporary hammerhead for fire department circulation is proposed at the end of the Phase 1 on Peterson Road.
- Condition of Approval #27 has been updated to reflect that all streets that are a part of the subdivision except for Mirage Cove Drive (between Neilson Road and Peterson Road) will be private.
- Condition of Approval #28 ensures that access to the Butler Abrams trail is provided and that trails shown on the map are maintained by the formed homeowner's association.
- Condition of Approval #29 has been added for existing public Right of Way and provides a mechanism for additional parcels and roadway sections to be annexed that are not a part of the Tentative Tract Map.
- Condition of Approval # 53 ensures that Covenants, Conditions, and Restrictions (CC&Rs) are established for the maintenance of all private streets and common areas.
- Lot 8 is now .97 acres.

Project Summary

The proposed project will subdivide eight existing parcels totaling 19.81 gross acres into sixteen single-family residential lots. The residential subdivision will not be gated, similar to other residential developments in the vicinity. The project site has frontages along Mirage Cove Drive, Nielson Road, Peterson Road, and Kelley Lane. The applicant has confirmed that access to the proposed parcels will be from Peterson Road. The subdivision of the project site will be proposed in two phases, Phase 1 includes the subdivision of three (3) southern parcels into eight (8) lots, identified as Lots 6, 7, 8, 9, 13, 14, 15, and 16. Once Phase 1 is subdivided architectural plans will be proposed for development of these parcels. Phase 2 will happen at a future date which includes the subdivision of five (5) northern parcels into eight (8) lots, identified as Lots 1, 2, 3, 4, 5, 10, 11, and 12. Once phase 2 is subdivided architectural plans will also be proposed for these lots.

The project also proposes a Minor Variance to reduce the 1-acre minimum lot size for one out of the sixteen proposed lots that have a size of .97 acres. All other lots will have sizes that meet the 1-acre requirement. The overall project density is .90 dwelling units per net acre, which complies with the maximum density of 1 dwelling unit per net acre under the R-E zoning district.

Detailed site planning, building footprints, floor plan, exterior design, landscaping, and grading will be submitted for review during the development review application process for the future development of the proposed parcels. The development of the proposed parcels will be subject to the development standards of the underlying zoning district in effect at the time of application submittal.

Attachments

Attachment 1 - 11/06/2025 & 11/20/2025 City Council Staff Reports

Attachment 2 - 10/09/2025 Planning Commission Staff Report

Attachment 3 - Revised Conditions of Approval

Attachment 4 - Aerial Photo

Attachment 5 - Public Hearing Notice

Attachment 6 - Draft Mitigated Negative Declaration

Attachment 7 - Draft Notice of Determination

Attachment 8 - Draft 11/20/2025 City Council Minutes

Attachment 9 - 11/06/2025 City Council Minutes

Attachment 10 - Draft 10/09/2025 Planning Commission Minutes

Attachment 11 - Revised Map

Attachment 12 - Public Comments

ATTACHMENT 1

City Council Staff Report

Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) – Applicant: Phillip Fomotor. Consideration of a 16-Lot Residential Subdivision on 19.81 Gross Acres. The Project Requests Approval of a Minor Variance to the Residential Estate (R-E) Minimum Required Lot Size of 1 Acre to .98 Acre for Two Lots. Located North of the Intersection of Mirage Cove Drive and Peterson Road (APN's: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022)

DATE	ITEM #
November 6, 2025	PUBLIC HEARINGS - 6B.
Presented To	**Presented By**
Mayor and City Council	Ben Torres, Planning Manager

RECOMMENDED ACTION

1. Approve the filing of a Mitigated Negative Declaration (SCH# 2025070800) based on Environmental Assessment Case No. EA24-0009;
2. Approve Minor Variance Case No. VAR24-0005; and
3. Approve Tentative Tract Map Case No. TTM24-0003 (TTM 38971), subject to the Conditions of Approval, and based on the content and Findings in the staff report.

DISCUSSION

Background and Request

The applicant, Phillip Fomotor, is requesting approval of Tentative Tract Map No. 38971 to create a sixteen-lot single-family residential subdivision. The subject property is zoned Residential Estate (R-E) and consists of a 19.81-acre project site currently consisting of 8 lots located north of the intersection of Mirage Cove Drive and Peterson Road. The proposed project requests approval of a Minor Variance to the Residential Estate (R-E) minimum required lot size from 1 acre to .98 acre for two of the proposed lots (lots 8 & 9) in order to be compatible with the established lot sizes of the immediate area and due to existing site constraints.

Project Summary

The proposed project will subdivide eight existing parcels totaling 19.81 gross acres into sixteen single-family residential lots. The residential subdivision will not be gated, similar to other residential developments in the vicinity. The project site has frontages along various public streets which include Mirage Cove Drive, Nielson Road, Peterson Road, and Kelley Lane (private street). The applicant has confirmed that access to the proposed parcels will be from Peterson Road. The subdivision of the project site will be proposed in two phases, Phase 1 includes the subdivision of three (3) southern parcels into eight (8) lots, identified as Lots 6, 7, 8, 9, 13, 14, 15, and 16. Once Phase 1 is subdivided architectural plans will be proposed for development of these parcels. Phase 2 will happen at a future date which includes the subdivision of five (5) northern parcels into eight (8) lots, identified as Lots 1, 2, 3, 4, 5, 10, 11, and 12. Once phase 2 is subdivided architectural plans will also be proposed for these lots.

The project also proposes a Minor Variance to reduce (two percent reduction) the 1-acre minimum lot size for two out of the sixteen proposed lots that have a size of .98 acres. All other lots will have sizes that range from 1 acre to 1.55 acres. The overall project density is .90 dwelling units per net acre, which complies with the maximum density of 1 dwelling unit per net acre under the R-E zoning district.

Detailed site planning, building footprints, floor plan, exterior design, landscaping, and grading will be submitted for review during the development review application process for the future development of the proposed parcels. The development of the proposed parcels will be subject to the development standards of the underlying zoning district in effect at the time of application submittal.

Planning Commission

On October 9, 2025, the Planning Commission conducted a duly noticed public hearing to consider the proposed project. Staff presented the highlights of the proposed project, and four public comments were received during the public hearing. As summarized in the meeting minutes attached to this report, the Commissioners asked questions which the staff addressed. After due consideration of the staff report and public testimony, the Planning Commission made the following motion, which included additional conditions of approval as recommended by staff. The Planning Commission also directed staff to review the inclusion of the equestrian trail. Staff reanalyzed the equestrian trail issue raised and based on our review of a Circulation Plan from 1981 (Resolution No. 81-60), equestrian trails were not planned for the area south of lot 7 implementation of the plan has been inconsistent along the designated portions. However, Condition of Approval No. 26 requires right of way dedication south of lot 7 at a width of 46' for future connectivity.

MOVED/SECONDED BY BEALE/AGOSTINI TO RECOMMEND THAT THE CITY COUNCIL TAKE THE FOLLOWING ACTIONS: 1) APPROVE THE FILING OF A MITIGATED NEGATIVE DECLARATION (SCH# 2025070800) BASED ON ENVIRONMENTAL ASSESSMENT CASE NO. EA24-0009; 2) APPROVE MINOR VARIANCE CASE NO. VAR24-0005; 3) APPROVE TENTATIVE TRACT MAP CASE NO. TTM24-0003 (TTM 38971), SUBJECT TO THE CONDITIONS OF APPROVAL WITH THE ADDED CONDITIONS, AND BASED ON THE CONTENT AND FINDINGS IN THE STAFF REPORT; 4) DIRECT STAFF TO LOOK INTO EQUESTRIAN TRAIL INCLUSION; AND 5) ADD THE FOLLOWING THREE (3) CONDITIONS OF APPROVAL:

- **AS DETERMINED TO BE FEASIBLE BY THE CITY ENGINEER CURB AND GUTTER SHALL BE INSTALLED ALONG THE PROJECT FRONTAGE ON NIELSON ROAD AND PETERSON ROAD WITH THE CURB FACE AT A WIDTH TO BE DETERMINED DURING PLAN CHECK.**
- **EXISTING TAMARISK TREES ON THE PROJECT SITE SHALL BE REMOVED WITHIN 6 MONTHS FROM A FINAL DETERMINATION ON THE PROPOSED PROJECT BY THE CITY COUNCIL.**
- **THE ULTIMATE ROADWAY WIDTH AS DETERMINED BY THE CITY ENGINEER SHALL BE INSTALLED BY THE APPLICANT ON PETERSON ROAD FRONTING THE FOLLOWING ADDRESSES: 38841, 38785, & 38775 PETERSON ROAD.**

MOTION CARRIED 3/0 (VICE CHAIR BRYANT RECUSED).

Environmental Determination

An Environmental Assessment form was submitted for the project, and the determination was made that the project required an initial study. An Initial Study has been prepared to result in the recommendation to adopt a Mitigated Negative Declaration (MND) in accordance with the provisions of the California Environmental Quality Act (CEQA) Guidelines Section 15070. Mitigation measures were recommended for Biological Resources and Tribal Cultural Resources. A Notice of Intent to Adopt a Mitigated Negative Declaration was published in *The Desert Sun* newspaper on July 20, 2025, and distributed to interested parties. The thirty-day public review period for the Draft Mitigated Negative Declaration commenced on July 21, 2025, and ended on August 19, 2025. During the review period, the City received one formal letter from the California Department of Fish and Wildlife (CDFW) commenting on the Draft IS/MND requesting additional mitigation measures to be incorporated. While the City is not required to respond to comments on an IS/MND, Sections 21091(d)(1) and 21092.5 of the Public Resources Code (PRC) and Section 150874 (b) of the California Environmental Quality Act Guidelines require that prior to project approval a Lead Agency must consider all comments received before making a final determination on the Initial Study/Mitigated Negative Declaration. Responses to comments received were prepared and have been incorporated into the draft revised IS/MND and included as Attachment 4. Those who provided comments were individually notified with the public hearing notice on September 24, 2025.

Assembly Bill 52 (AB 52) Tribal Consultation

State law requires public agencies in California to formally consult with Native American tribes that are traditionally and culturally affiliated with a project's geographic area, during the California Environmental Quality Act (CEQA) process. Eleven potentially interested tribes identified by the Native American Heritage Commission (NAHC) were contacted pursuant to AB 52 for information regarding their knowledge of cultural resources that were within or near the project area. Tribes had thirty days from the date of receipt of the notice to request consultation. Four tribes (Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Pechanga Band of Indians, and Quechan Tribe of the For Yuma) provided a response to the AB 52 Consultation Request Letter sent by the City of Rancho Mirage by certified mail on February 11, 2025. The Agua Caliente Band of Cahuilla Indians and the Pechanga Band of Indians were the only tribe to request a formal consultation in their letters dated March 7, 2025 and March 25, 2025. Consultation was concluded with all participating tribes on May 14, 2025. No additional requests for formal consultation were received, and the AB 52 noticing period was concluded.

Noticing Requirement

RMMC Section 17.74.020, *Hearing and notice*, requires that all property owners, as shown on the county's latest equalized assessment roll, within a 500-foot radius of the boundaries of the subject parcel(s) be notified of matters requiring a public hearing. If the number of property owners to whom the notice would be mailed is less than 25, then the mailing radius is required to be increased to 1,000 feet as measured from the exterior boundaries of the subject parcel.

On October 22, 2025, public hearing notices were mailed to property owners within a **500-foot** radius of the parcel boundary and posted at the City's designated community posting sites pursuant to the requirements of RMMC Chapter 17.74. Notification of the public hearing was published in *The Desert Sun* newspaper on October 26, 2025.

All written public comments related to the City Council's review of the proposed project received prior to the publication of this agenda packet, including any comments received for consideration of the Planning Commission, have been attached as Attachment 8; any oral testimony or comments made, including those by Developer, it's representatives, or public, if any, can be found on the video recording of the meeting on the city's website and were reviewed by the City Council prior to City Council's consideration of the item. All items were made publicly available at the same time as they were made available to a majority of the council in accordance with the Brown Act.

Attachments

Attachment 1 - 10/09/2025 PC Staff Report & Conditions of Approval

Attachment 2 - Aerial Photo

Attachment 3 - Public Hearing Notice

Attachment 4 - Draft Mitigated Negative Declaration

Attachment 5 - Draft Notice of Determination

Attachment 6 - 10/09/2025 Draft PC Minutes

Attachment 7 - Exhibits

Attachment 8 - Public Comments

City Council Staff Report

CONTINUED FROM 11/06/2025 CITY COUNCIL MEETING - Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) – Applicant: Phillip Fomotor. Consideration of a 16-Lot Residential Subdivision on 19.81 Gross Acres. The Project Requests Approval of a Minor Variance to the Residential Estate (R-E) Minimum Required Lot Size of 1 Acre to .98 Acre for Two Lots. Located North of the Intersection of Mirage Cove Drive and Peterson Road (APN's: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022)

DATE	ITEM #
November 20, 2025	PUBLIC HEARINGS - 6C.
Presented To	**Presented By**
Mayor and City Council	Ben Torres, Planning Manager

RECOMMENDED ACTION

Continue the item to the December 4, 2025, regularly scheduled City Council meeting.

ATTACHMENT 2

Planning Commission Staff Report

Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) – Applicant: Phillip Fomotor. Consideration of a 16-Lot Residential Subdivision on 19.81 Gross Acres. The Project Requests Approval of a Minor Variance to the Residential Estate (R-E) Minimum Required Lot Size of 1 Acre to .98 Acre for Two Lots. North of the Intersection of Mirage Cove Drive and Peterson Road (APN's: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022)

DATE	ITEM #
October 9, 2025	PUBLIC HEARINGS - 4B.
Presented To	**Presented By**
Planning Commission	Ben Torres, Planning Manager

RECOMMENDED ACTION

Recommend to the City Council:

1. Approval of the filing of a Mitigated Negative Declaration (SCH# 2025070800) based on Environmental Assessment Case No. EA24-0009; and,
2. Approval of Minor Variance Case No. VAR24-0005; and,
3. Approval of Tentative Tract Map Case No. TTM24-0003 (TTM 38971), subject to the Conditions of Approval, and based on the content and Findings in the staff report.

DISCUSSION

Facts

1. Applicant:	Phillip Fomotor
2. Request:	Consideration to subdivide eight (8) parcels totaling 19.81 acres into sixteen (16) residential lots. Phase 1 includes the subdivision of three (3) southern parcels into eight (8) lots, identified as Lots 6, 7, 8, 9, 13, 14, 15, and 16. Phase 2 includes the subdivision of five (5) northern parcels into eight (8) lots, identified as Lots 1, 2, 3, 4, 5, 10, 11, and 12. The project site is currently vacant and has a zoning designation of Residential Estate (R-E). A Minor Variance is proposed to consider a .98-acre size for two parcels; all other parcels will range in size from 1 acre to 1.55 acres. No single-family residence architectural plans are proposed as part of this project.

3. Location: North of the intersection of Mirage Cove Drive and Peterson Road. Assessor's Parcel Numbers: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022

4. Project Size: 19.81 gross acres

5. Existing Land Use and General Plan/Zoning: Vacant land; Residential Estate (R-E)

6. Date Application Deemed Complete: September 24, 2025

Background and Request

The applicant, Phillip Fomotor, is requesting approval of Tentative Tract Map No. 38971 to create a sixteen-lot single-family residential subdivision. The subject property is zoned Residential Estate (R-E) and consists of a 19.81-acre project site currently consisting of 8 lots located north of the intersection of Mirage Cove Drive and Peterson Road. The proposed project requests approval of a Minor Variance to the Residential Estate (R-E) minimum required lot size from 1 acre to .98 acre for two of the proposed lots (lots 8 & 9) in order to be compatible with the established lot sizes of the immediate area and due to existing site constraints. The site constraints include having three street frontages for these two proposed lots with right-of-way dedications on each frontage and being surrounded on all sides with roads or property not part of the project site. No single-family residence architectural plans or landscaping plans are proposed as part of this project. Per Condition of Approval No. 2 development of the property shall require the appropriate entitlement process as determined by the Planning Division at which time architectural plans and landscaping plans for the individual lots will be reviewed.

The following entitlements are requested: Environmental Assessment (EA24-0009), Minor Variance (VAR24-0005), and a Tentative Tract Map (TTM24-0003).

Site and Surrounding General Plan, Zoning and Land Uses

The 19.81-acre project site contains scattered vegetation and is currently vacant. Due to the configuration of the proposed subdivision it has frontages along various streets which include Nielson Road, Peterson Road, Mirage Cove Drive, and Kelley Lane. Part of the project site also borders the Whitewater Storm Channel. The site also shows signs of past disturbance.

The General Plan and zoning of the project site is R-E (Residential Estate with a maximum of one dwelling unit per net acre). The following table describes the surrounding land uses located adjacent to the subject property:

	General Plan and Zoning Designation	Land Use
Project Site	Residential Estate (R-E)	Vacant land
North	Residential Estate (R-E), Mobile Home Park (MHP), Floodways and Drainage Channels (OS-W)	Single-family residences, Mobile Home Park, Whitewater Storm Channel
East	Residential Estate (R-E) & Floodways and Drainage Channels (OS-W)	Single-family residences & Whitewater Storm Channel
South	Residential Estate (R-E) & Medium Density Residential (R-M)	Single-family residences & Vacant Land
West	Residential Estate (R-E) & Mobile Home Park (MHP),	Single-family residences & Mobile Home Park

Project Description

The proposed project will subdivide eight existing parcels totaling 19.81 gross acres into sixteen single-family residential lots. The residential subdivision will not be gated, similar to other residential developments in the vicinity. Access to the proposed parcels will be provided by various public streets which include Mirage Cove Drive, Nielson Road, and Peterson Road. One private street, Kelley Lane will also provide access. The subdivision of the project site will be proposed in two phases, Phase 1 includes the subdivision of three (3) southern parcels into eight (8) lots, identified as Lots 6, 7, 8, 9, 13, 14, 15, and 16. Once Phase 1 is subdivided architectural plans will be proposed for development of these parcels. Phase 2 will happen at a future date which includes the subdivision of five (5) northern parcels into eight (8) lots, identified as Lots 1, 2, 3, 4, 5, 10, 11, and 12. Once phase 2 is subdivided architectural plans will also be proposed for these lots. No single family home architectural plans are part of this current request.

The project also proposes a Minor Variance to reduce (two percent reduction) the 1-acre minimum lot size for two out of the sixteen proposed lots that have a size of .98 acres. All other lots will have sizes that range from 1 acre to 1.55 acres. The overall project density is .90 dwelling units per net acre, which complies with the maximum density of 1 dwelling unit per net acre under the R-E zoning district.

The proposed land use and gross lot size of each parcel is provided in the table below:

	Lot Size	**Land Use**
Overall Project Site	862,924 sq. ft. (19.81 ac)	16 lot subdivision
Proposed Lot 1	43,763 sq. ft. (1.00 ac)	Single-family residence
Proposed Lot 2	46,675 sq. ft. (1.07 ac)	Single-family residence
Proposed Lot 3	43,705 sq. ft. (1.00 ac)	Single-family residence
Proposed Lot 4	43,701 sq. ft. (1.00 ac)	Single-family residence
Proposed Lot 5	55,148 sq. ft. (1.26 ac)	Single-family residence
Proposed Lot 6	43,631 sq. ft. (1.00 ac)	Single-family residence
Proposed Lot 7	43,623 sq. ft. (1.00 ac)	Single-family residence
Proposed Lot 8	42,480 sq. ft. (0.98 ac)	Single-family residence
Proposed Lot 9	42,476 sq. ft. (0.98 ac)	Single-family residence
Proposed Lot 10	49,644 sq. ft. (1.14 ac)	Single-family residence
Proposed Lot 11	59,377 sq. ft. (1.36 ac)	Single-family residence
Proposed Lot 12	67,608 sq. ft. (1.55 ac)	Single-family residence
Proposed Lot 13	48,336 sq. ft. (1.11 ac)	Single-family residence
Proposed Lot 14	48,325 sq. ft. (1.11 ac)	Single-family residence
Proposed Lot 15	48,310 sq. ft. (1.11 ac)	Single-family residence
Proposed Lot 16	47,755 sq. ft. (1.10 ac)	Single-family residence

Detailed site planning, building footprints, floor plan, exterior design, landscaping, and grading will be submitted for review during the development review application process for the future development of the proposed parcels. The development of the proposed parcels will be subject to the development standards of the underlying zoning district in effect at the time of application submittal.

Analysis

Review Authority

The proposed project requires separate, but interrelated approvals: a Minor Variance to the Residential (R-E) minimum required lot size from 1 acre square feet to .98 acres for only two out of the sixteen proposed lots in order to be compatible with the established lot sizes of the immediate area; and a Tentative Tract Map to allow a sixteen-lot single-family residential subdivision with lots ranging in size from .98 acres square feet to 1.55 acres. The analysis that follows provides the basis for staff's recommendation to approve the Minor Variance and Tentative Tract Map applications.

Minor Variances allow for adjustments to the City's development standards for a particular property due to special circumstances. The Tentative Tract Map application is reviewed for the location, design, configuration, and potential impacts of the proposed use. Therefore, the findings to approve a Minor Variance to allow the reduction of the minimum lot size requirement from 1 acre to .98 acres would be made prior to consideration of the proposed residential subdivision.

The following analysis provides the foundation for the findings in the staff report. Together, the analysis and findings support staff's recommendation that the Planning Commission recommend approval of the project and all its components, subject to the Conditions of Approval in Attachment 2.

Minor Variances (Rancho Mirage Municipal Code Chapter 17.50)

Minor Variances are exemptions which can grant up to ten (10) percent of the standard being modified for development standards like minimum parcel size and provide relief from the City's development standards triggered by unusual or special circumstances on the property such as location, shape, size, surroundings, topography, or other condition where the application of the City's development standards denies property owners privileges enjoyed by other property owners in the vicinity and under identical zoning districts or creates an unnecessary, non-self-created hardship or unreasonable regulation which makes it obviously impractical to require compliance with the development standards.

Minor Variances may be granted when the strict application of the City's development standards denies the property owner privileges enjoyed by other property owners in the vicinity and under identical zoning districts or creates an unnecessary and non-self-created hardship or unreasonable regulation which makes it obviously impractical to require compliance with the development standards.

In compliance with State law, specific "findings" must be made before a decision-making body may approve a Minor Variance. After evaluating the information submitted by the applicant and analyzing relevant facts, staff concludes that approval of the Minor Variance is appropriate based on the following findings:

1. **Special Circumstances:** The two lots out of sixteen that propose .98-acre lot sizes are subject to additional right-of-way dedications and parkway requirements along Mirage Cove Drive, Nielson Road, and Peterson Road. These constraints reduce the buildable area of the project site and limit the applicant's ability to design a subdivision that complies with the current minimum lot size standard. The reduced lot sizes are compatible with adjacent residential development, which has similar site conditions. In addition, due to the subdivisions scattered parcel location the location of lots 8 & 9 is surrounded by existing streets or existing development on all sides so the lot sizes cannot be readjusted to meet the 1 acre minimum. As such, a Minor Variance is necessary to account for these site constraints and to allow for a compatible subdivision design.

2. **Preservation of Property Rights:** Granting the Minor Variance allows the property to be developed similarly to other nearby properties given the constraints on the two subject lots (8 & 9) with three public streets surrounding these lots in addition to property not part of the project site to the north. Many neighboring lots are smaller than the current 1-acre minimum lot size. The Minor Variance would ensure that the property owner can subdivide the property with similar lot sizes to what is already existing in the neighbored due to the constraints on this portion of the project site.

3. **No Detrimental Effects:** The Minor Variance will not harm public health, safety, or welfare. The subdivision has been designed to comply with applicable safety standards, including emergency access, fire protection, and drainage. The project does not increase density beyond what is permitted, nor does it introduce any use or physical condition that would negatively affect adjacent properties.

4. **Consistency with Surrounding Properties:** The variance does not grant a special privilege. The proposed lot sizes align with the established neighborhood pattern, which includes lots of varying sizes due to the earlier subdivision of properties. The Minor Variance maintains compatibility with surrounding homes and does not introduce any uses outside of those permitted in the R-E zoning district.

5. **General Plan and Neighborhood Compatibility:** The proposed subdivision aligns with the City's General Plan, supporting low-density large lot residential uses in the area.

While the proposed lot sizes range from approximately .98 acre to 1.55 acres, only two lots are .98 acres in size slightly below the 1 acre minimum due to right of way dedications and are .02 acre smaller than what is typically required in the R-E district. The reduction is minimal and does not result in a development intensity that exceeds what is envisioned in the General Plan. The request for a Minor Variance is reasonable given the project's conformance with density standards and the overall compatibility of the subdivision design with the surrounding built environment.

As designed and conditioned, the proposed project preserves the intent of low-density development, enhances the existing neighborhood fabric, and contributes to the City's goals for quality residential growth.

Tentative Map (Rancho Mirage Municipal Code Section 16.12.065)

A tentative map is a map approving the division of land for the purpose of sale, lease, or financing, and is governed by the Subdivision Map Act. A tentative map prescribes how the land is to be subdivided. The City's Subdivision Ordinance (Rancho Mirage Municipal Code Title 16 *Subdivisions*) establishes the minimum standards for the design of the lots, and the public improvements which serve them.

Once a tentative map is approved, the refined final map is approved by the City Council if deemed by the City Engineer to be in substantial conformance with the tentative map. The final map is then recorded with the Riverside County Recorder's Office, after which the newly created parcels may be individually sold and developed pursuant to the underlying General Plan and zoning regulations.

Subdivision Design

The proposed subdivision complies with the City's Development Code standards, except for the minimum lot size standard for the Residential Estate (R-E) zoning district, for which the applicant is requesting a Variance. Residential lot sizes range from .98 acres to 1.55 acres, resulting in an overall project density of .90 dwelling units per net acre. The following table compares the proposed subdivision with the City's Development Code standards for the R-E zoning district:

Development Feature	Development Standards	Proposed	Meets Requirements
Parcel Width	Minimum 100 ft.	Parcel widths range from 109.5 ft. to 179.23 ft.	Yes
Parcel Depth	Minimum 100 ft.	Parcel depths range from 284.06 ft. to 671.57 ft.	Yes
Lot Size	Minimum 1 acre	.98 acres to 1.55 acres	Yes, with approval of Minor Variance
Maximum Density	1 dwelling units per net acre maximum	.90 units per acre	Yes

As set forth in the above analysis, and with Minor Variance approval, the subdivision is in conformance with the Rancho Mirage General Plan, Rancho Mirage Municipal Code, and all applicable requirements of the Subdivision Map Act.

Access and Circulation

The proposed subdivision will not be gated. Access to the proposed parcels will be provided by various public streets which include Mirage Cove Drive, Nielson Road, and Peterson Road. One private street, Kelley Lane will also provide access. The proposed public and private roadway dimensions meet both City and Fire Department standards, as conditioned. Overall, the subdivision's design complies with the surrounding neighborhood

Grading and Drainage

The entirety of the project area has been disturbed in the past and currently remains vacant with scattered vegetation. The 19.81-acre project site is relatively flat with pad elevations ranging from 258.5 feet to 262.7 feet above sea level. These elevations were determined based on the site's topography and have been reviewed by the City Engineer. The existing terrain drains from the south, and the overall drainage pattern will generally remain consistent post-development, flowing from north to south.

To manage stormwater on-site, retention basins are proposed at the southern end of each parcel: The project's grading and drainage design ensures that all stormwater and nuisance water will be contained on-site. The basins will be sized to accommodate runoff from a worst-case 100-year storm event affecting the project's half-street frontage.

The Preliminary Hydrology Study for the proposed subdivision is on file with the Planning Division. As conditioned, the applicant is responsible for submitting the final hydrology report and grading plans to the Engineering Division for review and approval.

Additional Correspondence

As part of the subdivision review, staff sent notices to the Public Works Department, Riverside County Fire Marshal's Office, and all public utility companies and service agencies regarding the proposed subdivision. All utility providers, including gas, water, sewer, and cable/telecommunication services, are expected to serve the proposed parcels. Any comments received have been incorporated into this report and the Conditions of Approval.

Environmental Determination

An Environmental Assessment form was submitted for the project, and the determination was made that the project required an initial study. An Initial Study has been prepared to result in the recommendation to adopt a Mitigated Negative Declaration (MND) in accordance with the provisions of the California Environmental Quality Act (CEQA) Guidelines Section 15070. Mitigation measures were recommended for Biological Resources and Tribal Cultural Resources. A Notice of Intent to Adopt a Mitigated Negative Declaration was published in *The Desert Sun* newspaper on July 20, 2025, and distributed to interested parties. The thirty-day public review period for the Draft Mitigated Negative Declaration commenced on July 21, 2025, and ended on August 19, 2025. During the review period, the City received one formal letter from the California Department of Fish and Wildlife (CDFW) commenting on the Draft IS/MND requesting additional mitigation measures to be incorporated. While the City is not required to respond to comments on an IS/MND, Sections 21091(d)(1) and 21092.5 of the Public Resources Code (PRC) and Section 150874 (b) of the California Environmental Quality Act Guidelines require that prior to project approval a Lead Agency must consider all comments received before making a final determination on the Initial Study/Mitigated Negative Declaration. Responses to comments received were prepared and have been incorporated into the draft revised IS/MND and included as Attachment 4. Those who provided comments were individually notified with the public hearing notice on September 24, 2025.

Assembly Bill 52 (AB 52) Tribal Consultation

State law requires public agencies in California to formally consult with Native American tribes that are traditionally and culturally affiliated with a project's geographic area, during the California Environmental Quality Act (CEQA) process. Eleven potentially interested tribes identified by the Native American Heritage Commission (NAHC) were contacted pursuant to AB 52 for information regarding their knowledge of cultural resources that were within or near the project area. Tribes had thirty days from the date of receipt of the notice to request consultation. Four tribes (Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Pechanga Band of Indians, and Quechan Tribe of the For Yuma) provided a response to the AB 52 Consultation Request Letter sent by the City of Rancho Mirage by certified mail on February 11, 2025. The Agua Caliente Band of Cahuilla Indians and the Pechanga Band of Indians were the only tribe to request a formal consultation in their letters dated March 7, 2025 and March 25, 2025. Consultation was concluded with all participating tribes on May 14, 2025. No additional requests for formal consultation were received, and the AB 52 noticing period was concluded.

Noticing Requirement

RMMC Section 17.74.020, *Hearing and notice*, requires that all property owners, as shown on the county's latest equalized assessment roll, within a 500-foot radius of the boundaries of the subject parcel(s) be notified of matters requiring a public hearing. If the number of property owners to whom the notice would be mailed is less than 25, then the mailing radius is required to be increased to 1,000 feet as measured from the exterior boundaries of the subject parcel.

On September 24, 2025, public hearing notices were mailed to property owners within a **500-foot** radius of the parcel boundary and posted at the City's designated community posting sites pursuant to the requirements of RMMC Chapter 17.74. Notification of the public hearing was published in *The Desert Sun* newspaper on September 28, 2025. Any information addressed to the Planning Commission, but received after completion of this final report, will be distributed at the public hearing. No comments have been received as of the publication date of this report.

FINDINGS

Pursuant to RMMC Section 17.50.060 *Findings and decision,* the review authority may approve a Minor Variance in whole or in part, with conditions, only if all of the following findings are made:

1. There are special circumstances applicable to the property, including location, shape, size, surroundings, or topography so that the strict application of this title denies the property of privileges enjoyed by other property in the vicinity and under identical zoning district classification. **Special circumstances apply to the subject property due to its scattered parcel location with parcels fronting various public and private streets and the fact that this subdivision is only considered continuous since property lines meet at the center of existing streets. The Minor Variance is only proposed for lots 8 & 9 which are surrounded by three public streets and property that is not part of the project site, which results in constraints given that lot sizes cannot be readjusted to meet the 1 acre minimum and that right-of-way dedications are required for all three streets further reducing the lot sizes. Both lots 8 & 9 propose lot sizes of .98 acres, which is a small deviation from the 1-acre minimum lot size required in the R-E zone. In addition, many residential lots in the vicinity have lot sizes that are less than 1 acre. Without a Minor**

Variance, strict application of the current minimum lot size standard would prevent the property from being subdivided for the two subject lots in a manner that is consistent with the established neighborhood pattern and typical lot sizes. Therefore, the Minor Variance is warranted to account for these site constraints and to allow a compatible subdivision design in accordance with General Plan Program LU 3.1B.

2. Granting the minor variance:
    A. Is necessary for the preservation and enjoyment of a substantial property right possessed by other property in the same vicinity and zoning district and unavailable to the property for which the minor variance is sought. **The proposed Minor Variance is necessary to preserve and enjoy a substantial property right that is already possessed by other properties in the same vicinity and zoning district but is unavailable to the subject property for the proposed lots 8 & 9 under current development standards due to right-of-way dedications on three street frontages. Without this Minor Variance, the subject property would be unable to develop two lots that are consistent with the established neighborhood pattern, limiting the property owner's ability to use their property comparably to others nearby. The Minor Variance ensures equitable treatment by allowing development compatible with surrounding properties and existing neighborhood character in accordance with General Plan Program LU 3.1B.**

    B. Would not be detrimental to the public health, safety, or welfare, or injurious to the property or improvements in the vicinity and zoning district in which the property is located. **The proposed Minor Variance would not be detrimental to the public health, safety, or welfare, or injurious to the property or improvements. The subdivision has been designed and conditioned to comply with applicable safety standards, including emergency access, fire protection, and drainage. The project does not increase density beyond what is permitted, nor does it introduce any use or physical condition that would negatively affect adjacent properties. In addition, the project will be subject to review and approval by the Building and Safety Division, Engineering Division, and Riverside County Fire Department to ensure compliance with all health and safety codes. These safeguards, combined with the project's compatibility with the surrounding neighborhood, ensure that the Minor Variance will not result in adverse impacts on the community.**

    C. Does not constitute a special privilege inconsistent with the limitations upon other property in the vicinity and zoning district in which the property is located. **The proposed Minor Variance to reduce by two percent the minimum lot size from 1 acre to .98 acres for two (2) out of the sixteen (16) proposed lots does not constitute a special privilege, as it aligns with the existing development pattern in the surrounding neighborhood. The proposed subdivision includes lots ranging in size from .98 acres to 1.55 acres. The proposed lot sizes are consistent with the established lot sizes in the area and do not grant any advantage beyond what has historically been permitted for similarly situated properties. The Variance serves to maintain neighborhood compatibility, rather than granting a special privilege.**

    D. Does not allow a use or activity which is not otherwise expressly authorized by the regulations governing the subject parcel. **The proposed Minor Variance does not authorize any use or activity that is not otherwise permitted by the zoning regulations for the project site. The current General Plan and zoning designation for the project site is Residential Estate (R-E), which allows for large lot single-family residential uses. The proposed project involves the subdivision of land for single-family homes at a density of .90 dwelling units per net acre, which is within the allowable density of 1 unit per net acre under both the General Plan and zoning designations.**

    E. Would not be inconsistent with the general plan. **The proposed project is consistent with the City's General Plan in that the current General Plan and zoning designation for the project site allows for the subdivision of property. The current General Plan and zoning designation for the project site is Residential Estate (R-E). The R-E zoning district identifies appropriate areas for large lot single-family uses. The General Plan density limit allows up to one dwelling unit per net acre, and the proposed project density is .90 dwelling units per net acre. The project is consistent with the General Plan land use designation in terms of land use, and the design and appearance of the project is compatible with the surrounding community as follows:**

        - **Land Use and Neighborhood Compatibility: The subdivision will create sixteen single-family residential lots, contributing to the City's housing stock. The proposed lot sizes remain generous and consistent with the scale of neighboring**

developments. The layout mirrors adjacent large residential lots. While the proposed subdivision utilizes a slightly reduced lot size minimum for two of the lots, it retains appropriate setbacks and open space, minimizes grading impacts, and preserves natural drainage patterns. The proposed design aligns with the established development pattern, supporting neighborhood continuity and cohesion in accordance with General Plan Program LU 3.1B.

While the proposed lot sizes range from approximately .98 acres to 1.55 acres, slightly below the 1 acre minimum required in the R-E zoning district, the reduction for two of the .98 acre lots is minimal (two percent reduction) and does not result in a development intensity that exceeds what is envisioned in the General Plan. The request for a Minor Variance is reasonable given the project's conformance with density standards and the overall compatibility of the subdivision design with the surrounding built environment.

As designed and conditioned, the proposed project preserves the intent of low-density development, enhances the existing neighborhood fabric, and contributes to the City's goals for quality residential growth.

3. The proposed project has been reviewed in compliance with the provisions of the California Environmental Quality Act (CEQA). **An Environmental Assessment form was submitted for the project, and the determination was made that the project required an initial study. A Mitigated Negative Declaration (SCH Number 2025070800) was prepared based on Environmental Case No. EA24-0009 and pursuant to the California Environmental Quality Act. The document contains mitigation measures pertaining to Biological Resources, and Tribal Cultural Resources. Environmental impacts will be less than significant with implementation of the project's mitigation measures.**

Pursuant to RMMC Section 16.12.065 *Action on tentative tract maps*, the review authority may approve a tentative tract map may be approved only if the following findings are made:

1. The proposed Tentative Tract Map is consistent with the City's General Plan as specified in Section 65451 of the California Government Subdivision Map Act. **The current General Plan and zoning designation for the project site is Residential Estate (R-E). The R-E zoning district identifies areas appropriate for large lot single-family uses. The allowable maximum density is one dwelling unit per net acre. The overall project density is .90 dwelling units per net acre, which complies with the maximum density under the R-E zoning district. As conditioned, the proposed tentative map is consistent with the City's General Plan and Subdivision Map Act.**

2. The design or improvement of the proposed subdivision is consistent with the City's General Plan, Zoning Ordinance requirements, as conditioned. **As set forth in the above analysis, the proposed subdivision is in conformance with the City's General Plan, zoning, and all applicable requirements of the Subdivision Map Act, as conditioned. The development of the proposed parcels will be subject to the development standards of the underlying zoning district in effect at the time of application submittal.**

3. The site is physically suitable for the type of development, as conditioned. **The proposed parcels comply with the majority of the City's Development Code standards for the underlying zoning designation, Residential Estate (R-E). The project site is physically suitable for the type of low-density residential development with proposed lots that are primarily 1 acre minimum in size with the exception of two out of the sixteen lots that have lot sizes of .98 acres. The overall project density is .90 dwelling units per net acre, which complies with the maximum density under the R-E zoning district.**

4. The site is physically suitable for the proposed density of development, as conditioned. **The proposed subdivision has an overall density of .90 dwelling units per net acre, which does not exceed the maximum permitted density of one dwelling unit per net acre under the R-E zoning district. In addition, the applicant shall comply with the recommendations of the Mitigated Negative Declaration. No residential development is being proposed in conjunction with the proposed subdivision. Detailed site planning, building footprints, floor plan, exterior design, landscaping, and grading will be submitted for review during the development review application process for the future development of the proposed parcels. The development of the proposed parcels will be subject to the development standards of the underlying zoning district in effect at the time of application submittal.**

5. The design of the subdivision and proposed improvements is not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat. **The project has been reviewed**

for compliance with the California Environmental Quality Act (CEQA). Based on the implementation of the project's Biological Resource Mitigation Measures, there would be no potential significant negative impacts upon environmental quality and natural resources. The project site is surrounded by existing developments to the in all directions. The project site has been partially disturbed in the past, and any site development will have to comply with the mitigation measures and requirements of the Mitigated Negative Declaration. The proposed project has less than a significant impact with the incorporation of mitigation measures provided in the adopted Mitigated Negative Declaration.

6. The design of the subdivision or the type of improvements is not likely to cause serious public health problems, as conditioned. **As part of the subdivision review, staff sent notices to the Public Works Department, Riverside County Fire Marshal's Office, and all public utility companies and service agencies regarding the proposed subdivision. As conditioned, agencies are expected to provide service to the proposed parcels, including providers of electricity, gas, water, sewer, and cable telecommunication services. Noise and fugitive dust associated with grading and construction of this project shall be mitigated through compliance with the proposed project's Mitigated Negative Declaration and the City's Municipal Code provisions regarding dust control and construction hours. Lastly, permits are required to be obtained to construct the new site improvements. No public health impacts are expected, as conditioned.**

7. The design of the subdivision or the type of improvements will not conflict with easements, acquired by the public at large, for access through or use of, property within the proposed subdivision, as conditioned. **As part of the subdivision review, staff sent notices to the Public Works Department, Riverside County Fire Marshal's Office, and all public utility companies and service agencies regarding the proposed subdivision. Any comments received have been incorporated into the staff report and the Conditions of Approval. The Tentative Map has been conditioned to record any necessary easements and abandon existing easements that are deemed unnecessary by the City Engineer. The incremental impact of the project on service system capacities is mitigated by the dedications and public improvements required within the Conditions of Approval requiring all necessary dedications and public improvements to be in accordance with the City's adopted General Plan.**

8. The proposed project has been reviewed in compliance with the provisions of the California Environmental Quality Act (CEQA). **An Environmental Assessment form was submitted for the project, and the determination was made that the project required an initial study. A Mitigated Negative Declaration (SCH Number 2025070800) was prepared based on Environmental Case No. EA23-0003 and pursuant to the and pursuant to CEQA Guidelines Section 15070. The document contains mitigation measures pertaining to Biological Resources and Tribal Cultural Resources. Environmental impacts will be less than significant with implementation of the project's mitigation measures.**

Attachments

Attachment 1 - Aerial Photo.pdf

Attachment 2 - Conditions of Approval.pdf

Attachment 3 - Public Hearing Notice.pdf

Attachment 4 - Draft Mitigated Negative Declaration.pdf

Attachment 5 - Draft Notice of Determination.pdf

Attachment 6 - Exhibits.pdf

CONDITIONS OF APPROVAL

Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (Tentative Tract Map No. 38971) ("Project")

Special conditions (or portions thereof) are designated in **bold.**

I. GENERAL

1. All improvements shall conform to the provisions of the Rancho Mirage Municipal Code (RMMC), Title 16, (Subdivisions), unless specifically modified by any of the following conditions.

2. Development of the Subject Property shall require the appropriate entitlement process as determined by the Planning Division.

3. The Project approval shall be effective for two (2) years from the date of City Council approval. A Final Map must be approved by the City within this specified time period, or the Project approval shall become null and void unless the expiration date for the tentative map is extended as provided by RMMC Section 16.12.090.

4. The applicant shall execute a written acknowledgment to the Planning Division stating acceptance of and compliance with all of the Conditions of Approval for this Tentative Tract Map and all associated cases, and that the plans submitted are in compliance with the Conditions of Approval. No modifications shall be made to said plans without written approval from the appropriate decision-making body.

5. The Conditions of Approval set forth herein may include certain fees, dedication requirements, reservation requirements, and other exactions. Pursuant to Government Code Section 66020(d)(1), these Conditions constitute written notice of a statement of the amount of such fees, and a description of the dedications, reservations, and other exactions. You are hereby further notified that the 90-day approval period in which you may protest these fees, dedications, reservations, and other exactions, pursuant to Government Code Section 66020(a), has begun.

6. The development of the subject property shall conform substantially with the approved exhibits contained in **Case Nos. EA24-0009, VAR24-0005, and TTM24-0003** and all associated cases on file in the Planning Division. This includes all dimensional and size specifications, landscaping, hardscape, design treatments (including color and materials), and the locations of perimeter walls and plant materials as shown in the landscape exhibits.

7. Prior to issuance of any permits, the applicant shall acknowledge that the approved project and any or all proposed modifications to the approved project shall be completed in accordance with applicable City Ordinances, Guidelines, and other requirements in effect at the time of building permit issuance.

8. All green waste shall be disposed of at a permitted composting facility. The applicant shall undertake or cause to be undertaken such action or actions as are necessary to permit and/or otherwise accommodate the implementation of recycling services. Such action or actions may include, but are not limited to: designating and providing adequate area at

convenient locations with appropriate access for the placement of dumpsters and/or bin sets; constructing permanent enclosures that meet all requirements of the Code of the City of Rancho Mirage and each dumpster and/or bin set; providing for the security of each dumpster to discourage scavenging, and; providing adequate indoor area at convenient locations for the collection and short-term storage of recyclables. The applicant shall submit a "Recycling Program" that has been reviewed by an agent of the City, which, at a minimum, explains, states or otherwise defines: (1) recyclables generated by type; (2) estimate by pounds for each recyclable generated; (3) number of dumpsters and/or plastic bin sets (one set equals three "baskets") needed to accommodate estimated recyclables; (4) location of each dumpster (may be identified on a map attached as an exhibit); (5) method of collection such as curbside at each residential unit or at rear of property by dumpster, etc.; and (6) pick-up schedule for recyclables. The applicant shall provide other such information as may be necessitated by the development proposal.

9. The applicant shall comply with RMMC Chapter 9.60 which requires disclosure in the sale of residential property. The purpose of this chapter is to protect purchasers of new homes or lots for custom homes against unacceptable development on adjacent property by requiring the sellers of such homes and lots to disclose land use regulations applicable to contiguous properties and to disclose the nature of any development project approvals for such property that may exist.

10. **Grading permits shall not be issued prior to vertical development entitlements unless approved by the Public Works or Development Services Directors.**

11. **The location of this project is considered an "infill site" with very close proximity to existing residences. Should the City receive complaints about construction noise from residents in close proximity to the project, the City may limit construction activities to the hours between 7am and 5pm.**

12. **The mitigation measures contained in the Mitigated Negative Declaration (State Clearinghouse Number 2025070800) based on Environmental Case No. EA24-0009 are hereby incorporated as Conditions of Approval. The property owner shall be responsible for implementing the mitigation measures contained within the adopted Mitigated Negative Declaration, as necessary.**

13. **Within 5 days of project approval the applicant shall submit to the City of Rancho Mirage a check in the total amount of $3,018.75 made payable to the City of Rancho Mirage for the CEQA filing fees for the IS/MND (State Clearinghouse Number 2025070800).**

14. **If any portion of the subdivision is proposed to be converted into a gated community in the future Covenants, Conditions, and Restrictions (CC&RS) shall be submitted to the City for review and approval. In addition, any future gate plans if proposed shall be subject to review and approval by the Planning Division.**

15. **Final street improvement plans shall be determined by the City Engineer.**

16. **Existing tamarisk trees on the project site shall be removed within 6 months from**

a final determination on the proposed project by the City Council.

17. **The ultimate roadway width as determined by the City Engineer shall be installed by the applicant on Peterson Road fronting the following addresses: 38841, 38785, & 38775 Peterson Road.**

18. **Reciprocal access shall be provided for all private streets to ensure proper access and traffic flow.**

II. PLANNING

Prior to City Council approval of the Final Map, the following Conditions shall be satisfied:

19. **Landscape Plans shall be submitted to the Planning Division for each of the lots when architectural plans are proposed. The Planning Division reserves the right to request additional landscaping upon final inspection of each lot created by this subdivision if it is determined that areas are devoid of plant or ground cover material.**

A. The approved landscape plan may be modified only with City approval in a manner pursuant to Section 17.42.120 (Modification of a Development Plan Permit). Minor modifications to the approved plan may be considered by the Development Services Director.

B. The project shall be completed in accordance with the Ordinances, requirements, guidelines, and other criteria in effect at the time of construction.

C. Landscaping, Wall, and Grading Plans shall demonstrate that all electrical transformers, utility pads, cable TV and phone boxes, and similar utility fixtures will be screened, pursuant to RMMC Chapter 17.20 and/or installed underground if required.

D. Landscaping. The plans shall be submitted as a Landscape Documentation Package in accordance with Ordinance No. 990, and as amended by Ordinance 1101. Such Plan(s) shall be consistent with the Preliminary Landscape Plan, and the applicant shall provide evidence that the landscape plan has been reviewed and approved by the Riverside County Office of the Agricultural Commissioner and the Coachella Valley Water District (CVWD) prior to requesting a final inspection. The final landscaping and irrigation plans shall incorporate the use of Evapotranspiration (ET) irrigation "smart" controllers which shall include automatic water scheduling, rain, and temperature sensors. Prior to a final inspection, the landscape contractor shall verify in writing with Planning staff that controllers have been installed, are correctly programmed, and operate with these features. More information on smart controllers can be found at www.irrigation.com. **The project landscape architect shall submit written verification that the landscaping and irrigation has been installed in accordance with the approved plans.**

i. Vegetation with spikes that may be harmful to pedestrians shall be a

minimum of three (3) feet away from walkways.

E. Walls. Where perimeter walls are shown on the development plan they shall be designed with aesthetic relief and be of high-quality architectural design to complement adjacent developments. In accordance with the Community Design Elements, the landscaped parkway and perimeter wall along all property lines shall be aesthetically enriched and subject to approval of Planning staff, with architectural review as deemed necessary. All top of wall elevations and adjacent finish grade elevations for the project perimeter and entry walls shall be subject to review and approval by the Planning Division and City Engineer. The applicant shall contact the adjacent property owners if grading outside the subdivision boundaries is required for construction of the perimeter walls. This shall be accomplished prior to issuance of any permit.

20. Future neighborhood signage shall be subject to approval and issuance of a separate sign permit or sign program.

III. PUBLIC WORKS

Prior to City Council Approval of the Final Map, the following Conditions shall be satisfied:

21. FORMATION AND/OR ANNEXATION TO CFD
Pursuant to Ordinance No. 485 the applicant shall provide evidence that formation of, or annexation to a Communities Facilities District (CFD) No. 1 – Police and Fire services – to pay the City annually for public service costs associated with this project has been initiated. This requires the submittal of an application fee, the preparation of a boundary map, and 6-8 weeks' processing time. The applicant is advised to begin the application process as soon as possible, because the CFD annexation must occur prior to issuance of Grading Permits, or prior to Final Map approval if there is one.

22. STUDIES AND CALCULATIONS REQUIRED
The applicant shall submit a soils report, geological and hydrology studies, and hydraulic calculations, as required by the City Engineer, prior to approval of the Grading Plan.

23. GRADING & DRAINAGE PLAN
The applicant shall be required to submit a grading and drainage plan prepared by a licensed civil engineer to the City Engineer for plan check and approval. The grading and drainage plan shall be consistent with any and all conditions of approval associated with any applicable subdivision map and any Development Permit entitlements issued for the subject project by the City or any other responsible public agency. The grading and drainage plan shall conform to all city policies, standards, and regulations applicable to the project. In addition, if the project involves grading and drainage issues related to Coachella Valley Water District (CVWD) facilities, written evidence of the District's approval shall be included with the submittal required by the City of Rancho Mirage.

24. STORMWATER RETENTION
The grading of the project shall be designed such that all storm water to the level of a 100 year frequency storm; worst case of the 1, 3, 6, or 24 hour duration, shall be retained on

site, including the street frontage area. **Or** per Municipal Code Section 15.64.140.B, if the project is less than 1 acre or if it is south of the Whitewater Flood Channel, the grading of the project may be designed for the drainage to be conveyed to an "acceptable disposal site as determined by the City Engineer". **Since this project is south of the Whitewater Channel, it could qualify for the drainage to an "acceptable disposal site", which could be the existing storm drain box culvert per AD 77-02 if it can be shown that it can take the additional stormwater flows. It would also need to be shown that water could be safely conveyed to this box culvert. The proposed retention basins on the individual lots, all approximately 1 acre or larger, is acceptable also.** Surface streets are not considered "an acceptable disposal site" for common "nuisance water" from sprinklers and cleaning. Therefore, at a minimum, all projects shall make provisions to absorb such "nuisance water" to the satisfaction of the City Engineer. A Hydrology/Hydraulic Report, in accordance with the Riverside County Hydrology Manual, shall be submitted from a Registered Civil Engineer, showing how this stormwater is handled.

25. WQMP

Whether they are in areas that must retain 100% stormwater or not, all discretionary projects that meet any of the following criteria must submit "Project-Specific Water Quality Management Plans (WQMP)" in accordance with Appendix H of the Whitewater River Region Storm Water Management Plan (SWMP) (available at: http://content.rcflood.org/NPDES/WhitewaterWS.aspx)

A.) "single family hillside residences that create 10,000 square feet or more of impervious area where natural slope is 25% or greater;

B.) single-family hillside residences that create 10,000 square feet of impervious area where the natural slope is 10% or greater where erosive soil conditions are known;

C.) Commercial and industrial developments of 100,000 square foot or more;

D.) Automotive repair shops [includes Standard Industrial Classification (SIC) codes 5013, 7532, 7333,7534, 7537, 7538, and 7539];

E.) Retail gasoline outlets disturbing greater than 5,000 square feet;

F.) Restaurants disturbing greater than 5,000 square feet;

G.) Home subdivisions with 10 or more housing units;

H.) Parking lots of 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to Urban Runoff; or

I.) Discharge into the MS4 (aka Municipal Storm Drain System) and disturb an area of one acre or more, or disturb less than one acre, but are part of a larger common plan of development or sale (referred to as Other Development Projects).

If any of the above criteria exist, or at the discretion of the City, a Final WQMP shall be required prior to permit issuance, with Recording of a Covenant, or other approved mechanism, establishing the WQMP as a Public Record that shall apply upon occupancy, and continuing forward, to all future operators/residents of the project. Any approved design modifications that take place during construction shall be documented and incorporated into the Recorded WQMP Covenant prior to occupancy.

Per category G above, this project will need to do a Final WQMP.

26. STANDARD AGREEMENT FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS
If public infrastructure is to be included in this project, the applicant shall execute and submit the City of Rancho Mirage's Standard Agreement for Construction of Public Improvements for review and approval by the City Engineer and City Attorney.

27. STREET IMPROVEMENTS
Street improvements shall be required as specified below. Paved access in accordance with City Standards shall be provided to the subdivision. Plans for the construction of the required street improvements shall be designed by a California Registered Engineer and approved by the City Engineer prior to Final Map approval. All street construction shall be in conformance with these plans and the City's General Plan and Standard Details. Plans shall be approved prior to or concurrent with Final Development Plan approval and construction shall occur prior to occupancy. The developer shall furnish proof that any Sewer and Water Improvement Plans have been reviewed and approved by CVWD. The developer shall furnish proof that the Fire Marshal has approved the Water Plans and Street layout for the project.

A.) Public Streets - Mirage Cove Drive (West of Peterson Road)

i. Right-of-way along **Mirage Cove Drive** at a width of **30** feet from centerline shall be dedicated to the City of Rancho Mirage.

ii. Sidewalk, Curb and Gutter shall be installed along the project frontage with the curb face at a width to be determined by the City Engineer. Asphalt paving shall be installed along the project per City Standards.

iii. Until such time as an alternative public storm drain system or street surface drainage system can be completed, this project must accept the responsibility for absorbing the water from the 100 year storm street drainage along the project frontage and the tributary area upstream.

iv. Landscape and irrigation plans for all public street parkways and median islands shall conform to City standards and be submitted for review and approval by the City Engineer and Planning Division. Boulders shall not exceed 15" in height within 3 feet of a public street curb. Canopy trees shall be placed a minimum of 10 feet from public street curb and a minimum of 5 feet from sidewalks. Palm trees shall be placed a minimum of 5 feet from public street curb or sidewalk with a minimum trunk height of 10 feet. Right of way lines shall be shown on the final landscape plan.

B.) **Private Streets Nielson Road, Peterson Road (North of Mirage Cove), Mirage Cove (East of Peterson Road), and Kelley Lane**

i. Private street paving shall consist of a minimum of 3" A.C. paving over 4" of compacted Class II aggregate base material. On private streets, decorative

concrete or other surfacing materials shall be reviewed by Public Works for conformance to Public Works standards**.**

ii. On private streets, non-standard curb and gutter may be acceptable if the City's standard drainage criteria is satisfied, and the specific non-standard curb and gutter is approved by the Department of Public Works.

iii. The private street design and construction shall be completed in accordance with the City of Rancho Mirage standards and codes unless superseded by more stringent requirements from the State or Federal ADA guidelines. Such design shall include demonstration of adequate fire and delivery truck turning movements.

iv. In accordance with Municipal Code 17.26.070(d), all required off-street parking areas shall be designed so that surface water shall not drain over any sidewalks or adjoining parcels.

v. Private streets within the project shall be constructed with a minimum two-way travel way of **28 feet. An additional 23 feet of dedication as a private street shall be done along Kelley Lane to augment the existing easements along the east side of Kelley Lane. The additional paving should be built to match what is existing along Kelley Lane in that area already, expanding the width to 28 feet as needed. A "hammerhead" type of Fire Department turnaround area shall be provided on the north end of Kelley Lane, between phase 1 and phase 2 and at the end of Peterson Road, which may overlap a private driveway.** Private street paving shall consist of a minimum of 3" A.C. paving over 4" of compacted Class II aggregate base material.

28. Trails

All trails/access shown on the map shall be maintained by the Formed Homeowners Association. Access to the Butler Abrams trail shall be provided to the satisfaction of the City Engineer.

29. Existing Public Right of Way

i) Any portion of existing public Right of Way may be vacated in accordance with applicable law. All maintenance responsibilities shall be privately funded. The project CC&Rs shall allow for the annexation of additional parcels and roadway sections that are not a part of this Tentative Tract Map.

30. DEDICATION OF PUBLIC UTILITY EASEMENTS

A ten (10) foot public utility easement adjacent to the curb and gutter and edge of pavement shall be provided by the property owner for all public and private streets, and for public streets where the public right-of-way is less than the required 10 feet. All necessary utilities: sewer, water, electric, phone, fiber optic communications, natural gas, and television cable shall be provided to the lots and along the property frontage, unless otherwise approved.

31. UNDERGROUND UTILITIES REQUIRED
All existing or proposed Southern California Edison, General Telephone, CATV, or other overhead service facilities, shall be installed underground in accordance with the provisions of Section 12.16 of the Rancho Mirage Municipal Code. The underground installation of all existing or proposed overhead distribution utility lines shall be completed and/or appropriate guarantee arrangements shall be entered into for any structure constructed pursuant to this approval as required by the City Engineer. Such guarantee arrangement shall be approved by the City administrative staff and the City Attorney and shall include the posting of improvement security adequate to secure the periphery of the subject property; and as identified above and as required in Section 12.16 of the Rancho Mirage Municipal Code.

32. SANITARY SEWER SYSTEM
A sanitary sewer system shall be required and shall be installed in accordance with the provisions established and set forth by the regulations of the Coachella Valley Water District, the Riverside County Department of Public Health, and/or the regional Water Quality Control Board. All necessary easements shall be provided.

33. DOMESTIC WATER SYSTEM
A domestic water system shall be required and shall be installed in accordance with the provisions established and set forth by the regulations of the Coachella Valley Water District, the Riverside County Department of Public Health, and/or the regional Water Quality Control Board. All necessary easements shall be provided.

34. LOCAL AIR QUALITY MANAGEMENT PLAN (LAQMP)
The applicant shall prepare a Local Air Quality Management Plan (LAQMP) pursuant to Ordinance No. 855, Municipal Code Chapter 7.01. Said LAQMP shall detail the project's potential impact upon the air quality of the area and any necessary mitigation measures and shall be submitted to the Public Works Department for review and approval prior to the issuance of the Grading Permit. For ease of preparing a LAQMP, the applicant may contact the Public Works Department regarding use of the LAQMP worksheet. Projects over 10 acres shall also submit the 8.5"x11" format Dust Control Plan required by the South Coast Air Quality Management District for review by the City. At the time of payment of the permit fees the developer shall submit a "dust control deposit" to be determined from the acreage and the current fee schedule.

35. SWPPP/NOI
Prior to issuance of Grading Permits, the Property Owner shall submit the completed NOI **(Notice Of Intent)** form and site plan with the appropriate fee, to the State Water Quality Control Board for the General Construction Activity Storm Water Permit. The WDID number issued shall be placed on the cover sheet of the Grading Plans as Proof of Submittal. **The SWPPP promised by the NOI is required to be kept on the project site and may be requested for viewing by City or Water Quality Control Board personnel.**

36. CONSTRUCTION IMPROVEMENT AGREEMENT

The construction of all required public and private improvements, including but not limited to landscaping, sewer, water, curb and gutters, paving, drainage facilities, and other required improvements shall be completed prior to occupancy of any structure and/or the subdivider shall enter into an agreement, acceptable to the City, ensuring the construction of such improvements within eighteen (18) months of City Council approval of the Final Map.

37. WRITTEN VERIFICATION
Prior to release of bonds or financial guarantees, the applicant or his successor shall provide written verification that the improvements have been installed in accordance with the approved plans.

38. AS-BUILT PLANS
A complete set of "As-Built" Grading, Sewer, Water, Landscaping, Street, Storm Drain, and all other required improvement plans shall be submitted by the engineer of record for review and approval, prior to any occupancy or release of Subdivision Bonds.

39. SUBDIVISION MAP
A subdivision map shall be processed and recorded prior to any release of permits.

40. SECURITY
In accordance with the request of the Rancho Mirage Police Chief, the site shall be fenced and gated for security purposes. Screening material shall be placed on the fence to help block blowsand and to block views through the fence. If necessary, the applicant shall provide a state licensed private security officer during the time construction workers are not onsite.

41. PAD CERTIFICATION
Prior to release of Building Permits, a Pad Certification submitted from a Licensed Land Surveyor or Civil Engineer, attesting to the elevation matching the rough grade pad elevation shall be submitted to validate the rough grading completion.

42. COMPACTION REPORT
Prior to the release of Building Permits, the lot(s) for the building(s) shall have a compaction report submitted by a Geotechnical Engineer attesting to the buildable pad being compacted at least 90% of maximum relative density. If any over-excavation, or slopes steeper than 2:1, are needed for the building pad, a Geotechnical Engineer shall submit a document attesting to the acceptability of this non-standard earthwork in accordance with the recommendations of the preliminary soil report.

43. ASSESSMENT DISTRICT REAPPORTIONMENT
If the property to be subdivided is located within the boundaries of an Assessment District, assessments shall be reapportioned over the property to account for the newly created lots.

44. PARK FEES
Applicant shall pay all applicable parkland fees for the acquisition and/or development of community parks and recreational facilities in those amounts in effect at the time the grading permit is issued.

45. IMPROVEMENTS COMPLETED PRIOR TO OCCUPANCY
Prior to occupancy, the construction of all required public improvements, including but not limited to sewer, water, curb and gutters, paving to join, stormwater drainage facilities, and other required utility improvements shall be completed.

46. CVWD LETTER
Prior to occupancy, if applicable, a letter from Coachella Valley Water District (CVWD) shall be submitted stating that all the district fees have been paid and all requirements have been met for development.

IV. CITY ATTORNEY

Prior to City Council approval of the Final Map, the following Conditions shall be satisfied:

47. INDEMNITY AGREEMENT
The permittee shall defend, indemnify, and hold harmless the City, its agents, officers, and employees from any claim, action, or proceeding against the City or its agents, officers, or employees to attack, set aside, void or annul this permit approval. The City shall notify the permittee of any claim, action, or proceeding and the City shall cooperate in the defense. If the City fails to notify the permittee of any claim, action or proceeding of which the City has written notice, the permittee shall not thereafter be responsible to defend, indemnify, or hold harmless the City.

48. REIMBURSEMENTS
The permittee shall reimburse the City for any court and attorney's fees which the City may be required to pay as a result of any claim or action brought against the City because of this grant. Although the permittee is the real party in interest in an action, the City may, at its sole discretion, participate in the defense of the action, but such participation shall not relieve the permittee of any obligation under this Condition.

49. IMPROVEMENT SURETY
Pursuant to Chapter 15.64.280 of the Rancho Mirage Municipal Code, all public improvements proposed with the Development Plan submittal, or required by the adopted approval Conditions, shall be guaranteed by cash bonds, letters of credit, or other legal instruments acceptable to the City Attorney and City Council.

50. RELEASE OF PLANS
Written authorization must be obtained from any certified, licensed, or registered professional who signed the original building plans authorizing the plans to be made available by the City to all subsequent owners upon request (if on file with the City at the time of the request) for use by any subsequent owners solely for the construction, maintenance, operation, and use of the subject building(s) at the Project Site.

51. NOTICE TO CITY UPON DEFAULT, FORECLOSURE OR BANKRUPTCY
In the event that the applicant receives a notice of default from any lender in connection with funds loaned to the applicant for the proposed development, or that any security

instrument given by the applicant to any lender is foreclosed upon whether through a trustee's sale or otherwise, or that the applicant files a petition for bankruptcy, the applicant shall immediately notify the City of such notice of default, foreclosure sale, and/or filing of the bankruptcy petition, as the case may be.

52. MAINTENANCE OBLIGATIONS
The current and future property owner(s) shall be responsible for maintaining in compliance with all City standards for the same, the on-site and off-site landscaping and integrated architectural features required by this entitlement; all perimeter landscaping shall be maintained in a first-class condition. Landscape maintenance shall consist of regular watering mowing, pruning, fertilizing, clearing of debris and weeds, and the removal and replacement of irrigation systems, in compliance with all relevant and applicable provisions of the Rancho Mirage Municipal Code. Integrated architectural features must be kept in a manner which maintains the desirability of the immediate area and neighboring areas and respects the harmonious relationship with existing and adjoining developments. Due regard for preservation of each feature and its intended irrigation with surrounding landscaping, buildings, structures, screening, and signs is required. All features must be maintained in a manner commonly accepted by professionals who are experts in the care and preservation of each particular type of feature. A covenant to assure continued maintenance of on-site and off-site required landscaping and integrated architectural features by the current and future property owners or other liable entity, consistent with the terms and provisions of this condition of approval, shall be prepared in a format approved by the City Attorney and recorded in the Office of the Riverside County Recorder against all parcels created with this subdivision and any subsequent amendments thereto.

53. CC&Rs shall be established for the maintenance of all private streets and common areas in the neighborhood. The applicant shall make best efforts in contacting existing property owners not a part of this tract to annex into the formed maintenance association. Final form subject to the review and approval of the City Attorney and City Manager.

V. FIRE MARSHAL

54. The proposed project may have a cumulative adverse impact on the Fire Department's ability to provide an acceptable level of service. These impacts include an increased number of emergency and public service calls due to the increased presence of structures, traffic, and population. The project proponents/developers will be expected to provide for a proportional mitigation to these impacts via capital improvements and/or impact fees.

55. Fire Department emergency vehicle apparatus access road locations and design shall be in accordance with the California Fire Code, City of Rancho Mirage Municipal Code, and Riverside County Fire Department Standards. Plans must be submitted to the Fire Department for review and approval prior to building permit issuance.

56. Fire Department water system(s) for fire protection shall be in accordance with the California Fire Code, City of Rancho Mirage Municipal and Riverside County Fire Department Standards. Plans must be submitted to the Fire Department for review and

approval prior to building permit issuance.

57. Prior to Building Permit issuance, the required water system, including all fire hydrant(s), shall be installed, and accepted by the appropriate water agency and the County Fire Department prior to any combustible building material placed on an individual lot. Contact the Fire Department to inspect the required fire flow, street signs, all weather surfaces, and all access and/or secondary access. Approved water plans must be at the job site.

ATTACHMENT 4

Tentative Tract Map No. 38971 -16 Lot Subdivision

ATTACHMENT 5

CITY OF RANCHO MIRAGE

Planning Division
69-825 Highway 111
Rancho Mirage, CA 92270
Planning@RanchoMirageCA.gov
(760) 328-2266

PUBLIC HEARING NOTICE

CITY COUNCIL MEETING
Thursday, November 6, 2025 – 1:00 p.m.

Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) ("Project")

Applicant: Phillip Fomotor

Request: Consideration to subdivide eight (8) parcels totaling 19.81 acres into sixteen (16) residential lots. Phase 1 includes the subdivision of three (3) southern parcels into eight (8) lots, identified as Lots 6, 7, 8, 9, 13, 14, 15, and 16. Phase 2 includes the subdivision of five (5) northern parcels into eight (8) lots, identified as Lots 1, 2, 3, 4, 5, 10, 11, and 12. The project site is currently vacant and has a zoning designation of Residential Estate (R-E). A Minor Variance is proposed to consider a .98-acre size for two parcels; all other parcels will range in size from 1 acre to 1.55 acres. No single-family residence architectural plans are proposed as part of this project. The Planning Commission recommended approval on October 9, 2025.

Location: North of the intersection of Mirage Cove Drive and Peterson Road. Assessor's Parcel Numbers: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022

NOTICE IS HEREBY GIVEN that a Public Hearing will be held before the City of Rancho Mirage City Council regarding consideration of the above referenced applications pursuant to Rancho Mirage Municipal Code Titles 16 and 17. An Environmental Assessment form was submitted for the Project, and the determination was made that the Project required an initial study. An Initial Study has been prepared to result in the recommendation to adopt a Mitigated Negative Declaration (MND). A Notice of Intent to Adopt a Mitigated Negative Declaration was published in *The Desert Sun* newspaper on July 20, 2025, and distributed to interested parties. The 30-day public review period for the Draft Mitigated Negative Declaration was from July 21, 2025, to August 19, 2025.

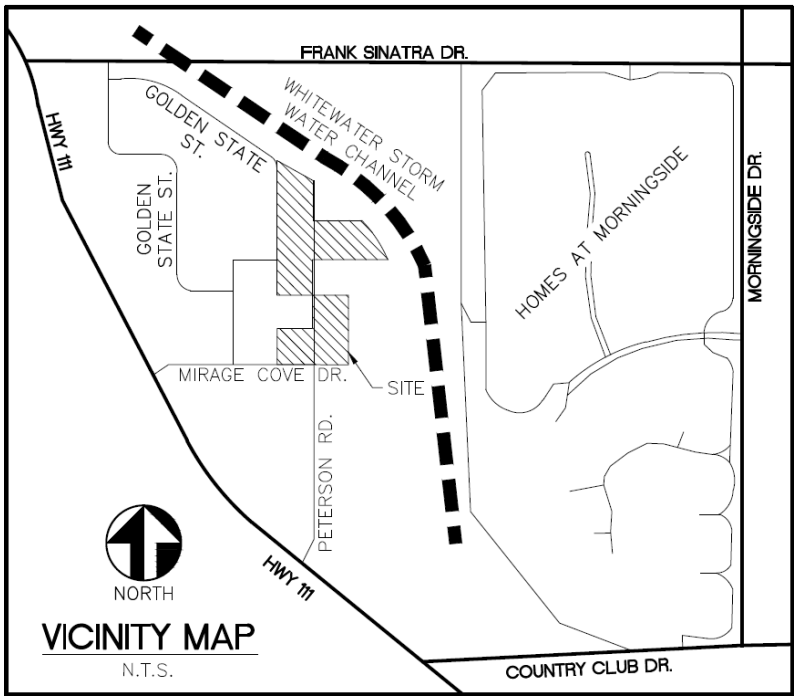
The Public Hearing will be held on Thursday, November 6, 2025, at 1:00 p.m., in the Council Chamber, 69-825 Highway 111, Rancho Mirage, California, at which time and place pertinent testimony will be heard. The file, including all environmental information, is available for

public inspection at City Hall, Monday through Friday, between 8 a.m. and 5:00 p.m., and will be posted on the City's website with the publication of the City Council Agenda, to be posted at least 72 hours prior to the meeting.

Written testimony may be submitted to the City Clerk via email to CityClerk@RanchoMirageCA.gov, or mailed to City of Rancho Mirage, ATTN: City Clerk, 69-825 Highway 111, Rancho Mirage, CA 92270. Written testimony must be received no later than 10:00 a.m. on the day of the meeting to be considered by the City Council.

GOVERNMENT CODE § 65009 NOTICE: If you challenge this proposed activity in court, you may be limited to raising only those issues you or someone else raised at the Public Hearing described in this notice, or in written correspondence delivered to the City Council sufficiently prior to the Public Hearing to enable its consideration by them.

Vicinity Map – Not to Scale



16 Lot Subdivision
Tentative Tract Map (TTM) 38971
Initial Study and Mitigated Negative Declaration

Lead Agency:
City of Rancho Mirage
69-825 Highway 111
Rancho Mirage, California 92270

Prepared by:
BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING
2211 S. HACIENDA BOULEVARD, SUITE 107
HACIENDA HEIGHTS, CALIFORNIA 91745

June 2025

ENVIRONMENTAL INITIAL STUDY

Tentative Tract Map 38971

Project Title:	Tentative Tract Map 38971 - 16 Lot Subdivision
City Project No:	Environmental Assessment Case No. EA24-0009 Tentative Tract Map Case No. TTM24-0003 for Tentative Tract Map 38971 Minor Variance Case No. VAR24-0005
Lead Agency Name and Address:	City of Rancho Mirage 69-825 Highway 111 Rancho Mirage, California 92270 Phone: (760) 328-2266
Applicant:	Horti Caesaris, LLC 9401 Wilshire Blvd, 9th Foor Beverly Hills, CA 90212
Contact Person:	Pilar Fløtterud, Senior Planner
Phone Number:	(760) 328-2266
Project Location:	North of the intersection of Mirage Cove Drive and Peterson Road in the City of Rancho Mirage, California
Accessor Parcel Number(s):	689-090-003, 689-130-004, 689-130-005, 689-130-013, 689-130-014, 689-130-017, 689-130-018, 689-140-022
Project Area:	19.81 Acres
General Plan & Zoning Designation:	The General Plan/Zoning designation for the project area is *Residential Estate (R-E).*

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CHAPTER 1: PROJECT DESCRIPTION

PROJECT OVERVIEW

The City of Rancho Mirage is reviewing an application that would involve the subdivision of 16 lots within 8 parcels totaling 19.81 acres. Currently, the three southern parcels would subdivided into 8 lots - Lot 6, 7, 8, 9, 13, 14, 15, and 16. This would be phase 1 of the project. Phase 2 of the project involves the remaining 5 northern parcels which would be subdivided into 8 lots - Lots 1, 2, 3, 4, 5, 10, 11, and 12. The subject parcels are all vacant and undeveloped. The proposed development would connect to a new 8-inch water main and an 8-inch sewer main in Peterson Road. The terrain in the project area is generally level, with ground elevations ranging approximately from 255 feet to 260 feet above mean sea level. The surface soil is composed of light olive gray fine sand. The project is located within what is considered to be the California Creosote Bush Scrub plant community though the ground surface in the project area has been cleared of native vegetation in the past and existing vegetation include introduced and ruderal species such as landscaping plants and low-lying grasses. The Zoning designation that is applicable to the aforementioned parcels is *Residential Estate (R-E)*. No General Plan Amendment or Zone Change would be required for the proposed residential development.

PROJECT LOCATION AND SETTING

The proposed project site is located in the west-central portion of the City of Rancho Mirage. The City of Rancho Mirage is located in the eastern portion of Riverside County within the Coachella Valley area. Rancho Mirage is generally bounded on the north by Thousand Palms and Cathedral City, on the east by Palm Desert, on the south by Palm Desert and unincorporated Riverside County, and on the west by Cathedral City. Regional access to the City of Rancho Mirage is provided by the Interstate 10 (I-10) Freeway which extends across the northernmost portion of the City. The I-10 Freeway is located approximately 4.84 miles north of the project area. The location of Rancho Mirage, in a regional context, is shown in Exhibit 1. A citywide map is provided in Exhibit 2.

The proposed project would include 16 residential lots (referred to as Lots 1 through 16) and 4 lots for future streets (referred to Lots A through D). The project will undergo two phases. Phase 1 of the project would be the subdivision of Lots 6-9, and lots 13-16. Phase 2 of the project would be the subdivision of lots 1-7 and lots 10-12. The proposed project area is generally bounded on the north by the Whitewater Stormwater Channel, on the west by Golden State Street, a private street with no access to the subject site, on the south by Mirage Cove Drive, and on the east by the Whitewater Stormwater Channel and Kelley Lane. The proposed subdivision is bisected by Peterson Road in a north-to-south orientation. The project site is currently comprised of 8 vacant, undeveloped parcels that would be subdivided into 16 parcels. The Assessor Parcel Numbers (APNs) that comprise the proposed project area include 689-090-003; 689-130-004; 689-130-005; 689-130-013; 689-130-014; 689-130-017; 689-130-018; and 689-140-022. The project site is located within the Cathedral City, Calif., United States Geological Survey (USGS) 7 ½ Minute Quadrangle (Section 2, Township T5S Range R5E, San Bernardino Baseline and Meridian). The proposed project's latitude and longitude is 33.76919 N and -116.43917 W. A local vicinity map is provided in Exhibit 3.

DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed project would involve the subdivision 16 lots within the 19.81-acre site. The terrain in the project area is generally level, with elevations ranging approximately from 255 feet to 260 feet above mean sea level. The 16 individual lot sizes would range in land area from 42,476 square feet to 67,608 square feet. The lots would be arranged along Peterson Road around the proposed cul-de-sac roadway. The project will undergo two phases. Currently, the three southern parcels would subdivided into 8 lots - Lot 6, 7, 8, 9, 13, 14, 15, and 16. This would be phase 1 of the project. Phase 2 of the project involves the remaining 5 northern parcels which would be subdivided into 8 lots - Lots 1, 2, 3, 4, 5, 10, 11, and 12.

ACCESS AND PARKING

Access to the future residential subdivision would be provided along Peterson Road. The individual units would be arranged along Peterson Road. Lots A and B would be future Peterson Road extensions through the project.

ENERGY UTILITIES

The Southern California Edison (SCE) would provide electricity to the project site. Natural gas service is provided by the Southern California Gas Company.

WATER UTILITIES

There is no existing water infrastructure located on-site. The proposed development would connect to a new 8-inch water main and an 8-inch sewer main in Peterson Road. Groundwater is the primary source of domestic water supply in the Coachella Valley. The Coachella Valley Water District (CVWD) is the largest provider of potable water in the Coachella Valley and currently provides potable water in the vicinity of the project area.

WASTEWATER UTILITIES

There is no existing wastewater infrastructure located on-site. CVWD operates 6 water reclamation plants and maintains more than 1,000 miles of sewer pipelines and more than 30 lift stations that transport wastewater to the nearest treatment facility and nearly 6.3 billion gallons of wastewater is treated yearly. In addition, wastewater generated by the project will be conveyed to CVWD Wastewater Reclamation Plant Number 10 in Palm Desert (WRP-10). According to the 2015 CVWD Urban Water Management Plan, WRP-10 has a capacity to treat 18 million gallons per day (MGD).

SOLID WASTE

Solid waste disposal and recycling services for the City of Rancho Mirage are provided by Burrtec. Solid waste and recycling collected from the proposed project will be transported to the Edom Hill Transfer Station. Waste from this transfer station is then sent to a permitted landfill or recycling facility outside of the Coachella Valley. These include the Badlands Disposal Site, the El Sobrante Sanitary Landfill, and the Lamb Canyon Disposal Site.

The proposed site plan is illustrated in Exhibit 5. The project is summarized in Table 1.

Table 1 Project Summary (Lot Characteristics)

Lot	Description	Lot Area
Lot 1	Single-Family Residential Unit	43,763 sq. ft.
Lot 2	Single-Family Residential Unit	43,675 sq. ft.
Lot 3	Single-Family Residential Unit	43,705 sq. ft.
Lot 4	Single-Family Residential Unit	43,701 sq. ft.
Lot 5	Single-Family Residential Unit	55,148 sq. ft.
Lot 6	Single-Family Residential Unit	43,631 sq. ft.
Lot 7	Single-Family Residential Unit	43,623 sq. ft.
Lot 8	Single-Family Residential Unit	42,480 sq. ft.
Lot 9	Single-Family Residential Unit	42,476 sq. ft.
Lot 10	Single-Family Residential Unit	49,644 sq. ft.
Lot 11	Single-Family Residential Unit	59,377 sq. ft.
Lot 12	Single-Family Residential Unit	67,608 sq. ft.
Lot 13	Single-Family Residential Unit	48,336 sq. ft.
Lot 14	Single-Family Residential Unit	48,325 sq. ft.
Lot 15	Single-Family Residential Unit	48,310 sq. ft.
Lot 16	Single-Family Residential Unit	47,755 sq. ft.
Lot A	Public Street	58,083 sq. ft.
Lot B	Public Street	30,357 sq. ft.
Lot C	Public Street	2,517 sq. ft.
Lot D	Private Street	14,608 sq. ft.

Source: Fomotor Engineering. *Tract Map 38971*. November 21, 2024.

ENVIRONMENTAL SETTING AND SURROUNDING LAND USES

The terrain in the project area is generally level, with elevations ranging approximately from 255 feet to 260 feet above mean sea level. The surface soil is composed of light olive gray fine sand. The project location is within what would be the California Creosote Bush Scrub plant community; however, the ground surface in the project area has been cleared of native vegetation in the past and existing vegetation include introduced and ruderal species such as landscaping plants and low-lying grasses. The entirety of the project area has been disturbed in the past, with all native vegetation being removed. A paved road, fencing along the Whitewater drainage, and utility poles, are located adjacent to the project area, but all of these items are modern in origin. The site and the surrounding area are shown in an aerial photograph provided in Exhibit 4.

The project site is currently comprised of 8 vacant, undeveloped parcels that would be subdivided into 16 parcels. The Zoning designation for the project area is *Residential Estate (R-E).* Land uses and development located in the vicinity of the proposed project site are outlined below:

- *North of the project site:* The Whitewater Flood Control Channel generally extends along the project area's north side. This area is designated as *Open Space – Floodways and Drainage Channels (OS-W)*.

- *East of the project site:* Single family homes are located to the east of the project site. These homes are designated as *Residential Estate (R-E)*. Further east, the Whitewater Flood Control Channel generally extends along the project area's east side. These parcels are designated as *Open Space – Floodways and Drainage Channels (OS-W)*.

- *South of the project site:* Mirage Cove Drive extends along the project area's south side. Vista Cove at Rancho Mirage, a resort, and a vacant lot are located further south of the aforementioned roadway. These parcels are designated as *Residential Estate (R-E)*.

- *West of the project site:* Nielson Road extend along the project area's west side. Further west of the road are single family homes and a mobile home park. These parcels are designated as *Mobile Home Park (MHP)* and *Residential Estate (R-E)*.

An aerial photograph of the project site and the surrounding area is provided in Exhibit 4. The land use and zoning map is provided in Exhibit 5.

DISCRETIONARY APPROVALS & OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

A Discretionary Action is an action taken by a government agency (for this project, the government agency is the City of Rancho Mirage) that calls for an exercise of judgment in deciding whether to approve a project. The project site is currently comprised of 8 vacant, undeveloped parcels that would be subdivided into 16 parcels. The Zoning designation that is applicable to the aforementioned parcels is Residential Estate (R-E). No General Plan Amendment or Zone Change would be required for the proposed residential development. The following discretionary approvals are required:

- Approval of a Tentative Tract Map (TTM 38971);
- Approval of the Mitigated Negative Declaration (MND); and,
- The adoption of the Mitigation Monitoring and Reporting Program (MMRP).

All potentially interested tribes identified by the NAHC were also contacted pursuant to AB-52 for information regarding their knowledge of cultural resources that were within or near the project area. There are currently no other public agencies whose approval is required at this time.

A Minor Variance (VAR24-0005) is also proposed to reduce the net lot area of lots 8 & 9 from a 1 acre minimum to .98 acres.

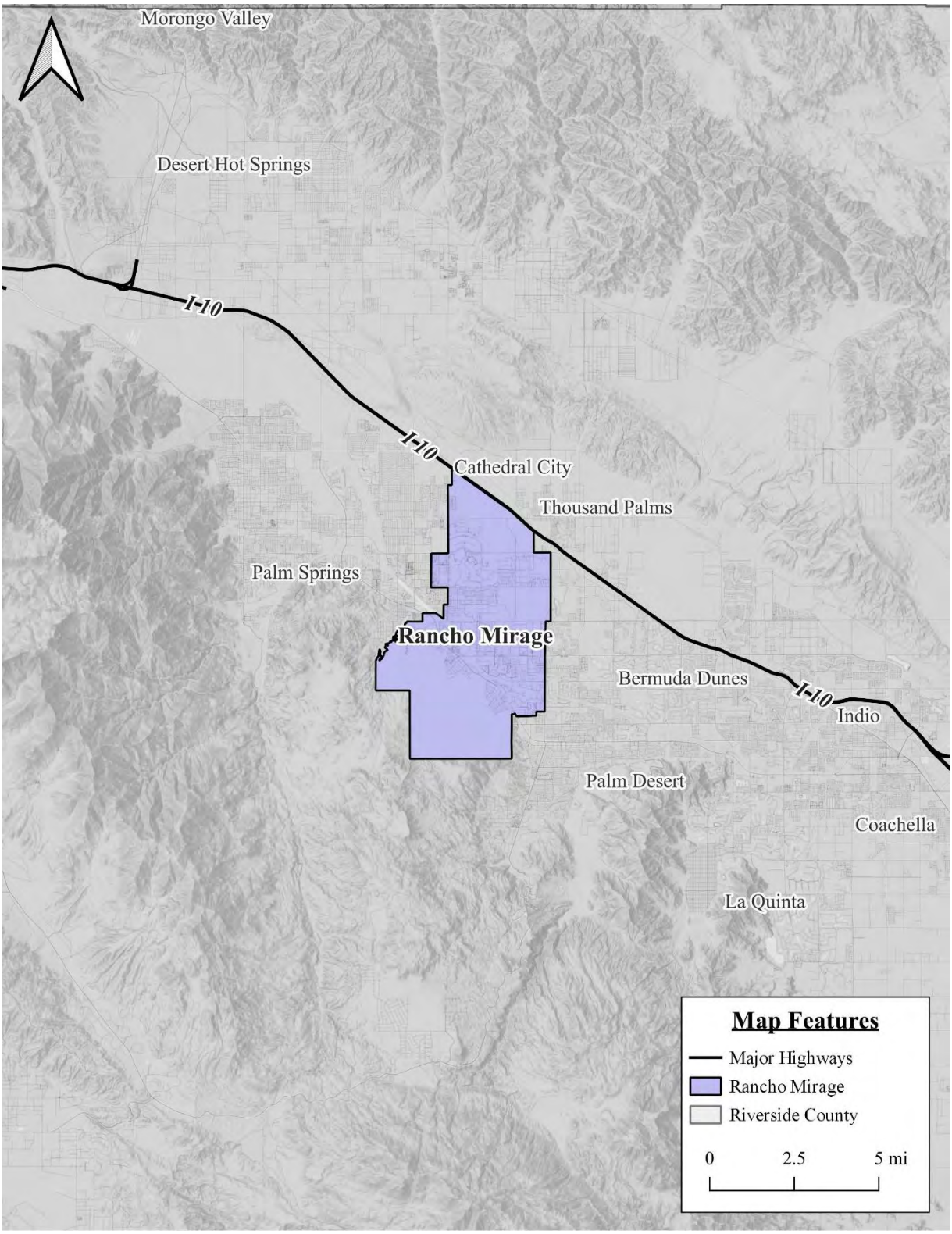

Exhibit 1 Regional Map

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

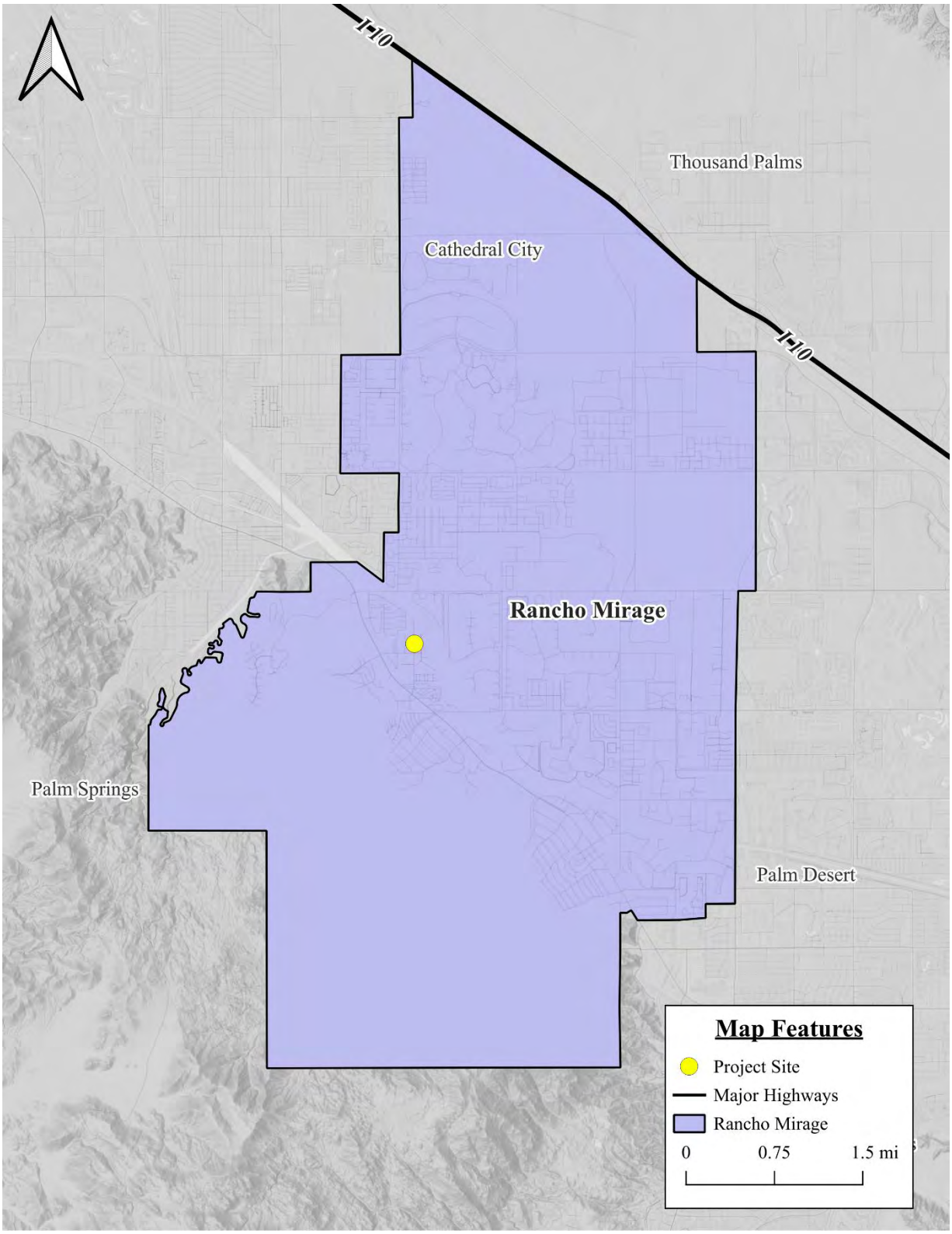

Exhibit 2 Citywide Map

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

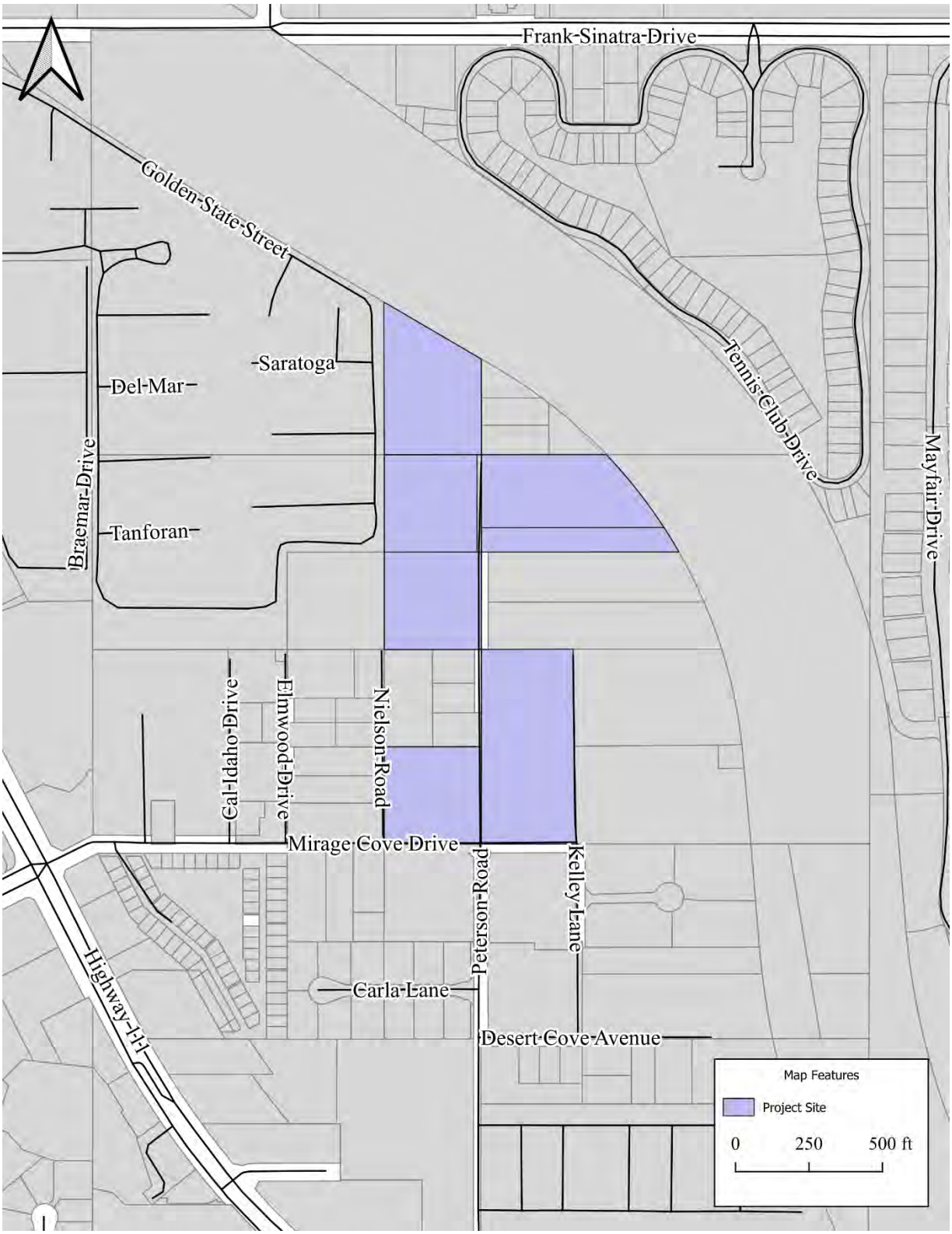

Exhibit 3 Local Map

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

Exhibit 4 Aerial Photograph

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

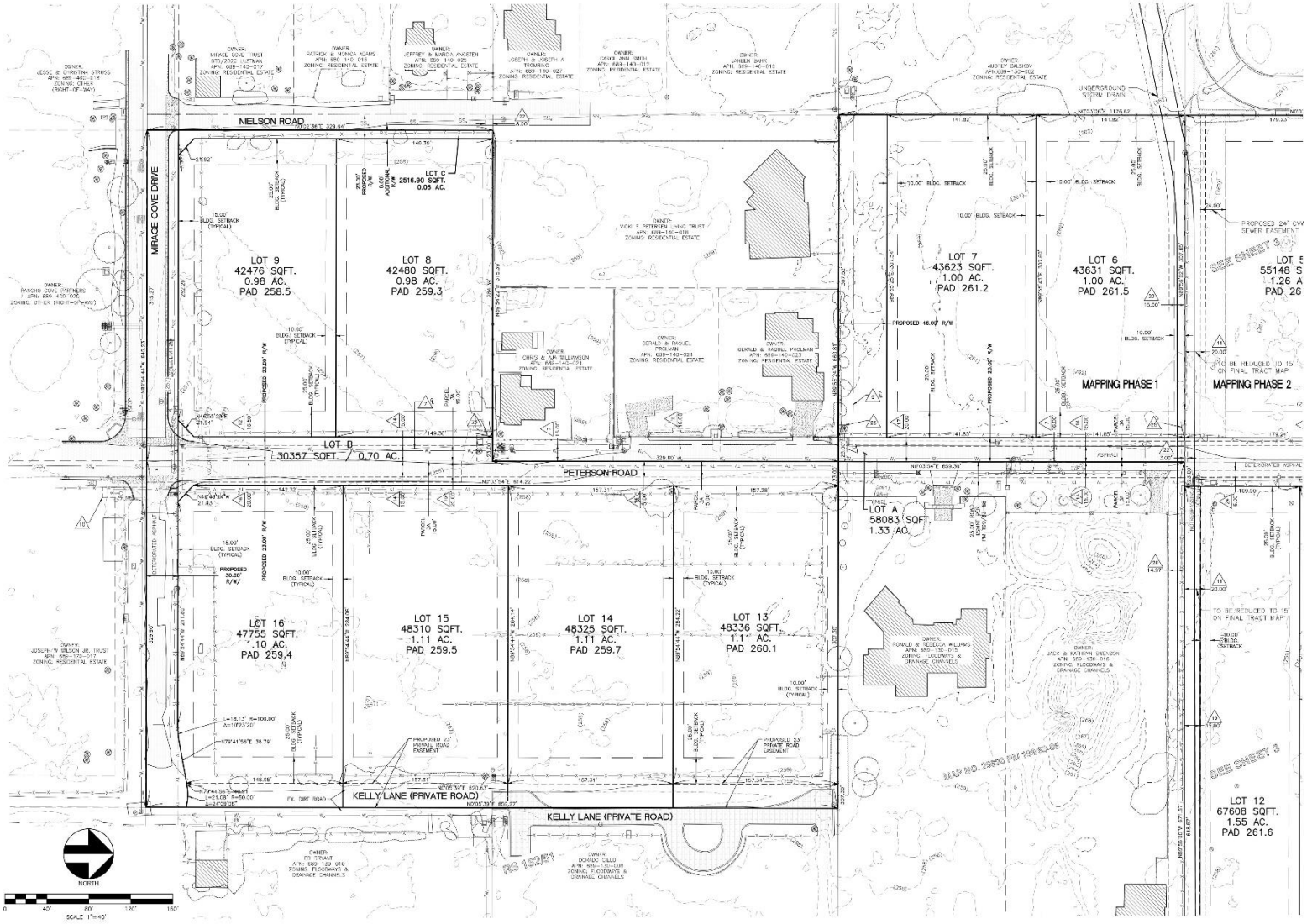

Exhibit 5a Site Plan

SOURCE: Fomotor Engineering. *Tract Map No. 68971*. November 21, 2024.

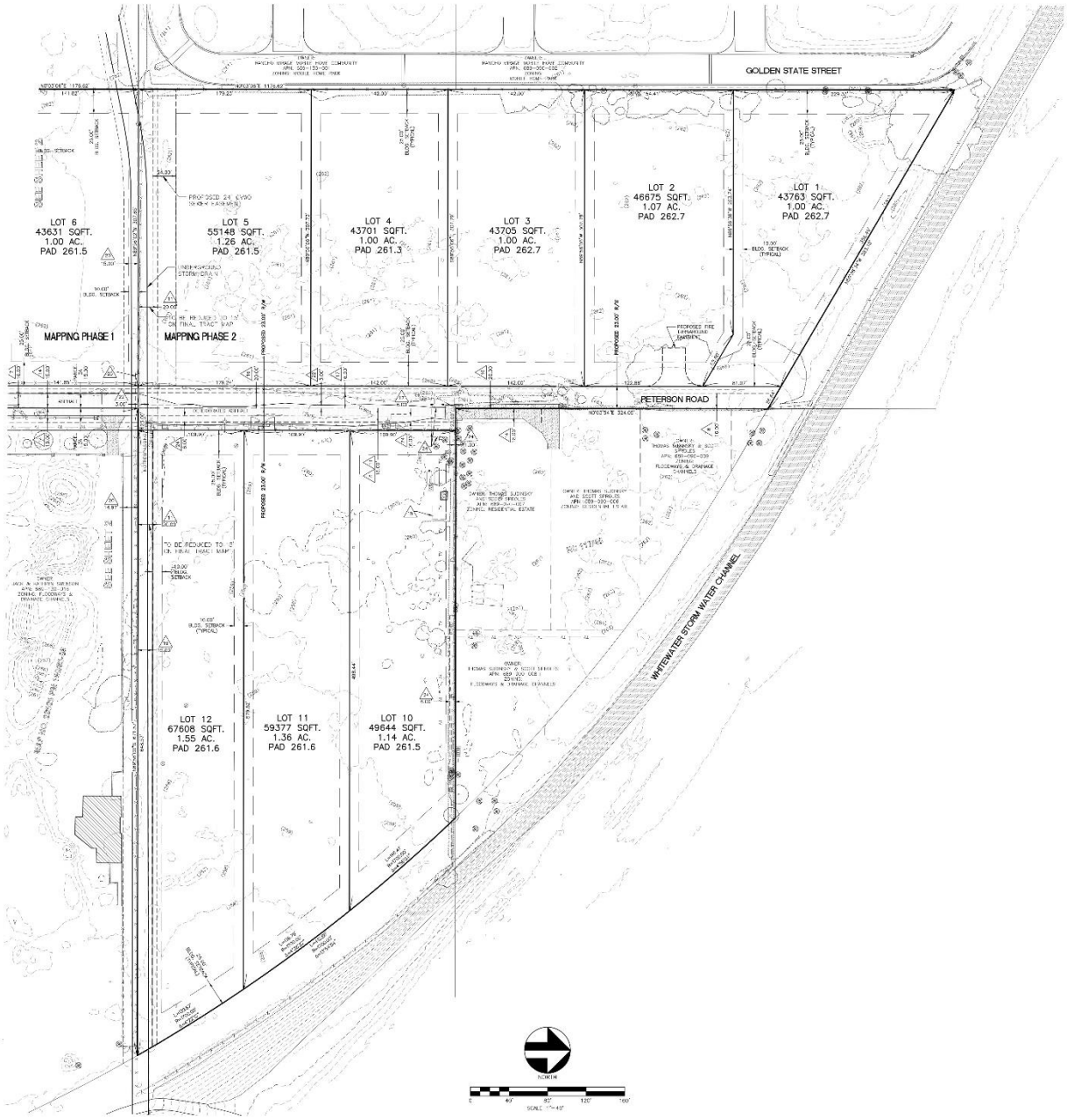

Exhibit 5b Site Plan

SOURCE: Fomotor Engineering. *Tract Map 38971*. November 21, 2024.

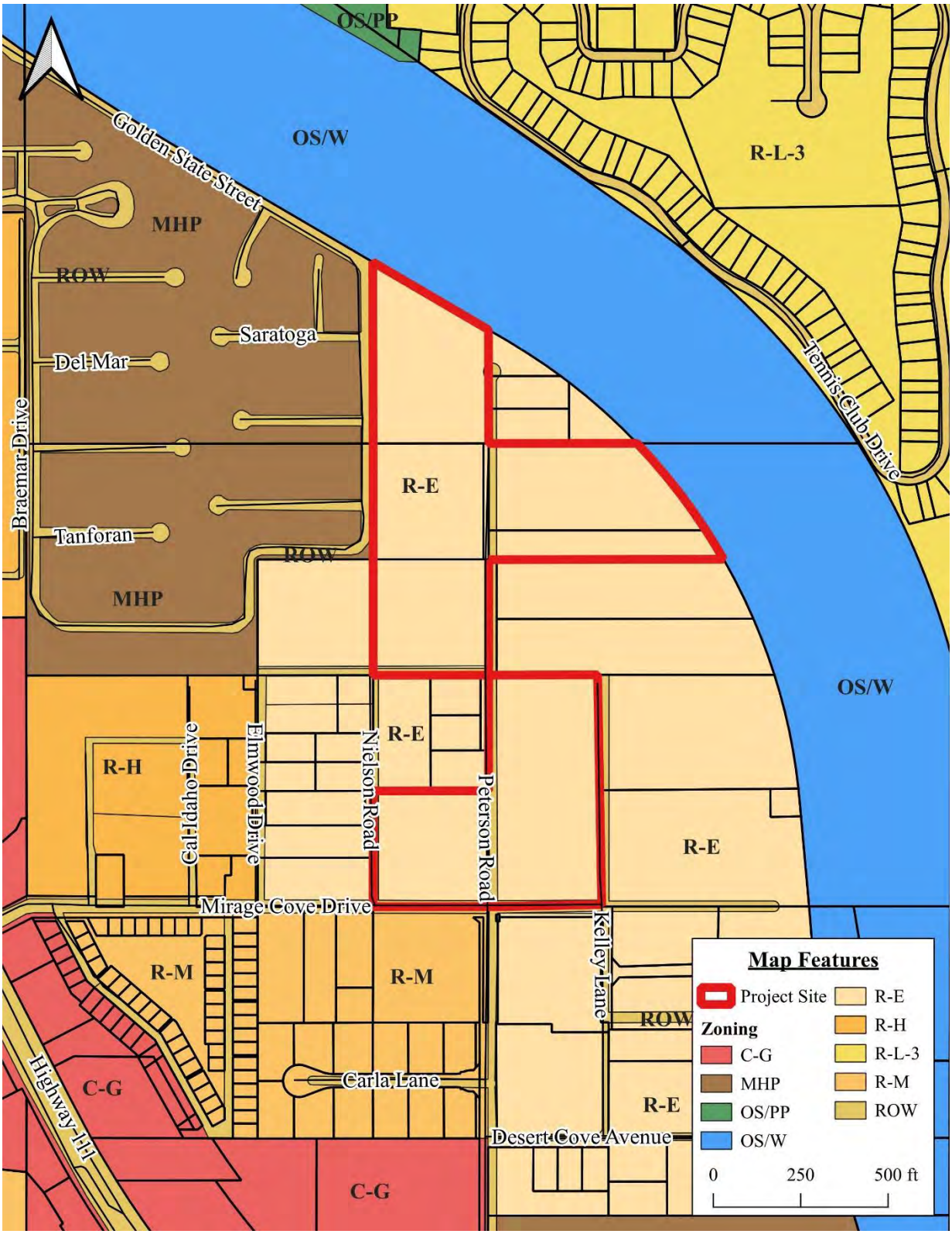

Exhibit 6 Zoning Designations

SOURCE: CITY OF RANCHO MIRAGE

CHAPTER 2: ENVIRONMENTAL ANALYSIS AND DETERMINATION

Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that would require mitigation as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture & Forestry Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology / Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☐ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities / Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

Evaluation of Environmental Impacts:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where they are available for review.

    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify: a) the significance criteria or threshold, if any, used to evaluate each question; and b) the mitigation measure identified, if any, to reduce the impact to less than significance.

DETERMINATION: (To be completed by the Lead Agency) On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

7/3/2025

Pilar Fløtterud, Senior Planner — Date

City of Rancho Mirage

Environmental Checklist and Discussion:

The following checklist evaluates the proposed Project's potential adverse impacts. For those environmental topics for which a potential adverse impact may exist, a discussion of the existing site environment related to the topic is presented followed by an analysis of the Project's potential adverse impacts. When the project does not have any potential for adverse impacts for an environmental topic, the reasons why there are no potential adverse impacts are described.

1 - AESTHETICS

AESTHETICS -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

SOURCES:

1. Fomotor Engineering. *Tract Map 38971*. November 21, 2024.
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
3. Rancho Mirage, City of. *City of Rancho Mirage Municipal Code.* As amended 2023.

1.1 SETTING

The evaluation of aesthetics and aesthetic impacts is generally subjective, and it typically requires the identification of key visual features in the area and their importance. The characterization of aesthetic impacts involves establishing the existing visual characteristics including visual resources and scenic vistas that are unique to the area. Visual resources are determined by identifying existing landforms (e.g., topography and grading), views (e.g., scenic resources such as natural features or urban characteristics), and existing light and glare characteristics (e.g., nighttime illumination). Changes to the existing aesthetic environment associated with the proposed project's implementation are identified and *qualitatively* evaluated based on the proposed modifications to the existing setting and the viewers' sensitivity. The project-related impacts are then compared to the context of the existing setting, using the threshold criteria discussed above.

The natural setting of the Rancho Mirage area is critical to its overall visual character and provides scenic vistas for the community. The Santa Rosa Mountains and the foothills (including the Indio Hills), provide a natural, scenic backdrop to the Rancho Mirage community. The Santa Rosa Mountains are part of the Santa Rosa and San Jacinto Mountains National Monument. The base of the aforementioned mountains is located just over 7 miles to the southwest of the project site. The San Bernardino Mountains are located to the north and east of the City (approximately 16 miles).

1.2 Discussion of Impacts:

a) No Impact.

The City of Rancho Mirage is reviewing an application that would involve the subdivision of 16 lots within 8 parcels totaling 19.81 acres. Currently, the three southern parcels would subdivided into 8 lots - Lot 6, 7, 8, 9, 13, 14, 15, and 16. This would be phase 1 of the project. Phase 2 of the project involves the remaining 5 northern parcels which would be subdivided into 8 lots - Lots 1, 2, 3, 4, 5, 10, 11, and 12. The subject parcels are all vacant and undeveloped. The proposed development would connect to a new 8-inch water main and an 8-inch sewer main in Peterson Road. The terrain in the project area is generally level, with ground elevations ranging approximately from 255 feet to 260 feet above mean sea level. The surface soil is composed of light olive gray fine sand. The project is located within what is considered to be the California Creosote Bush Scrub plant community though the ground surface in the project area has been cleared of native vegetation in the past and existing vegetation include introduced and ruderal species such as landscaping plants and low-lying grasses. The Zoning designation that is applicable to the aforementioned parcels is *Residential Estate (R-E)*. No General Plan Amendment or Zone Change would be required for the proposed residential development.

The natural setting of the Rancho Mirage area is critical to its overall visual character and provides scenic vistas for the community. The Santa Rosa Mountains provide a natural, scenic backdrop to the Rancho Mirage community. The Santa Rosa Mountains are part of the Santa Rosa and San Jacinto Mountains National Monument. The base of the aforementioned mountains is located just over 10 miles to the west of the project site. The foothills of the Santas Rosa Mountains along with the Indio Hills extend into the southern portion of the City. The San Bernardino Mountains are located to the north and east of the City (approximately 16 miles). The proposed development would not obstruct any significant views of the aforementioned mountains of the existing or future homes located to the east of the development site. Once developed, views of the aforementioned mountains would continue to be visible from the public right-of-way. As a result, no impacts would occur.

b) No Impact.

According to the California Department of Transportation, none of the improved or unimproved roads located adjacent to the project site are designated as scenic highways. Highway 111, located approximately 1,500 feet to the west of the site, is considered to be an *Eligible State Scenic Highway*, though this roadway is not officially designated as such. According to the Rancho Mirage General Plan, Bob Hope Drive (located approximately 1.75 to the east of the site), is a *City-designated Scenic road*. In addition to the foregoing, the project property is currently absent of any historic buildings, structures or other former permanent improvements that would have any aesthetic value. The site's development would also facilitate the site's ongoing

maintenance and rehabilitation. Lastly, the project site does not contain any buildings listed in the State or National registrar. As a result, no impacts would occur.

c) No Impact.

There are no protected views in the vicinity of the project site (refer to Subsection A). In addition, the City does not have any zoning regulations or other regulations governing scenic quality other that the development standards for which the new residential units would conform to. As a result, no impacts would occur.

d) Less Than Significant Impact.

The nearest light sensitive receptors are the existing residential units located to the west and east of the project site. In addition, the properties located to the north, west, and east are zoned for residential development. The project's lighting would be required to comply with Chapter 17.18.050 of the Rancho Mirage Municipal Code. The proposed project's lighting must be designed so as to prevent emissions of glare or light beyond the property line. All exterior lighting at the project site would be conditioned to be Dark-Sky compliant, in order to reduce the amount of light emitted at the project site at night. This would keep the night skies in the City of Rancho Mirage visible to residents and visitors. Riverside County Ordinance Number 655 regulates light pollution in the County. Ordinance No. 655 restricts the use of certain light fixtures emitting into the night sky undesirable light rays which have a detrimental effect on astronomical observation and research. The project would be required to comply to these County's standards. Since the proposed project would be required to adhere to both the City's and County's light and glare requirements, the impacts would be less than significant.

1.3 Mitigation Measures:

None required.

2 - AGRICULTURE AND FORESTRY RESOURCES

AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of forest land, timberland, or timberland zoned Timberland Production?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

SOURCES:

1. California Department of Conservation, Division of Land Resource Protection, Farmland Mapping, and Monitoring Program. *California Important Farmland Finder*.
2. California Department of Conservation. *State of California Williamson Act Contract Land.*

2.1 SETTING

The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to track changes in agricultural land use and to help preserve areas of Important Farmland. It divides the state's land into eight categories of land use designation based on soil quality and existing agriculture uses to produce maps and statistical data. These maps and data are used to help preserve productive farmland and to analyze impacts on farmland. Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance are all Important Farmland and are collectively referred to as Important Farmland in this analysis. The highest rated Important Farmland is Prime Farmland. The California Land Conservation Act of 1965, or the Williamson Act, allows a city or county government to preserve agricultural land or open space through contracts with landowners. Contracts last 10 years and are automatically renewed unless a notice of nonrenewal is issued.

According to the California Department of Conservation, the project site and the adjacent properties do not contain any areas of Farmland of Statewide Importance, and no agricultural

uses are located onsite or adjacent to the property. The project site and the surrounding parcels are indicated as *Urban and Built-Up Land*. The Whitewater Storm Channel is designated as *Other* Land.

2.2 DISCUSSION OF IMPACTS:

a) No Impact:

According to the California Department of Conservation, the project site and the adjacent properties do not contain any areas of Farmland of Statewide Importance, and no agricultural uses are located onsite or adjacent to the property. According to the California Farmland Mapping and Monitoring Program the proposed project is located in a portion of Rancho Mirage designated as *Urban and Built-Up Land*. The project site is not located in an area where the existing zoning promote agricultural uses or is otherwise classified as farmland. Therefore, the implementation of the proposed project would not involve the conversion of any prime farmland, unique farmland, or farmland of statewide importance to urban uses. As a result, no impacts would occur.

b) No Impact:

There are no agricultural uses located within the site that would be affected by the project's implementation. According to the California Department of Conservation Division of Land Resource Protection, the project site is not subject to a Williamson Act Contract. As a result, no impacts on existing Williamson Act Contracts would result from the proposed project's implementation.

c) No Impact:

There are no forest lands or timber lands located within or adjacent to the site. Furthermore, the site's existing zoning designation does not contemplate forest land or timber land uses. As a result, no impacts will occur.

d) No Impact:

No forest lands are located within the project site. The proposed use would be restricted to the site and would not affect any land under the jurisdiction of the Bureau of Land management (BLM). As a result, no loss or conversion of forest lands to urban uses would result from the proposed project's implementation.

e) No Impact:

The project would not involve the disruption or damage of the existing environment that would result in a loss of farmland to nonagricultural use or conversion of forest land to non-forest use because the project site does not contain any significant vegetation. As a result, no farmland conversion impacts would occur.

2.3 MITIGATION MEASURES:

None required.

3 - AIR QUALITY

AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

SOURCES:

1. California Air Pollution Control Officers Association. *California Emissions Estimator Model*. Version 2022. (Appendix A)
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
3. Rancho Mirage, City of. *City of Rancho Mirage Municipal Code.* As amended 2023.
4. South Coast Air Quality Management District. *2022 Air Quality Management Plan*. Adopted December 2, 2022.
5. South Coast Air Quality Management District. *Air Quality Analysis Handbook.* 1993.
6. Southern California Association of Governments. The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. *Adopted September 3, 2020.*
7. State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State — January 1, 2021-2023*. Sacramento, California, May 2023.

3.1 SETTING

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on air quality if it results in any of the following:

- The proposed project would conflict with or obstruct implementation of the applicable air quality plan.
- The proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- The proposed project would expose sensitive receptors to substantial pollutant concentrations.

The proposed project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Air quality impacts may occur during the construction or operation phase of a project, and may come from stationary (e.g., industrial processes, generators), mobile (e.g., automobiles, trucks), or area (e.g., water heaters) sources. The South Coast Air Quality Management District (SCAQMD) is the main regulatory authority in the region (Salton Sea Basin) with regard to air quality issues. In April 1993, the SCAQMD adopted a CEQA Air Quality Handbook that provides guidance for the CEQA analysis of potential air quality impacts

of new projects. The SCAQMD has established quantitative thresholds for short-term (construction) emissions and long-term (operational) emissions for the following criteria pollutants:

- *Ozone (O_3)* is a nearly colorless gas that irritates the lungs, and damages vegetation. Ozone is formed a by photochemical reaction (when nitrogen dioxide is broken down by sunlight).
- *Carbon Monoxide (CO)* is a colorless, odorless toxic gas that interferes with the transfer of oxygen to the brain and is produced by the incomplete combustion of carbon-containing fuels emitted as vehicle exhaust.
- *Nitrogen Oxide (NO_x)* is a yellowish-brown gas, which at high levels can cause breathing difficulties. NO_x is formed when nitric oxide (a pollutant from burning processes) combines with oxygen.
- *Sulfur Dioxide* (SO_2) is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms.
- *PM_{10} and $PM_{2.5}$* refers to particulate matter less than ten microns and two and one-half microns in diameter, respectively. Particulates of this size cause a greater health risk than larger-sized particles since fine particles can more easily cause irritation.
- *Reactive Organic Gasses (ROG)* refers to organic chemicals that, with the interaction of sunlight photochemical reactions may lead to the creation of “smog.”

Projects in the Salton Sea Air Basin (SSAB) generating construction-related emissions that exceed any of the following emissions thresholds are considered to be significant under CEQA:

- 75 pounds per day of reactive organic compounds;
- 100 pounds per day of nitrogen dioxide;
- 550 pounds per day of carbon monoxide;
- 150 pounds per day of PM_{10};
- 55 pounds per day of $PM_{2.5}$; or,
- 150 pounds per day of sulfur oxides.

A project would have a significant effect on air quality if any of the following operational emissions thresholds for criteria pollutants are exceeded:

- 55 pounds per day reactive organic compounds;
- 55 pounds per day of nitrogen dioxide;
- 550 pounds per day of carbon monoxide;
- 150 pounds per day of PM_{10};
- 55 pounds per day of $PM_{2.5}$; or,
- 150 pounds per day of sulfur oxides.

3.2 Discussion of Impacts:

a) No Impact:

Measures to improve regional air quality are outlined in the SCAQMD’s Air Quality Management Plan (AQMP). The most recent AQMP was adopted in 2022 and was jointly prepared with the California Air Resources Board (CARB) and the Southern California Association of Governments

(SCAG). The AQMP will help the SCAQMD maintain focus on the air quality impacts of major projects associated with goods movement, land use, energy efficiency, and other key areas of growth. Key elements of the 2022 AQMP include enhancements to existing programs to meet the 24-hour $PM_{2.5}$ Federal health standard and a proposed plan of action to reduce ground-level Ozone. The primary criteria for pollutants that remain non-attainment in the local area include $PM_{2.5}$ and Ozone. Specific criteria to determine a project's conformity with the AQMP is defined in Section 12.3 of the SCAQMD's CEQA Air Quality Handbook.

The proposed Project is consistent with the assumptions underlying the AQMP and the 2003 Coachella Valley PM10 State Implementation Plan and will not conflict with or obstruct implementation of the applicable air quality plan. Projects that are consistent with the projections of employment and/or population forecasts identified in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) prepared by SCAG are considered consistent with the SCAQMD growth projections, since the RTP/SCS forms the basis of the land use and transportation control portions of the SCAQMD. According to the Demographics and Growth Forecast Technical Report Adopted on September 3, 2020 by SCAG, the City of Rancho Mirage's population is projected to increase from the year 2016 figure of 18,200 to 25,200 in the year 2045, an increase of 7,000. The proposed 16-unit project would potentially result in 31 new residents assuming an average household size of 1.95 persons per household derived from the 2023 United States Census Bureau for the City of Rancho Mirage. Therefore, the proposed project is not in conflict with the growth projections established for the City by SCAG. The project's construction emissions would be below the thresholds of significance established by the SCAQMD (the project's daily construction emissions are summarized in Table 2). In addition, the proposed project's long-term (operational) airborne emissions would be below levels that the SCAQMD considers to be a significant impact (refer to Table 3). As a result, no impacts would occur.

b) Less Than Significant Impact:

According to the SCAQMD, any project is significant if it triggers or exceeds the SCAQMD daily emissions threshold identified previously and noted at the bottom of Tables 2 and 3. The proposed project's construction and operation would not lead to a violation of the above-mentioned criteria. The analysis of daily construction and operational emissions was prepared utilizing the California Emissions Estimator Model (CalEEModV.2022.1.1.25). For air quality modeling purposes, a twelve-month period of construction for all construction phases was assumed.

Table 2 Estimated Daily Construction Emissions (lbs./day)

Construction Phase	ROG	NOx	CO	SO2	PM10	PM2.5
Maximum Daily Emissions	9.89	31.7	31.8	0.06	9.26	5.25
Daily Thresholds	75	100	550	150	150	55
Significant Impact?	No	No	No	No	No	No

California Air Pollution Control Officers Association. *California Emissions Estimator Model*. Version 2022.1.1.25 (Used in Appendix A)

Long-term emissions refer to those air quality impacts that would occur once the proposed project has been constructed and is operational. These impacts would continue over the operational life of the project. The two main sources of operational emissions include mobile emissions and area emissions related to off-site electrical generation. The analysis of long-term operational impacts summarized in Table 3 also used the CalEEModV.2022.1.1.25 computer model. The analysis summarized in Table 3 indicates that the operational (long-term) emissions would be below the SCAQMD daily emissions thresholds.

Table 3 Estimated Operational Emissions in lbs./day

Emission Source	ROG	NOx	CO	SO2	PM10	PM2.5
Maximum Daily Emissions	1.43	0.87	7.76	0.02	1.37	0.36
Daily Thresholds	55	55	550	150	150	55
Significant Impact?	No	No	No	No	No	No

California Air Pollution Control Officers Association. *California Emissions Estimator Model*. Version 2022.1.1.25 (Used in Appendix A)

The analysis presented in Tables 2 and 3 reflects projected emissions that are typically higher during the summer months and represent a worse-case scenario. As indicated in Tables 2 and 3, the impacts are considered to be less than significant. In addition, the SCAQMD Rule Book contains numerous regulations governing various activities undertaken within the district. Among these regulations is Rule 403.2 – Fugitive Dust Control for the South Coast Planning Area, which was adopted in 1996 for the purpose of controlling fugitive dust. Adherence to Rule 403.2 regulations is required for all projects undertaken within the district. Future construction truck drivers must also adhere to Title 13 - §2485 of the California Code of Regulations, which limits the idling of diesel-powered vehicles to less than five minutes. Adherence to the aforementioned standard condition would minimize odor impacts from diesel trucks. Adherence to Rule 403 Regulations and Title 13 - §2485 of the California Code of Regulations would further reduce the potential impacts. As a result, the impacts would be less than significant.

c) Less Than Significant Impact:

According to the SCAQMD, residences, schools, daycare centers, playgrounds, and medical facilities are considered sensitive receptor land uses. As indicated in the previous section (refer to Tables 2 and 3, the proposed residential development would not result in an exceedance of SCAQMD thresholds. As indicated in Table 4, the project is not anticipated to exceed construction local significant thresholds (LSTs) for particulates. For purposes of analysis, it was assumed that no more than 5-acres would be disturbed on any given construction day. Further analysis of the CalEEMod worksheets indicated that the primary source of construction PM emissions is fugitive dust. Adherence to additional mandatory Rule 403 regulations would reduce fugitive dust

emissions by approximately 50% to levels that are less than significant. Rule 403 requires that temporary dust covers be used on any piles of excavated or imported earth to reduce wind-blown dust. In addition, all clearing, earthmoving, or excavation activities must be discontinued during periods of high winds (i.e., greater than 15 mph), so as to prevent excessive amounts of fugitive dust.

Table 4 Local Significance Thresholds Exceedance SRA 30 for 5 Acres of Disturbance (site is 19.81 acres)

Emissions	Maximum Emissions (lbs./day)	Type	Allowable Emissions Threshold (lbs./day) and a Specified Distance from Receptor (in meters)				
			25	50	100	200	500
NO_x	**0.87**	Operation	**304**	340	425	547	875
NO_x	**31.7**	Construction	**304**	340	425	547	875
CO	**7.76**	Operation	**2,292**	3,237	5,331	10,178	31,115
CO	**31.8**	Construction	**1,480**	3,237	5,331	10,178	31,115
PM_{10}	**1.37**	Operation	**4**	11	16	27	60
PM_{10}	**9.26**	Construction	**14**	44	67	112	248
$PM_{2.5}$	**0.36**	Operation	**2**	3	5	9	31
$PM_{2.5}$	**5.25**	Construction	**8**	11	19	37	128

California Air Pollution Control Officers Association. *California Emissions Estimator Model*. Version 2022.1.1.25 (Used in Appendix A)

The Coachella Valley is currently designated as a serious nonattainment area for PM10 (particulate matter with an aerodynamic diameter of 10 microns or less). The U.S. EPA-approved Coachella Valley PM_{10} State Implementation Plan is in place with an attainment strategy for meeting the PM_{10} standard. Some of the existing measures include the requirement of detailed dust control plans from builders that specify the use of more aggressive and frequent watering, soil stabilization, wind screens, and phased development to minimize fugitive dust. Appropriate air quality measures to prevent fugitive dust are required by the City's Fugitive Dust Control ordinance and plan implementation requirements, which are consistent with SCAQMD Rules 403 and 403.1 that apply to the Coachella Valley strategy for reducing fugitive dust emissions. Under the City's dust control regulations, a Local Air Quality Management Plan (LAQMP) must be prepared and approved prior to any earth-moving operations. Consistent with SCAQMD Rules 403 and 403.1, implementation of the Fugitive Dust Control Plan is required to occur under the supervision of an individual with training on Dust Control in the Coachella Valley. The plan would include methods to prevent sediment track-out onto public roads, prevent visible dust emissions from exceeding a 20-percent opacity, and prevent visible dust emissions from extending more than 100 feet (vertically or horizontally from the origin of a source) or crossing any property line.

The project's contractors must comply with other SCAQMD regulations governing equipment idling and emissions controls as well as mandatory SCAQMD regulations governing fugitive dust (Rule 403) and odors (Rule 1401). In addition, future truck drivers visiting the site during the project's construction must adhere to Title 13 - §2485 of the California Code of Regulations, which limits the idling of diesel-powered vehicles to less than five minutes. These regulations would reduce particulate emissions by as much as 50%. As a result, the impacts would be less than significant.

d) No Impact:

The SCAQMD has identified those land uses that are typically associated with odor complaints. These uses include activities involving livestock, rendering facilities, food processing plants, chemical plants, composting activities, refineries, landfills, and businesses involved in fiberglass molding. The proposed residential project would not result in the generation of any odors. In addition, construction truck drivers must adhere to Title 13 - §2485 of the California Code of Regulations, which limits the idling of diesel-powered vehicles to less than five minutes. Furthermore, the project's contractors must adhere to SCAQMD rules and regulations that govern fugitive dust during site preparation which would significantly reduce the generation of fugitive dust. As a result, no odor-related impacts would occur.

3.3 Mitigation Measures:

None required.

4 - BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

SOURCES:

1. Rancho Mirage, City of. City of Rancho Mirage 2017 General Plan Update. Adopted November 16, 2017.
2. Coachella Valley Association of Governments. Coachella Valley Multiple Species Habitat Conservation Plan.
3. *City of Rancho Mirage Municipal Code.* As amended. August 2016
4. RCA Associates, Inc. *General Biological Resources Assessment APN 689-090-003, 689-130-004, -005, -014, -017 & 689-140-022*. March 3, 2024.

4.1 SETTING

Sensitive biological resources include a variety of plant and animal species that are specialized and endemic to a particular habitat type. Due to loss of habitat, some of these species have been designated by either, or both, the federal and state government resource agencies as threatened or endangered. Species listed as threatened include those whose numbers have dropped to such low levels and/or whose populations are so isolated that the continuation of the species could be

jeopardized. Endangered species are those with such limited numbers or subject to such extreme circumstances that they are considered in imminent danger of extinction. Other government agencies and resource organizations also identify sensitive species, those that are naturally rare and that have been locally depleted and put at risk by human activities. While not in imminent danger of jeopardy or extinction, sensitive species are considered vulnerable and can become candidates for future listing as threatened or endangered.

The vegetation community present on site supports a disturbed desert scrub habitat encompassing mainly native plants and some non-native grasses. The site contains a few species of plants which include kelch grass (*Schismus barbatus*), creosote bush (*Larrea tridentata*), four winged saltbush (*Atriplex canescens*), Asian mustard (*Brassica tournefortii*), Nettle leaved goosefoot (*Chenopodiastrum murale*) and Brittlebush (*Encelia farinose*).

4.2 Discussion of Impacts:

a) Less Than Significant Impact With Mitigation:

Birds observed during the onsite surveys included common ravens (Corvus corax), house finch (Carpodacus mexicanus), house sparrow (Passer domesticus), Anna's hummingbird (Calypte anna), red-tailed hawk (Buteo jamaicensis), Northern mockingbird (Mimus polyglottos) and rock pigeon (Columba livia). No mammals were seen during the February 2024 survey. Although the Antelope Ground squirrel (Ammospermophilus leucurus) were not present during the field investigation we can assume they are in the area due to current conditions and population distributions. Other wildlife species that may occur on site include desert cottontails (Sylvilagus audubonii) and California ground squirrels (Otospermophilus beecheyi), and Merriam's kangaroo rats (Dipodomys merriami) may also occur on the site given their wide-spread distribution in the region. No reptiles were observed during the field investigation, however there were a number of reptile tracks along the property and we can assume that they are present in the area. Species that are expected to occur on site include the western whiptail lizard (Cnemidophorus tigris) and common side-blotched lizard (Uta stansburiana). No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations.

The following are the listed and special status species that have the ability to occur on the project site. It is not a comprehensive list of all the species in the quad. This information has been taken from the California Natural Diversity Database and is using the most current version.

Coachella Valley fringe-toed lizard: The site is located within the documented Coachella Valley fringed-toed lizard range, a state and federal threatened species, according to California Natural Diversity Database (CNDDB) (2024). The property supports minimal suitable habitat for the lizard based on the location of the site in a developed area of Rancho Mirage. No Coachella Valley fringed-toed lizard was observed anywhere within the property boundaries during the February 12, 2024 surveys. The species is not expected to move onto the site in the near future based on the absence of any recent observations in the immediate area, and the presence of busy roadways and developments in the immediate area which may act as barriers to migration.

Burrowing Owl: The site is located within documented burrowing owl habitat according to CNDDB (2024). No owls were seen on the property during the survey, and minimal suitable habitat was observed. Burrowing owls are not expected to occur on the site due to lack of suitable vegetation and burrows.

Le Conte's thrasher: Le Conte's thrashers have not been recently observed in the area according to CNDDB (2024). Thrashers are not expected to occur on the site due to lack of critical vegetation used by the species, such as catclaw acacia. Thrashers may be very infrequent in the area given the low population levels in the region as well as the lack of any recent sightings according to the CNDDB.

There were no instances of any federally or state endangered plant species during the field survey conducted on February 12, 2024. The site has been disturbed in the past and development has occurred around most of the neighboring properties. Although the site does contain minimal habitat for the Chapparal sand verbena (Abronia villosa var. aurita) and the Slender cottonhead (Nemacaulis denudata var. gracilis) which include sandy areas and desert scrub, the species were not observed during the February 2024 field survey.

Future development activities include the grading and removal of all vegetation from the 19.8-acre parcel; however, cumulative impacts to the general biological resources (plants and animals) in the surrounding area are expected to be negligible. This assumption is based on the habitat containing scarce vegetation of non-native species. As discussed above, the site does not support any burrowing owls due to the lack of suitable habitat and potential burrows. Joshua trees (a state candidate species) were not observed in the field investigations during February 2024 survey. The following mitigation measures should be considered:

- **Biological Resources Mitigation No. 1** Pre-construction surveys for burrowing owls and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.

  a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.

  b. Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as a reasonable buffer around these areas.

- **Biological Resources Mitigation No. 2** A focused plant survey should be considered for all special status plant species that have the potential to occur on the site to be performed during the blooming season (April-June) to determine the potential environmental effects of the proposed projects on special status plants and sensitive natural communities following recommended protocols by the Department of Fish and Wildlife.

The above mitigation measures would reduce the impacts to levels that are less than significant.

b) No Impact:

No drainage channels were observed within the site boundaries. As a result, no impacts are anticipated.

c) No Impact:

No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations. No riparian vegetation (e.g., cottonwoods, willows, etc.) exist on the site. No potential channels were observed on the property and it is the opinion of RCA Associates that no further surveys will be necessary. As a result, no impacts are anticipated.

d) No Impact:

The site's utility as a habitat and a migration corridor is constrained by the presence of an adjacent roadway and the development that is present in the neighboring areas. As a result, no impacts are anticipated.

e) No Impact:

Future development activities include the grading and removal of all vegetation from the 19.8-acre parcel; however, cumulative impacts to the general biological resources (plants and animals) in the surrounding area are expected to be negligible. This assumption is based on the habitat containing scarce vegetation of non-native species. As discussed above, the site does not support any desert tortoises or burrowing owls due to the lack of suitable habitat and potential burrows. Joshua trees (a state candidate species) were not observed in the field investigations during February 2024 survey. As a result, no impacts are anticipated.

f) Less than Significant Impact:

The Project occurs within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) plan area and is subject to provisions and policies of the CVMSHCP.

The proposed project's implementation would not be in conflict with the provisions of any other adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans.

Although the site is located within the CVMSHCP boundary, the site is not located within a biological sensitive or any conservation areas. As a result, impacts are less than significant.

4.3 MITIGATION MEASURES:

The analysis of biological impacts determined that the following mitigation measures would be required to reduce the project's impacts to levels that would be less than significant.

Biological Resources Mitigation Measure No. 1. Pre-construction surveys for burrowing owls and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.

a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.

b. Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as a reasonable buffer around these areas.

. ***Biological Resources Mitigation Measure No. 2.*** A focused plant survey should be considered for all special status plant species that have the potential to occur on the site to be performed during the blooming season (April-June) to determine the potential environmental effects of the proposed projects on special status plants and sensitive natural communities following recommended protocols by the Department of Fish and Wildlife.

5 - CULTURAL RESOURCES

CULTURAL RESOURCES – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

SOURCES:

1. Southern California Association of Governments. The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. *Adopted September 3, 2020.*
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
3. U. S. Department of the Interior, National Park Service. National Register of Historic Places. http://nrhp.focus.nps.gov. 2023.
4. CRM TECH. 16 Lot Subdivision Project on Peterson Road. March 25, 2024.

5.1 SETTING

Historic structures and sites are defined by local, State, and Federal criteria. A site or structure may be historically significant if it is locally protected through a General Plan or historic preservation ordinance. In addition, a site or structure may be historically significant according to State or Federal criteria even if the locality does not recognize such significance. To be considered eligible for the National Register, a property's significance may be determined if the property is associated with events, activities, or developments that were important in the past, with the lives of people who were important in the past, or represents significant architectural, landscape, or engineering elements. Specific criteria include the following:

- Districts, sites, buildings, structures, and objects that are associated with the lives of significant persons in or past;
- Districts, sites, buildings, structures, and objects that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or,
- Districts, sites, buildings, structures, and objects that have yielded or may be likely to yield, information important in history or prehistory.

Ordinarily, properties that have achieved significance within the past 50 years are not considered eligible for the National Register. However, such properties *would qualify* if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- A religious property deriving primary significance from architectural or artistic distinction or historical importance;

- Districts, sites, buildings, structures, and objects that are associated with events that have made a significant contribution to the broad patterns of our history;
- A building or structure removed from its original location that is significant for architectural value, or which is the surviving structure is associated with a historic person or event;
- A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life;
- A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;
- A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;
- A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or,
- A property achieving significance within the past 50 years if it is of exceptional importance.

5.2 DISCUSSION OF IMPACTS:

a) No Impact:

According to Eastern Information Center (EIC) records, the project area had been surveyed for cultural resources once prior to this study (RI-08506 in Figure 5; Sander 2010). No cultural resources have been recorded on or adjacent to the property, however. Within the one-mile scope of the records search, EIC records identified a total of 30 previous studies completed on various tracts of land and linear features between 1979 and 2016 (Figure 5). As a result of these and other similar studies in the vicinity, one historic-period site and one prehistoric-period site were previously recorded within the scope of the records search but outside the current project area. The historic-period site (33-005513) was recorded as the Peterson Ranch, a single wood frame house ca. 1930s (Wagner 1982). The prehistoric-period site (33-000628/CA-RIV-628T) consists of a trail segment and several stone cairns (Banks 1979; Parr and Arkush 1988; Bissell 2000). These previously recorded cultural resources were found more than a quarter mile from the project location. Since the project's implementation would not impact any Federal, State, or locally designated historic resources, no impacts would occur.

b) Less Than Significant Impact:

On January 9, 2024, CRM TECH archaeologist Nina Gallardo completed the historical/ archaeological resources records search for this study at the Eastern Information Center (EIC) of the California Historical Resources Information System. Located on the campus of the University of California, Riverside, the EIC is the official cultural resource records repository for the County of Riverside. The purpose of the records search was to compile a complete inventory of previously identified cultural resources and existing cultural resources reports within a one-mile radius of the project location. Previously identified cultural resources include properties designated as California Historical Landmarks, Points of Historical Interest, or Riverside County Historic Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

Historical background research for this study was conducted by CRM TECH Archaeologist Frank Raslich. In addition to published literature in local and regional history, sources consulted during the research included U.S. General Land Office (GLO) land survey plat maps dated 1856, United States Geological Survey (USGS) topographic maps dated 1904-1988, and aerial/satellite photographs taken in 1959-2023. The historical maps are available at the websites of the U.S. Bureau of Land Management and the USGS, and the aerial/satellite photographs are available at the website of Nationwide Environmental Title Research (NETR) Online and through the Google Earth software.

Historical sources consulted for this study indicate that the entire project area was unsettled and undeveloped until the mid-20th century (Figures 6-9 of Appendix C – Cultural Study). Between the 1850s and the 1930s, no humanmade features of any kind were noted within or adjacent to the project area despite its location near the Southern Pacific Railroad (built in the 1870s), U.S. Highway 60/70/99 (built prior to the 1920s), and two other major transportation arteries located approximately two miles to the north (Figures 6- 8 of Appendix C – Cultural Study). By the 1940s, Rio del Sol Road, the forerunner of present-day Bob Hope Drive, had been completed near the project vicinity along with several date gardens and ranches and a structure was present in the southern part of the project area (Figure 9 of Appendix C – Cultural Study). By 1957, roads and housing appeared around and within the project area. To the south of the project location, Gerald Ford Drive was first laid out between 1979 and 1984 and subsequently became a paved road by 1996, which ushered in a period of rapid urban growth in the surrounding area. The residential neighborhoods to the north and the south of the project location and the commercial properties to the west were all developed since then. The project area was not involved in any of these nearby developments. The structures in the southern part of the project area appears to have been removed after 2005 but before 2009. The rest of the study area, however, has remained undeveloped and largely unused to the present time.

The field survey of the project area produced completely negative results for any potential “historical resources,” and no buildings, structures, objects, sites, features, or artifacts more than 50 years of age were encountered within the project boundaries. The entirety of the project area has been disturbed in the past, with all native vegetation being removed. Previous modern development and demolition have impacted the ground surface. Modern debris is comprised of milled lumber fragments, PVC pipe, chain fencing, broken glass bottle fragments, a few steel cans, and paper and building material refuse. No evidence of the structures previously located in the southern portion of the project area were observed. There are residential developments, a paved road, fencing along the Whitewater drainage, and utility poles, adjacent to the project area, but all of these items are modern in origin and, therefore, none of them are of any historical/archaeological interest.

On December 21, 2023, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission’s Sacred Lands File. In the meantime, CRM TECH also contacted the nearby Agua Caliente Band of Cahuilla Indians (ACBCI) for additional information on potential Native American cultural resources in the project vicinity and to arrange for tribal participation in the upcoming archaeological field survey.

On January 19, 2024, CRM TECH archaeologists Michael D. Richards and Malika Mobley carried out the field survey of the project area with the assistance of ACBCI Cultural Resources Analyst Claritsa Duarte from the Tribal Historic Preservation Office. The survey was conducted at an intensive level by walking a series of parallel north-south transects at 15-meter (approximately

50- foot) intervals. In this way, the entire project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older). Ground visibility was fair (~50 percent) in areas where there were low-lying grasses but excellent (~90 percent) where there was little to no vegetation.

In response to CRM TECH's inquiry, the NAHC reported in a letter dated January 18, 2024, that the Sacred Lands File identified no Native American cultural resources in the project vicinity but recommended contacting local Native American groups for further information. For that purpose, the NAHC provided a list of potential contacts in the region. The NAHC's reply is attached to this report in Appendix 2 of Appendix C – Cultural Study for reference by the City of Rancho Mirage in future government-to government consultations, if necessary. As mentioned above, the ACBCI, which is the nearest tribe to the project location, participated in the archaeological field survey for this study on January 19, 2024. In a letter dated December 26, 2023, Xitlaly Madrigal, Cultural Resources Analyst with the ACBCI Tribal Historic Preservation Office, identified the project location as a part of the tribe's Traditional Use Area. Therefore, the ACBCI requested copies of all cultural resources documentation generated for this project for review by the Tribal Historic Preservation Office as well as the presence of an ACBCI Cultural Resource Monitor (see App. 2 of Appendix C – Cultural Study). The applicant would be required to follow the Tribal Cultural Mitigation Measures No. 1, 2, and 3. As a result, the impacts would be less than significant.

c) Less Than Significant Impact:

There are no dedicated cemeteries located within or in the vicinity of the project site. The proposed project would be restricted to the project site and therefore would not affect any dedicated cemeteries in the vicinity. Notwithstanding, the following mitigation is mandated by the California Code of Regulations (CCR) Section 15064.5(b)(4):

> "A lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures."

Additionally, Section 5097.98 of the Public Resources Code states:

> "In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with (b) Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission."

Adherence to the standard condition would ensure potential impacts remain at levels that are less than significant.

5.3 MITIGATION MEASURES:

None Required. The applicant would be required to follow Tribal Cultural Resources Mitigation Measure No. 1, 2, and 3.

6 - ENERGY

ENERGY – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

SOURCES:

1. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
2. SCAQMD. SCAQMD Air Quality Handbook. 1993.
3. California Air Resources Board and the Southern California Air Quality Management District. California Emissions Estimator Model (CalEEModV.2022.1.1.25) (Appendix A).

6.1 SETTING

Southern California Edison (SCE) would provide electricity to the project site. Natural gas service is provided by the Southern California Gas Company. Currently, the existing site is vacant and does not use electricity or natural gas. Electricity and natural gas are the primary sources of energy in the City of Rancho Mirage. Electricity is provided primarily by Southern California Edison (SCE) and Imperial Irrigation District (IID) provides services for everything north of Gerald Ford Drive and east of Bob Hope Drive in the City of Rancho Mirage.

The Rancho Mirage City Council started the Rancho Mirage Energy Authority (RMEA) for the purpose of helping to reduce the community's IID electricity bills. Pursuant to CCA law, RMEA is an all-new, locally-run, not-for-profit power program created by the City of Rancho Mirage. RMEA purchases power directly from power providers, pays consultants for compliance functions, and sets electricity rates based on costs. The RMEA's power is delivered through SCE poles and wires. SCE is still the utility and would continue to bill and collect from customers but using RMEA's lower electricity rates would allow businesses and residents to save 5 percent. SCE facilities include 12 kV transmission lines for local distribution. High voltage lines for more distant transmission range up to 115 kV and 230 kV. Substations step down voltage for local distribution and use. Three substations serve the City of Rancho Mirage: one on Highway 111 east of Thunderbird Cove, one on Clancy Lane at Monterey Avenue, and one on Plumley Road south of 35th Avenue.

6.2 DISCUSSION OF IMPACTS:

a) Less than Significant Impact:

During construction, the proposed project would consume energy related to the use of fuels used to power construction vehicles and other equipment that would be used during site clearing, grading, and construction. Fuel use associated with construction vehicle trips generated by the proposed project was also estimated; trips include construction worker trips, haul truck trips for

material transport, and vendor trips for construction material deliveries. Energy consumed during construction would be temporary in nature and would not present a significant demand on energy resources. The proposed project would be constructed pursuant to the 2022 energy standards of Title 24. Construction equipment greater than 150 horsepower (hp), is also required to comply with the Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications. For engines from 175 to less than 750 hp, the Tier 4 Final regulations took effect on January 1, 2014. For engines from 49 to less than 75 hp, it took effect on January 1, 2013. Finally, for engines from 75 to less than 175 hp, the Tier 4 regulations took effect on January 1, 2015. In addition, the project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Therefore, no significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction are anticipated and no mitigation measures are required.

The increased demand is expected to be sufficiently served by the existing Southern California Edison (SCE) facilities. As shown in Table 5, the proposed project is anticipated to consume 409.41 kWh daily. The proposed project is located within the service area of the Southern California Gas Company. The project site currently has no demand for natural gas. Therefore, the development of the proposed project would create a permanent increase in the demand for natural gas. As shown in Table 5, the proposed project is anticipated to consume 1,559.0 kBTU of natural gas on a daily basis.

Table 5 Proposed Project's Energy Consumption

Energy Type	Consumption Rate	Annual Energy Consumption	Daily Energy Consumption
Electrical Consumption	9,339.25 kWh/unit/year	149,428 kWh/year	409.4 kWh/Day
Natural Gas Consumption	35,564.3 kBTU/unit/year	569,029 kBTU/year	1,559.0 kBTU/Day

California Air Pollution Control Officers Association. *California Emissions Estimator Model*. Version 2022.1.1.25 (Used in Appendix A)

According to the CalEEMod air quality emissions model, the 16 units would consume 158,767 kWh of electricity on an annual basis. According to the same model, the 16 units would consume 569,029 kBTUs on an annual basis. The proposed project's energy consumption would be related to energy that would be used for lighting and other household activities. Lighting would be required to follow the City's Outdoor Lighting Policy, which includes the use of energy efficient lighting. For these reasons, the project would not result in the wasteful, inefficient, or unnecessary use of energy. The project applicant would be required to work with the local electrical utility company to identify existing and future strategies that would be effective in reducing energy consumption. As a result, the impact would be less than significant.

b) Less than significant impact:

The State Building Standards Commission adopted updates to the California Green Building Standards Code (Code) which became effective on January 1, 2023. The California Code of Regulations (CCR) Title 24, Part 11: California Green Building Standards (Title 24) became effective to aid efforts to reduce GHG emissions associated with energy consumption. Title 24 now requires that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. The proposed project as well as any future development within the remainder of the project site would be required to conform to all pertinent energy conservation requirements. The proposed project would be required to comply with all pertinent Title 24 requirements along with other Low Impact Development (LID) requirements.

The project would provide for, and promote, energy efficiencies required under other applicable Federal and State of California standards and regulations, and in doing so, would meet or exceed all California Building Standards Code Title 24 standards. Moreover, energy consumed by the project's operation is calculated to be comparable to, or less than, energy consumed by other single family homes of similar scale and intensity that are constructed and operating in California. On this basis, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Further, the project would not cause or result in the need for additional energy producing facilities or energy delivery systems. As a result, the potential impacts would be less than significant.

6.3 Mitigation Measures:

None required.

7 - GEOLOGY AND SOILS

GEOLOGY AND SOILS – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

SOURCES:

1. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
2. UC Davis. *SoilWeb.* Website accessed June 11, 2024.
3. United States Department of Agriculture. Natural Resources Conservation Service. Website accessed June 11, 2024.
4. Sladden Engineering. Geotechnical Update. June 7, 2024. Geotechnical Investigation Report. October 19, 2010.

7.1 SETTING

The City of Rancho Mirage is located in a seismically active region. Earthquakes from several active and potentially active faults in the Southern California region could affect the proposed

project site. In 1972, the Alquist-Priolo Earthquake Zoning Act was passed in response to the damage sustained in the 1971 San Fernando Earthquake. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The closest active fault to the project site is at the San Andreas Fault, approximately 3.6 miles northeast. Therefore, due to the distance of the fault zone, it can be concluded that the potential fault-rupture risk is low. Surface ruptures are visible instances of horizontal or vertical displacement, or a combination of the two. The amount of ground shaking depends on the intensity of the earthquake, the duration of shaking, soil conditions, type of building, and distance from epicenter or fault.

The potential impacts from fault rupture and ground shaking are considered no greater for the project site than for the surrounding areas given the distance between the site and the fault trace. However, the deep groundwater in Rancho Mirage does not allow the saturation of the sediments; therefore, the potential for liquefaction to occur at the project site is less than significant. Windblown sand and other recently deposited sediments are typically loose and, therefore, potentially subject to seismically induced settlement.

7.2 Discussion of Impacts:

a) Less Than Significant Impact:

The City of Rancho Mirage is located in a seismically active region. Earthquakes from several active and potentially active faults in the Southern California region could affect the proposed project site. In 1972, the Alquist-Priolo Earthquake Zoning Act was passed in response to the damage sustained in the 1971 San Fernando Earthquake. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. closest active fault to the project site is at the San Andreas Fault, approximately 3.5 miles northeast. Therefore, due to the distance of the fault zone, it can be concluded that the potential fault-rupture risk is low. Surface ruptures are visible instances of horizontal or vertical displacement, or a combination of the two. The amount of ground shaking depends on the intensity of the earthquake, the duration of shaking, soil conditions, type of building, and distance from epicenter or fault. The potential impacts from fault rupture and ground shaking are considered no greater for the project site than for the surrounding areas given the distance between the site and the fault trace. However, the deep groundwater in Rancho Mirage does not allow the saturation of the sediments; therefore, the potential for liquefaction to occur at the project site is less than significant. Windblown sand and other recently deposited sediments are typically loose and, therefore, potentially subject to seismically induced settlement.

According to the City's General Plan, the project area has a moderate susceptibility to seismically induced settlement. Strong seismic shaking, the 2017 General Plan states, can cause densification or compaction of soils resulting in local or regional settlement of the ground surface, which can cause damage to foundations and structures. To ensure the safety of the project against seismically induced hazards, the project site shall adhere to the standard design requirements stated in the most recent California Building Code (CBC), and the City's building standards. Overall, impacts from seismically induced ground failure such as liquefaction and settlement are anticipated to be less than significant at the project site. As a result, the potential impacts regarding liquefaction and landslides are less than significant.

b) Less Than Significant Impact:

The University of California, Davis SoilWeb database was consulted to determine the nature of the soils that underlie the project site. According to the University of California, Davis SoilWeb database, the property is underlain by Coachella fine sand composed of Coachella, Myoma, Gilman, and Indio soils associations with 0 to 2 percent slopes. The proposed project's contractors would be required to adhere to specific requirements that govern wind and water erosion during site preparation and construction activities. Following development, the project site would be paved and landscaped, which would minimize soil erosion. The project's construction would not result in soil erosion with adherence to those development requirements that restrict storm water runoff (and the resulting erosion) and require soil stabilization. In addition, stormwater discharges from construction activities that disturb one or more acres, or smaller sites disturbing less than one acre that are part of a common plan of development or sale, are regulated under the National Pollutant Discharge Elimination System (NPDES) stormwater permitting program.

Prior to initiating construction, contractors must obtain coverage under an NPDES permit, which is administered by the State. In order to obtain an NPDES permit, the project Applicant must prepare a Stormwater Pollution Prevention Plan (SWPPP). Riverside County has identified sample construction Best Management Practices (BMPs) that may be included in the mandatory SWPPP. The use of these construction BMPs identified in the mandatory SWPPP would prevent soil erosion and the discharge of sediment into the local storm drains during the project's construction phase. As a result, the impacts would be less than significant.

c) Less Than Significant Impact:

The proposed project's construction would not result in soil erosion since the project's contractors must implement the construction BMPs identified in the mandatory SWPPP. The BMPs would minimize soil erosion and the discharge of sediment off-site. Additionally, the project site is not located within an area that could be subject to landslides or liquefaction. The soils that underlie the project site possess a low potential for shrinking and swelling. Soils that exhibit certain shrink swell characteristics become sticky when wet and expand according to the moisture content present at the time. Since the soils have a low shrink-swell potential, lateral spreading resulting from an influx of groundwater is slim. Moreover, the project will not result in the direct extraction of groundwater. As a result, the potential impacts would be less than significant.

d) Less Than Significant Impact:

The University of California, Davis SoilWeb database was consulted to determine the nature of the soils that underlie the project site. According to the University of California, Davis SoilWeb database, the property is underlain by Coachella fine sand composed of Coachella, Myoma, Gilman, and Indio soils associations with 0 to 2 percent slopes. According to the U.S. Department of Agriculture, these soils are acceptable for residential development. The applicant is required to adhere to all requirements detailed by the USDA. As a result, the potential impacts would be less than significant.

e) Less Than Significant Impact:

The proposed project would be required to connect to and utilize the sanitary sewer system. No

septic tanks systems would be used. As a result, the impacts would be less than significant.

f) Less Than Significant Impact:

According to Figure 4.9.3, Paleontological Sensitivity, in the Riverside County General Plan, the property is recognized for having low potential for Paleontological Sensitivity. Areas recognized for having a “low” potential have a reduced likelihood of containing significant non-renewable paleontological resources, including vertebrate or significant invertebrate fossils. Moreover, the site is not recognized as a unique paleontological or a unique geologic feature. Additionally, the project property lies in an urbanized context within the City, surrounded by residential uses. No known paleontological sites are found within the project site. The potential for uncovering any significant resources during construction activities is unlikely, since the site has already been cleared, graded, and disturbed from previous grading activities. Therefore, less than significant impacts are anticipated.

7.3 Mitigation Measures:

None required.

8 – GREENHOUSE GAS EMISSIONS

GREENHOUSE EMISSIONS – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

SOURCES:

1. California Air Pollution Control Officers Association. *California Emissions Estimator Model*. Version 2022. (Appendix A)
2. South Coast Air Quality Management District. *2022 Air Quality Management Plan*. Adopted December 2, 2022.
3. South Coast Air Quality Management District. *Air Quality Analysis Handbook.* 1993.
4. Southern California Association of Governments. The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. *Adopted September 3, 2020.*
5. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
6. Rancho Mirage, City of. 2012 Sustainability Plan: Leadership in Energy Efficiency. 2013.

8.1 SETTING

Examples of greenhouse gasses (GHG) that are produced both by natural and industrial processes include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The accumulation of GHG in the atmosphere regulates the earth's temperature. Without these natural GHG, the Earth's surface would be about 61°F cooler. However, emissions from fossil fuel combustion have elevated the concentrations of GHG in the atmosphere to above natural levels. These man-made GHG will have the effect of warming atmospheric temperatures with the attendant impacts of changes in the global climate, increased sea levels, and changes to the worldwide biome. The major GHG that influences global warming are described below.

- *Water Vapor.* Water vapor is the most abundant GHG present in the atmosphere. While water vapor is not considered a pollutant, while it remains in the atmosphere it maintains a climate necessary for life. Changes in the atmospheric concentration of water vapor are directly related to the warming of the atmosphere rather than a direct result of industrialization. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to “hold” more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. When water vapor increases in the atmosphere, more of it would eventually also condense into clouds, which are more able to reflect incoming solar radiation. This would allow less energy to reach the Earth’s surface thereby affecting surface temperatures.
- *Carbon Dioxide (CO_2).* The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. Manmade sources of CO_2 include the burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700’s, these activities have increased the atmospheric concentrations of CO_2. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC Fifth Assessment Report, 2014) Emissions

of CO_2 from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010.

- *Methane (CH_4).* CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Methane's lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and Chlorofluorocarbons (CFCs). CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other human-related sources of methane production include fossil-fuel combustion and biomass burning.
- *Nitrous Oxide (N_2O).* Concentrations of N_2O also began to increase at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is also commonly used as an aerosol spray propellant.
- *Chlorofluorocarbons (CFC).* CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs would remain in the atmosphere for over 100 years.
- *Hydrofluorocarbons (HFC).* HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade and used for applications such as automobile air conditioners and refrigerants.
- *Perfluorocarbons (PFC).* PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

- *Sulfur Hexafluoride (SF_6).* SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2. Concentrations in the 1990s where about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

The SCAQMD mass emissions threshold is 3,000 metric tons of carbon dioxide equivalent per year (MTCO2E/yr). Carbon dioxide equivalent, or CO2E, is a term that is used for describing different greenhouses gases in a common and collective unit.

8.2 Discussion of Impacts:

a) Less Than Significant Impact:

The State of California requires CEQA documents to do an evaluation of greenhouse gas (GHG) emissions or gases that trap heat in the atmosphere. GHG are emitted by both natural processes and human activities. Examples of GHG that are produced both by natural and industrial processes include carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). Carbon dioxide equivalent, or *CO2E*, is a term that is used for describing different greenhouses gases in a common and collective unit. The SCAQMD established the 3,000 MTCO2 per year threshold for residential land uses. As indicated in Table 6, the operational CO2E is 333 MTCO2E per year, which is well below the threshold.

Table 6 Greenhouse Gas Emissions (Metric Tons per year [MT/yr])

Source	GHG Emissions (Metric Tons/year)			
	CO2	CH4	N2O	CO2E
Long-Term – Mobile Emissions	252	0.01	0.01	256
Long-Term – Area Emissions	0.20	--	--	0.20
Long-Term – Energy Emissions	66.3	--	--	66.5
Long-Term – Total Emissions	324	0.17	0.01	333
Short-Term – Construction Emissions	281	0.01	--	283
Total Construction Emissions Amortized Over 30 Years				9.43
Total Emissions				**342.43**
Significance Threshold				**3,000 MTCO2E/year**

California Air Pollution Control Officers Association. *California Emissions Estimator Model*. Version 2022.1.1.25 (Used in Appendix A)

As indicated in Table 6, the majority of the GHG emissions (252 out of 342 MTCO2E) would originate from mobile sources. As a result, the potential impacts are considered to be less than significant.

b) Less Than Significant Impact:

The City of Rancho Mirage's 2012 Sustainability Plan: Leadership in Energy Efficiency (Plan) serves as a framework for the development and implementation of policies and programs that would reduce the City's GHG emissions. The Plan is within a broader sustainability planning context supported by Southern California Edison (SCE) and its rate payers in a program called “Green for Life.” The Plan addresses climate change at the local level by taking action to reduce GHG emissions within the City's operations and within the City with the target of reducing emissions to 1990 levels by 2020 as set by AB 32. In an effort to stay ahead of impending regulations, this Sustainability Plan defines the City of Rancho Mirage's goal of complying, at a minimum, with statewide mandates to reduce GHG emissions. At the same time, through considered action, Rancho Mirage anticipates the following outcomes:

- Increase energy efficiency in local government operations and in community activities;
- Create new jobs in the community associated with smart energy management;
- Save money now being spent for energy and explore the establishment of a revolving fund whereby energy savings will be available for municipal and community programs to enhance energy efficiency and continue to reduce GHG emissions;
- Maintain or enhance the comfortable desert lifestyle of residents and visitors alike; and
- Bring the CVAG jurisdictions together for effective regional sustainability and climate action planning.

Rancho Mirage completed the 2010 Greenhouse Gas Inventory creating a path to sustainability. The inventory provided a detailed and clear analysis of the City's "carbon footprint," showing the sources and sectors of emissions, highlighting opportunities for emissions reductions that make sense for Rancho Mirage. Highlights of the 2010 GHG Inventory for Rancho Mirage are included below. (The full Inventory can be found in Section III of the Rancho Mirage Sustainability Plan):

- In 2010, Rancho Mirage emitted 277,698 metric tons of C02e. To meet AB 32 targets, by 2020 the City needed to reduce its annual emissions by 54,272 metric tons.
- In 2010, the largest percentage of emissions - over 43% - came from the electricity used to power the City's homes, businesses, resorts, fountains, and streetlights.
- In 2010, the largest percentage of emissions -over 43%- came from the electricity used to power the City’s homes, businesses, resorts, fountains, and streetlights. 8.2 Discussion of Impacts: a) Less than Significant Impact. The proposed project would allow for the development of seventeen single-family residential units.

The Rancho Mirage General Plan’s Safety Element in its section on Climate Change includes Goals, Policies and Programs with a preamble identifying the City’s efforts to coordinate with state, regional, and County agencies to establish and maintain an up to date database on climate change conditions in the region, legislation affecting the City’s regulatory responsibilities, and changing technical assessments that refine or re-characterize the climate change impacts

affecting the region. The City would also monitor the effectiveness of its adaptation strategies. The City's development review process is designed to assure that development proposals are thoroughly evaluated regarding climate change and that comprehensive mitigation measures are developed and implemented. The City is also taking a proactive role to assure the public is safe by informing them about severity of climate change impacts and what resources are available to them to mitigate these impacts. Therefore, the project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

The project would also comply with applicable Green Building Standards and City of Rancho Mirage's policies regarding sustainability (as dictated by the City's General Plan, Sustainability Plan, and Energy Action Plan). The previous section evaluated the proposed project's GHG emissions. The analysis determined that the GHG emissions would be below the regionally accepted thresholds. The calculated emissions would not exceed the GHG and criteria air pollutant thresholds and therefore would not interfere with the City's efforts to monitor and do its part to address climate change. The proposed project would not involve or require any variance from an adopted plan, policy, or regulation governing GHG emissions. As a result, no potential conflict with an applicable greenhouse gas policy plan, policy, or regulation would occur and the potential impacts are considered to be less than significant.

8.3 Mitigation Measures:

None required.

9 - HAZARDS AND HAZARDOUS MATERIALS

HAZARDS AND HAZARDOUS MATERIALS – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

SOURCES:

1. CalEPA. *DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List)*.
2. CalFire. *Very High Fire Hazard Severity Zone Map*.
3. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.

9.1 SETTING

Hazardous materials refer generally to hazardous substances that exhibit corrosive, poisonous, flammable, and/or reactive properties and have the potential to harm human health and/or the environment. Hazardous materials are used in a wide variety of products (household cleaners, industrial solvents, paint, pesticides, etc.) and in the manufacturing of products (e.g., electronics, newspapers, plastic products). Hazardous materials can include petroleum, natural gas, synthetic gas, acutely toxic chemicals, and other toxic chemicals that are used in agriculture, commercial, and industrial uses; businesses; hospitals; and households. Accidental releases of hazardous materials can occur from a variety of causes, including highway incidents, warehouse fires, train derailments, shipping accidents, and industrial incidents.

9.2 Discussion of Impacts:

a) Less Than Significant Impact:

The project's construction would require the use of diesel fuel to power the construction equipment. The diesel fuel would be properly sealed in tanks and would be transported to the site by truck. Other hazardous materials that would be used on-site during the project's construction phases include, but are not limited to, gasoline, solvents, architectural coatings, and equipment lubricants. These products are strictly controlled and regulated and in the event of any spill, cleanup activities would be required to adhere to all pertinent protocols. As a result, less than significant impacts would occur.

b) Less Than Significant Impact:

The project's construction would require the use of diesel fuel to power the construction equipment. The diesel fuel would be properly sealed in tanks and would be transported to the site by truck. Other hazardous materials that would be used on-site during the project's construction phase include, but are not limited to, gasoline, solvents, architectural coatings, and equipment lubricants. These products are strictly controlled and regulated and in the event of any spill, cleanup activities would be required to adhere to all pertinent protocols. As indicated in Subsection D, the project site is not listed in either the CalEPA's Cortese List or the Envirostor database. As a result, the likelihood of encountering contamination or other environmental concerns during the project's construction phase is remote. As a result, the impacts would be less than significant.

c) No Impact:

There are no schools located within one-quarter of a mile from the project site. The nearest school is Palm Valley School, located approximately 1.4 miles north of the project site. The next nearest schools to the project site include Rancho Mirage Elementary school, and Cathedral City Elementary School. The proposed residential project would not create a hazard to any local school. As a result, no impacts are anticipated.

d) No Impact:

Government Code Section 65962.5 refers to the Hazardous Waste and Substances Site List, commonly known as the Cortese List. The Cortese List is a planning document used by the State and other local agencies to comply with CEQA requirements that require the provision of information regarding the location of hazardous materials release sites. A search was conducted through the California Department of Toxic Substances Control Envirostor website to identify whether the project site is listed in the database as a Cortese site. The project site is not identified as a Cortese site. Therefore, no impacts would occur.

e) No Impact:

The project site is not located within an airport land use plan and the site is not located within two miles of a public airport or public use airport. The nearest airports to the project site include the Palm Springs International Airport, which is located approximately 4.7 miles northwest of the project site and the Bermuda Dunes Airport is located approximately 9 miles east of the project. The project would not introduce a structure that would interfere with the approach and take off of aircraft utilizing any regional airports. As a result, no impacts related to this issue would occur.

f) No Impact:

At no time would any adjacent street be completely closed to traffic during the proposed project's construction. In addition, all construction staging must occur on-site. As a result, no impacts are associated with the proposed project's implementation.

g) No Impact:

The project site is not located within a "moderate fire hazard severity zone." As a result, no impacts would result.

9.3 Mitigation Measures:

None required.

10 - HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: i) Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

SOURCES:

1. FEMA. Glossary. Flood Zones. Website accessed June 11, 2024.
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
3. Fomotor Engineering. *Preliminary Hydrology Study for Tentative Parcel Map 38971.* July 9, 2024.

10.1 SETTING

The Clean Water Act (CWA) is the principal Federal law that addresses water quality. The act's primary objectives are to restore and maintain the chemical, physical, and biological integrity of the nation's waters." The implementation plan for these objectives includes the regulation of pollutant discharges to surface water, financial assistance for public wastewater treatment systems, technology development, and non-point source pollution prevention programs. The Clean Water Act also establishes that states adopt water quality standards to protect public health or welfare and to enhance the quality of water. The use and value of State waters for public water supplies, propagation of fish and wildlife, recreation, agriculture, industrial purposes, and navigation must also be considered by the states.

The *National Pollutant Elimination Discharge System (NPDES)* applies to Statewide construction activities including clearing, grading, or excavation that results in the disturbance of at least one acre of total land area, or activity which is part of a larger common plan of development of one acre or greater. In most cases, the NPDES permit program is administered by authorized states. In California, these programs are administered by the nine Regional Water Quality Control Boards (RWQCBs) that issue NPDES permits and enforce regulations in their respective regions. A requirement of the State General Construction Activity NPDES permit is the preparation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must identify and implement best management practices (BMPs) to reduce impacts to surface water from contaminated stormwater discharges during the construction of the proposed action. Required elements of an SWPPP include the following: site description addressing the elements and characteristics specific to the site; descriptions of BMPs for erosion and sediment controls; BMPs for waste handling and disposal; implementation of approved local plans; proposed post-construction control requirements; and non-stormwater management.

The City of Rancho Mirage is located within the Whitewater River Watershed, which is an arid desert region in Riverside County encompassing an area of approximately 1,645 square miles. The Whitewater River Region accounts for approximately 367 square miles (22%) of the Whitewater River Watershed. The Riverside County Flood Control and Water Conservation District (RCF & WCD), Coachella Valley Water District, (CVWD), and other incorporated cities within the Coachella Valley including Rancho Mirage, have a joint permittee responsibility for this region, also known as the MS4 Permit area. Development in this area would be required to obtain a NPDES permit.

10.2 DISCUSSION OF IMPACTS:

a) Less Than Significant Impact:

During construction, compliance with waste discharge requirements would be met through the permit registration and coverage process under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, as amended by 2010- 0014-DWQ and 2012-006-DWQ. This permit is otherwise known as the Construction General Permit (CGP), applicable to any construction activity that results in a land disturbance of equal to or greater than one acre. In addition, stormwater discharges from construction activities that disturb one or more acres, or smaller sites disturbing less than one acre that are part of a common plan of development or sale, are regulated under the National

Pollutant Discharge Elimination System (NPDES) stormwater permitting program. As a result, the construction impacts would be less than significant.

b) Less Than Significant Impact:

Water used to control fugitive dust would be transported to the site via truck. No direct ground water extraction would occur. Furthermore, the construction and post-construction BMPs would address contaminants of concern from excess runoff, thereby preventing the contamination of local groundwater. These BMP controls may include, but not be limited to, the following:

- Stabilization practices for all areas disturbed by construction and grading.
- Structural practices for all drainage/discharge locations.
- Stormwater management controls, including measures used to control pollutants occurring in stormwater discharges after construction activities are complete.
- Velocity dissipation devices to provide nonerosive flow conditions from the discharge point along the length of any outfall channel.
- Other controls, including waste disposal practices that prevent discharge of solid materials.

In addition, there would be no direct groundwater withdrawals associated with the proposed project's implementation. As a result, the impacts would be less than significant.

c) Less Than Significant Impact:

The proposed project's location would be restricted to the proposed project site and would not alter the course of any stream or river that would lead to on- or off-site siltation or erosion. As a result, the potential impacts would be less than significant.

d) No Impact:

According to the Federal Emergency Management Agency (FEMA) flood insurance maps obtained for the City of Rancho Mirage, the proposed project site is located in a flood hazard zone, labeled as "Zone X" with the description of "0.2% annual chase flood hazard, areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile." Thus, properties located in "Zone X" are areas of minimal flood hazard. The proposed project site is not located in an area that is subject to inundation by seiche or tsunami. In addition, the project site is located inland approximately 70 miles from the Pacific Ocean and the project site would not be exposed to the effects of a tsunami. As a result, no impacts are anticipated.

e) No Impact:

The project's construction would not interfere with any groundwater management or recharge plan since there are no active groundwater management recharge activities on-site or in the vicinity.

According to Appendix D - Hydrology Study and WQMP, Each proposed lot within the project site was separately analyzed for proposed condition basin capacity using Synthetic Unit Hydrograph Shortcut Method for the 1, 3, 6, and 24-hour duration 100-year storm event to determine the worst-case contributing runoff volume. This computed runoff volume was used to size a proposed retention basin for each lot as per City of Rancho Mirage Standard Detail 310 for Retention Basins. The runoff from each proposed onsite area would be directed via swale system to the proposed retention basin. Adjacent half street frontage was added to the runoff area of each lot.

The materials included with this study are presented to satisfy the criteria set forth in the Riverside County Flood Control & Water Conservation District (RCFC & WCD) Hydrology Manual. The onsite/offsite post-developed condition design runoff volume was determined using the worst of the 1, 3, 6, and 24-hour duration storm for the 100-year event. Peak discharges of the 100-year storm event will be determined with the Rational Formula. Synthetic Unit Hydrograph (SUH) calculations were performed in accordance with RCFC & WCD criteria. The Hydrologic Soil Group area was determined with the Natural Resources Conservation Service's National Cooperative Soil Survey (See Reference Material). Point precipitation frequency data was obtained with the National Oceanic and Atmospheric Administration's (NOAA) Precipitation Frequency Data Server from Atlas 14 (See Reference Material.). The NOAA point precipitation data of the 100-year event will be plotted on a log-log plot to obtain the slope of intensity duration curve which will be used in the Rational Method analysis. Any necessary storm drains will be modeled with the computer modeling software, Hydraflow Storm Sewers Extensions for AutoCAD Civil3D 2024, by Autodesk, Inc. Any necessary storm drain inlets will be sized as per AutoCAD Hydraflow Express Extension, Version 12.

Basin infiltration was not used to size the retention basins. A percolation test will be performed in the future. The 1-hour storm was determined to be the worst case of the 1, 3, 6, and 24-hour duration 100-year storm events for the Synthetic Unit Hydrograph analysis. In general, each lot will have an independent retention basin sized to contain the 100-year 1-hour runoff from each respective lot as well as the adjacent half-street frontage. Each basin will be four to five feet deep with 3 to 1 side slopes and receive runoff from swale flow (See SUH Shortcut Calculations and Preliminary Hydrology Plan in the Reference Materials). The impermeable area used for calculations was based on a 1-acre residential lot from Plate D-5.6 of the RCFC&WCD Hydrology Manual and the adjacent half-street frontage was added. The Runoff Index was selected from Plate D-5.5 (1 of 2) of the RCFC&WCD Hydrology Manual.

As a result, no impacts are anticipated.

10.3 MITIGATION MEASURES:

None required.

11 - LAND USE AND PLANNING

LAND USE AND URBAN PLANNING – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

SOURCES:

1. Google Maps. Website Accessed June 11, 2024, and Rancho Mirage Zoning Map, Website Accessed, June 11, 2024.
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.

11.1 SETTING

The legal framework under which California cities and counties exercise local planning and land use functions is set forth in California Planning and Zoning Law, Government Code Sections 65000–66499.58. Under State planning law, each city and county must adopt a comprehensive, long-term general plan. State law provides cities and counties wide latitude in how a jurisdiction may create a general plan. There are certain requirements that must be met including the inclusion of seven mandatory elements described in the Government Code, including a section on land use.

The *Southern California Association of Governments (SCAG)* is the regional planning organization for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The region encompasses a population exceeding 19 million in an area of more than 38,000 square miles. As the designated Council of Governments (COG), the Federal government mandates SCAG to research and develop plans for transportation, growth management, hazardous waste management, and air quality. These mandates led SCAG to prepare comprehensive regional plans to address these concerns. SCAG is responsible for the maintenance of a continuous, comprehensive, and coordinated planning process resulting in a regional transportation plan. SCAG is also responsible for the development of demographic projections and the integrated land use, housing, employment, transportation programs, measures, and strategies for the Air Quality Management Plan (AQMP).

The City of Rancho Mirage General Plan Update, adopted November 16, 2017, includes a chapter dedicated for the land use element: Chapter 2 Land Use. This chapter focuses on a comprehensive plan of the general allocation and distribution of land uses throughout Rancho Mirage as well as setting standards and targets for population density and building intensity. The land use includes residential, commercial, open space, recreation, public buildings, and other categories of public and private land uses. The City of Rancho Mirage utilizes a single map system: the City's General Plan land use designations and the City's zoning designations are the same. The zoning designation for the project site is *Residential Estate (R-E)*

11.2 DISCUSSION OF IMPACTS:

a) No Impact:

Land uses and development located in the vicinity of the proposed project site are outlined below:

- *North of the project site:* The Whitewater Flood Control Channel generally extends along the project area's north side. This area is designated as *Open Space – Floodways and Drainage Channels (OS-W)*.

- *East of the project site:* Single family homes are located to the east of the project site. These homes are designated as *Residential Estate (R-E)*. Further east, the Whitewater Flood Control Channel generally extends along the project area's east side. These parcels are designated as *Open Space – Floodways and Drainage Channels (OS-W)*.

- *South of the project site:* Mirage Cove Drive extends along the project area's south side. Vista Cove at Rancho Mirage, a resort, and a vacant lot are located further south of the aforementioned roadway. These parcels are designated as *Residential Estate (R-E)*.

- *West of the project site:* Nielson Road extends along the project area's west side. Further west of the road are single family homes and a mobile home park. These parcels are designated as *Mobile Home Park (MHP)* and *Residential Estate (R-E)*.

The granting of the requested entitlements and subsequent construction of the proposed project would not result in any expansion of the use beyond the current boundaries. As a result, the project will not lead to any division of an existing established neighborhood. As a result, no impacts would occur.

b) Less than Significant Impact:

According to the Rancho Mirage Land Use and Zoning Map, the *Residential Estate (*R-E) designation provides for single family residential developments on lots one acre or larger in size. The R-E zoning district is intended to provide an intermediate density between more typical residential densities and open space lands. Each individual lot would have a minimum parcel size of 1 acre. Additionally, not only would each individual lot would have a maximum density of 1 du/net acre, at least a 1,000 sq. ft. private outdoor living space, but also the setbacks and other requirements as indicated in the City of Rancho Mirage Code of Ordinance Section 17.08.020 Table 2-3 Residential Zones General Development Standards Requirements by Individual Zoning District. The proposed development would be consistent with this land use designation. As a result, less than significant impact would occur.

11.3 MITIGATION MEASURES:

None required.

12 - MINERAL RESOURCES

MINERAL RESOURCES – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

SOURCES:

1. California, State of. Department of Conservation. California *Oil, Gas, and Geothermal Resources Well Finder*.
2. California Department of Conservation. *Mineral Land Classification Map for Riverside County*. Website accessed June 11, 2024.
3. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.

12.1 SETTING

The Surface Mining and Reclamation Act of 1975 (SMARA) has developed mineral land classification maps and reports to assist in the protection and development of mineral resources. According to the SMARA, the following four mineral land use classifications are identified:

- *Mineral Resource Zone 1 (MRZ-1):* This land use classification refers to areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- *Mineral Resource Zone 2 (MRZ-2):* This land use classification refers to areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- *Mineral Resource Zone 3 (MRZ-3):* This land use classification refers to areas where the significance of mineral deposits cannot be evaluated from the available data. Hilly or mountainous areas underlain by sedimentary, metamorphic, or igneous rock types and lowland areas underlain by alluvial wash or fan material are often included in this category. Additional information about the quality of material in these areas could either upgrade the classification to MRZ-2 or downgrade it to MRZ-1.
- *Mineral Resource Zone 4 (MRZ-4):* This land use classification refers to areas where available information is inadequate for assignment to any other mineral resource zone.

12.2 DISCUSSION OF IMPACTS:

a). No Impact:

A review of California Division of Oil, Gas, and Geothermal Resources well finder indicates that there are no wells located in the vicinity of the project site. The project site is not located in a Significant Mineral Aggregate Resource Area (SMARA) nor is it located in an area with active mineral extraction activities. A review of California Division of Oil, Gas, and Geothermal

Resources well finder indicates that there are no wells located within or in the vicinity of the project site. The project site is not located within a designated Mineral Resource Zone (MRZ) which means there are no significant mineral resources present on-site. As indicated previously, there are no active mineral extraction activities occurring on-site or in the adjacent properties. As a result, no impacts to mineral resources would occur.

b) No Impact:

As previously mentioned, no mineral, oil, or energy extraction and/or generation activities are located within the project site. Moreover, the proposed project would not interfere with any resource extraction activity. Therefore, no impacts would result from the implementation of the proposed project.

12.3 Mitigation Measures:

None required.

13 - NOISE

NOISE – Would the project result in:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

SOURCES:

1. Toll-Free Airline. Riverside, *California.*
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.

13.1 SETTING

Noise levels may be described using several methods designed to evaluate the “loudness” of a particular noise. The most commonly used unit for measuring the level of sound is the decibel (dB). Zero on the decibel scale represents the lowest limit of sound that can be heard by humans. The eardrum may rupture at 140 dB. In general, an increase of between 3.0 dB and 5.0 dB in the ambient noise level is considered to represent the threshold for human sensitivity. Noise level increases of 3.0 dB or less are not generally perceptible to persons with average hearing abilities. The most commonly used unit for measuring the level of sound is the decibel (dB). Zero on the decibel scale represents the lowest limit of sound that can be heard by humans.

13.2 DISCUSSION OF IMPACTS:

a) Less Than Significant Impact:

The City regulates noise-generating activities through the Municipal Code and requires that daytime noise levels be 60 dBA CNEL or less at the property line for residential land uses and 45 dBA CNEL or less for all interior areas. Existing land uses in the vicinity of the project site include vacant undeveloped land and residential development. Construction activities would result in localized and temporary increases in ambient noise levels and may impact sensitive receptors. Construction noise sources are regulated within Sections 8.45.050 and 15.04.030(A) 117.1 of the Rancho Mirage Municipal Code which prohibit construction activities other than the hours of 7:00 a.m. to 7:00 p.m., with no construction occurring on Sundays or federal holidays. The project’s construction will occur during the hours permitted by the City of Rancho Mirage. These restrictions, muffling of construction equipment, and other measures will reduce, to some extent,

construction noise impacts on surrounding land uses. Impacts will be temporary and will end once construction is complete.

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the scheduled proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. The project's construction noise levels were estimated using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model Version 1.1. The distance used between the construction activity and the nearest sensitive receptors varied depending on the individual pieces of equipment but a distance of 100 feet was used. The model assumes a 10.0 dBA reduction due to attenuation from the existing walls located along the street frontages of the nearby residential development. The results of the construction noise modeling are presented in Table 7 below. The middle column ("Baseline) indicates the anticipated noise levels adjacent to the construction equipment. The last column indicates the anticipated daytime noise levels 100 feet from the equipment.

Table 7 Construction Noise Levels at the Nearest Sensitive Receptors

Construction Equipment	Baseline Max (in Lmax)	Projected Noise Levels (in Lmax)
Backhoe	77.6 dBA	61.5 dBA
Compactor (ground)	83.2 dBA	67.2 dBA
Concrete Mixer	78.8 dBA	62.8 dBA
Dump Truck	76.5 dBA	60.4 dBA
Excavator	80.7 dBA	64.7 dBA
Grader	85.0 dBA	69.0 dBA
Roller	80.0 dBA	64.0 dBA
Paver	77.2 dBA	61.2 dBA
Tractor	84.0 dBA	68.0 dBA
Flat Bed Truck	74.3 dBA	58.2 dBA

Source: Roadway Construction Noise Model

As shown in Table 7, the majority of the equipment would result in noise levels under 65 dBA at a distance of 100 feet from the equipment generating the noise. All of the adjacent residences are located more than 100 feet from where the equipment would be operating. The proposed project will not expose sensitive receptors to excessive noise levels. As a result, the impacts would be less than significant.

b) Less Than Significant Impact:

Construction activities would produce varying degrees of ground vibration, depending on the equipment and methods employed. While ground vibrations from typical construction activities very rarely reach levels high enough to cause damage to structures, special consideration must be made when sensitive or historic land uses are near the construction site. The construction activities that typically generate the highest levels of vibration are blasting and impact pile driving and the use of a vibratory roller. However, the project would not require blasting, pile driving, or vibratory rollers. The largest piece of vibration-generating equipment that could be used for project

construction is a large bulldozer. Large bulldozers generate a vibration level of 0.089 in/sec PPV at 25 feet. Existing or potential noise sensitive residential development is located on all sides of the project site. Ground vibrations associated with construction activities using modern construction methods and equipment rarely reach the levels that result in damage to nearby buildings though vibration related to construction activities may be discernible in areas located near the construction site. A possible exception is in older buildings where special care must be taken to avoid damage.

Table 8 summarizes the levels of vibration and the usual effect on people and buildings. The U.S. Department of Transportation (U.S. DOT) has guidelines for vibration levels from construction related to their activities and recommends that the maximum peak-particle-velocity (PPV) levels remain below 0.05 inches per second at the nearest structures. PPV refers to the movement within the ground of molecular particles and not surface movement. Vibration levels above 0.5 inches per second have the potential to cause architectural damage to normal dwellings. The U.S. DOT also states that vibration levels above 0.015 inches per second (in/sec) are sometimes perceptible to people, and the level at which vibration becomes an irritation to people is 0.64 inches per second. The effects of vibration on buildings are summarized in Table 8.

Table 8 Common Effects of Construction Vibration

Peak Particle Velocity (in/sec)	Effects on Humans	Effects on Buildings
<0.005	Imperceptible	No effect on buildings
0.005 to 0.015	Barely perceptible	No effect on buildings
0.02 to 0.05	Level at which continuous vibrations begin to annoy occupants of nearby buildings	No effect on buildings
0.1 to 0.5	Vibrations considered unacceptable for persons exposed to continuous or long-term vibration.	Minimal potential for damage to weak or sensitive structures
0.5 to 1.0	Vibrations considered bothersome by most people, tolerable if short-term in length	Threshold at which there is a risk of architectural damage to buildings with plastered ceilings and walls. Some risk to ancient monuments and ruins.
1.0 to 2.0	Vibrations considered unpleasant by most people.	U.S. Bureau of Mines data indicates that blasting vibration in this range will not harm most buildings. Most construction vibration limits are in this range.
>3.0	Vibration is unpleasant	Potential for architectural damage and possible minor structural damage

Source: U.S. Department of Transportation

Various types of construction equipment have been measured under a wide variety of construction activities with an average of source levels reported in terms of velocity levels as shown in Table 8. Although the table gives one level for each piece of equipment, it should be noted that there is a considerable variation in reported ground vibration levels from construction activities. The data in Table 9 does provide a reasonable estimate for a wide range of soil conditions. Based on Transit Noise and Vibration Impact Assessment, a vibration level of 102 VdB (vibration decibels, or 0.5 inches per second [in/sec]) is considered safe and would not result in any construction vibration damage.

Table 9 Vibration Source Levels for Typical Construction Equipment

Construction Equipment		PPV @25 ft. (inches/sec.)	Vibration (VdB) @ 25 ft.
Pile Driver (impact)	Upper range	1.58	112
	Typical	0.644	104
Pile Drive (Sonic)	Upper range	0.734	105
	Typical	0.170	93
Clam Shovel Drop		0.202	94
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Small Bulldozer		0.035	79

Source: Federal Highway Administration FHWA Noise and Vibration During Construction

The project will be required to adhere to all pertinent City noise control regulations. The limited duration of construction activities and the City's construction-related noise control requirements will reduce the potential impacts. A vibration level of 0.089 in/sec PPV at 25 feet would be 0.53 in/sec PPV at 40 feet and 0.089 in/sec PPV at 25 feet (refer to Table 9). These vibration levels would be less than the FTA thresholds. Additionally, construction equipment would move throughout the entire site and would only be located near the project boundaries for short periods of time. Thus, vibration levels at the receptors located near the project boundaries would be less than these maximum levels for a majority of the construction period. Although vibration levels may be perceptible for short periods of time, maximum vibration levels would not exceed FTA thresholds. Therefore, project construction would not generate excessive ground borne vibration or ground borne noise levels, and impacts would be less than significant. As a result, the impacts would be less than significant.

c) No Impact:

The project site is not located within an airport land use plan and is located within two miles of a public airport or public use airport. The nearest airports to the project site include the Palm Springs International Airport, which is located approximately 4.7 miles northwest of the project site and the Bermuda Dunes Airport is located approximately 9 miles east of the project. As a result, the proposed project will not expose people residing or working in the project area to excessive noise levels related to airport uses. As a result, no impacts would occur.

13.3 Mitigation Measures:

None required.

14 - POPULATION AND HOUSING

POPULATION AND HOUSING – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

SOURCES:

1. Southern California Association of Governments. The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. *Adopted September 3, 2020.*
2. State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2021-2023*. Sacramento, California, May 2023.
3. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
4. United States Census Bureau. Rancho Mirage City, California. 2024.

14.1 SETTING

According to the Demographics and Growth Forecast Technical Report Adopted on September 3, 2020 by SCAG, the City of Rancho Mirage's population is projected to increase from the year 2016 figure of 18,200 to 25,200 in the year 2045, an increase of 7,000. The 2024 population estimate of the City of Rancho Mirage is 18,001, according to the United States Census Bureau. The average persons per household is 1.97. An estimated 49.9% of the population in Rancho Mirage is 65 years or older.

14.2 DISCUSSION OF IMPACTS:

a) Less Than Significant Impact:

Growth-inducing impacts are generally associated with the provision of urban services to an undeveloped or rural area. Growth-inducing impacts include the following:

- *New development in an area presently undeveloped and economic factors which may influence development.* The site is currently undeveloped. All land use surrounding the property are designated for residential development.
- *Extension of roadways and other transportation facilities.* Future roadway and infrastructure connections will serve the proposed project site only.
- *Extension of infrastructure and other improvements.* The installation of any new utility lines will not lead to subsequent offsite development since these utility connections will serve the site only.
- *Major off-site public projects (treatment plants, etc.).* The project's increase in demand for

utility services can be accommodated without the construction or expansion of landfills, water treatment plants, or wastewater treatment plants.

- *The removal of housing requiring replacement housing elsewhere.* The site contains a single older dilapidated housing unit. As a result, no replacement housing will be required.
- *Additional population growth leading to increased demand for goods and services.* The proposed 16-unit project would potentially result in 31 new residents assuming an average household size of 1.95 persons per household derived from the 2023 United States Census Bureau for the City of Rancho Mirage.
- *Short-term growth-inducing impacts related to the project's construction.* The project will result in temporary employment during the construction phase.

The newly established roads and existing utility lines will serve the project site only and will not extend into undeveloped areas. According to the Demographics and Growth Forecast Technical Report Adopted on September 3, 2020 by SCAG, the City of Rancho Mirage's population is projected to increase from the year 2016 figure of 18,200 to 25,200 in the year 2045, an increase of 7,000. The 2024 population estimate of the City of Rancho Mirage is 18,001, according to the United States Census Bureau. The proposed project will not result in any unplanned growth. Therefore, the impacts would be less than significant.

b) Less Than Significant Impact:

The project site's General Plan and Zoning designation is Residential Estate (R-E). The proposed 16-unit project would potentially result in 31 new residents assuming an average household size of 1.95 persons per household derived from the 2023 United States Census Bureau for the City of Rancho Mirage. Therefore, the impacts would be less than significant.

14.3 MITIGATION MEASURES:

None required.

15 - PUBLIC SERVICES

PUBLIC SERVICES – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐

SOURCES:

1. Toll-Free Airline. Riverside*, California.*
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
3. Statement from Riverside County Sheriff's Department's Lieutenant Chrisopher Ternes.

15.1 SETTING

The Riverside County Fire Department (RCFD), under contract with the City of Rancho Mirage, provides a full range of 24-hour fire protection and emergency medical services to the City. RCFD maintains two fire stations within the City of Rancho Mirage, Fire Station 50 and Fire Station 69.

Law enforcement services in the City of Rancho Mirage are provided under a contractual agreement with Riverside County Sheriff's Department (RCSD). The main County sheriff's station is located Palm Desert at 73-705 Gerald Ford Drive. According to Riverside County Sheriff's Department's Lieutenant Christopher Ternes, the RCSD consists of 10 dedicated police personnel, 19 patrol deputies, and 4 non-dedicated deputies.

The project site is within the boundary of the Palm Springs Unified School District (PSUSD). The district provides education from grades transitional kindergarten to grade 12 within surrounding cities such as Cathedral City, Desert Hot Springs, Palm Desert, Palm Springs, and Rancho Mirage, as well as the unincorporated parts of the County of Riverside.

City of Rancho Mirage provides public parks, open space, and multi-city recreational facilities with various amenities. Other public facilities in the City of Rancho Mirage include the City Hall, public library, and observatory.

15.2 DISCUSSION OF IMPACTS:

i) Less Than Significant Impact:

The Riverside County Fire Department (RCFD), under contract with the City of Rancho Mirage, provides a full range of 24-hour fire protection and emergency medical services to the City. The City's Fire Department serves approximately 25 square miles with an estimated service population of 18,001 (Riverside County Fire Department for Rancho Mirage). RCFD maintains two fire stations within the City of Rancho Mirage, Fire Station 50, and Fire Station 69. Fire Station 50 is located at 70-801 Highway 111. From the City of Rancho Mirage General Plan Update Public Services + Facilities Element, Fire Station 50 covers the southern portion of the City Fire Station 69 is located at 71-751 Gerald Ford Drive. The Riverside County Fire Department operates under a Regional Fire Protection Program, which allows all of its fire stations to provide support as needed regardless of jurisdictional boundaries.

The RCFD currently reviews all new development plans. The proposed project would be required to conform to all fire protection and prevention requirements, including, but not limited to, building setbacks, emergency access, and fire flow (or the flow rate of water that is available for extinguishing fires). The proposed project would only place an incremental demand on fire services since the installation of fire hydrants and sprinkler systems inside the buildings. Furthermore, the project will be reviewed by County Fire officials to ensure adequate fire service and safety as a result of project implementation. Development of the proposed project would result in a minimal increase in demand for fire services. Service calls could place an additional demand on fire personnel, fire apparatus and equipment. The project will be constructed with strict adherence to all pertinent building and fire codes. In addition, the proposed project would be required to implement all pertinent Fire Code Standards. As a result, the impacts would be less than significant.

ii) Less Than Significant Impact:

Law enforcement services in the City of Rancho Mirage are provided under a contractual agreement with Riverside County Sheriff's Department (RCSD). The Sheriff's department provides 24-hour police law enforcement services and operates a small police substation at the Rancho Mirage Public Library. The main County sheriff's station is located Palm Desert at 73-705 Gerald Ford Drive. This station is approximately 4.4 miles from the project site. The City's police department patrols 7 days a week, 365 days a year and 24-hours a day. According to Riverside County Sheriff's Department's Lieutenant Christopher Ternes, the RCSD consists of 10 dedicated police personnel, 19 patrol deputies, and 4 non-dedicated deputies. the City provided a ratio of 1 officer per 786 residents, which is well above the commonly used and accepted ratio of one officer per 1,000 residents. Emergency response times vary and are dependent on the location of patrol cars. The average response time for priority 1 calls in the City of Rancho Mirage was 5 to 6 minutes.

The project site is located in an existing urban area and is currently serviced by the Sheriff's Department. Therefore, the proposed project would not substantially increase the need for new or expanded police facilities and response times are not expected to be impacted. Additionally,

all new construction in the City will be required to pay Development Impact Fees to assist in offsetting impacts to police services. As a result, the impacts would be less than significant.

iii) Less Than Significant Impact:

The project site is within the boundary of the Palm Springs Unified School District (PSUSD). The construction of the proposed 16 single family units would not create a significant increase in school enrollments. The project would be required to pay *School Impact Fees* to the PSUSD. According to the Palm Springs Unified School District, current impact fees at the time of writing is $5.17 per square foot for residential development and $0.84 for commercial/industrial development. The payment of these fees is considered to be mitigation of potential impacts. As a result, the impacts would be less than significant.

iv) Less Than Significant Impact:

City of Rancho Mirage provides public parks, open space, and multi-city recreational facilities with various amenities. The proposed project would be required to comply with the City's parkland in lieu fee (Quimby) and other development impact fees requirements. The future residents generated by project implementation may lead to an incremental increase in physical deterioration of City public recreational facilities. The occupancy of the 16-units would not substantially increase the use of existing parks so as to accelerate their physical deterioration since the site is relatively small and it would provide private open space amenities. Additionally, the project will be required to comply with the City's development impact fee requirements. As a result, the impacts would be less than significant.

v) Less Than Significant Impact:

The proposed project would not generate substantial population growth that would increase the demand for other governmental service. The review of the project indicates that this development will not create any unique public facilities which require extensive maintenance. As a result, the impacts would be less than significant.

15.3 MITIGATION MEASURES:

None required.

16 - RECREATION

RECREATION – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

SOURCES:

1. Fomotor Engineering. *Tract Map 38971*. November 21, 2024.
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.

16.1 SETTING

The City of Rancho Mirage contains several mini parks and local parks. Mini Parks are usually less than one acre and are intended to complement adjacent uses. These types of parks may be children's play lots, passive seating areas, city entry features, or special purpose open space areas. Local parks are intended for the active and passive recreation needs of nearby residents in the park's vicinity. These types of parks may include picnic areas, playground equipment, hard court areas, multi-purpose playfields, limited parking, and special landscaping and public art. The nearest park is the Michael S. Wolfson Park located approximately 700 feet north of the project site.

16.2 DISCUSSION OF IMPACTS:

a) Less Than Significant Impact:

The project would be required to comply with the City's parkland in lieu fee (Quimby) and other development impact fees requirements. The occupancy of the 16 units would not substantially increase the use of existing parks to accelerate their physical deterioration since the site is relatively small and it would provide private open space amenities. As a result, the impacts would be less than significant.

b) Less Than Significant Impact:

As previously indicated, the implementation of the proposed project would not physically impact any existing parks and recreational facilities in the City. No such facilities are located adjacent to the project site. The project would be required to comply with the City's parkland in lieu fee (Quimby) and other development impact fees requirements. As a result, the impacts would be less than significant.

16.3 MITIGATION MEASURES:

None required.

17 - TRANSPORTATION

TRANSPORTATION – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☐	☒

SOURCES:

1. Fomotor Engineering. *Tract Map 38971*. November 21, 2024.
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.

17.1 SETTING

The City of Rancho Mirage has two regional routes through Rancho Mirage: State Highway 111 and U.S. Interstate 10 (I-10). These highway routes provide regional and interstate connections for Rancho Mirage and Coachella Valley. There are 5 categories in the Rancho Mirage roadway hierarchy: Major Arterial, Minor Arterial, Major Collector, Minor Collector, and Local streets. The City of Rancho Mirage is required to operate these roads and all corridors at a level of service (LOS) of D or higher. Streets located within and along the boundaries of the project site include Nielson Road, Peterson Road, Kelley Lane, and Mirage Cove Drive are all classified as Local streets.

17.2 DISCUSSION OF IMPACTS:

a) Less Than Significant Impact:

The trip generation for the proposed project is based on the trip generation rates for Land Use 210 – "Single-Family Detached Housing" included in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 11th Edition.

Table 10 Project Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Single Family	ITE Code 210	0.19	0.56	0.74	0.62	0.37	0.99	9.44
Project	16 units	3	9	12	10	6	16	151

Source: Institute of Transportation Engineers' (ITE) *Trip Generation*, 11th Edition

As shown in Table 10, the proposed project is forecast to generate 12 total trips in the AM peak hour, 16 total trips in the PM peak hour, and 151 daily trips. The proposed project would not create a level of service deficiency at any area intersection due to the limited trip generation. As a result, the impacts will be less than significant.

b) Less than Significant Impact:

The City's Transportation Analysis Policy identifies three types of screening criteria under which projects are not required to submit a detailed VMT analysis and a presumption of a less than significant transportation impact can be made based on the facts of the project. Project Type Screening Certain types of projects are exempt from the need to prepare a detailed VMT and may be presumed to result in a less than significant VMT impact as they are local serving by nature, thus shortening travel distances by introducing shopping/services within the community, or they are small enough to not warrant assessment. As specified in the City's Transportation Analysis Policy, the following types of projects may be presumed to result in a less than significant VMT impact:

- Local serving retail projects less than 50,000 square feet;
- Day care centers;
- Local parks;
- Local-serving public facilities;
- Ministerial projects;
- Small infill projects;
- Restricted affordable, transit supportive residential projects in planned growth areas with high-quality Transit;
- Transportation projects that do not increase VMT; and
- Projects that generate less than 110 daily vehicle trips. This provision generally correlates to typical development as listed as follows: 11 single-family residential dwelling units; 16 multi-family condominium or townhouse residential dwelling units; or 10,000 square feet of office.

The proposed project's trip daily generation is 151 trips. However, the proposed 16-unit residential development is considered to be a small infill project. According to the VMT legislation (SB 743) an "Infill site" means a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with

qualified urban uses. The nearest major intersections to the project site are listed below. The proposed project is anticipated to generate 160 daily trips with 13 morning (AM) peak hour trips and 17 evening (PM) peak hour trips. As a result, the impacts would be less than significant.

c) Less Than Significant Impact:

The individual units would be located on the Peterson Road and Kelley Lane. The proposed project will not expose future drivers to dangerous intersections or sharp curves and the proposed project will not introduce incompatible equipment or vehicles to the adjacent roads. As a result, the potential impacts would be less than significant.

d) No Impact:

The proposed project would not affect emergency access to any adjacent parcels. At no time during construction will adjacent streets be completely closed to traffic. All construction staging must occur on-site. As a result, no impacts are associated with the proposed project's implementation.

17.3 MITIGATION MEASURES:

None required.

18 - TRIBAL CULTURAL RESOURCES

TRIBAL CULTURAL RESOURCES – Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section5020.1(k), or	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

SOURCES:

1. CRM TECH. 16 Lot Subdivision Project on Peterson Road. March 25, 2024.
2. Fomotor Engineering. *Tract Map 38971*. November 21, 2024.
3. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.

18.1 SETTING

The California State Government passed AB 4239, creating the Native American Heritage Commission (NAHC). The NAHC is responsible for identifying and categorizing Native American cultural resources as well as preventing damages to designated sacred sites and associated artifacts and remains. Legislation passed in 1982 authorized the NAHC to identify a Most Likely Descendant (MLD) when Native American remains are found outside of any place other than a designated cemetery. An MLD has the authority to make recommendations in regard to the treatment and disposition of the discovered remains.

The *Native American Historic Resource Protection Act* or Assembly Bill (AB 52), defines guidelines for reducing conflicts between Native Americans and development projects and activities. Projects are subject to AB 52 if a notice of preparation for an EIR is filed or a notice of intent to adopt a Negative or Mitigated Negative Declaration is filed on or after July 1, 2016. “Tribal Cultural Resources” (TCR) are protected under CEQA and are defined as a site, feature, place, cultural landscape (must include the size and scope of landscape), sacred place, and object with a cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register or included in a local register of historical resources. At the lead agency’s discretion, a resource can be treated as a TCR if a Native American Tribe provides substantial evidence. Additionally, AB 52 allows tribes to engage in consultation with lead agencies and sets guidelines for such consultation.

18.2 Discussion of Impacts:

a) Less Than Significant Impact with Mitigation:

A Tribal Resource is defined in Public Resources Code section 21074 and includes the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision I of Section 5024.1. In applying the criteria set forth in subdivision I of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
- A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms to the criteria of subdivision (a).

All potentially interested tribes identified by the NAHC were also contacted pursuant to AB-52 for information regarding their knowledge of cultural resources that were within or near the project area. Tribal consultation was completed on May 15, 2025. The tribal consultation letters are attached as Appendix G – Tribal Consultation Letters. All potentially interested tribes identified by the NAHC were also contacted pursuant to AB-52 for information regarding their knowledge of cultural resources that were within or near the project area. These groups include the Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Mission Indians, Cabazon Band of Mission Indians, Cahuilla Band of Indians, Campo Band of Diegueno Mission Indians, Ewiiaapaayp Band of Kumeyaay Indians, La Posta Band of Duegueno Mission Indians, Los Coyotes Band of Mission Indians, Manzanita Band of Kumeyaay Nation, Mesa Grand Band of Diegueno Mission Indians, Morongo Band of Mission Indians, Pechanga Band of Indians, Quechan Tribe of the Fort Yuma, Quechan Tribe of the Fort Yuma Reservation, Ramona Band of Cahuilla, Santa Rosa Band of Cahuilla Indians, Soboba Band of Luiseno Indians, and Torres Martinez Desert Cahuilla Indians.

Augustine Band of Cahuilla Indians responded they are "unaware of specific cultural resources that may be affected by the proposed project."

The Quechan Tribe of the Fort Yuma responded they "[did] not wish to comment on this project."

The City has not received any additional correspondence from the Pechanga Band of Indians since April 21, 2025. In accordance with AB 52, and based on the reasonable and good-faith efforts detailed in the City's letter in Appendix G – Tribal Consultation Letters, the City concluded

that mutual agreement could not be reached. Therefore, the AB 52 Tribal Consultation period with the Pechanga Band of Indians would be considered closed.

The Agua Caliente Band of Cahuilla Indians (ACBCI) has met with city staff for a consultation meeting to address concerns regarding the project's impact on Tribal Cultural resources. As a result of the meeting, the ACBCI requested the addition of the following mitigations d to ensure the protection of tribal cultural resources within an April 29, 2025 letter . The applicant would be required to follow the mitigation measures to reduce potential impacts to tribal cultural resources:

Tribal Cultural Resources Mitigation No. 1 The Agua Caliente Band of Cahuilla Indians must be notified a minimum of 30 days prior to any earth-moving activities including grading, grubbing, trenching, or excavations at the site. All earth-moving activities including grading, grubbing, trenching, or excavations at the site shall be monitored by a qualified archaeologist and/or approved Agua Caliente Native American Cultural Resource Monitor(s).

Tribal Cultural Resources Mitigation No. 2 A qualified archaeologist and approved Agua Caliente Native American Cultural Resource Monitor(s) shall provide preconstruction training for all earthmoving construction personnel prior to the start of any ground-disturbing activities, regarding how to recognize the types of Tribal Cultural Resources and/or archaeological resources that may be encountered and to instruct personnel about actions to be taken in the event of a discovery. Should cultural materials be discovered, they shall be recorded and evaluated in the field. The monitors shall be prepared to recover artifacts to avoid construction delays but must have the power to temporarily halt or divert construction equipment to allow for controlled archaeological recovery if a substantial cultural deposit is encountered. If artifacts are discovered, these shall be cataloged and analyzed. The archaeologist and monitor, in discussion with the Tribal Historic Preservation Office, shall determine and implement the best course of action for the treatment and disposition of the artifacts.

Tribal Cultural Resources Mitigation No. 3 In the unexpected event human remains are uncovered during construction activities, all construction work taking place within the vicinity of the discovered remains must cease and the necessary steps to ensure the integrity of the immediate area must be taken. The County Coroner must be notified within 24 hours of the discovery of human remains. If the remains discovered are determined by the Coroner to be of Native American descent, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would in turn contact the Most Likely Descendant (MLD) would determine further action to be taken. The MLD would have 48 hours to access the site and make a recommendation regarding disposition of the remains.

b) Less Than Significant Impact:

The project site is located within or on the Agua Caliente Band of Cahuilla Indians territory. A search of the National Register of Historic Places and the list of California Historical Resources was conducted, and it was determined that no Native historic resources was listed within the City of Rancho Mirage. Since the project's implementation would not impact any Federal, State, or locally designated historic resources. As a result, no impacts would occur.

18.3 MITIGATION MEASURES:

The analysis of tribal cultural resources impacts determined that the following mitigation measures would be required to reduce the project's impacts to levels that would be less than significant.

Tribal Cultural Resources Mitigation No. 1 The Agua Caliente Band of Cahuilla Indians must be notified a minimum of 30 days prior to any earth-moving activities including grading, grubbing, trenching, or excavations at the site. All earth-moving activities including grading, grubbing, trenching, or excavations at the site shall be monitored by a qualified archaeologist and/or approved Agua Caliente Native American Cultural Resource Monitor(s).

Tribal Cultural Resources Mitigation No. 2 A qualified archaeologist and approved Agua Caliente Native American Cultural Resource Monitor(s) shall provide preconstruction training for all earthmoving construction personnel prior to the start of any ground-disturbing activities, regarding how to recognize the types of Tribal Cultural Resources and/or archaeological resources that may be encountered and to instruct personnel about actions to be taken in the event of a discovery. Should cultural materials be discovered, they shall be recorded and evaluated in the field. The monitors shall be prepared to recover artifacts to avoid construction delays but must have the power to temporarily halt or divert construction equipment to allow for controlled archaeological recovery if a substantial cultural deposit is encountered. If artifacts are discovered, these shall be cataloged and analyzed. The archaeologist and monitor, in discussion with the Tribal Historic Preservation Office, shall determine and implement the best course of action for the treatment and disposition of the artifacts.

Tribal Cultural Resources Mitigation No. 3 In the unexpected event human remains are uncovered during construction activities, all construction work taking place within the vicinity of the discovered remains must cease and the necessary steps to ensure the integrity of the immediate area must be taken. The County Coroner must be notified within 24 hours of the discovery of human remains. If the remains discovered are determined by the Coroner to be of Native American descent, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would in turn contact the Most Likely Descendant (MLD) would determine further action to be taken. The MLD would have 48 hours to access the site and make a recommendation regarding disposition of the remains.

19 - UTILITIES AND SERVICE SYSTEMS

UTILITIES AND SERVICE SYSTEMS – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statues and regulations related to solid waste?	☐	☐	☐	☒

SOURCES:

1. California Department of Resources Recycling and Recovery (CalRecycle). *Jurisdiction Review Reports.* 2023.
2. Coachella Valley Water District. *2022-23 Annual Review.* 2023.
3. Fomotor Engineering. *Tract Map 38971*. November 21, 2024.
4. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.

19.1 SETTING

Groundwater is the primary source of domestic water supply in the Coachella Valley. The Coachella Valley Water District (CVWD) is the largest provider of potable water in the valley and currently provides potable water in the project vicinity. CVWD operates more than 100 wells and serves a population of 290,000 in its service area including the City of Rancho Mirage. There are no existing water infrastructure located on-site.

The CVWD manages wastewater transportation and treatment within the City of Rancho Mirage.The CVWD operates 6 water reclamation plants and maintains more than 1,000 miles of sewer pipelines and more than 30 lift stations that transport wastewater to the nearest treatment facility and nearly 6.3 billion gallons of wastewater is treated yearly.

Solid waste disposal and recycling services for the City of Rancho Mirage is provided by Burrtec. Solid waste and recycling collected from the proposed project will be hauled to the Edom Hill Transfer Station. Waste from this transfer station is then sent to a permitted landfill or recycling facility outside of the Coachella Valley. These include Badlands Disposal Site, El Sobrante Sanitary Landfill and Lamb Canyon Disposal Site.

19.2 Discussion of Impacts:

a) Less Than Significant Impact:

There are no existing water or wastewater treatment plants, electric power plants, telecommunications facilities, natural gas facilities, or stormwater drainage infrastructure located on-site. Therefore, the project's implementation will not require the relocation of any of the aforementioned facilities. The existing unit located on the property is dilapidated and would be replaced. As a result, the potential impacts would be less than significant.

b) Less Than Significant Impact:

Groundwater is the primary source of domestic water supply in the Coachella Valley. The Coachella Valley Water District (CVWD) is the largest provider of potable water in the valley and currently provides potable water in the project vicinity. CVWD operates more than 100 wells and serves a population of 290,000 in its service areas. CVWD's 2012 adopted Water Management Plan and 2015 Urban Water Management Plan (UWMP) have been developed to assist the agency in reliably meeting current and future water demands in a cost-effective manner. The 2015 UWMP serves as a planning tool that documents actions in support of long-term water resources planning and ensures adequate water supplies are available to meet the existing and future urban water demands. There are no existing water infrastructure located on-site. The proposed development would connect to a new 8-inch water main and an 8-inch sewer main in Peterson Road. As indicated in Table 11, the proposed project is projected to consume approximately 9,066 gallons of water on a daily basis.

Table 11 Water Consumption (gals/day)

Use	Unit	Factor	Generation
Single-family Home	16 units	566.6 gals./unit/day*	9,066 gals./day
Total	16 units		9,066 gals./day

Source: Coachella Valley Water District. *2022-23 Annual Review.* 2023.
*Based on 301 gals./capita/day

The existing water supply facilities and infrastructure will be able to accommodate this additional demand. In addition, the proposed project will be equipped with water efficient fixtures and drought tolerant landscaping will be planted throughout the project site. As a result, the impacts are considered to be less than significant. As a result, the impacts will be less than significant.

c) Less Than Significant Impact:

The CVWD operates 6 water reclamation plants and maintains more than 1,000 miles of sewer pipelines and more than 30 lift stations that transport wastewater to the nearest treatment facility

and nearly 6.3 billion gallons of wastewater is treated yearly. CVWD's peak flow factor of 200 gallons per day per equivalent dwelling unit (EDU), was used to determine the proposed wastewater generation for the project. The site was found to provide approximately 55 EDU and estimates a total wastewater demand of approximately 11,000 gallons per day (gpd), or 0.011 MGD. In addition, wastewater generated by the Project will be conveyed to CVWD Wastewater Reclamation Plant Number 10 in Palm Desert (WRP-10). Per the 2015 CVWD Urban Water Management Plan, WRP-10 has a capacity to treat 18 million gallons per day (MGD). This plant treats an annual average flow of 10.8 MGD (12,000 AFY) from the activated sludge plant. There are no existing water infrastructure located on-site. The proposed development would connect to a new 8-inch water main and an 8-inch sewer main in Peterson Road. According to Table 12, the proposed project is expected to generate approximately 2,096 gallons of sewage per day.

Table 12 Wastewater (Effluent) Generation (gals/day)

Use	Unit	Factor	Generation
Single Family Residential	16 units	131 gals./unit/day*	2,096 gals./day
Total	16 units		2,096 gals./day

Source: Coachella Valley Water District. *2022-23 Annual Review.* 2023.
*Based on 69.6 gals./capita/day

The proposed project's sewage generation will likely be lower since the new plumbing fixtures that will be installed will consist of water conserving fixtures as is required by the current City Code requirements. As a result, the impacts are expected to be less than significant.

d) Less Than Significant Impact:

Solid waste disposal and recycling services for the City of Rancho Mirage is provided by Burrtec. Solid waste and recycling collected from the proposed project will be hauled to the Edom Hill Transfer Station. Waste from this transfer station is then sent to a permitted landfill or recycling facility outside of the Coachella Valley. These include Badlands Disposal Site, El Sobrante Sanitary Landfill and Lamb Canyon Disposal Site. Cal-Recycle data indicates the Bandlands Disposal site has 15,748,799 cubic yards of remaining capacity, the El Sobrante Landfill has a remaining capacity of 143,977,170 tons of solid waste, and Lamb Canyon Disposal has a remaining solid waste capacity of 19,242,950 cubic yards.

The proposed project is anticipated to generate approximately 259 pounds per day of solid waste (refer to Table 13). The projected quantify of solid waste is limited and can be accommodate by the existing capacity. As a result, the potential impacts are considered to be less than significant.

Table 13 Solid Waste Generation (lbs./day)

Use	Unit	Factor	Generation
Single Family Residential	16 units	16.2 lbs./unit/day*	259 lbs./day
Total	16 units		259 lbs./day

Source: California Department of Resources Recycling and Recovery (CalRecycle). *Jurisdiction Review Reports.* 2023.
*Based on 8.60 lbs./capita/day

e) No Impact:

The proposed project, like all other development in Rancho Mirage and Riverside County, would be required to adhere to City and County ordinances with respect to waste reduction and recycling. As a result, no impacts related to State and local statutes governing solid waste are anticipated.

19.3 MITIGATION MEASURES:

None required.

20 - WILDFIRE

WILDFIRE – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

SOURCES:

1. Fomotor Engineering. *Tract Map 38971*. November 21, 2024.
2. Rancho Mirage, City of. *City of Rancho Mirage 2017 General Plan Update.* Adopted November 16, 2017.
3. Rancho Mirage, City of. Local Hazard Mitigation Plan. https://ranchomirageca.gov/wp-content/uploads/2022/07/Rancho-Mirage-2017-LHMP-Final-Adopted.pdf

20.1 SETTING

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on wildfire risk and hazards if it results in any of the following:

- The proposed project would, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, substantially impair an adopted emergency response plan or emergency evacuation plan.

- The proposed project would, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

- The proposed project would, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation

or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

- The proposed project would, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

According to the City's Local Hazard Mitigation Plan, The risk of fire in Rancho Mirage is considered moderate to very high due to a combination of hot dry summers, steep mountain terrain and sparse scrub vegetation. Although the majority of land within the City includes urbanized land such as golf courses, manicured lawns and street parkways, the northernmost area of the City (generally north of Ramon Road) is moderately susceptible to fire.

20.2 DISCUSSION OF IMPACTS:

a) No Impact:

Surface streets would be improved so as to serve the project site and adjacent area. Furthermore, the proposed project would not involve the closure or alteration of any existing evacuation routes that would be important in the event of a wildfire. At no time during construction will adjacent streets be completely closed to traffic. All construction staging must occur on-site. As a result, no impacts would occur.

b) No Impact:

The project site is located in the midst of an undeveloped area. The proposed project may be exposed to particulate emissions generated by wildland fires in the mountains located to the west of the site. However, the potential impacts would not be exclusive to the project site since criteria pollutant emissions from wildland fires may affect the entire City as well as the surrounding cities and unincorporated county areas. As a result, no impacts would occur.

c) No Impact:

The project site is not located in an area that is classified as a moderate fire risk severity within a State Responsibility Area (SRA), and therefore will not require the installation of specialized infrastructure such *as fire roads, fuel breaks, or emergency water* sources. As a result, no impacts would occur.

d) No Impact:

There is no risk from wildfire within the project site or the surrounding area given the project site's distance from any area that may be subject to a wildfire event. In addition, the site is not located within a moderate fire risk and state responsibility area. Therefore, the project would not expose future residents to flooding or landslides facilitated by runoff flowing down barren and charred slopes. As a result, no impacts would occur.

20.3 MITIGATION MEASURES:

None required.

21 - MANDATORY FINDINGS OF SIGNIFICANCE

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

21.1 DISCUSSION OF IMPACTS:

a) Less than Significant Impact with Mitigation:

The proposed project *would not* have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. *As indicated in Chapter 2.1 through 2.20, the proposed project will not result in any significant unmitigable environmental impacts.*

Biological Resources Mitigation Measure No. 1. Pre-construction surveys for burrowing owls and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.

a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If

nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.

b. Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as a reasonable buffer around these areas.

Biological Resources Mitigation Measure No. 2. A focused plant survey should be considered for all special status plant species that have the potential to occur on the site to be performed during the blooming season (April-June) to determine the potential environmental effects of the proposed projects on special status plants and sensitive natural communities following recommended protocols by the Department of Fish and Wildlife.

Tribal Cultural Resources Mitigation Measure No. 1. The Agua Caliente Band of Cahuilla Indians must be notified a minimum of 30 days prior to any earth-moving activities including grading, grubbing, trenching, or excavations at the site. All earth-moving activities including grading, grubbing, trenching, or excavations at the site shall be monitored by a qualified archaeologist and/or approved Agua Caliente Native American Cultural Resource Monitor(s).

Tribal Cultural Resources Mitigation Measure No. 2. A qualified archaeologist and approved Agua Caliente Native American Cultural Resource Monitor(s) shall provide preconstruction training for all earthmoving construction personnel prior to the start of any ground-disturbing activities, regarding how to recognize the types of Tribal Cultural Resources and/or archaeological resources that may be encountered and to instruct personnel about actions to be taken in the event of a discovery. Should cultural materials be discovered, they shall be recorded and evaluated in the field. The monitors shall be prepared to recover artifacts to avoid construction delays but must have the power to temporarily halt or divert construction equipment to allow for controlled archaeological recovery if a substantial cultural deposit is encountered. If artifacts are discovered, these shall be cataloged and analyzed. The archaeologist and monitor, in discussion with the Tribal Historic Preservation Office, shall determine and implement the best course of action for the treatment and disposition of the artifacts.

Tribal Cultural Resources Mitigation Measure No. 3. In the unexpected event human remains are uncovered during construction activities, all construction work taking place within the vicinity of the discovered remains must cease and the necessary steps to ensure the integrity of the immediate area must be taken. The County Coroner must be notified within 24 hours of the discovery of human remains. If the remains discovered are determined by the Coroner to be of Native American descent, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would in turn contact the Most Likely Descendant (MLD) would determine further action to be taken. The MLD would have 48 hours to access the site and make a recommendation regarding disposition of the remains.

b) No Impact:

The proposed project *would not* have impacts that are individually limited, but cumulatively considerable. *The environmental impacts will not lead to a cumulatively significant impact on any of the issues analyzed herein.*

c) No Impact:

The proposed project *would not* have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

Table 13 Mitigation Monitoring and Reporting Program			
Mitigation Measure	**Responsible Agency**	**Timing**	**Verification (Date and Initials)**
AESTHETICS			
No Mitigation was required.			
AGRICULTURAL RESOURCES			
No Mitigation was required.			
AIR QUALITY			
No Mitigation was required.			
BIOLOGICAL RESOURCES			
Biological Resources Mitigation Measure No. 1. Pre-construction surveys for burrowing owls and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance. a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged. b. Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as a reasonable buffer around these areas..	Project Developer Qualified Biologist City of Rancho Mirage	Prior to commencement of Construction	
Biological Resources Mitigation Measure No. 2. A focused plant survey should be considered for all special status plant species that have the potential to occur on the site to be performed during the blooming season (April-June) to determine the potential environmental effects of the proposed projects on special status plants and sensitive natural communities following recommended protocols by the Department of Fish and Wildlife.	Project Developer Qualified Biologist City of Rancho Mirage	Prior to commencement of Construction	
CULTURAL RESOURCES			
No Mitigation was required.			
GEOLOGY AND SOILS			
No Mitigation was required.			
GREENHOUSE GAS EMISSIONS			
No Mitigation was required.			
HAZARDS AND HAZARDOUS MATERIALS			
No Mitigation was required.			
HYDROLOGY AND WATER QUALITY			

No Mitigation was required.			
LAND USE AND PLANNING			
No Mitigation was required.			
MINERAL RESOURCES			
No Mitigation was required.			
NOISE			
No Mitigation was required.			
POPULATION AND HOUSING			
No Mitigation was required.			
PUBLIC SERVICES			
No Mitigation was required.			
RECREATION			
No Mitigation was required.			
TRANSPORTATION/TRAFFIC			
No Mitigation was required.			
TRIBAL CULTURAL RESOURCES			
Tribal Cultural Resources Mitigation Measure No. 1. The Agua Caliente Band of Cahuilla Indians must be notified a minimum of 30 days prior to any earth-moving activities including grading, grubbing, trenching, or excavations at the site. All earth-moving activities including grading, grubbing, trenching, or excavations at the site shall be monitored by a qualified archaeologist and/or approved Agua Caliente Native American Cultural Resource Monitor(s).	Project Developer Cultural Monitor City of Rancho Mirage	Prior to commencement of Construction	
Tribal Cultural Resources Mitigation Measure No. 2. A qualified archaeologist and approved Agua Caliente Native American Cultural Resource Monitor(s) shall provide preconstruction training for all earthmoving construction personnel prior to the start of any ground-disturbing activities, regarding how to recognize the types of Tribal Cultural Resources and/or archaeological resources that may be encountered and to instruct personnel about actions to be taken in the event of a discovery. Should cultural materials be discovered, they shall be recorded and evaluated in the field. The monitors shall be prepared to recover artifacts to avoid construction delays but must have the power to temporarily halt or divert construction equipment to allow for controlled archaeological recovery if a substantial cultural deposit is encountered. If artifacts are discovered, these shall be cataloged and analyzed. The archaeologist and monitor, in discussion with the Tribal Historic Preservation Office, shall determine and implement the best course of action for the treatment and disposition of the artifacts.	Project Developer Cultural Monitor City of Rancho Mirage	During the Project's construction phase	
Tribal Cultural Resources Mitigation Measure No. 3. In the unexpected event human remains are uncovered during construction activities, all construction work taking place within the vicinity of the discovered remains must cease and the necessary steps to ensure the integrity of the immediate area must be taken. The County Coroner must be notified within 24 hours of the discovery of human remains. If the remains discovered are determined by the Coroner to be of Native American descent, the Coroner shall contact the Native	Project Developer Cultural Monitor City of Rancho Mirage	During the Project's construction phase	

American Heritage Commission (NAHC) within 24 hours. The NAHC would in turn contact the Most Likely Descendant (MLD) would determine further action to be taken. The MLD would have 48 hours to access the site and make a recommendation regarding disposition of the remains.			
UTILITIES AND SERVICE SYSTEMS			
No Mitigation was required.			
Wildfire			
No Mitigation was required.			

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CHAPTER 3: REFERENCES

The references that were consulted have been identified using footnotes.

CHAPTER 4: APPENDICES (UNDER A SEPARATE COVER)

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Appendix E – Soils Update and Geotechnical Study

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Appendix G – Tribal Consultation Letters

CHAPTER 5: REPORT PREPARERS

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APPENDIX A

RNCH 005 - 16 Lot Subdivision (TTM 38971) Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	RNCH 005 - 16 Lot Subdivision (TTM 38971)
Construction Start Date	7/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.30
Precipitation (days)	10.0
Location	33.7677427749099, -116.43910090881545
County	Riverside-Salton Sea
City	Rancho Mirage
Air District	South Coast AQMD
Air Basin	Salton Sea
TAZ	5621
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	16.0	Dwelling Unit	19.8	31,200	187,406	—	52.0	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-9	Use Dust Suppressants
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.04	3.40	31.7	31.8	0.06	1.37	19.9	21.3	1.26	10.2	11.4	—	6,896	6,896	0.28	0.06	1.03	6,923
Mit.	4.04	3.40	31.7	31.8	0.06	1.37	7.89	9.26	1.26	3.99	5.25	—	6,896	6,896	0.28	0.06	1.03	6,923
% Reduced	—	—	—	—	—	—	60%	56%	—	61%	54%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.91	9.89	10.5	13.4	0.02	0.43	0.20	0.52	0.40	0.05	0.42	—	2,525	2,525	0.10	0.03	0.02	2,536
Mit.	9.91	9.89	10.5	13.4	0.02	0.43	0.20	0.52	0.40	0.05	0.42	—	2,525	2,525	0.10	0.03	0.02	2,536
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.12	0.97	6.72	9.09	0.02	0.27	1.35	1.62	0.25	0.59	0.84	—	1,699	1,699	0.07	0.02	0.13	1,707
Mit.	1.12	0.97	6.72	9.09	0.02	0.27	0.56	0.83	0.25	0.24	0.49	—	1,699	1,699	0.07	0.02	0.13	1,707
% Reduced	—	—	—	—	—	—	59%	49%	—	60%	42%	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	0.18	1.23	1.66	< 0.005	0.05	0.25	0.30	0.05	0.11	0.15	—	281	281	0.01	< 0.005	0.02	283
Mit.	0.20	0.18	1.23	1.66	< 0.005	0.05	0.10	0.15	0.05	0.04	0.09	—	281	281	0.01	< 0.005	0.02	283
% Reduced	—	—	—	—	—	—	59%	49%	—	60%	42%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.04	3.40	31.7	31.8	0.06	1.37	19.9	21.3	1.26	10.2	11.4	—	6,896	6,896	0.28	0.06	1.03	6,923
2026	1.31	1.10	9.94	13.5	0.02	0.38	0.09	0.47	0.35	0.02	0.37	—	2,534	2,534	0.10	0.03	0.41	2,546
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.37	1.15	10.5	13.4	0.02	0.43	0.09	0.52	0.40	0.02	0.42	—	2,525	2,525	0.10	0.03	0.01	2,536
2026	9.91	9.89	9.94	13.3	0.02	0.38	0.20	0.52	0.35	0.05	0.37	—	2,522	2,522	0.10	0.03	0.02	2,533
2027	9.91	9.88	0.84	1.18	< 0.005	0.02	0.02	0.03	0.02	< 0.005	0.02	—	147	147	0.01	< 0.005	< 0.005	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.85	0.72	6.54	7.00	0.01	0.27	1.35	1.62	0.25	0.59	0.84	—	1,395	1,395	0.06	0.01	0.10	1,401
2026	1.12	0.97	6.72	9.09	0.02	0.26	0.07	0.33	0.24	0.02	0.25	—	1,699	1,699	0.07	0.02	0.13	1,707
2027	0.33	0.33	0.03	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	4.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.16	0.13	1.19	1.28	< 0.005	0.05	0.25	0.30	0.05	0.11	0.15	—	231	231	0.01	< 0.005	0.02	232
2026	0.20	0.18	1.23	1.66	< 0.005	0.05	0.01	0.06	0.04	< 0.005	0.05	—	281	281	0.01	< 0.005	0.02	283
2027	0.06	0.06	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.82

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.04	3.40	31.7	31.8	0.06	1.37	7.89	9.26	1.26	3.99	5.25	—	6,896	6,896	0.28	0.06	1.03	6,923
2026	1.31	1.10	9.94	13.5	0.02	0.38	0.09	0.47	0.35	0.02	0.37	—	2,534	2,534	0.10	0.03	0.41	2,546
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.37	1.15	10.5	13.4	0.02	0.43	0.09	0.52	0.40	0.02	0.42	—	2,525	2,525	0.10	0.03	0.01	2,536
2026	9.91	9.89	9.94	13.3	0.02	0.38	0.20	0.52	0.35	0.05	0.37	—	2,522	2,522	0.10	0.03	0.02	2,533
2027	9.91	9.88	0.84	1.18	< 0.005	0.02	0.02	0.03	0.02	< 0.005	0.02	—	147	147	0.01	< 0.005	< 0.005	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.85	0.72	6.54	7.00	0.01	0.27	0.56	0.83	0.25	0.24	0.49	—	1,395	1,395	0.06	0.01	0.10	1,401
2026	1.12	0.97	6.72	9.09	0.02	0.26	0.07	0.33	0.24	0.02	0.25	—	1,699	1,699	0.07	0.02	0.13	1,707
2027	0.33	0.33	0.03	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	4.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.16	0.13	1.19	1.28	< 0.005	0.05	0.10	0.15	0.05	0.04	0.09	—	231	231	0.01	< 0.005	0.02	232
2026	0.20	0.18	1.23	1.66	< 0.005	0.05	0.01	0.06	0.04	< 0.005	0.05	—	281	281	0.01	< 0.005	0.02	283
2027	0.06	0.06	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.82

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.50	1.43	0.82	7.76	0.02	0.02	1.35	1.37	0.02	0.34	0.36	9.19	2,099	2,109	1.01	0.08	5.37	2,162
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.29	1.23	0.87	4.60	0.02	0.02	1.35	1.37	0.02	0.34	0.36	9.19	1,910	1,919	1.01	0.08	0.36	1,969
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.35	1.29	0.82	5.62	0.02	0.02	1.31	1.33	0.02	0.33	0.35	9.19	1,950	1,959	1.01	0.08	2.40	2,010
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	0.23	0.15	1.03	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	1.52	323	324	0.17	0.01	0.40	333

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.67	0.62	0.66	6.80	0.02	0.01	1.35	1.36	0.01	0.34	0.35	—	1,672	1,672	0.06	0.07	5.14	1,700
Area	0.81	0.80	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.43	2.43	< 0.005	< 0.005	—	2.44
Energy	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	400	400	0.03	< 0.005	—	401
Water	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Waste	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	1.50	1.43	0.82	7.76	0.02	0.02	1.35	1.37	0.02	0.34	0.36	9.19	2,099	2,109	1.01	0.08	5.37	2,162
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.56	0.50	0.72	4.54	0.01	0.01	1.35	1.36	0.01	0.34	0.35	—	1,485	1,485	0.06	0.07	0.13	1,509
Area	0.72	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	400	400	0.03	< 0.005	—	401
Water	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Waste	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	1.29	1.23	0.87	4.60	0.02	0.02	1.35	1.37	0.02	0.34	0.36	9.19	1,910	1,919	1.01	0.08	0.36	1,969
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.57	0.52	0.68	5.11	0.01	0.01	1.31	1.32	0.01	0.33	0.34	—	1,524	1,524	0.06	0.07	2.17	1,549
Area	0.76	0.76	< 0.005	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.20	1.20	< 0.005	< 0.005	—	1.20
Energy	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	400	400	0.03	< 0.005	—	401
Water	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Waste	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	1.35	1.29	0.82	5.62	0.02	0.02	1.31	1.33	0.02	0.33	0.35	9.19	1,950	1,959	1.01	0.08	2.40	2,010
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.10	0.09	0.12	0.93	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	252	252	0.01	0.01	0.36	256
Area	0.14	0.14	< 0.005	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.20	0.20	< 0.005	< 0.005	—	0.20
Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.3	66.3	< 0.005	< 0.005	—	66.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.21	4.08	4.29	0.02	< 0.005	—	4.98
Waste	—	—	—	—	—	—	—	—	—	—	—	1.32	0.00	1.32	0.13	0.00	—	4.60
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	0.25	0.23	0.15	1.03	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	1.52	323	324	0.17	0.01	0.40	333

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.67	0.62	0.66	6.80	0.02	0.01	1.35	1.36	0.01	0.34	0.35	—	1,672	1,672	0.06	0.07	5.14	1,700
Area	0.81	0.80	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.43	2.43	< 0.005	< 0.005	—	2.44
Energy	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	400	400	0.03	< 0.005	—	401
Water	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Waste	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	1.50	1.43	0.82	7.76	0.02	0.02	1.35	1.37	0.02	0.34	0.36	9.19	2,099	2,109	1.01	0.08	5.37	2,162
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.56	0.50	0.72	4.54	0.01	0.01	1.35	1.36	0.01	0.34	0.35	—	1,485	1,485	0.06	0.07	0.13	1,509
Area	0.72	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	400	400	0.03	< 0.005	—	401
Water	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Waste	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	1.29	1.23	0.87	4.60	0.02	0.02	1.35	1.37	0.02	0.34	0.36	9.19	1,910	1,919	1.01	0.08	0.36	1,969
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.57	0.52	0.68	5.11	0.01	0.01	1.31	1.32	0.01	0.33	0.34	—	1,524	1,524	0.06	0.07	2.17	1,549
Area	0.76	0.76	< 0.005	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.20	1.20	< 0.005	< 0.005	—	1.20
Energy	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	400	400	0.03	< 0.005	—	401
Water	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Waste	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	1.35	1.29	0.82	5.62	0.02	0.02	1.31	1.33	0.02	0.33	0.35	9.19	1,950	1,959	1.01	0.08	2.40	2,010
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.10	0.09	0.12	0.93	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	252	252	0.01	0.01	0.36	256
Area	0.14	0.14	< 0.005	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.20	0.20	< 0.005	< 0.005	—	0.20

Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.3	66.3	< 0.005	< 0.005	—	66.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.21	4.08	4.29	0.02	< 0.005	—	4.98
Waste	—	—	—	—	—	—	—	—	—	—	—	1.32	0.00	1.32	0.13	0.00	—	4.60
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	0.25	0.23	0.15	1.03	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	1.52	323	324	0.17	0.01	0.40	333

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188

Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.43	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	223	223	0.01	0.01	0.77	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.02	11.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	1.86
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.43	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	223	223	0.01	0.01	0.77	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.02	11.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	1.86
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.67	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	260	260	0.01	0.01	0.90	264
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.48	6.48	< 0.005	< 0.005	0.01	6.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.07	1.07	< 0.005	< 0.005	< 0.005	1.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.67	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	260	260	0.01	0.01	0.90	264

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.48	6.48	< 0.005	< 0.005	0.01	6.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.07	1.07	< 0.005	< 0.005	< 0.005	1.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.44	2.33	0.01	0.10	—	0.10	0.09	—	0.09	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.76	0.76	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.42	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	0.10	1.91	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	297	297	0.01	0.01	1.03	301
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.2	22.2	< 0.005	< 0.005	0.04	22.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	3.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.31	0.26	2.44	2.33	0.01	0.10	—	0.10	0.09	—	0.09	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.42	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	0.10	1.91	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	297	297	0.01	0.01	1.03	301
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.2	22.2	< 0.005	< 0.005	0.04	22.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	3.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.21	1.98	2.48	< 0.005	0.08	—	0.08	0.08	—	0.08	—	455	455	0.02	< 0.005	—	457
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.4	75.4	< 0.005	< 0.005	—	75.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.55	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	85.5	85.5	< 0.005	< 0.005	0.30	86.8
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	54.1	54.1	< 0.005	0.01	0.15	56.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	72.8	72.8	< 0.005	< 0.005	0.01	73.7
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	54.2	54.2	< 0.005	0.01	< 0.005	56.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.8	14.8	< 0.005	< 0.005	0.02	15.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.01	10.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.70	1.70	< 0.005	< 0.005	< 0.005	1.77
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.21	1.98	2.48	< 0.005	0.08	—	0.08	0.08	—	0.08	—	455	455	0.02	< 0.005	—	457
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.4	75.4	< 0.005	< 0.005	—	75.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.55	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	85.5	85.5	< 0.005	< 0.005	0.30	86.8
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	54.1	54.1	< 0.005	0.01	0.15	56.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	72.8	72.8	< 0.005	< 0.005	0.01	73.7
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	54.2	54.2	< 0.005	0.01	< 0.005	56.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.8	14.8	< 0.005	< 0.005	0.02	15.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.01	10.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.70	1.70	< 0.005	< 0.005	< 0.005	1.77
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.68	6.25	8.22	0.01	0.24	—	0.24	0.22	—	0.22	—	1,520	1,520	0.06	0.01	—	1,525
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.14	1.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	252	252	0.01	< 0.005	—	253
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.51	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	83.7	83.7	< 0.005	< 0.005	0.27	84.9
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	53.1	53.1	< 0.005	0.01	0.14	55.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.29	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	71.3	71.3	< 0.005	< 0.005	0.01	72.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	53.2	53.2	< 0.005	0.01	< 0.005	55.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.3	48.3	< 0.005	< 0.005	0.07	48.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	33.7	33.7	< 0.005	< 0.005	0.04	35.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.00	8.00	< 0.005	< 0.005	0.01	8.10
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.58	5.58	< 0.005	< 0.005	0.01	5.82
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.81	0.68	6.25	8.22	0.01	0.24	—	0.24	0.22	—	0.22	—	1,520	1,520	0.06	0.01	—	1,525
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.15	0.12	1.14	1.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	252	252	0.01	< 0.005	—	253
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.51	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	83.7	83.7	< 0.005	< 0.005	0.27	84.9
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	53.1	53.1	< 0.005	0.01	0.14	55.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.29	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	71.3	71.3	< 0.005	< 0.005	0.01	72.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	53.2	53.2	< 0.005	0.01	< 0.005	55.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.01	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.3	48.3	< 0.005	< 0.005	0.07	48.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	33.7	33.7	< 0.005	< 0.005	0.04	35.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.00	8.00	< 0.005	< 0.005	0.01	8.10
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.58	5.58	< 0.005	< 0.005	0.01	5.82
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.08	0.75	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	186	186	< 0.005	0.01	0.02	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.02	11.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	1.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.08	0.75	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	186	186	< 0.005	0.01	0.02	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.02	11.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	1.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	9.76	9.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.14	3.14	< 0.005	< 0.005	—	3.15
Architectural Coatings	0.23	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.52	0.52	< 0.005	< 0.005	—	0.52
Architectural Coatings	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.3	14.3	< 0.005	< 0.005	< 0.005	14.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural Coating	9.76	9.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.14	3.14	< 0.005	< 0.005	—	3.15
Architectural Coatings	0.23	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.52	0.52	< 0.005	< 0.005	—	0.52
Architectural Coatings	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.3	14.3	< 0.005	< 0.005	< 0.005	14.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	9.76	9.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.44	4.44	< 0.005	< 0.005	—	4.46
Architectural Coatings	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.74	0.74	< 0.005	< 0.005	—	0.74
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	< 0.005	14.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	9.76	9.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.44	4.44	< 0.005	< 0.005	—	4.46
Architectural Coatings	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.74	0.74	< 0.005	< 0.005	—	0.74
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	< 0.005	14.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.67	0.62	0.66	6.80	0.02	0.01	1.35	1.36	0.01	0.34	0.35	—	1,672	1,672	0.06	0.07	5.14	1,700
Total	0.67	0.62	0.66	6.80	0.02	0.01	1.35	1.36	0.01	0.34	0.35	—	1,672	1,672	0.06	0.07	5.14	1,700
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.50	0.72	4.54	0.01	0.01	1.35	1.36	0.01	0.34	0.35	—	1,485	1,485	0.06	0.07	0.13	1,509
Total	0.56	0.50	0.72	4.54	0.01	0.01	1.35	1.36	0.01	0.34	0.35	—	1,485	1,485	0.06	0.07	0.13	1,509
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.09	0.12	0.93	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	252	252	0.01	0.01	0.36	256
Total	0.10	0.09	0.12	0.93	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	252	252	0.01	0.01	0.36	256

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.67	0.62	0.66	6.80	0.02	0.01	1.35	1.36	0.01	0.34	0.35	—	1,672	1,672	0.06	0.07	5.14	1,700
Total	0.67	0.62	0.66	6.80	0.02	0.01	1.35	1.36	0.01	0.34	0.35	—	1,672	1,672	0.06	0.07	5.14	1,700
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.50	0.72	4.54	0.01	0.01	1.35	1.36	0.01	0.34	0.35	—	1,485	1,485	0.06	0.07	0.13	1,509
Total	0.56	0.50	0.72	4.54	0.01	0.01	1.35	1.36	0.01	0.34	0.35	—	1,485	1,485	0.06	0.07	0.13	1,509
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.09	0.12	0.93	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	252	252	0.01	0.01	0.36	256
Total	0.10	0.09	0.12	0.93	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	252	252	0.01	0.01	0.36	256

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	218	218	0.01	< 0.005	—	219
Total	—	—	—	—	—	—	—	—	—	—	—	—	218	218	0.01	< 0.005	—	219

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	218	218	0.01	< 0.005	—	219
Total	—	—	—	—	—	—	—	—	—	—	—	—	218	218	0.01	< 0.005	—	219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	36.1	36.1	< 0.005	< 0.005	—	36.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	36.1	36.1	< 0.005	< 0.005	—	36.2

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	218	218	0.01	< 0.005	—	219
Total	—	—	—	—	—	—	—	—	—	—	—	—	218	218	0.01	< 0.005	—	219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	218	218	0.01	< 0.005	—	219
Total	—	—	—	—	—	—	—	—	—	—	—	—	218	218	0.01	< 0.005	—	219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	36.1	36.1	< 0.005	< 0.005	—	36.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	36.1	36.1	< 0.005	< 0.005	—	36.2

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	182	182	0.02	< 0.005	—	183
Total	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	182	182	0.02	< 0.005	—	183
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	182	182	0.02	< 0.005	—	183
Total	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	182	182	0.02	< 0.005	—	183
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.2	30.2	< 0.005	< 0.005	—	30.3
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.2	30.2	< 0.005	< 0.005	—	30.3

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	182	182	0.02	< 0.005	—	183
Total	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	182	182	0.02	< 0.005	—	183
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	182	182	0.02	< 0.005	—	183
Total	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	182	182	0.02	< 0.005	—	183
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.2	30.2	< 0.005	< 0.005	—	30.3
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.2	30.2	< 0.005	< 0.005	—	30.3

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.67	0.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.08	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.43	2.43	< 0.005	< 0.005	—	2.44
Total	0.81	0.80	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.43	2.43	< 0.005	< 0.005	—	2.44
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.67	0.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.72	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.20	0.20	< 0.005	< 0.005	—	0.20
Total	0.14	0.14	< 0.005	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.20	0.20	< 0.005	< 0.005	—	0.20

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.67	0.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.08	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.43	2.43	< 0.005	< 0.005	—	2.44
Total	0.81	0.80	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.43	2.43	< 0.005	< 0.005	—	2.44
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.67	0.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.72	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coating	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.20	0.20	< 0.005	< 0.005	—	0.20
Total	0.14	0.14	< 0.005	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.20	0.20	< 0.005	< 0.005	—	0.20

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Total	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Total	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.21	4.08	4.29	0.02	< 0.005	—	4.98
Total	—	—	—	—	—	—	—	—	—	—	—	0.21	4.08	4.29	0.02	< 0.005	—	4.98

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Total	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Total	—	—	—	—	—	—	—	—	—	—	—	1.25	24.7	25.9	0.13	< 0.005	—	30.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.21	4.08	4.29	0.02	< 0.005	—	4.98
Total	—	—	—	—	—	—	—	—	—	—	—	0.21	4.08	4.29	0.02	< 0.005	—	4.98

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Total	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Total	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.32	0.00	1.32	0.13	0.00	—	4.60
Total	—	—	—	—	—	—	—	—	—	—	—	1.32	0.00	1.32	0.13	0.00	—	4.60

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Total	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8

Total	—	—	—	—	—	—	—	—	—	—	—	7.94	0.00	7.94	0.79	0.00	—	27.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.32	0.00	1.32	0.13	0.00	—	4.60
Total	—	—	—	—	—	—	—	—	—	—	—	1.32	0.00	1.32	0.13	0.00	—	4.60

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	7/1/2025	7/29/2025	5.00	20.0	—
Site Preparation	Site Preparation	7/30/2025	8/13/2025	5.00	10.0	—
Grading	Grading	8/14/2025	9/25/2025	5.00	30.0	—
Building Construction	Building Construction	9/26/2025	11/20/2026	5.00	300	—
Paving	Paving	11/21/2026	12/19/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	12/20/2026	1/17/2027	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Back	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Grading	Tractors/Loaders/Back	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	5.76	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	1.71	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.15	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—

Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	5.76	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	1.71	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.15	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	63,180	21,060	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.18

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.18	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	151	153	137	54,471	1,889	1,909	1,711	681,259

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	151	153	137	54,471	1,889	1,909	1,711	681,259

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
63180	21,060	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	149,428	532	0.0330	0.0040	569,029

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	149,428	532	0.0330	0.0040	569,029

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	650,780	4,298,297

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	650,780	4,298,297

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	14.7	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	14.7	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	0.85	annual days with precipitation above 20 mm

Sea Level Rise	—	meters of inundation depth
Wildfire	1.26	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	6.45
AQ-DPM	10.4
Drinking Water	48.5
Lead Risk Housing	15.5
Pesticides	12.6
Toxic Releases	2.00
Traffic	71.1
Effect Indicators	—

CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	8.76
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	22.9
Cardio-vascular	19.9
Low Birth Weights	45.9
Socioeconomic Factor Indicators	—
Education	38.1
Housing	60.9
Linguistic	24.8
Poverty	52.4
Unemployment	52.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	47.69665084
Employed	6.274862056
Median HI	34.1973566
Education	—
Bachelor's or higher	60.87514436
High school enrollment	100
Preschool enrollment	83.27986655
Transportation	—

Auto Access	58.83485179
Active commuting	32.27255229
Social	—
2-parent households	87.34761966
Voting	71.03811113
Neighborhood	—
Alcohol availability	85.0891826
Park access	27.34505325
Retail density	44.12934685
Supermarket access	31.64378288
Tree canopy	18.95290645
Housing	—
Homeownership	53.93301681
Housing habitability	71.28191967
Low-inc homeowner severe housing cost burden	68.00975234
Low-inc renter severe housing cost burden	44.18067496
Uncrowded housing	84.29359682
Health Outcomes	—
Insured adults	32.06723983
Arthritis	0.0
Asthma ER Admissions	85.4
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	42.3

Cognitively Disabled	48.3
Physically Disabled	38.4
Heart Attack ER Admissions	75.7
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	92.9
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	97.3
Elderly	1.5
English Speaking	79.2
Foreign-born	26.9
Outdoor Workers	71.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	51.4
Traffic Density	35.3
Traffic Access	23.0
Other Indices	—
Hardship	37.1
Other Decision Support	—

2016 Voting	89.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	14.0
Healthy Places Index Score for Project Location (b)	47.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	The lot acreage is 19.81 acres
Operations: Hearths	No hearths will be used

APPENDIX B

GENERAL BIOLOGICAL RESOURCES ASSESSMENT

RANCHO MIRAGE, RIVERSIDE COUNTY, CALIFORNIA
(Township 5 South, Range 5 East, Section 2)
APN: 689-090-003, 689-130-004, -005, -012, -014, -017 & 689-140-022

Prepared for:

Horti Caesaris, LLC
9401 Wilshire Blvd., 9th Floor
Beverly Hills, CA 90212

Prepared by:

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15555 Main Street, #D4-235
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Principal Investigators:
Ryan Hunter, Senior Environmental Scientist/Biologist
Brian Bunyi, Environmental Scientist/Wildlife Biologist

Project: #2023-1187 BA

March 3, 2023

TITLE PAGE

Date Report Written: **March 3, 2024**

Date Field Work Completed: **February 12, 2024**

Report Title: **General Biological Resources Assessment**

Project Location: **Rancho Mirage, California**
APN: 689-090-003,
689-130-004, -005, -012,-014, -017 &
689-140-022

Prepared for: **Horti Caesaris, LLC**
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Appendix A – Tables and Figures
REGULATORY CONTEXT

1.0 INTRODUCTION AND SUMMARY

Biological surveys were conducted on a 19.8-acre parcel (Approximate), located north of the intersection of Mirage Cove Dr. and Peterson Rd. in the City of Rancho Mirage, California (Township 5 South, Range 5 East, Section 2, USGS Cathedral City, California Quadrangle, 1956) (Figures 1 and 2). The property is located in an area zoned for residential usage in Rancho Mirage, California.

As part of the environmental process, California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) data sources were reviewed. Following the data review, surveys were performed on the site on October 4, 2022, during which the biological resources on the site and in the surrounding areas were documented by biologists from RCA Associates, Inc. As part of the surveys, the property and adjoining areas were evaluated for the presence of native habitats which may support populations of sensitive wildlife species. The property was also evaluated for the presence of sensitive habitats including wetlands, vernal pools, riparian habitats, and jurisdictional areas.

Habitat assessments were also conducted for the desert tortoise and burrowing owl. Based on data from USFWS, CDFW, and a search of the California Natural Diversity Database (CNDDB, 2022). Scientific nomenclature for this report is based on the following references: Hickman (1993), Munz (1974), Stebbins (2003), Sibley (2016) and Whitaker (1980).

2.0 EXISTING CONDITIONS

The property is approximately 19.8-acres and is located north of the intersection of Mirage Cove Dr. and Peterson Rd. in the City of Rancho Mirage, California. The site is located in Section 2, Township 5 South, Range 5 East (USGS Cathedral City, CA 7.5-minute quadrangle) (Figures 1 and 2). Vacant land surrounds the property in the north, east and west while a community of homes lines the southern border of the property.

The relatively flat site is approximately 131 meters above sea level and contains no slope. The vegetation community present on site supports a disturbed desert scrub habitat encompassing mainly native plants and some non-native grasses. The site contains a few species of plant which include kelch grass (*Schismus barbatus*), creosote bush (*Larrea tridentata*), Four winged saltbush (*Atriplex canescens*), Asian mustard (*Brassica tournefortii*), Nettle leaved goosefoot (*Chenopodiastrum murale*) and Brittlebush (*Encelia farinosa*). Section 5.0 provides a more detailed discussion of the various plant species observed during the surveys.

The site supports a minimal amount of wildlife, with many of them being birds. Species that were not observed, but are expected to occur on site given their abundance in the surrounding areas include California ground squirrel (*Otospermophilus beecheyi*) and antelope ground squirrel (*Ammospermophilus leucurus*).

Birds observed included common ravens (*Corvus corax*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), Anna's hummingbird (*Calypte anna*), red-tailed hawk (*Buteo jamaicensis*), Northern mockingbird (*Mimus polyglottos*) and rock pigeon (*Columba livia*). Section 5.0 provides a more detailed discussion of the various species observed during the surveys.

No reptiles were observed during the field investigation, however there were a number of reptile tracks along the property and we can assume that they are present in the area. Species that are expected to occur on site include the western whiptail lizard (*Cnemidophorus tigris*) and common side-blotched lizard (*Uta stansburiana*). Table 2 provides a compendium of wildlife species.

There were no observations that indicated that a potential channel is present on the site. It is the opinion of RCA Associates, Inc. that no additional surveys will be required at this time.

In addition, no sensitive habitats (e.g., sensitive species, critical habitats, etc.) have been documented in the immediate area according to the CNDDB (2024) and none were observed during the field investigations.

3.0 METHODOLOGIES

General biological surveys were conducted on February 12, 2024, during which biologists from RCA Associates, Inc. initially walked meandering transects throughout the property. During the surveys, data was collected on the plant and animal species present on the site. All plants and animals detected during the surveys were recorded and are provided in Tables 1 & 2 (Appendix A). The property was also evaluated for the presence of habitats which might support sensitive species. Scientific nomenclature for this report is based on the following references: Hickman (1993), Munz (1974), Stebbins (2003), Sibley (2016) and Whitaker (1980). Following completion of the initial reconnaissance survey, habitat assessments were conducted for the burrowing owl. Weather conditions consisted of wind speeds of 0 to 5 mph, temperatures in the low to mid 70's (°F) (AM), and 0% cloud cover. The applicable methodologies are summarized below.

General Plant and Animal Surveys: Meandering transects were walked on the site and in surrounding areas (i.e., the zone of influence) where accessible at a pace that allowed for careful documentation of the plant and animal species present on the site. All plants observed were identified in the field or sampled and brought back for further identification. Wildlife was identified through visual observations and/or by vocalizations. Habitat assessments were conducted for the burrowing owl. Tables 1 and 2 (Appendix A) provides a comprehensive compendium of the various plant and animal; species observed during the field investigations.

4.0 LITERATURE SEARCH

As part of the environmental process, a search of the California Natural Diversity Database (CNDDB) search was performed. Based on this review, it was determined that sixteen special status species have been documented within the Cathedral City quad of the property. The following tables provide data on each special status species which has been documented in the area.

Table 4-1: Federal and State Listed Species and State Species of Special Concern.
E = Endangered; T = Threatened; SSC = Species of special concern; CNPS = California Native Plant Society; CNDDB = California Natural Diversity Data Base

NAME	STATUS	HABITAT REQUIREMENTS	PRESENCE/ ABSENCE ON PROPERTY
Plant Species			
Within Cathedral City Quadrangle			
Chaparral sand-verbena (*Abronia villosa var. aurita*)	Federal: None State: None CNPS: 1B.1	Desert Scrub	The site supports minimal suitable habitat for the species; and none were observed during field surveys.
Horn's milk-vetch (*Diplacus mohavensis*)	Federal: None State: None CNPS: 1B.1	Alkali Sink, wetland-riparian	Site does not support minimum suitable habitat for the species; and no species were observed during the field survey.
Coachella Valley milk-vetch (*Astragalus lentiginosus var. coachellae*)	Federal: Endangered State: None CNPS: 1B.2	Creosote Bush Scrub	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.
Arizona spurge (*Euphorbia arizonica*)	Federal: None State: None CNPS: 2B.3	Desert Habitat with compact soils	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.
Flat-seeded spurge (*Euphorbia platysperma*)	Federal: None State: None CNPS: 1B.2	Creosote Bush Scrub	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.
Slender cottonheads (*Nemacaulis denudata var. gracilis*)	Federal: None State: None CNPS: 2B.2	Dunes and sandy areas	The site does support minimum suitable habitat for the species; however none were observed during field surveys.

Desert spike-moss (*Selaginella eremophila*)	Federal: None State: None CNPS: 2B.2	Rocky and sandy slopes, in open rock or crevices, on rock or terrestrial.	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.
Purple stemodia (*Stemodia durantifolia*)	Federal: None State: None CNPS: 2B.1	wetland-riparian	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.

Notes:

Status abbreviations:

CNPS List 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
CNPS List 1B: Plants rare, threatened, or endangered in California and elsewhere
CNPS List 2A: Plants presumed extirpated in California, but more common somewhere else
CNPS List 2B: Plants rare, threatened, or endangered in California, but more common somewhere else
CNPS List 3: Plants about which more information is needed - a review list
CNPS List 4: Plants of limited distribution - a watch list

.1 Seriously threatened in California (over 80% of occurrences threatened/ high degree and immediacy of threat)
.2 Moderately threatened in California (20-80% occurrences threatened/ moderate degree and immediacy of threat)
.3 No very threatened in California (<20% of occurrences threatened/ low degree and immediacy of threat or no current threats known)

NAME	STATUS	HABITAT REQUIREMENTS	PRESENCE/ ABSENCE ON PROPERTY
Wildlife Species			
Within Cathedral City Quadrangle			
Western yellow bat (*Lasiurus xanthinus*)	Federal: None State: None CDFW: SSC	Riparian woodland	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.
Burrowing owl (*Athene cunicularia*)	Federal: None State: None CDFW: SSC	Grasslands and desert habitats	The site does not support minimal suitable habitat for the species and no owls or owl sign, or suitable burrows, were observed during field surveys.
Casey's June beetle (Dinacoma caseyi)	Federal: Endangered State: None	Alluvial habitat	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.

Flat-tailed horned lizard (*Phrynosoma mcallii*)	Federal: None State: None CDFW: SSC	Sandy desert hardpan or gravel flats	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.
Le Conte's thrasher (*Toxostoma lecontei*)	Federal: None State: None CDFW: SSC	Desert scrub	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.
Coastal California gnatcatcher (*Polioptila californica californica*)	Federal: Threatened State: None CDFW: SSC	Coastal sage scrub	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.
Coachella Valley fringe-toed lizard (*Uma inornate*)	Federal: Threatened State: Endangered	Sandy desert habitat	The site does support minimum suitable habitat for the species; However, none were observed during field surveys.
Palm Springs round-tailed ground squirrel (*Xerospermophilus tereticaudus chlorus*)	Federal: None State: None CDFW: SSC	Desert succulent shrub, desert wash, desert scrub, alkali desert scrub, and levees in cropland habitat.	The site does not support minimum suitable habitat for the species; and none were observed during field surveys.

5.0 RESULTS

5.1 General Biological Resources

The site supports a disturbed desert scrub community which sparsely covers the property (Figure 3). Species present on the site included kelch grass (*Schismus barbatus*), creosote bush (*Larrea tridentata*), Four-winged saltbush (*Atriplex canescens*), Asian mustard (*Brassica tournefortii*), Nettle leaved goosefoot (*Chenopodiastrum murale*) and Brittlebush (*Encelia farinosa*). Table 1 provides a compendium of all plants occurring on the site and/or in the immediate surrounding area.

Birds observed included common ravens (*Corvus corax*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), Anna's hummingbird (*Calypte anna*), red-tailed hawk (*Buteo jamaicensis*), Northern mockingbird (*Mimus polyglottos*) and rock pigeon (*Columba livia*). Section 5.0 provides a more detailed discussion of the various species observed during the surveys. Table 2 provides a complete compendium of wildlife species occurring on site or in the surrounding area.

No mammals were seen during the February 2024 survey. Although the Antelope Ground squirrel (*Ammospermophilus leucurus*) were not present during the field investigation we can assume they are in the area due to current conditions and population distributions. Other wildlife species that may occur on site include desert cottontails (*Sylvilagus audubonii*) and California ground squirrels (*Otospermophilus beecheyi*), and Merriam's kangaroo rats (*Dipodomys merriami*) may also occur on the site given their wide-spread distribution in the region. Tables 1 and 2 (Appendix A) provides a compendium of the various plant and animal species identified during the field investigations and those common to the area. No distinct wildlife corridors were identified on the site or in the immediate area.

No reptiles were observed on site during the February 2024 field investigations. However, some reptiles that may inhabit the site include the Western Whiptail Lizard *(Cnemidophorus tigris)* and Side-blotched lizard *(Uta stansburiana)*.

No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations.

The following are the listed and special status species that have the ability to occur on the project site. It is not a comprehensive list of all the species in the quad. This information has been taken from the California Natural Diversity Database and is using the most current version.

5.2 Federal and State Listed Species

Coachella Valley fringed-toed lizard: The site is located within the documented Coachella Valley fringed-toed lizard range, a state and federal threatened species, according to CNDDB (2024). The property supports minimal suitable habitat for the lizard based on the location of the site in a developed area of Rancho Mirage. No Coachella Valley fringed-toed lizard was observed anywhere within the property boundaries during the February 12, 2024 surveys. The species is not expected to move onto the site in the near future based on the absence of any recent observations in the immediate area, and the presence of busy roadways and developments in the immediate area which may act as barriers to migration.

5.3 Species of Special Concern

Burrowing Owl: The site is located within documented burrowing owl habitat according to CNDDB (2024). No owls were seen on the property during the survey, and minimal suitable habitat was observed. Burrowing owls are not expected to occur on the site due to lack of suitable vegetation and burrows.

Le Conte's thrasher: Le Conte's thrashers have not been recently observed in the area according to CNDDB (2024). Thrashers are not expected to occur on the site due to lack of critical vegetation used by the species, such as catclaw acacia. Thrashers may be very infrequent in the area given the low population levels in the region as well as the lack of any recent sightings according to the CNDDB.

5.4 Jurisdictional Waters and Riparian Habitat

No riparian vegetation (e.g., cottonwoods, willows, etc.) exist on the site. No potential channels were observed on the property and it is the opinion of RCA Associates that no further surveys will be necessary.

5.5 Protected Plants

There were no instances of any federally or state endangered plant species during the field survey conducted on February 12, 2024. The site has been disturbed in the past and development has occurred around most of the neighboring properties. Although the site does contain minimal habitat for the Chapparal sand verbena (*Abronia villosa var. aurita*) and the Slender cottonhead (*Nemacaulis denudata var. gracilis*) which include sandy areas and desert scrub, the species were not observed during the February 2024 field survey.

6.0 IMPACTS AND MITIGATION MEASURES

6.1 General Biological Resources

Future development of the site will impact the general biological resources present on site, because most if not all of the vegetation will be removed during future construction activities. The site is expected to support very few wildlife species which will be impacted by development activities. Those species with limited mobility (i.e., small mammals and reptiles) will experience increases in mortality during the construction phase. However, more mobile species (i.e., birds, large mammals) will be displaced into adjacent areas and will likely experience minimal impacts. Therefore, loss of about 19.8-acres of a relatively disturbed desert scrub habitat is not expected to have a significant cumulative impact on the overall biological resources in the region given the presence of similar habitat throughout the surrounding area. No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations.

6.2 Federal and State Listed and Species of Special Concern

No federal or State-listed species were observed on the site during the field investigations. In addition, there are no documented observations of these species either on the site or in the immediate area. The site is not expected to support populations of the desert tortoise based on the absence of habitat, suitable burrows, or signs.

A pre-construction burrowing owl survey may be required by CDFW to determine if any owls have moved on to the site since the February 12, 2024 surveys. As stated in CDFW's *Staff Report on Burrowing Owl Mitigation*, the most effective method of completing a pre-construction survey (take avoidance survey) should be performed within 30 days of ground disturbance, followed by a final pre-construction survey within 24 hours of breaking ground.

7.0 CONCLUSIONS AND CONSIDERATIONS

Future development activities include the grading and removal of all vegetation from the 19.8-acre parcel; however, cumulative impacts to the general biological resources (plants and animals) in the surrounding area are expected to be negligible. This assumption is based on the habitat containing scarce vegetation of non-native species. As discussed above, the site does not support any burrowing owls due to the lack of suitable habitat and potential burrows. Joshua trees (a state candidate species) were not observed in the field investigations during February 2024 survey. The following mitigation measures should be considered:

1. Pre-construction surveys for burrowing owls and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.
    a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as the desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.
    b. Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as a reasonable buffer around these areas.
2. A focused plant survey should be considered for all special status plant species that have the potential to occur on the site to be performed during the blooming season (April - June) to determine the potential environmental effects of the proposed projects on special status plants and sensitive natural communities following recommended protocols by the Department of Fish and Wildlife.

If any sensitive species are observed on the property during future activities, CDFW and USFWS (as applicable) should be contacted to discuss specific mitigation measures which may be required for the individual species. CDFW and USFWS are the only agencies which can grant authorization for the "take" of any sensitive species and can approve the implementation of any applicable mitigation measures.

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CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits, presents the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Fieldwork conducted for this assessment was performed by Ryan Hunter and Brian Bunyi. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project.

Date: 3/3/2024 Signed: *Ryan Hunter*

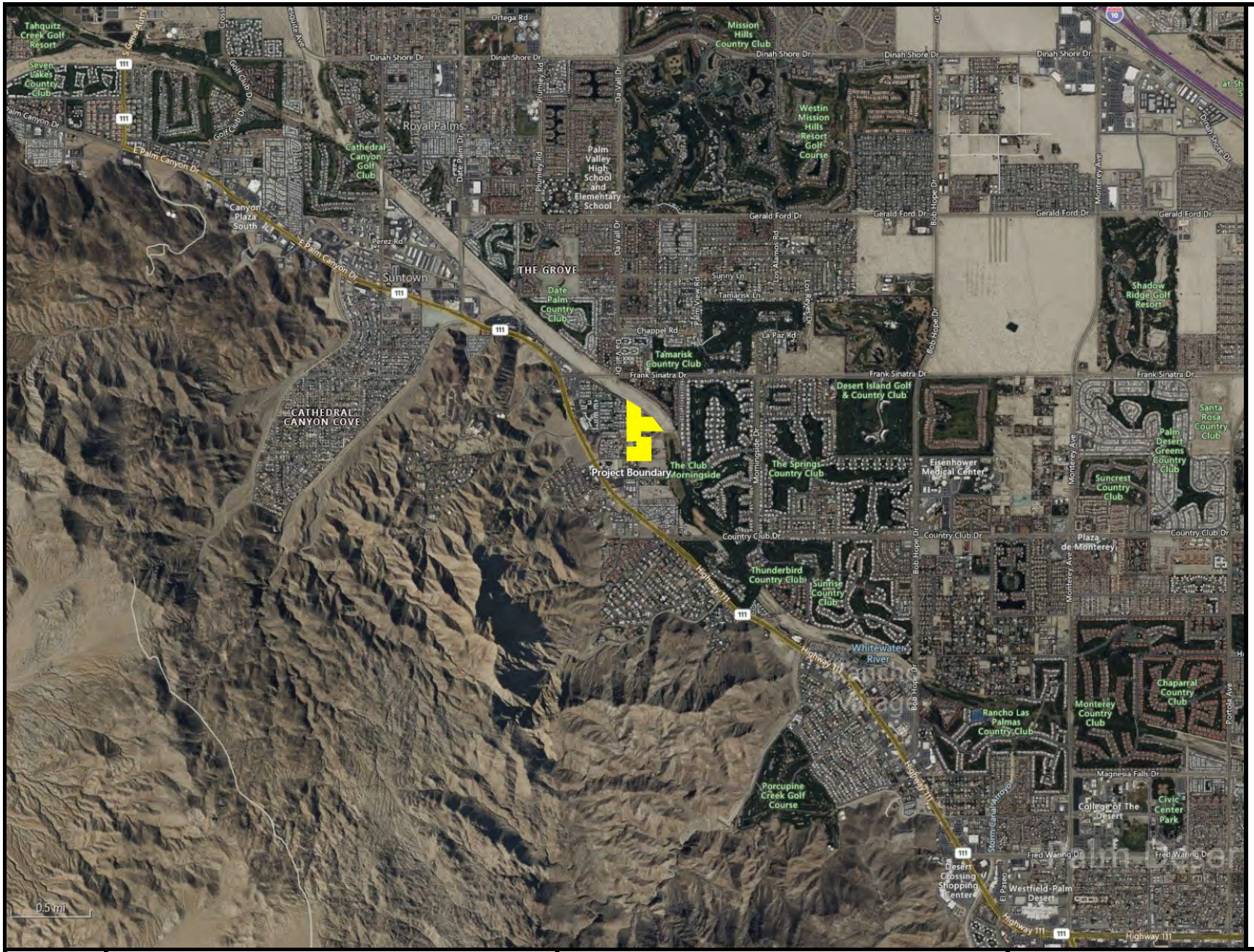
Brian Bunyi

Field Work Performed By: Ryan Hunter
Senior Environmental Scientist/Biologist

Field Work Performed By: Brian Bunyi
Environmental Scientist/Wildlife Biologist

Appendix A

Tables and Figures



Legend

Project Boundary

	Figure 1: Regional Exhibit Produced By: RCA Associates Inc.	**North of the Intersection of Mirage Cove Dr. and Peterson Rd. in Rancho Mirage, CA.**

Source:	Uinta Software
Acreage:	19.8-Acres (Approximately)
Project #:	2023-187

RCA ASSOCIATES, INC

Figure 2: Vicinity Exhibit

Produced By: RCA Associates Inc.

North of the Intersection of Mirage Cove Dr. and Peterson Rd. in Rancho Mirage, CA.

Source:	Uinta Software
Acreage:	19.8-Acres (Approximately)
Project #:	2023-187

RCA ASSOCIATES, INC

CENTER OF SITE LOOKING NORTH

CENTER OF SITE LOOKING EAST

FIGURE 3: PHOTOGRAPHS OF SITE

CENTER OF SITE LOOKING SOUTH

CENTER OF SITE LOOKING WEST

FIGURE 3, cont: PHOTOGRAPHS OF SITE

Table 1 - Plants observed on the site and known to occur in the immediate surrounding area.

Common Name	Scientific Name	Location
Asian mustard	*Brassica tournefortii*	On Site and in the surrounding area.
Mexican fan palm	*Washingtonia robusta*	"
Creosote bush	*Larrea tridentata*	"
Four-winged saltbush	*Atriplex canescens*	"
Desert pala fox	*Palafoxia arida var. arida*	"
Athel tamarisk	*Tamarix aphylla*	"
Cheatgrass	*Bromus tectorum*	"
Cheeseweed	*Malva parviflora*	"
Tumbleweed	*Kali tragus var. tragus*	"
Desert Indian wheat	*Plantago ovata*	"
Nettle leaved goosefoot	*Chenopodiastrum murale*	"
Flatspine bur ragweed	*Ambrosia acanthicarpa*	"
Western tansy mustard	*Descurainia pinnata*	"
Jerusalem thorn	*Parkinsonia aculeata*	"
Desert tobacco	*Nicotiana obtusifolia*	"
Common burrobrush	*Ambrosia salsola*	"
Kelch grass	*Schismus barbatus*	"

Note: The above list is not intended to be a comprehensive list of every plant which may occur on the site or in the zone of influence.

Table 2 - Wildlife observed on the site during the field investigations.

Common Name	Scientific Name	Location
Common raven	*Corvus corax*	On-site and in the surrounding area.
House finch	*Carpodacus mexicanus*	"
Rock pigeon	*Columba livia*	"
House sparrow	*Passer domesticus*	"
Northern mockingbird	*Mimus polyglottos*	"
Cassin's kingbird	*Tyrannus vociferans*	"
Mourning Dove	*Zenaida macroura*	"
Anna's hummingbird	*Calypte anna*	"
Red-Tailed Hawk	*Buteo jamaicensis*	"

Note: The above Table is not a comprehensive list of every animal species which may occur in the area, but is a list of those common species which were identified on the site or which have been observed in the region by biologists from RCA Associates, Inc.

REGULATORY CONTEXT

The following provides a summary of federal and state regulatory jurisdiction over biological and wetland resources. Although most of these regulations do not directly apply to the site, given the general lack of sensitive resources, they provide important background information.

Federal Endangered Species Act

The USFWS has jurisdiction over federally listed threatened and endangered plant and animal species. The federal Endangered Species Act (ESA) and its implementing regulations prohibit the take of any fish or wildlife species that is federally listed as threatened or endangered without prior approval pursuant to either Section 7 or Section 10 of the ESA. ESA defines "take" as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Federal regulation 50CFR17.3 defines the term "harass" as an intentional or negligent act that creates the likelihood of injuring wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns such as breeding, feeding, or sheltering (50CFR17.3). Furthermore, federal regulation 50CFR17.3 defines "harm" as an act that either kills or injures a listed species. By definition, "harm" includes habitat modification or degradation that actually kills or injures a listed species by significantly impairing essential behavior patterns such as breeding, spawning, rearing, migrating, feeding, or sheltering (50CFR217.12).

Section10(a) of the ESA establishes a process for obtaining an incidental take permit that authorizes non federal entities to incidentally take federally listed wildlife or fish. Incidental take is defined by ESA as take that is "incidental to, and not the purpose of, the carrying out of another wise lawful activity." Preparation of a habitat conservation plan, generally referred to as an HCP, is required for all Section 10(a) permit applications. The USFWS and National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) have joint authority under the ESA for administering the incidental take program. NOAA Fisheries Service has jurisdiction over anadromous fish species and USFWS has jurisdiction over all other fish and wildlife species.

Section 7 of the ESA requires all federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the ESA, or result in the destruction or adverse modification of its habitat. Federal agencies are also required

to minimize impacts to all listed species resulting from their actions, including issuance or permits or funding. Section 7 requires consideration of the indirect effects of a project, effects on federally listed plants, and effects on critical habitat (ESA requires that the USFWS identify critical habitat to the maximum extent that it is prudent and determinable when a species is listed as threatened or endangered). This consultation results in a Biological Opinion prepared by the USFWS stating whether implementation of the HCP will result in jeopardy to any HCP Covered Species or will adversely modify critical habitat and the measures necessary to avoid or minimize effects to listed species.

Although federally listed animals are legally protected from harm no matter where they occur, section 9 of the ESA provides protection for endangered plants by prohibiting the malicious destruction on federal land and other "take" that violates State law. Protection for plants not living on federal lands is provided by the California Endangered Species Act.

California Endangered Species Act

CDFW has jurisdiction over species listed as threatened or endangered under Section 2080 of the California Fish and Wildlife Code. Section 2080 prohibits the take of a species listed by CDFW as threatened or endangered. The state definition of take is similar to the federal definition, except that Section 2080 does not prohibit indirect harm to listed species by way of habitat modification. To qualify as take under the state ESA, an action must have direct, demonstrable detrimental effect on individuals of the species. Impacts on habitat that may ultimately result in effects on individuals are not considered take under the state ESA but can be considered take under the federal ESA.

Proponents of a project affecting a state-listed species must consult with CDFW and enter into a management agreement and take permit under Section 2081. The state ESA consultation process is similar to the federal process. California ESA does not require preparation of a state biological assessment; the federal biological assessment and the CEQA analysis or any other relevant information can provide the basis for consultation. California ESA requires that CDFW coordinate consultation for joint federally listed and state-listed species to the extent possible; generally, the state opinion for the listed species is brief and references provisions under the federal opinion.

Clean Water Act, Section 404

The COE and the U.S. Environmental Protection Agency regulate the placement of dredged or fill material into "Waters of the United States" under Section 404 of the Clean Water Act. Waters of the United States include lakes, rivers, streams, and their tributaries, and wetlands. Wetlands are defined for regulatory purposes as "areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 Code of Federal Regulations [CFR] 328.3, 40 CFR 230.3).

The COE may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits (NWP's) are general permits issued to cover particular fill activities. All NWP's have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each NWP.

Clean Water Act, Section 401

Section 401 of the Clean Water Act requires water quality certification and authorization of placement of dredged or fill material in wetlands and Other Waters of the United States. In accordance with Section 401 of the Clean Water Act, criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. As such, proponents of any new project which may impair water quality as a result of the project are required to create a post construction stormwater management plan to ensure offsite water quality is not degraded. The resulting requirements are used as criteria in granting National Pollution Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Central Valley Regional Water Quality Control Board (RWQCB). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

California Fish and Wildlife Code, Sections 1600-1616

Under the California Fish and Wildlife Code, Sections 1600-1616 CDFW regulates projects that divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake. Proponents of such projects must notify CDFW and enter into a streambed alteration agreement with them.

Section 1602 of the California Fish and Wildlife Code requires a state or local government agency, public utility, or private entity to notify CDFW before it begins a construction project that will: (1) divert, obstruct, or change the natural flow or the bed, bank, channel, or bank of any river, stream, or lake; (2) use materials from a streambed; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. Once the notification is filed and determined to be complete, CDFW issues a streambed alteration agreement that contains conditions for construction and operations of the proposed project.

California Fish and Wildlife Code, Section 3503.5

Under the California Fish and Wildlife Code, Section 3503.5, it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls). Take would include the disturbance of an active nest resulting in the abandonment or loss of young.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, or their eggs and nests. As used in the MBTA, the term "take" is defined as "to pursue, hunt, shoot, capture, collect, kill, or attempt to pursue, hunt, shoot, capture, collect, or kill, unless the context otherwise requires." Most bird species native to North America are covered by this act.

Sensitive Natural Communities

The California Office of Planning and Research and the Office of Permit Assistance (1986) define project effects that substantially diminish habitat for fish, wildlife, or plants, or that disrupt or divide the physical arrangement of an established community as significant impacts under CEQA.

This definition applies to certain natural communities because of their scarcity and ecological values and because the remaining occurrences are vulnerable to elimination. For this study, the term "sensitive natural community" includes those communities that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA. Sensitive natural communities are important ecologically because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. If the number and extent of sensitive natural communities continue to diminish, the status of rare, threatened, or endangered species could become more precarious, and populations of common species (i.e., not special status species) could become less viable. Loss of sensitive natural communities also can eliminate or reduce important ecosystem functions, such as water filtration by wetlands and bank stabilization by riparian woodlands for example.

Protected Plants

The California Desert Native Plant Act was passed in 1981 to protect non-listed California desert native plants from unlawful harvesting on both public and privately-owned lands. Harvest, transport, sale, or possession of specific native desert plants is prohibited unless a person has a valid permit. The following plants are under the protection of the California Desert Native Plants Act:

- Dalea spinosa (smoketree)
- All species of the genus Prosopis (mesquites)
- All species of the family Agavaceae (century plants, nolinas, yuccas)
- All species of Cactus
- Creosote Rings, ten feet in diameter or greater
- All Joshua Trees

The project would be required to comply with the County of San Bernardino Desert Native Plant Protection Ordinance. The removal of any trees listed under Section 88.01.060 would be required to comply with Section 88.01.050, which requires the project applicant to apply for a Tree or Plant Removal Permit prior to removal from the project site.

APPENDIX C

CULTURAL RESOURCE ASSESSMENT

16 LOT SUBDIVISION PROJECT ON PETERSON ROAD

Assessor's Parcel Nos. 689-090-003, 689-130-004, -005, -013, -014, -and 017 and 689-140-022

City of Rancho Mirage, Riverside County, California

For Submittal to:

Development Services Department, Planning Division
City of Rancho Mirage
69-825 Highway 111
Rancho Mirage, CA 92270

Prepared for:

Horti Caesaris, LLC
9401 Wilshire Blvd, 9th Floor
Beverly Hills, CA 90212

Prepared by:

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1016 East Cooley Drive, Suite A/B
Colton, CA 92324

Bai "Tom" Tang, Principal Investigator
Michael Hogan, Principal Investigator

March 25, 2024
CRM TECH Contract No. 4085

Title: Cultural Resource Assessment: 16 Lot Subdivision Project on Peterson Road; Assessor's Parcel Nos. 689-090-003, 689-130-004, -005, -013, -014, and -017, and 689-140-022, City of Rancho Mirage, Riverside County, California

Authors: Frank Raslich, Archaeologist/Report Writer
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Date: March 25, 2024

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(760) 328-2266

Prepared for: Konstantinos Patis
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Project Size: Approximately 19.8 acres

USGS Quadrangle: Cathedral City, Calif., 7.5' quadrangle (Section 2, T5S R5E, San Bernardino Baseline and Meridian)

Keywords: Coachella Valley, western Colorado Desert; Phase I cultural resource assessment; no "historical resources" under CEQA

EXECUTIVE SUMMARY

Between December 2023 and March 2024, at the request of Horti Caesaris, LLC, CRM TECH performed a cultural resources survey on approximately 19.8 acres of undeveloped land in the City of Rancho Mirage, Riverside County, California. The subject property of the study consists of Assessor's Parcel Nos. 689-090-003, 689-130-004, -005, -013, -014, and -017 and 689-140-022, located on both the east and west sides of Peterson Road, north of Mirage Cove Drive, and south of the Whitewater River, in the northwest quarter of Section 2, Township 5 South, Range 5 East, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for a proposed 16-lot subdivision project. The City of Rancho Mirage, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the City with the necessary information and analysis to determine whether the project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

To identify such resources, CRM TECH conducted a historical/archaeological resources records search, initiated a Native American Sacred Lands File search, contacted pertinent Native American representatives, pursued historical background research, and carried out an intensive-level field survey. Throughout the various avenues of research, this study did not encounter any "historical resources" within or adjacent to the project area. Therefore, CRM TECH recommends to the City of Rancho Mirage a finding of *No Impact* regarding "historical resources."

No further cultural resources investigation is recommended for the project unless development plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during any earth-moving operations associated with the project, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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INTRODUCTION

Between December 2023 and March 2024, at the request of Horti Caesaris, LLC, CRM TECH performed a cultural resources survey on approximately 19.8 acres of undeveloped land in the City of Rancho Mirage, Riverside County, California (Figure 1). The subject property of the study consists of Assessor's Parcel Nos. 689-090-003, 689-130-004, -005, -013, -014, -017 and 689-140-022, located on both the east and west sides of Peterson Road, north of Mirage Cove Drive, and south of the Whitewater River, in the northwest quarter of Section 2, Township 5 South, Range 5 East, San Bernardino Baseline and Meridian (Figures 2, 3).

The study is part of the environmental review process for a proposed 16-lot subdivision project. The City of Rancho Mirage, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of the study is to provide the City with the necessary information and analysis to determine whether the project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

To identify such resources, CRM TECH conducted a historical/archaeological resources records search, initiated a Native American Sacred Lands File search, contacted pertinent Native American representatives, pursued historical background research, and carried out an intensive-level field survey. The following report is a complete account of the methods, results, and final conclusion of the study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

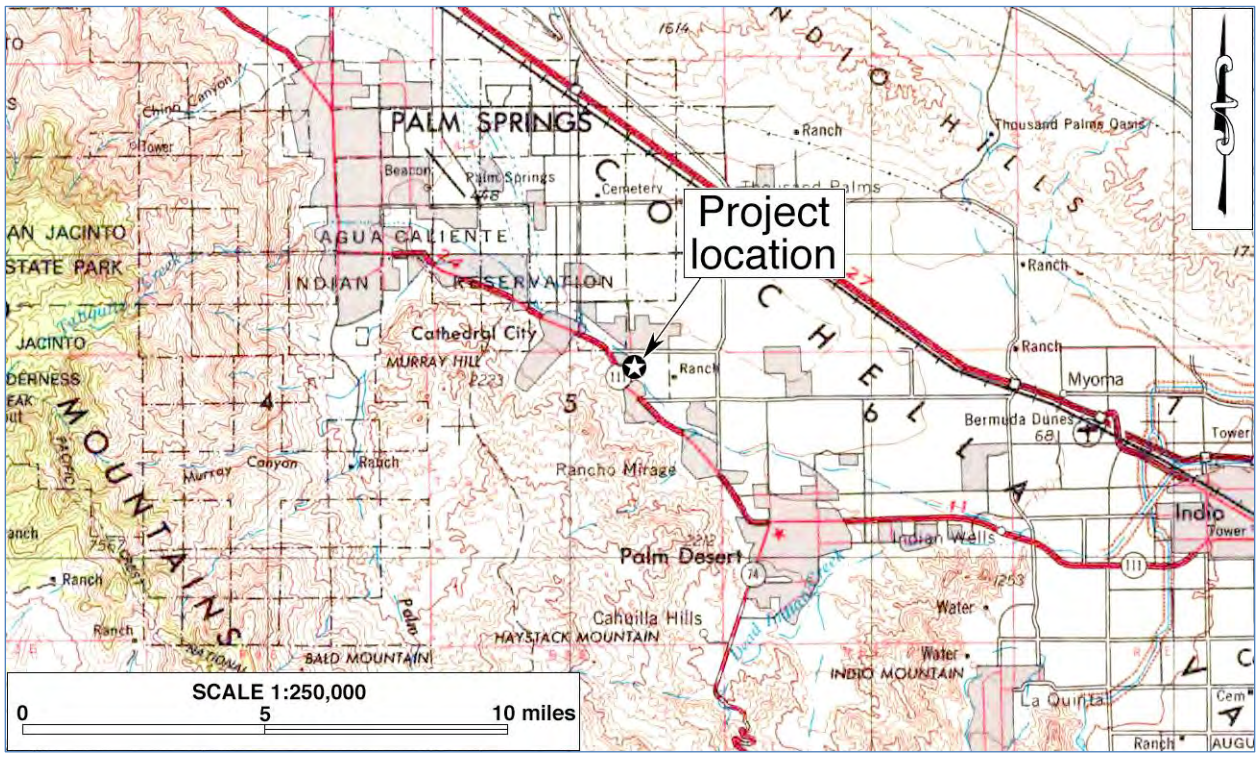

Figure 1. The project vicinity. (Based on the USGS Santa Ana, Calif., quadrangle [USGS 1979])

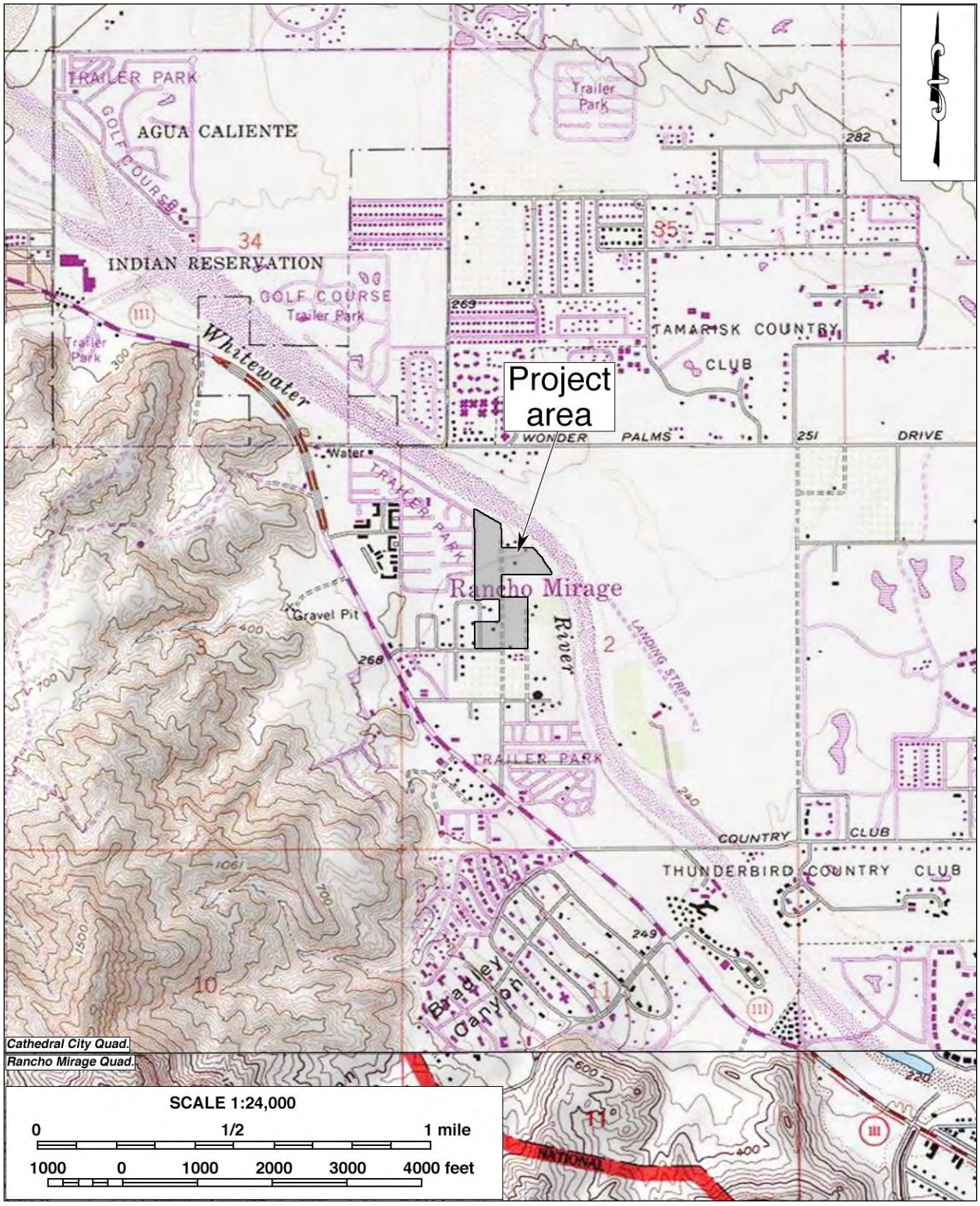

Figure 2. The project area and vicinity. (Based on the USGS Cathedral City, Calif., 7.5' quadrangle [USGS 1981])

Figure 3. A recent satellite image showing the project area. (Based on Google Earth imagery)

SETTING

CURRENT NATURAL SETTING

The City of Rancho Mirage is located in the heart of the Coachella Valley, a northwest-southeast trending desert valley that constitutes the western end of the Colorado Desert. Dictated by this geographic setting, the climate and environment of the region are typical of the southern California desert country, marked by extremes in temperature and aridity. Temperatures in the region reach over 120 degrees Fahrenheit in summer, and dip to freezing in winter. Average annual precipitation is less than five inches, and the average annual evaporation rate exceeds three feet.

The project location is in the City of Rancho Mirage, in a rapidly urbanizing area near Highway 111. The property is surrounded by residential neighborhoods of relatively recent vintages to the west, the Whitewater River on the north and east, and residential developments to the south. The terrain in the project area is generally level, with elevations ranging approximately from 313 to 330 feet above mean sea level. The surface soil is composed of light olive gray fine sand.

The project location is within what would be the California Creosote Bush Scrub plant community; however, the ground surface in the project area has been cleared of native vegetation in the past and existing vegetation include introduced and ruderal species such as landscaping plants and low-lying grasses (Figure 4).

Figure 4. Overview of the current natural setting of the project area. (January 19, 2024; view to the east)

CULTURAL SETTING

Prehistoric Context

Numerous investigations on the history of cultural development in southern California have led researchers to propose a number of cultural chronologies for the desert regions. A specific cultural sequence for the Colorado Desert was offered by Schaefer (1994) on the basis of the many archaeological studies conducted in the area. The earliest time period identified is the Paleoindian (ca. 8,000 to 10,000-12,000 years ago), when "small, mobile bands" of hunters and gatherers, who relied on a variety of small and large game animals as well as wild plants for subsistence, roamed the region (Schaefer 1994:63). These small groups settled "on mesas and terraces overlooking larger washes" (Schaefer 1994:64). The artifact assemblage of that period typically consists of very simple stone tools, "cleared circles, rock rings, [and] some geoglyph types" (Schaefer 1994:64).

The Early Archaic Period follows and dates to ca. 8,000 to 4,000 years ago. It appears that a decrease in population density occurred at this time and that the indigenous groups of the area relied more on foraging than hunting. Very few archaeological remains have been identified to this time period. The ensuing Late Archaic Period (ca. 4,000 to 1,500 years ago) is characterized by continued low population densities and groups of "flexible" sizes that settled near available seasonal food resources and relied on "opportunistic" hunting of game animals. Stone grinding implements for food processing were prominent during this time period.

The most recent period in Schaefer's scheme, the Late Prehistoric, dates from ca. 1,500 years ago to the time of the Spanish missions and saw the continuation of the seasonal settlement pattern. Peoples of the Late Prehistoric Period were associated with the Patayan cultural pattern and relied more heavily on the availability of seasonal "wild plants and animal resources" (Schaefer 1994:66). It was during this period that ceramics and the bow and arrow were introduced into the region.

The shores of Holocene Lake Cahuilla, during times of its presence, attracted much settlement and resource procurement activities. In times of the lake's desiccation and absence, according to Schaefer (1994:66), the Native people moved away from its receding shores towards rivers, streams, and mountains. Numerous archaeological sites dating to the last high stand of Holocene Lake Cahuilla, roughly between 1600 and 1700 A.D., have been identified along its former shoreline. Testing and mitigative excavations at these sites have recovered brown and buff ware ceramics, a variety of stone grinding tools and projectile point types, ornaments, and cremation remains.

Ethnohistoric Context

The Coachella Valley is a historical center of Native American settlement, where U.S. surveyors noted large numbers of Indian villages and *rancherías*, occupied by the Cahuilla people, in the mid-19th century. The origin of the name "Cahuilla" is unclear, but may originate from their own word *káwiya*, meaning master or boss (Bean 1978). The Takic-speaking Cahuilla are generally divided by anthropologists into three groups, according to their geographic setting: the Pass Cahuilla of the San Gorgonio Pass-Palm Springs area, the Mountain Cahuilla of the San Jacinto and Santa Rosa Mountains and the Cahuilla Valley, and the Desert Cahuilla of the eastern Coachella Valley. The

basic written sources on Cahuilla culture and history include Kroeber (1925), Strong (1929), and Bean (1978), based on information provided by such Cahuilla informants as Juan Siva, Francisco Patencio, Katherine Siva Saubel, and Mariano Saubel. The following ethnohistoric discussion is based primarily on these sources.

The Cahuilla did not have a single name that referred to an all-inclusive tribal affiliation. Instead, membership was in terms of lineages or clans. Each lineage or clan belonged to one of two main divisions of the people, known as moieties. Their moieties were named for the Wildcat, or *Tuktum,* and Coyote*,* or *Istam*. Members of clans in one moiety had to marry into clans from the other moiety. Individual clans had villages, or central places, and territories they called their own, for purposes of hunting game, and gathering raw materials for food, medicine, ritual, or tool use. They interacted with other clans through trade, intermarriage, and ceremonies.

Cahuilla subsistence was defined by the surrounding landscape and primarily based on the hunting and gathering of wild and cultivated foods, exploiting nearly all of the resources available in a highly developed seasonal mobility system. They were adapted to the arid conditions of the desert floor, the lacustral cycles of Holocene Lake Cahuilla, and the environments of the nearby mountains. When the lake was full, or nearly full, the Cahuilla would take advantage of the resources presented by the body of fresh water, building elaborate stone fish traps. Once the lake had desiccated, they relied on the available terrestrial resources. The cooler temperatures and resources available at higher elevations in the nearby mountains were also taken advantage of.

The Cahuilla diet included seeds, roots, wild fruits and berries, acorns, wild onions, piñon nuts, and mesquite and screw beans. Medicinal plants such as creosote, California sagebrush, yerba buena and elderberry were typically cultivated near villages (Bean and Saubel 1972). Common game animals included deer, antelope, big horn sheep, rabbits, wood rats and, when Holocene Lake Cahuilla was present, fish and waterfowl. The Cahuilla hunted with throwing sticks, clubs, nets, traps, and snares, as well as bows and arrow (Bean 1978; CSRI 2002). Common tools included manos and metates, mortars and pestles, hammerstones, fire drills, awls, arrow-straighteners, and stone knives and scrapers. These lithic tools were made from locally sourced material as well as materials procured through trade or travel. They also used wood, horn, and bone spoons and stirrers; baskets for winnowing, leaching, grinding, transporting, parching, storing, and cooking; and pottery vessels for carrying water, storage, cooking, and serving food and drink (Bean 1978; CSRI 2002).

As the landscape defined their subsistence practices, the tending and cultivation practices of the Cahuilla helped shape the landscape. Biological studies have recently found evidence that the fan palms found in the Coachella Valley and throughout the southeastern California desert (*Washingtonia filifera*) may not be relics from a paleo-tropical environment, but instead a relatively recent addition brought to the area and cultivated by native populations (Anderson 2005). The planting of palms by the Cahuilla is well-documented, as is their enhancement of palm stands through the practice of controlled burning (Anderson 2005; Bean and Saubel 1972). Burning palm stands would increase fruit yield dramatically by eliminating pests such as the palm borer beetle, date scales, and spider mites (Bean and Saubel 1972). It also prevented out-of-control wildfires by eliminating dead undergrowth before it accumulated to dangerous levels. The Cahuilla also burned stands of chia to produce higher yields, and deergrass to yield straighter, more abundant stalks for basketry (Bean and Saubel 1972; Anderson 2005).

Population data prior to European contact is almost impossible to obtain, but estimates range from 3,600 to as high as 10,000 persons covering a territory of over 2,400 square miles. During the 19th century, the Cahuilla population was decimated as a result of European diseases, most notably smallpox, for which the Native peoples had no immunity. Today, Native Americans of Pass or Desert Cahuilla heritage are mostly affiliated with one or more of the Indian reservations in and near the Coachella Valley, including Agua Caliente, Morongo, Cabazon, Torres Martinez, and Augustine. There has been a resurgence of traditional ceremonies in recent years, and the language, songs, and stories are now being taught to the youngest generations.

Historic Context

In 1823-1825, José Romero, José Maria Estudillo, and Romualdo Pacheco became the first noted European explorers to travel through the Coachella Valley when they led a series of expeditions in search of a route to Yuma (Johnston 1987:92-95). Due to its harsh environment, few non-Indians ventured into the desert valley during the Mexican and early American periods, except those who traveled along the established trails. The most important of these trails was the Cocomaricopa Trail, an ancient Indian trading route that was "discovered" in 1862 by William David Bradshaw and known after that as the Bradshaw Trail (Gunther 1984:71; Ross 1992:25). In much of the Coachella Valley, this historic wagon road traversed a similar course to that of present-day State Route 111. During the 1860s-1870s, the Bradshaw Trail served as the main thoroughfare between coastal southern California and the Colorado River, until the completion of the Southern Pacific Railroad in 1876-1877 brought an end to its heyday (Johnston 1987:185).

Non-Indian settlement in the Coachella Valley began in the 1870s with the establishment of railroad stations along the Southern Pacific Railroad and spread further in the 1880s after public land was opened for claims under the Homestead Act, the Desert Land Act, and other federal land laws (Laflin 1998:35-36; Robinson 1948:169-171). Farming became the dominant economic activity in the valley thanks to the development of underground water sources, often in the form of artesian wells. Around the turn of the century, the date palm was introduced into the Coachella Valley, and by the late 1910s dates were the main agricultural crop and the tree an iconic image celebrating the region as the "Arabia of America" (Shields Date Gardens 1957). Then, starting in the 1920s, a new industry featuring equestrian camps, resorts, hotels, and eventually country clubs began to spread throughout the Coachella Valley, transforming it into southern California's premier winter retreat.

In the Rancho Mirage area, the first notable settlement activities occurred in the 1910s-1920s, when several date ranches were established in the present-day city boundary (Love and Tang 1996:7). In 1924, R.P. "Bert" Davie and E.E. McIntyre subdivided the Rancho Rio del Sol Estates around today's Clancy Lane, creating a small community nicknamed "Little Santa Monica" (Love and Tang 1996:8). Ten years later, Louis Blankenhorn and Laurence Macomber began a new subdivision at the mouth of Magnesia Spring Canyon, and for the first time bestowed the name Rancho Mirage on the community (Love and Tang 1996:8). After the end of WWII, Rancho Mirage embarked on a period of rapid growth. With the development of the Thunderbird Country Club and the Tamarisk Country Club in 1951-1952, Rancho Mirage set the trend in the post-WWII boom among the five cove communities along Highway 111 (Love and Tang 1996:8-9). This trend has continued into the present and has given rise to the City of Rancho Mirage's popular reputation as the "country club city."

RESEARCH METHODS

RECORDS SEARCH

On January 9, 2024, CRM TECH archaeologist Nina Gallardo completed the historical/ archaeological resources records search for this study at the Eastern Information Center (EIC) of the California Historical Resources Information System. Located on the campus of the University of California, Riverside, the EIC is the official cultural resource records repository for the County of Riverside. The purpose of the records search was to compile a complete inventory of previously identified cultural resources and existing cultural resources reports within a one-mile radius of the project location. Previously identified cultural resources include properties designated as California Historical Landmarks, Points of Historical Interest, or Riverside County Historic Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

NATIVE AMERICAN PARTICIPATION

On December 21, 2023, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. In the meantime, CRM TECH also contacted the nearby Agua Caliente Band of Cahuilla Indians (ACBCI) for additional information on potential Native American cultural resources in the project vicinity and to arrange for tribal participation in the upcoming archaeological field survey. The responses from the NAHC and the ACBCI are summarized below and attached to this report in Appendix 2.

HISTORICAL BACKGROUND RESEARCH

Historical background research for this study was conducted by CRM TECH Archaeologist Frank Raslich. In addition to published literature in local and regional history, sources consulted during the research included U.S. General Land Office (GLO) land survey plat maps dated 1856, United States Geological Survey (USGS) topographic maps dated 1904-1988, and aerial/satellite photographs taken in 1959-2023. The historical maps are available at the websites of the U.S. Bureau of Land Management and the USGS, and the aerial/satellite photographs are available at the website of Nationwide Environmental Title Research (NETR) Online and through the Google Earth software.

FIELD SURVEY

On January 19, 2024, CRM TECH archaeologists Michael D. Richards and Malika Mobley carried out the field survey of the project area with the assistance of ACBCI Cultural Resources Analyst Claritsa Duarte from the Tribal Historic Preservation Office. The survey was conducted at an intensive level by walking a series of parallel north-south transects at 15-meter (approximately 50-foot) intervals. In this way, the entire project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older). Ground visibility was fair (~50 percent) in areas where there were low-lying grasses but excellent (~90 percent) where there was little to no vegetation.

RESULTS AND FINDINGS

RECORDS SEARCH

According to EIC records, the project area had been surveyed for cultural resources once prior to this study (RI-08506 in Figure 5; Sander 2010). No cultural resources have been recorded on or adjacent to the property, however. Within the one-mile scope of the records search, EIC records identified a total of 30 previous studies completed on various tracts of land and linear features between 1979 and 2016 (Figure 5).

As a result of these and other similar studies in the vicinity, one historic-period site and one prehistoric-period site were previously recorded within the scope of the records search but outside the current project area. The historic-period site (33-005513) was recorded as the Peterson Ranch, a single wood frame house ca. 1930s (Wagner 1982). The prehistoric-period site (33-000628/CA-RIV-628T) consists of a trail segment and several stone cairns (Banks 1979; Parr and Arkush 1988; Bissell 2000). These previously recorded cultural resources were found more than a quarter mile from the project location. As such, none of them requires further consideration during this study.

NATIVE AMERICAN PARTICIPATION

In response to CRM TECH's inquiry, the NAHC reported in a letter dated January 18, 2024, that the Sacred Lands File identified no Native American cultural resources in the project vicinity but recommended contacting local Native American groups for further information. For that purpose, the NAHC provided a list of potential contacts in the region. The NAHC's reply is attached to this report in Appendix 2 for reference by the City of Rancho Mirage in future government-to-government consultations, if necessary.

As mentioned above, the ACBCI, which is the nearest tribe to the project location, participated in the archaeological field survey for this study on January 19, 2024. In a letter dated December 26, 2023, Xitlaly Madrigal, Cultural Resources Analyst with the ACBCI Tribal Historic Preservation Office, identified the project location as a part of the tribe's Traditional Use Area. Therefore, the ACBCI requested copies of all cultural resources documentation generated for this project for review by the Tribal Historic Preservation Office as well as the presence of an ACBCI Cultural Resource Monitor (see App. 2).

HISTORICAL BACKGROUND RESEARCH

Historical sources consulted for this study indicate that the entire project area was unsettled and undeveloped until the mid-20th century (Figures 6-9). Between the 1850s and the 1930s, no human-made features of any kind were noted within or adjacent to the project area despite its location near the Southern Pacific Railroad (built in the 1870s), U.S. Highway 60/70/99 (built prior to the 1920s), and two other major transportation arteries located approximately two miles to the north (Figures 6-8). By the 1940s, Rio del Sol Road, the forerunner of present-day Bob Hope Drive, had been completed near the project vicinity along with several date gardens and ranches and a structure was present in the southern part of the project area (Figure 9).

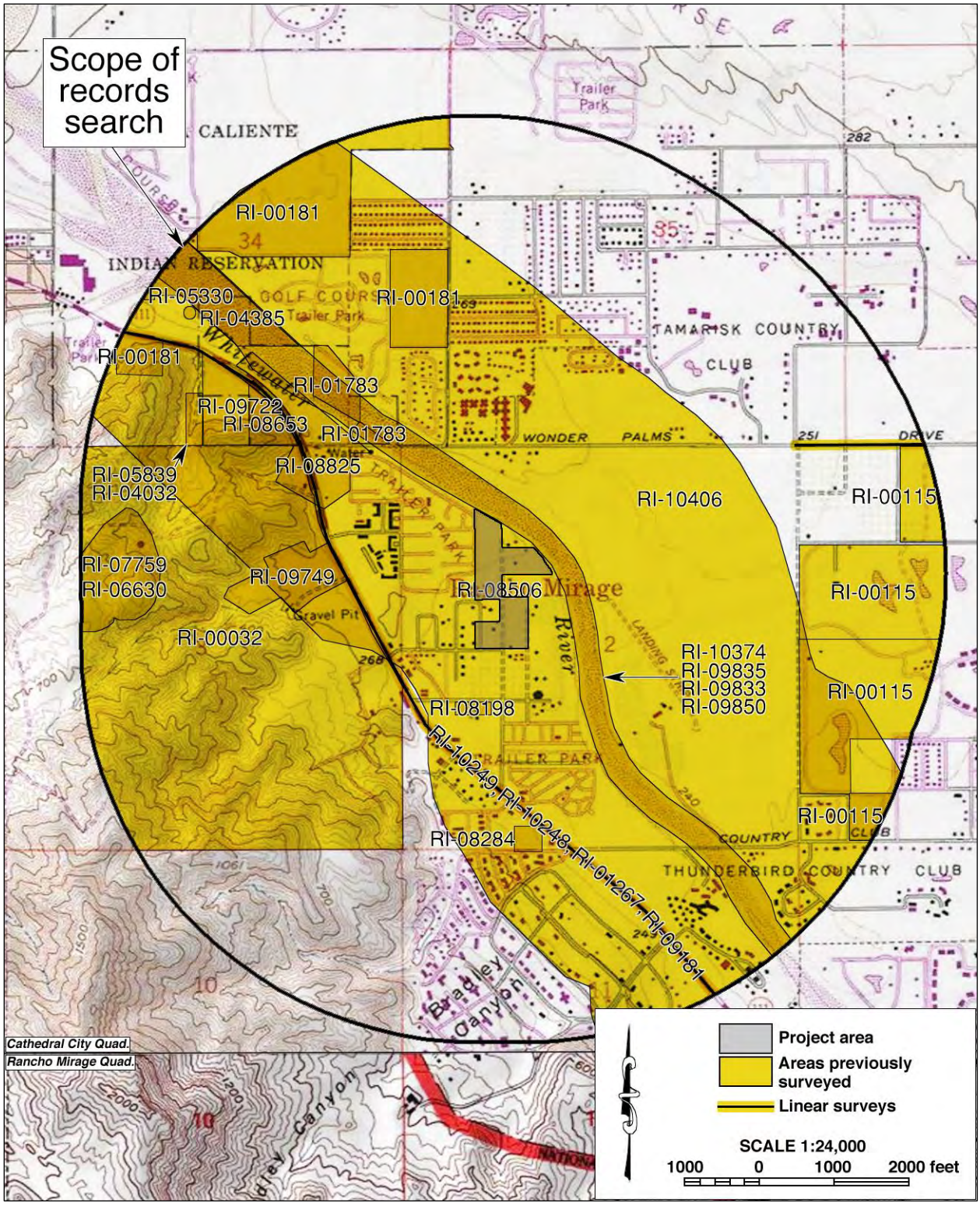

Figure 5. Previous cultural resources studies in the vicinity of the project area, listed by EIC file number. Locations of known historical/archaeological resources are not shown as a protective measure.

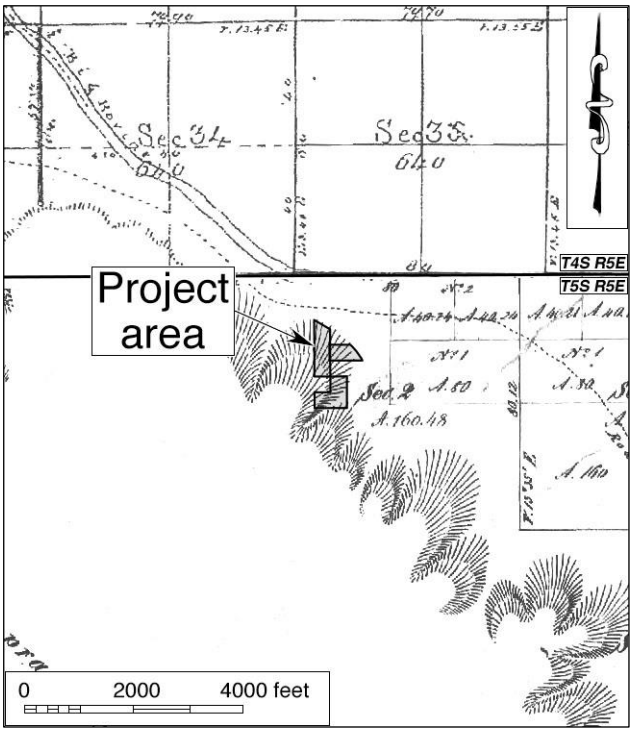

Figure 6. The project area and vicinity in 1855-1856. (Source: GLO 1856a,b)

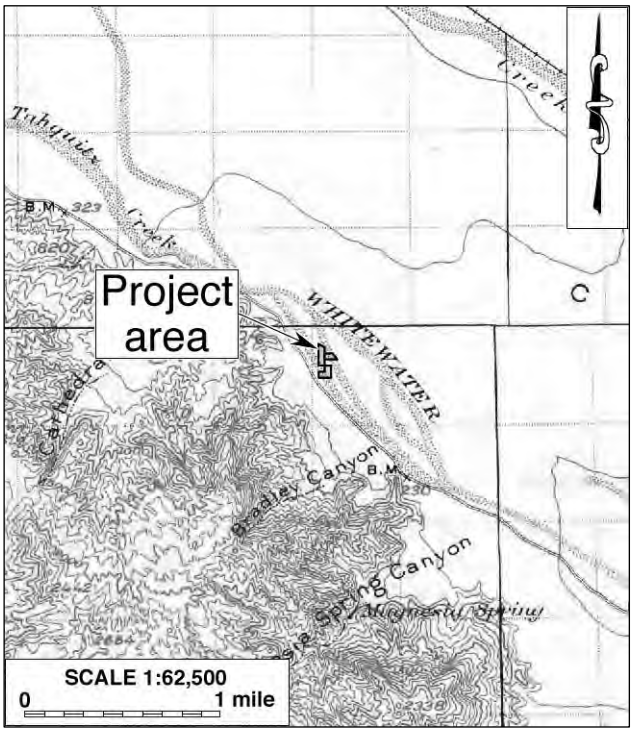

Figure 7. The project area and vicinity in 1901. (Source: USGS 1904)

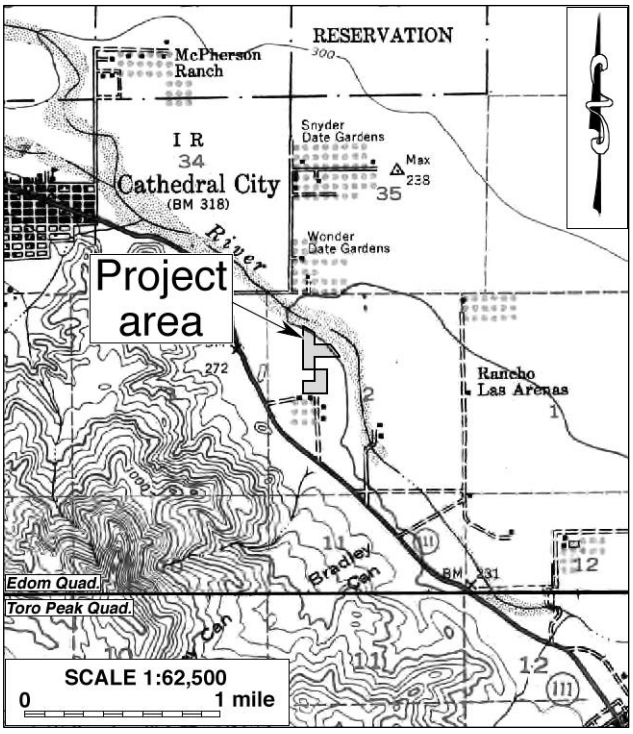

Figure 8. The project area and vicinity in 1941. (Source: USGS 1941a, b)

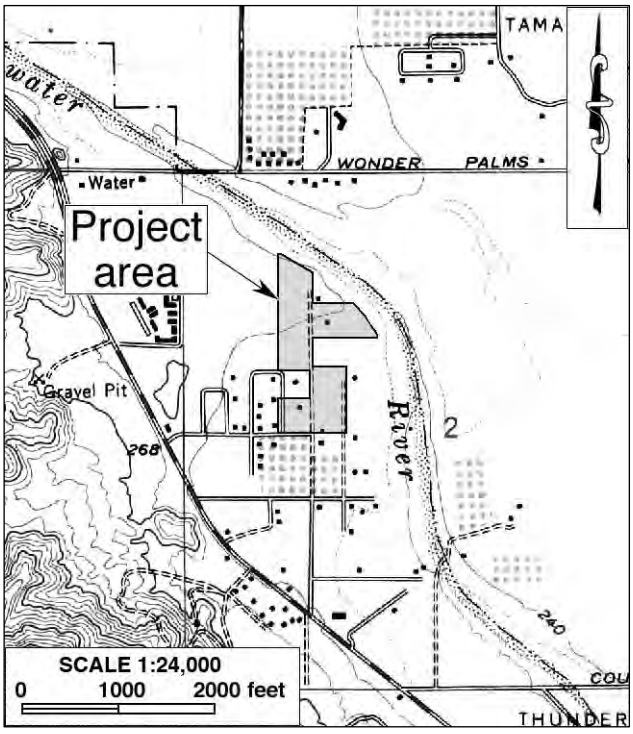

Figure 9. The project area and vicinity in 1956-1958. (Source: USGS 1958)

By 1957, roads and housing appeared around and within the project area (Figure 9; NETR Online 1972). To the south of the project location, Gerald Ford Drive was first laid out between 1979 and 1984 and subsequently became a paved road by 1996, which ushered in a period of rapid urban growth in the surrounding area (NETR Online 1977-1996). The residential neighborhoods to the north and the south of the project location and the commercial properties to the west were all developed since then (NETR Online 1996-2020; Google Earth 1996-2023). The project area was not involved in any of these nearby developments. The structures in the southern part of the project area appears to have been removed after 2005 but before 2009 (NETR Online 1996-2020; Google Earth 1996-2023). The rest of the study area, however, has remained undeveloped and largely unused to the present time (NETR Online 1996-2020; Google Earth 1996-2023).

FIELD SURVEY

The field survey of the project area produced completely negative results for any potential "historical resources," and no buildings, structures, objects, sites, features, or artifacts more than 50 years of age were encountered within the project boundaries. The entirety of the project area has been disturbed in the past, with all native vegetation being removed. Previous modern development and demolition have impacted the ground surface. Modern debris is comprised of milled lumber fragments, PVC pipe, chain fencing, broken glass bottle fragments, a few steel cans, and paper and building material refuse. No evidence of the structures previously located in the southern portion of the project area were observed. There are residential developments, a paved road, fencing along the Whitewater drainage, and utility poles, adjacent to the project area, but all of these items are modern in origin and, therefore, none of them are of any historical/archaeological interest.

DISCUSSION

The purpose of this study is to identify any cultural resources within the project area and to assist the City of Rancho Mirage in determining whether such resources meet the official definition of "historical resources," as provided in the California Public Resources Code, in particular CEQA. According to PRC §5020.1(j), "'historical resource' includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."

More specifically, CEQA guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria for the evaluation of historical significance, CEQA guidelines mandate that "generally a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) Is associated with the lives of persons important in our past.

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
(4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c))

In summary of the research results presented above, no potential "historical resources" were previously recorded within or adjacent to the project area, and none was found during the present survey. In addition, Native American input during this study identified no properties of traditional cultural value in the project vicinity. Based on these findings, and considering the criteria listed above, the present report concludes that *no historical resources exist within or adjacent to the project area*. Therefore, CRM TECH recommends to the City of Rancho Mirage a finding of *No Impact* regarding "historical resources."

CONCLUSIONS AND RECOMMENDATIONS

CEQA establishes that a project that may cause a substantial adverse change in the significance of a "historical resource" is a project that may have a significant effect on the environment (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired." As stated above, no "historical resources," as defined by CEQA, were encountered throughout the course of this study. Therefore, CRM TECH presents the following recommendations to the City of Rancho Mirage:

- The proposed project will not cause a substantial adverse change to any known "historical resources."
- No further cultural resources investigation is necessary for the project unless development plans undergo such changes as to include areas not covered by this study.
- If buried cultural materials are discovered during any earth-moving operations associated with the project, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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1856a Plat map: Township No. IV South Range No. V East, San Bernardino Meridian; surveyed in 1855-1856.
1856b Plat map: Township No. V South Range No. V East, San Bernardino Meridian; surveyed in 1855-1856.

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1996-2023 Aerial/satellite photographs of the project vicinity; taken in 1996, 2002, 2004-2006, 2009, 2011-2013, 2015-2019, and 2021-2023. Available through the Google Earth software.

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1959-2020 Aerial/satellite photographs of the project vicinity; taken in 1959, 1972, 1977, 1979, 1984, 1996, 2002, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020. http://www.historicaerials.com.

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1904 Map: Indio, Calif. (30', 1:125,000); surveyed in 1901.
1941a Map: Edom, Calif. (15', 1:62,500); aerial photographs taken in 1941.
1941b Map: Toro Peak, Calif. (15', 1:62,500); aerial photographs taken in 1941.
1958 Map: Cathedral City, Calif. (7.5', 1:24,000); aerial photographs in 1956.
1979 Map: Santa Ana, Calif. (1:250,000); 1959 edition revised.
1981 Map: Cathedral City, Calif. (7.5', 1:24,000); 1958 edition photorevised in 1978.
1988 Map: Rancho Mirage, Calif. (7.5', 1:24,000); 1957 edition photorevised in 1984.

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1982 Site Record for Site 33-005513. On File, Eastern Information Center, University of California, Riverside.

APPENDIX 1:
PERSONNEL QUALIFICATIONS

FRANK J. RASLICH, M.A.
Project Archaeologist/Report Writer

Education

2016-	Ph.D. candidate, Michigan State University, East Lansing.
2010	M.A., Anthropology, Michigan State University, East Lansing.
2005	B.A., Anthropology, University of Michigan, Flint.
2019	Grant and Research Proposal Writing for Archaeologists; Society for American Archaeology online seminar.
2014	Bruker Industries Tracer S1800 pXRF Training; presented by Dr. Bruce Kaiser, Bruker Scientific.

Professional Experience

2022-	Project Archaeologist/Report Writer, CRM TECH, Colton, California.
2022	Archaeological Monitor, Agua Caliente Band of Cahuilla Indians, Palm Springs, California.
2014-2022	Board of Directors, Ziibiwing Center of Anishinabe Culture and Lifeways, Saginaw Chippewa Indian Tribe of Michigan.
2008-2021	Archaeological Consultant, Saginaw Chippewa Indian Tribe of Michigan.
2019	Archaeologist, Sault Tribe of Chippewa Indians and Little Traverse Bay Band of Odawa Indians.
2016-2018	Adjunct Lecturer, Michigan State University, East Lansing.
2017-2018	Adjunct Lecturer, University of Michigan, Flint.
2009-2017	Teaching Assistant, Michigan State University, East Lansing.
2008-2014	Research Assistant, Intellectual Property Issues in Cultural Heritage, Simon Fraser University, British Columbia, Canada.
2010-2013	Research Assistant, Michigan State University, East Lansing.
2009-2011	Archaeologist/Crew Chief, Saginaw Chippewa Indian Tribe of Michigan.

Publications

2017 Preliminary Results of a Handheld X-Ray Fluorescence (pXRF) Analysis on a Marble Head Sarcophagus Sculpture from the Collection of the Kresge Art Center, Michigan State University. Submitted to Jon M. Frey, Department of Art, Art History, and Design, Michigan State University, East Lansing.

2013 Geochemical Analysis of the Dickenson Group of the Upper Peninsula, Michigan: A study of an Accreted Terrane of the Superior Province. Geological Society of America *Abstracts with Programs* 45:4(53)

MICHAEL HOGAN, PH.D., RPA*
Principal Investigator/Archaeologist

Education

1991	Ph.D., Anthropology, University of California, Riverside.
1981	B.S., Anthropology, University of California, Riverside; with honors.
2021	"An Introduction to Geoarchaeology: How Understanding Basic Soils, Sediments, and Landforms can make you a Better Archaeologist." SAA Online Seminar.
2002	"Section 106—National Historic Preservation Act: Federal Law at the Local Level," UCLA Extension Course #888.
2002	"Recognizing Historic Artifacts," workshop presented by Richard Norwood, Historical Archaeologist.
2002	"Wending Your Way through the Regulatory Maze," symposium presented by the Association of Environmental Professionals.
1992	"Southern California Ceramics Workshop," presented by Jerry Schaefer.
1992	"Historic Artifact Workshop," presented by Anne Duffield-Stoll.

Registrations

*Registered Professional Archaeologist 41781498

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002	Field Director/Project Archaeologist/Project Paleontologist, CRM TECH.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands.
1992-1998	Assistant Research Anthropologist, University of California, Riverside
1992-1995	Project Director, Archaeological Research Unit, U.C. Riverside.
1991-1992	Crew Chief, Archaeological Research Unit, U.C. Riverside.
1984-1998	Project Director, Field Director, Crew Chief, and Archaeological Technician for various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

Cultural Resources Management Reports

Principal investigator for, author or co-author of, and contributor to numerous cultural resources management study reports since 1986.

Memberships

Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

MICHAEL D. RICHARDS, M.A., RPA
Project Archaeologist

Education

2002	M.A., Anthropology, California State University, Northridge (CSUN).
1986	B.A., Anthropology: University of California, Los Angeles (UCLA).
1982	A.A., Los Angeles Valley College, Los Angeles, California.

2015	Section 106 workshop.
2000	CSUN "Olmec" field excavation and lab analysis; La Venta, Mexico.
1999	Rock art recording, UCLA Extension; Little Lake, California.
1998	Rock art symposium, UCLA Extension.

Professional Experience

2018-	Project Archaeologist/Paleontologist, CRM TECH, Colton, Calif.
2016-2018	Co-Principal Investigator/Archaeologist, LSA Associates Inc.
2012-2016	Co-Principal Investigator/Archaeologist, ICF International (Jones & Stokes).
2010-2012	Co-Principal Investigator/Archaeologist, various CRM firms (on call).
2007-2010	Principal Investigator/Field Director/Crew Chief, ASM Affiliates, Inc.
2004-2007	Project Manager/Co-Principal Investigator, ArchaeoPaleo Resource Management, Inc.
2003-2004	Staff Archaeologist/Crew Chief, SRI, Inc.
2000-2003	Project Archaeologist/Field Director, Ancient Enterprises (Clewlow, Jr.).
1999-2000	Staff Archaeologist/Lab Crew Chief, CSC/Edwards Air Force Base.

Research Interests

Pottery and rock art analysis; prehistory the American southwest; Mesoamerica; Japan.

Cultural Resources Management Reports

Author and co-author of, contributor to, and principal investigator for numerous cultural resources management study reports since 1999.

Memberships

Society for American Archaeology; Society for California Archaeology; Archaeological Institute of America; Conejo Open Space Trails Advisory Committee; Conejo Valley Historical Society.

NINA GALLARDO, B.A.
Project Archaeologist/Native American Liaison

Education

2004 B.A., Anthropology/Law and Society, University of California, Riverside.

Professional Experience

2004- Project Archaeologist, CRM TECH, Riverside/Colton, California.

Cultural Resources Management Reports

Co-author of and contributor to numerous cultural resources management reports since 2004.

APPENDIX 2

NATIVE AMERICAN SCOPING RESPONSES

SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916)373-3710
(916)373-5471 (Fax)
nahc@nahc.ca.gov

Project: Proposed 16-Lot Subdivision Project; APNs 689-090-003, 689-130-004, -005, -013, -014, -017, and 689-140-022 (CRM TECH No. 4085)

County: Riverside

USGS Quadrangle Name: Cathedral City and Rancho Mirage, Calif.

Township 5 South **Range** 5 East SB **BM; Section(s)** 2

Company/Firm/Agency: CRM TECH

Contact Person: Nina Gallardo

Street Address: 1016 E. Cooley Drive, Suite A/B

City: Colton, CA **Zip:** 92324

Phone: (909) 824-6400 **Fax:** (909) 824-6405

Email: ngallardo@crmtech.us

Project Description: The primary component of the project is to subdivide the property into a 16-lot residential development on approximately 20 acres, is located on both the east and west side of Peterson Road, north of Mirage Cove Drive and south of the Whitewater River, in the City of Rancho Mirage, Riverside County, California

December 21, 2023

STATE OF CALIFORNIA — Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

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NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

January 18, 2024

Nina Gallardo
CRM TECH

Via Email to: ngallardo@crmtech.us

Re: Proposed 16-Lot Subdivision Project, Riverside County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Page 1 of 1

Native American Heritage Commission
Native American Contact List
Riverside County
1/18/2024

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties
Agua Caliente Band of Cahuilla Indians	F	Lacy Padilla, THPO Operations Manager	5401 Dinah Shore Drive Palm Springs, CA, 92264	(760) 333-5222	(760) 699-6919	ACBCI-THPO@aguacaliente.net	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Augustine Band of Cahuilla Indians	F	Tribal Operations,	84-001 Avenue 54 Coachella, CA, 92236	(760) 398-4722			Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Cabazon Band of Mission Indians	F	Doug Welmas, Chairperson	84-245 Indio Springs Parkway Indio, CA, 92203	(760) 342-2593	(760) 347-7880	jstapp@cabazonindians-nsn.gov	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Cahuilla Band of Indians	F	BobbyRay Esaprza, Cultural Director	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		besparza@cahuilla-nsn.gov	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Cahuilla Band of Indians	F	Anthony Madrigal, Tribal Historic Preservation Officer	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		anthonymad2002@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Cahuilla Band of Indians	F	Daniel Salgado, Chairperson	52701 CA Highway 371 Anza, CA, 92539	(951) 972-2568	(951) 763-2808	chairman@cahuilla-nsn.gov	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Los Coyotes Band of Cahuilla and Cupeño Indians	F	Ray Chapparosa, Chairperson	P.O. Box 189 Warner Springs, CA, 92086-0189	(760) 782-0711	(760) 782-0712		Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Morongo Band of Mission Indians	F	Robert Martin, Chairperson	12700 Pumarra Road Banning, CA, 92220	(951) 755-5110	(951) 755-5177	abrierty@morongo-nsn.gov	Cahuilla Serrano	Imperial,Los Angeles,Riverside,San Bernardino,San Diego
Morongo Band of Mission Indians	F	Ann Brierty, THPO	12700 Pumarra Road Banning, CA, 92220	(951) 755-5259	(951) 572-6004	abrierty@morongo-nsn.gov	Cahuilla Serrano	Imperial,Los Angeles,Riverside,San Bernardino,San Diego
Quechan Tribe of the Fort Yuma Reservation	F	Manfred Scott, Acting Chairman - Kw'ts'an Cultural Committee	P.O. Box 1899 Yuma, AZ, 85366	(928) 210-8739		culturalcommittee@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego
Quechan Tribe of the Fort Yuma Reservation	F	Jordan Joaquin, President, Quechan Tribal Council	P.O.Box 1899 Yuma, AZ, 85366	(760) 919-3600		executivesecretary@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego
Quechan Tribe of the Fort Yuma Reservation	F	Jill McCormick, Historic Preservation Officer	P.O. Box 1899 Yuma, AZ, 85366	(928) 261-0254		historicpreservation@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego
Ramona Band of Cahuilla	F	John Gomez, Environmental Coordinator	P. O. Box 391670 Anza, CA, 92539	(951) 763-4105	(951) 763-4325	jgomez@ramona-nsn.gov	Cahuilla	Imperial,Riverside,San Bernardino,San Diego

Ramona Band of Cahuilla	F	Joseph Hamilton, Chairperson	P.O. Box 391670 Anza, CA, 92539	(951) 763-4105	(951) 763-4325	admin@ramona-nsn.gov	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Santa Rosa Band of Cahuilla Indians	F	Lovina Redner, Tribal Chair	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	lsaul@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego
Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-5279	(951) 654-4198	jontiveros@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego
Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-6261	(951) 654-4198	jvaldez@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego
Torres-Martinez Desert Cahuilla Indians	F	Mary Belardo, Cultural Committee Vice Chair	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300		belardom@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Torres-Martinez Desert Cahuilla Indians	F	Gary Resvaloso, TM MLD	P.O. Box 1160 Thermal, CA, 92274	(760) 777-0365		grestmtm@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Torres-Martinez Desert Cahuilla Indians	F	Abraham Becerra, Cultural Coordinator	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300		abecerra@tmdci.org	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Torres-Martinez Desert Cahuilla Indians	F	Thomas Tortez, Chairperson	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300	(760) 397-8146	thomas.tortez@tmdci.org	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Torres-Martinez Desert Cahuilla Indians	F	Alesia Reed, Cultural Committee Chairwoman	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300		lisareed990@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed 16-Lot Subdivision Project, Riverside County.

FROM: NGALLARDO@CRMTECH.US
SENT: THURSDAY, DECEMBER 21, 2023 10:22 AM
TO: 'THPO CONSULTING'
CC: MADRIGAL, XITLALY (TRBL)
SUBJECT: CULTURAL STUDY AND PARTICIPATION IN FIELD SURVEY FOR THE PROPOSED 16-LOT SUBDIVISION PROJECT, IN THE CITY OF RANCHO MIRAGE (CRM TECH NO. 4085)
ATTACHMENTS:4085 NAHC REQUEST.DOCX; 4085 PA MAP.JPG

HELLO,

I'M WRITING TO INFORM YOU THAT CRM TECH WILL BE CONDUCTING A CULTURAL RESOURCES STUDY FOR THE PROPOSED 16-LOT SUBDIVISION PROJECT (APNS 689-090-003, 689-130-004, -005, -013, -014, -017, AND 689-140-022), IN THE CITY OF RANCHO MIRAGE, RIVERSIDE COUNTY, CALIFORNIA (CRM TECH NO. 4085). SPECIFICALLY, I AM CONTACTING YOU TO SEE IF THE TRIBE WOULD LIKE TO PARTICIPATE IN THE FIELD SURVEY OF THE PROPERTY. WE WILL CONTACT YOU AGAIN WHEN WE BEGIN TO SET UP A SPECIFIC TIME AND DATE FOR THE FIELDWORK ONCE WE HAVE COMPLETED THE RECORD SEARCH AT THE EIC.

WE ARE ALSO ASKING FOR ANY INFORMATION REGARDING ANY TRIBAL CULTURAL RESOURCES WITHIN OR NEAR THE PROPOSED PROJECT LOCATION. I'M ALSO ATTACHING THE PROPOSED PROJECT AREA MAP, AND PROJECT INFORMATION. WE WOULD ALSO APPRECIATE ANY INFORMATION THAT THE TRIBE MAY PROVIDE THAT CRM TECH CAN INCLUDE IN OUR REPORT. PLEASE FEEL FREE TO EMAIL BACK WITH ANY QUESTIONS, COMMENTS AND/ OR INFORMATION REGARDING THE PROPOSED PROJECT, AND POSSIBLE AVAILABILITY FOR THE FIELD SURVEY.

THANK YOU FOR YOUR TIME AND INPUT ON THIS PROJECT.

NINA GALLARDO
(909) 824-6400 (PHONE)
(909) 824-6405 (FAX)
CRM TECH
1016 E. COOLEY DRIVE, STE. A/B
COLTON, CA 92324

FROM: MADRIGAL, XITLALY (TRBL) <XMADRIGAL@AGUACALIENTE.NET>
SENT: WEDNESDAY, JANUARY 17, 2024 11:30 AM
TO: 'NGALLARDO@CRMTECH.US'
CC: PADILLA, LACY (TRBL); DUARTE, CLARITSA (TRBL)
SUBJECT: RE: PROFESSIONAL OFFICE AND ART GALLERY

SOUNDS GOOD, CLARITSA WILL MEET MICHAEL OUT AT 7 AM AND IS AVAILABLE FOR BOTH SURVEYS.

THANK YOU,
XITLALY MADRIGAL
CULTURAL RESOURCES ANALYST
XMADRIGAL@AGUACALIENTE.NET
C: (760) 423-3485 | D: (760) 883-6829
5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

03-008-2023-009

December 26, 2023

[VIA EMAIL TO:ngallardo@crmtech.us]
CRM TECH
Ms. Nina Gallardo
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324

Re: 16-Lot Subdivision in Rancho Mirage

Dear Ms. Nina Gallardo,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the 16-Lot Subdivision project. The project area is not located within the boundaries of the ACBCI Reservation. However, it is within the Tribe's Traditional Use Area. For this reason, the ACBCI THPO requests the following:

*A cultural resources inventory of the project area by a qualified archaeologist prior to any development activities in this area.

*A copy of the records search with associated survey reports and site records from the information center.

*Copies of any cultural resource documentation (report and site records) generated in connection with this project.

*The presence of an approved Agua Caliente Native American Cultural Resource Monitor(s) during any ground disturbing activities (including archaeological testing and surveys). Should buried cultural deposits be encountered, the Monitor may request that destructive construction halt and the Monitor shall notify a Qualified Archaeologist (Secretary of the Interior's Standards and Guidelines) to investigate and, if necessary, prepare a mitigation plan for submission to the State Historic Preservation Officer and the Agua Caliente Tribal Historic Preservation Office.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760) 423-3485. You may also email me at ACBCI-THPO@aguacaliente.net.

Cordially,

5401 Dinah Shore Drive, Palm Springs, CA 92264
([illegible] F. [illegible] www.[illegible].net

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

Xitlaly Madrigal
Cultural Resources Analyst
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

APPENDIX D

PRELIMINARY HYDROLOGY STUDY
for
TENTATIVE TRACT MAP 38971
RANCHO MIRAGE, CALIFORNIA

Prepared for:
Horti Caesaris LLC
9401 Wilshire Blvd., 12th Floor
Beverly Hills, CA 90212-2928

Prepared by:

FOMOTOR ENGINEERING

225 S. Civic Drive, Suite 1-5
Palm Springs, California 92262
Phone (760)323-1842
Fax (760)323-1742

July 9, 2024

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I. Report

II. Reference Material

a. Vicinity Map
b. Flood Insurance Rate Map (U.S. Department of Homeland Security Federal Emergency Management Act Map Service Center)
c. Hydrologic Soils Group Maps (From US Department of Agriculture Soil Conservation Service)
d. Point Precipitation Frequency (National Oceanic and Atmospheric Administration's Precipitation Frequency Data Server)
e. City of Rancho Mirage Retention Basin Standard Detail 310.
f. Impervious Cover for Developed Areas – Plate D-5.6 (RCFC&WCD Hydrology Manual).
g. Runoff Index– Plate D-5.5-Pg 1 (RCFC&WCD Hydrology Manual).
h. Pervious Area Loss Rate – Plate E-6.2 (RCFC&WCD Hydrology Manual).
i. SUH Shortcut Method Basin and Runoff Calculation Spreadsheet

VI. Exhibit

i. Preliminary Hydrology Exhibit

PRELIMINARY HYDROLOGY STUDY FOR TENTATIVE TRACT MAP 38971

PROJECT SITE LOCATION

The 20.05-acre 16 lot proposed Tentative Tract Map site is located on Peterson Road, west of Mirage Cove Drive, in the City of Rancho Mirage, County of Riverside, California. The proposed development site lies in Section 2, T5S, R5E, and SBBM, with APNs: 689-090-003, 689-130-004, -005, -013, -014, -017, -018 and 689-140-022.

PROJECT SITE DESCRIPTION

The project site is presently vacant. Existing elevations vary from 264 down to 257 with a slight slope. The site is entirely composed of Hydrologic Soil Type "A". A Tentative Tract Map is proposed on this site. The project site area is in shaded Zone X, which is described as: "2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile". (See Riverside County Flood Insurance Rate Map numbers 06065C1589G and 06065C1595G, Effective August 28, 2008, in Reference Materials).

PURPOSE

Each proposed lot within the project site was separately analyzed for proposed condition basin capacity using Synthetic Unit Hydrograph Shortcut Method for the 1, 3, 6, and 24-hour duration 100-year storm event to determine the worst-case contributing runoff volume. This computed runoff volume was used to size a proposed retention basin for each lot as per City of Rancho Mirage Standard Detail 310 for Retention Basins. The runoff from each proposed onsite area would be directed via swale system to the proposed retention basin. Adjacent half street frontage was added to the runoff area of each lot.

METHODOLOGY

The materials included with this study are presented to satisfy the criteria set forth in the Riverside County Flood Control & Water Conservation District (RCFC & WCD) Hydrology Manual. The onsite/offsite post-developed condition design runoff volume was determined using the worst of the 1, 3, 6, and 24-hour duration storm for the 100-year event. Peak discharges of the 100-year storm event will be determined with the Rational Formula. Synthetic Unit Hydrograph (SUH) calculations were performed in accordance with RCFC & WCD criteria. The Hydrologic Soil Group area was determined with the Natural Resources Conservation Service's National Cooperative Soil Survey (See Reference Material). Point precipitation frequency data was obtained with the National Oceanic and Atmospheric Administration's (NOAA) Precipitation Frequency Data Server from Atlas 14 (See Reference Material.). The NOAA point precipitation data of the 100-year event will be plotted on a log-log plot to obtain the slope of intensity duration curve which will be used in the Rational Method analysis. Any necessary storm drains will be modeled with the computer modeling software, Hydraflow Storm Sewers Extensions for AutoCAD Civil3D 2024, by Autodesk, Inc. Any necessary storm drain inlets will be sized as per AutoCAD Hydraflow Express Extension, Version 12.

RESULT OF SYNTHETIC UNIT HYDROGRAPH ANALYSIS

Summary of results of the Synthetic Unit Hydrograph (SUH) analysis are as follows:
Please refer to the attached Hydrology Plan, and SUH Calculation Spreadsheets in the Reference Materials

Proposed Onsite and Offsite Area Runoff to Basins

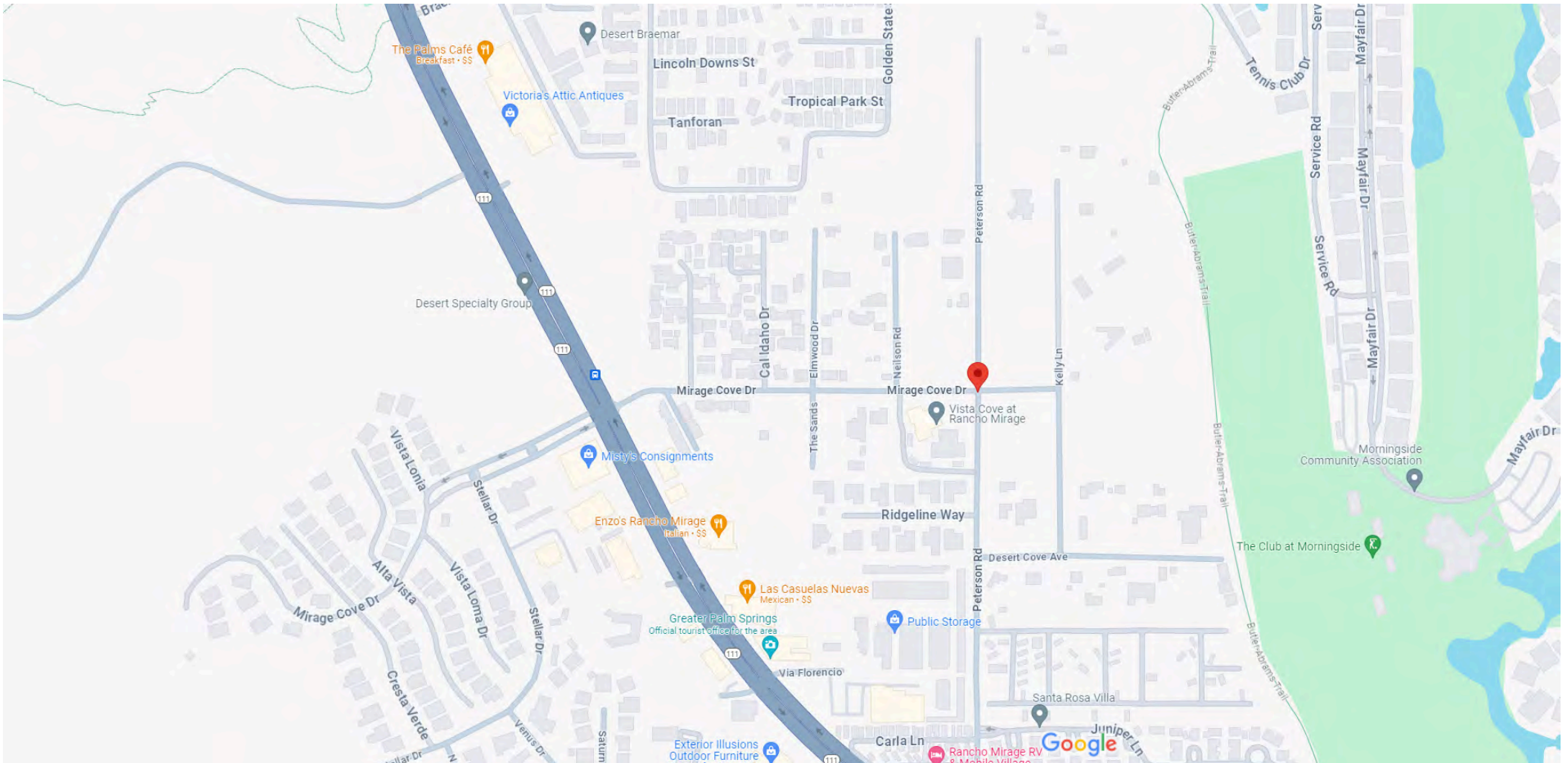
BASIN ID	*CONTRIBUTING AREA (ACRES) (STREET OFFSITE FRONTAGE 0.09AC)*	*STORM FREQUENCY (YEAR)*	*DURATION (HOUR)*	*PEAK RUNOFF STORAGE VOLUME VS INFILTRATION (CU-FT) -POST DEV*	*BASIN CAPACITY (CU-FT)*	*BASIN DEPTH (FT)*	*PEAK BASIN WATER DEPTH (FT)*
LOT 1	***1.09(1.00+0.09)***	***100***	***1***	***7,307***	***8,996***	***4***	***3.25***
LOT 2	***1.16(1.07+0.09)***	***100***	***1***	***7,777***	***8,239***	***4***	***3.78***
LOT 3	***1.18(1.09+0.09)***	***100***	***1***	***7,911***	***8,239***	***4***	***3.84***
LOT 4	***1.18(1.09+0.09)***	***100***	***1***	***7,911***	***8,239***	***4***	***3.84***
LOT 5	***1.18(1.09+0.09)***	***100***	***1***	***7,911***	***8,239***	***4***	***3.84***
LOT 6	***1.25(1.16+0.09)***	***100***	***1***	***8,380***	***8,471***	***4***	***3.96***
LOT 7	***1.25(1.16+0.09)***	***100***	***1***	***8,380***	***8,471***	***4***	***3.96***
LOT 8	***1.07(0.98+0.09)***	***100***	***1***	***7,173***	***8,239***	***4***	***3.48***
LOT 9	***1.07(0.98+0.09)***	***100***	***1***	***7,173***	***8,239***	***4***	***3.48***
LOT 10	***1.23(1.14+0.09)***	***100***	***1***	***8,246***	***8,331***	***5***	***4.95***
LOT 11	***1.45(1.36+0.09)***	***100***	***1***	***9,721***	***9,830***	***5***	***4.94***
LOT 12	***1.64(1.55+0.09)***	***100***	***1***	***10,995***	***11,159***	***5***	***4.93***
LOT 13	***1.12(1.03+0.09)***	***100***	***1***	***7,508***	***8,239***	***4***	***3.65***
LOT 14	***1.12(1.03+0.09)***	***100***	***1***	***7,508***	***8,239***	***4***	***3.65***
LOT 15	***1.12(1.03+0.09)***	***100***	***1***	***7,508***	***8,239***	***4***	***3.65***
LOT 16	***1.11(1.02+0.09)***	***100***	***1***	***7,441***	***8,239***	***4***	***3.61***

DISCUSSION

Basin infiltration was not used to size the retention basins. A percolation test will be performed in the future. The 1-hour storm was determined to be the worst case of the 1, 3, 6, and 24-hour duration 100-year storm events for the Synthetic Unit Hydrograph analysis. In general, each lot will have an independent retention basin sized to contain the 100-year 1-hour runoff from each respective lot as well as the adjacent half-street frontage. Each basin will be four to five feet deep with 3 to 1 side slopes and receive runoff from swale flow (See SUH Shortcut Calculations and Preliminary Hydrology Plan in the Reference Materials). The impermeable area used for calculations was based on a 1-acre residential lot from Plate D-5.6 of the RCFC&WCD Hydrology Manual and the adjacent half-street frontage was added. The Runoff Index was selected from Plate D-5.5 (1 of 2) of the RCFC&WCD Hydrology Manual.

REFERENCE MATERIAL

Google Maps Peterson Rd & Mirage Cove Dr

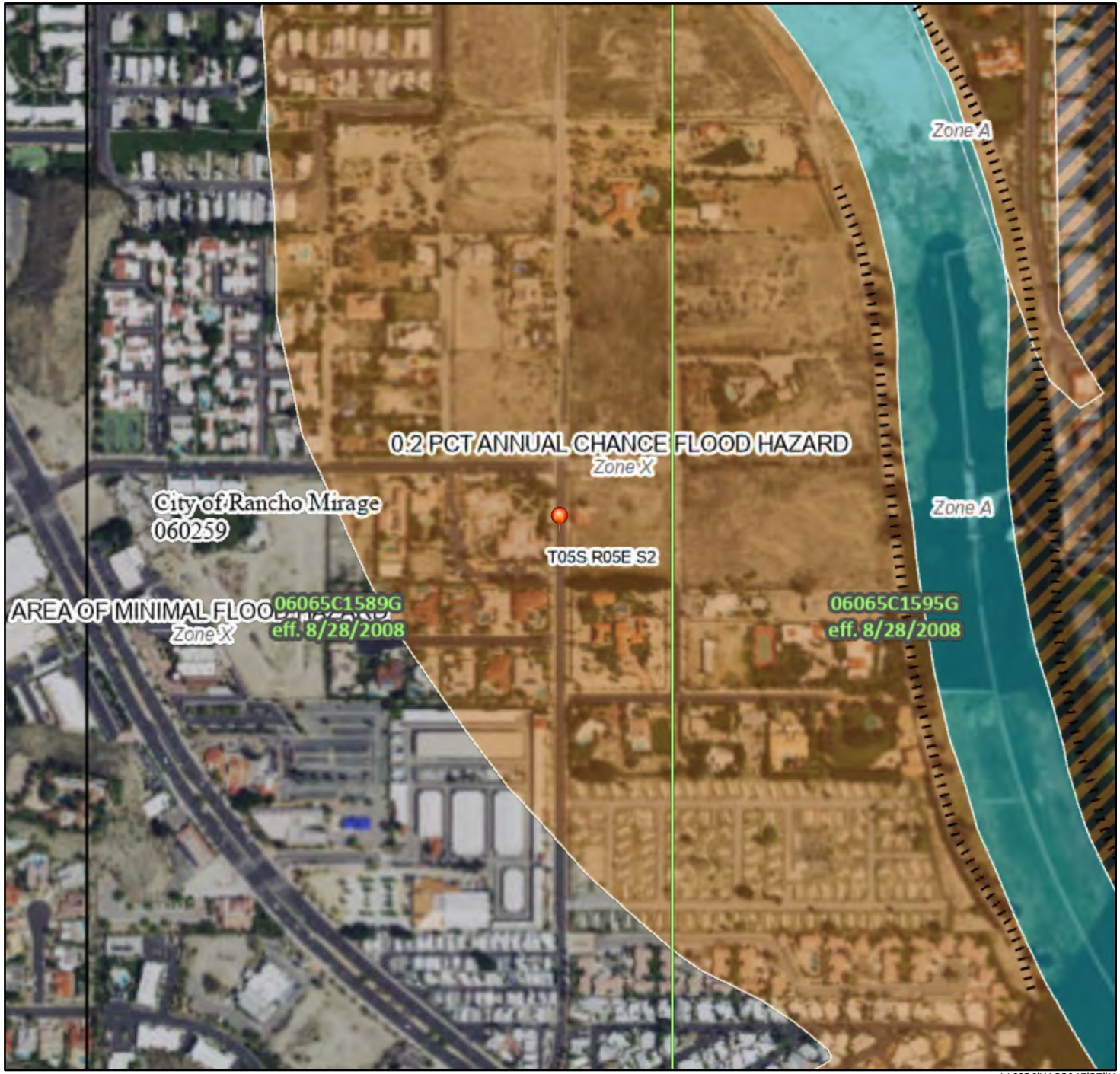


Map data ©2024 Google 200 ft

National Flood Hazard Layer FIRMette

FEMA

116°26'38"W 33°46'7"N



116°26'W 33°45'37"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/11/2024 at 4:17 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Hydrologic Soil Group—Riverside County, Coachella Valley Area, California
(North Area)

Map Scale: 1:2,470 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Riverside County, Coachella Valley Area, California
Survey Area Data: Version 15, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 15, 2022—May 28, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CpA	Coachella fine sand, 0 to 2 percent slopes	A	13.0	100.0%
Totals for Area of Interest			**13.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

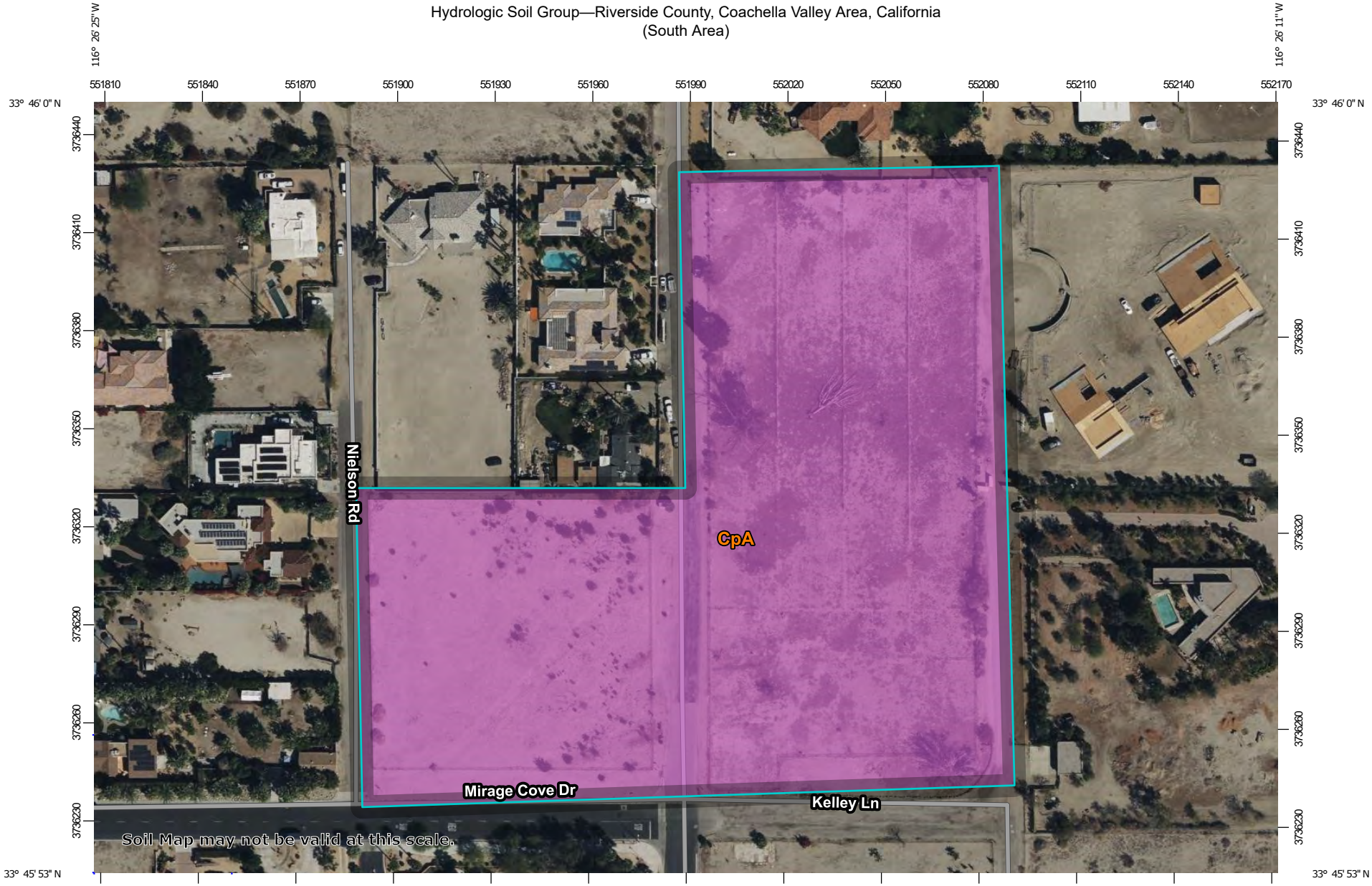
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Hydrologic Soil Group—Riverside County, Coachella Valley Area, California
(South Area)



Map Scale: 1:1,660 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Riverside County, Coachella Valley Area, California
Survey Area Data: Version 15, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 15, 2022—May 28, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CpA	Coachella fine sand, 0 to 2 percent slopes	A	7.1	100.0%
Totals for Area of Interest			**7.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

NOAA Atlas 14, Volume 6, Version 2
Location name: Rancho Mirage, California, USA*
Latitude: 33.767°, Longitude: -116.4389°
Elevation: 260 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.072 (0.060-0.087)	0.117 (0.097-0.142)	0.190 (0.157-0.231)	0.260 (0.214-0.319)	0.378 (0.301-0.479)	0.488 (0.380-0.632)	0.620 (0.471-0.824)	0.800 (0.590-1.09)	1.27 (0.901-1.82)	1.81 (1.24-2.68)
10-min	0.103 (0.086-0.124)	0.168 (0.140-0.203)	0.272 (0.226-0.330)	0.373 (0.307-0.458)	0.541 (0.431-0.687)	0.699 (0.544-0.906)	0.888 (0.675-1.18)	1.15 (0.846-1.57)	1.83 (1.29-2.61)	2.60 (1.78-3.84)
15-min	0.124 (0.104-0.150)	0.203 (0.169-0.246)	0.329 (0.273-0.400)	0.451 (0.372-0.553)	0.655 (0.521-0.831)	0.845 (0.658-1.10)	1.07 (0.816-1.43)	1.39 (1.02-1.90)	2.21 (1.56-3.15)	3.14 (2.15-4.65)
30-min	0.202 (0.169-0.245)	0.330 (0.275-0.400)	0.535 (0.444-0.650)	0.734 (0.605-0.900)	1.06 (0.848-1.35)	1.38 (1.07-1.78)	1.75 (1.33-2.32)	2.26 (1.66-3.09)	3.59 (2.54-5.13)	5.12 (3.49-7.56)
60-min	0.279 (0.233-0.338)	0.455 (0.379-0.552)	0.738 (0.613-0.898)	1.01 (0.835-1.24)	1.47 (1.17-1.87)	1.90 (1.48-2.46)	2.41 (1.83-3.21)	3.12 (2.30-4.26)	4.96 (3.51-7.08)	7.06 (4.83-10.4)
2-hr	0.374 (0.312-0.453)	0.611 (0.509-0.741)	0.969 (0.805-1.18)	1.30 (1.07-1.60)	1.82 (1.45-2.31)	2.28 (1.77-2.95)	2.80 (2.13-3.72)	3.40 (2.51-4.66)	5.01 (3.55-7.15)	7.14 (4.87-10.6)
3-hr	0.443 (0.369-0.536)	0.721 (0.601-0.875)	1.13 (0.940-1.38)	1.50 (1.24-1.84)	2.07 (1.65-2.62)	2.56 (1.99-3.31)	3.10 (2.36-4.12)	3.72 (2.75-5.09)	5.06 (3.58-7.22)	7.21 (4.92-10.7)
6-hr	0.593 (0.494-0.718)	0.953 (0.794-1.16)	1.47 (1.22-1.79)	1.93 (1.59-2.36)	2.60 (2.07-3.30)	3.17 (2.47-4.11)	3.79 (2.88-5.04)	4.48 (3.31-6.14)	5.51 (3.90-7.86)	7.28 (4.97-10.8)
12-hr	0.733 (0.611-0.888)	1.16 (0.969-1.41)	1.77 (1.47-2.15)	2.30 (1.90-2.82)	3.08 (2.45-3.91)	3.72 (2.90-4.83)	4.42 (3.36-5.88)	5.19 (3.83-7.10)	6.31 (4.46-9.00)	7.35 (5.02-10.9)
24-hr	0.867 (0.768-1.00)	1.36 (1.20-1.57)	2.06 (1.81-2.38)	2.66 (2.33-3.10)	3.54 (3.00-4.26)	4.27 (3.54-5.24)	5.05 (4.10-6.36)	5.91 (4.66-7.64)	7.16 (5.43-9.63)	8.20 (6.02-11.4)
2-day	0.996 (0.882-1.15)	1.54 (1.36-1.78)	2.32 (2.04-2.68)	2.99 (2.62-3.49)	3.98 (3.37-4.80)	4.80 (3.99-5.90)	5.69 (4.62-7.16)	6.67 (5.26-8.62)	8.09 (6.14-10.9)	9.28 (6.81-12.9)
3-day	1.06 (0.937-1.22)	1.63 (1.44-1.88)	2.44 (2.15-2.83)	3.16 (2.76-3.68)	4.21 (3.57-5.07)	5.09 (4.23-6.26)	6.05 (4.91-7.62)	7.11 (5.62-9.20)	8.67 (6.58-11.7)	9.99 (7.33-13.9)
4-day	1.09 (0.966-1.26)	1.67 (1.48-1.93)	2.51 (2.21-2.90)	3.24 (2.84-3.78)	4.33 (3.67-5.22)	5.24 (4.35-6.44)	6.24 (5.06-7.85)	7.34 (5.80-9.49)	8.97 (6.80-12.1)	10.4 (7.59-14.4)
7-day	1.19 (1.05-1.37)	1.82 (1.61-2.10)	2.73 (2.40-3.16)	3.52 (3.08-4.11)	4.71 (3.99-5.67)	5.70 (4.73-7.00)	6.78 (5.50-8.54)	7.98 (6.30-10.3)	9.76 (7.40-13.1)	11.3 (8.25-15.7)
10-day	1.26 (1.11-1.45)	1.93 (1.70-2.22)	2.89 (2.55-3.34)	3.74 (3.27-4.36)	5.00 (4.24-6.02)	6.06 (5.03-7.44)	7.21 (5.84-9.07)	8.48 (6.70-11.0)	10.4 (7.86-14.0)	12.0 (8.77-16.6)
20-day	1.38 (1.22-1.60)	2.14 (1.89-2.47)	3.23 (2.85-3.74)	4.20 (3.67-4.90)	5.65 (4.78-6.80)	6.86 (5.70-8.44)	8.20 (6.65-10.3)	9.68 (7.64-12.5)	11.9 (9.00-16.0)	13.7 (10.1-19.1)
30-day	1.55 (1.37-1.79)	2.42 (2.14-2.79)	3.68 (3.24-4.26)	4.80 (4.20-5.61)	6.49 (5.50-7.82)	7.92 (6.57-9.73)	9.48 (7.69-11.9)	11.2 (8.86-14.5)	13.8 (10.5-18.6)	16.0 (11.7-22.3)
45-day	1.70 (1.51-1.97)	2.69 (2.38-3.10)	4.12 (3.64-4.77)	5.41 (4.73-6.32)	7.36 (6.24-8.86)	9.02 (7.48-11.1)	10.8 (8.79-13.6)	12.9 (10.2-16.7)	15.9 (12.1-21.4)	18.5 (13.6-25.8)
60-day	1.83 (1.62-2.11)	2.91 (2.58-3.36)	4.50 (3.97-5.22)	5.94 (5.20-6.93)	8.12 (6.88-9.77)	9.98 (8.28-12.3)	12.0 (9.76-15.1)	14.3 (11.3-18.5)	17.8 (13.5-24.0)	20.8 (15.2-28.9)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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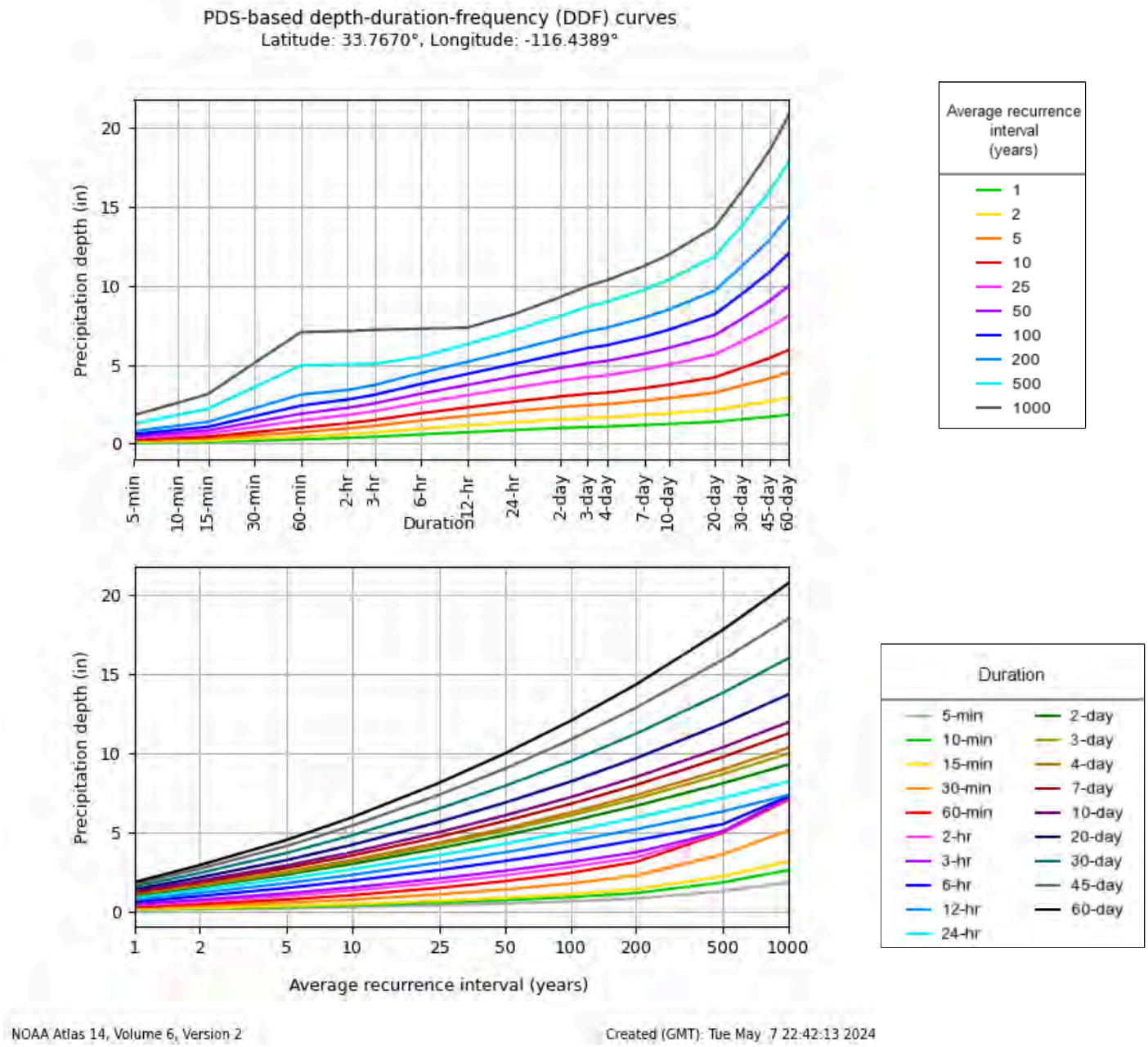
PF graphical



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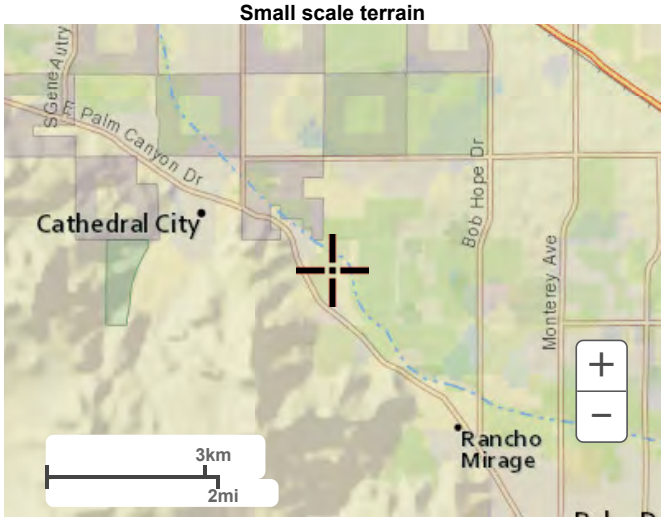
Maps & aerials

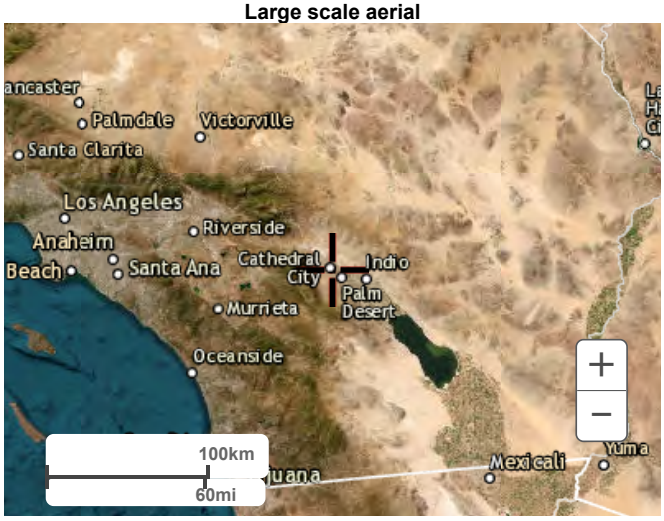
Small scale terrain



Large scale terrain

Large scale map

Large scale aerial



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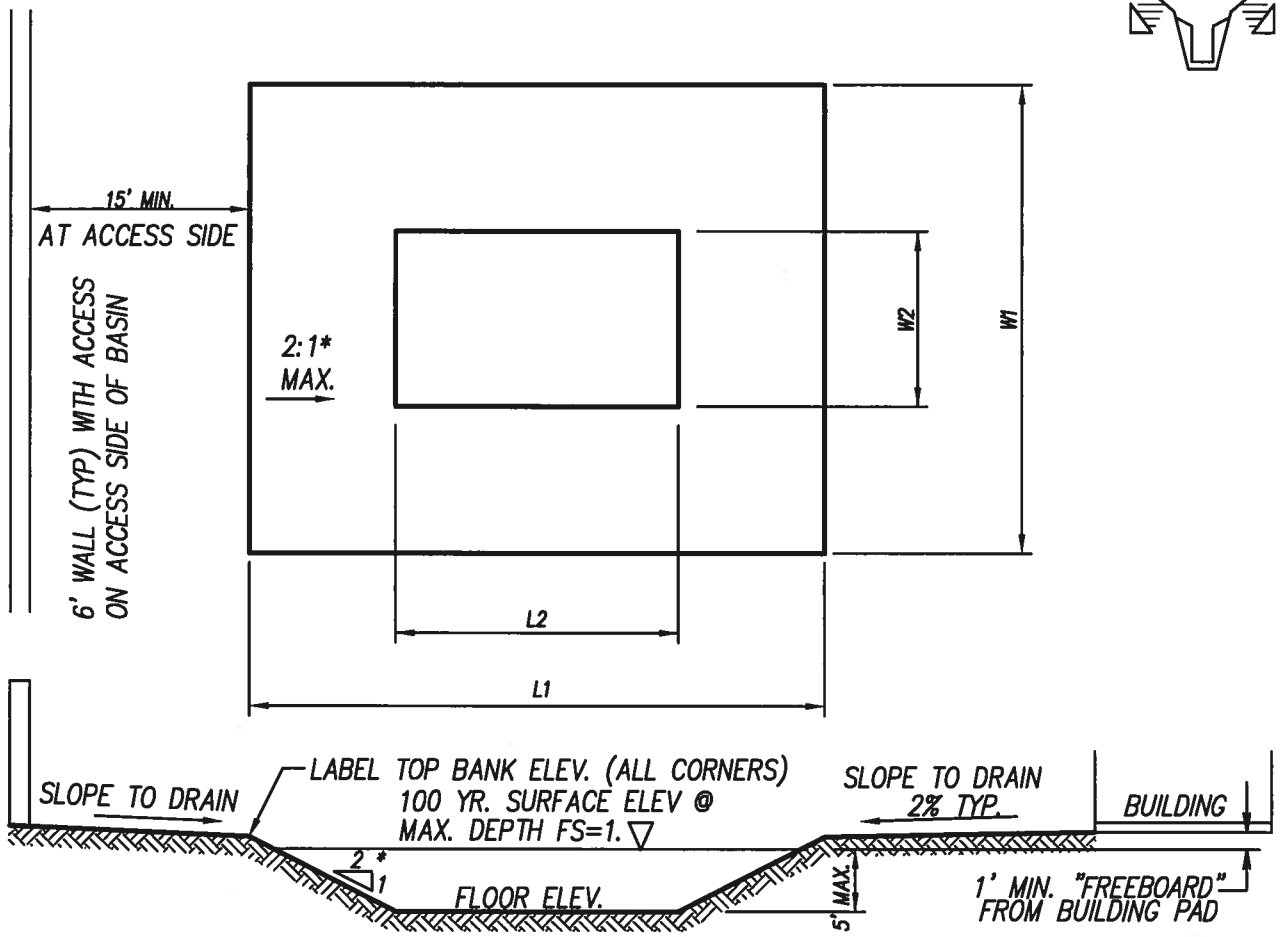
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

CITY OF RANCHO MIRAGE



DESIGN CRITERIA

MAX. PERCOLATION RATE = 1"/HR.
MAX. DEPTH AT PEAK STORAGE = 5'
FACTOR OF SAFETY F.S. = 1.0 MINIMUM
ONE FOOT MINIMUM "FREEBOARD" BELOW LOWEST BUILDING PAD TO MAXIMIUM WATER LEVEL
THE BASIN SHALL BE DESIGNED TO RETAIN THE RUNOFF FROM THE WORST CASE OF THE 1 HR., 3 HR. 6 HR., OR 24 HR. DURATION, 100 YEAR FREQUENCY STORM.
SEE SHT. 2 OF 2 FOR MINIMUM PLAN REQUIREMENTS

* SLOPES STEEPER THAN 5:1 WILL REQUIRE EROSION CONTROL APPROVED BY THE CITY ENGINEER. (TYPICAL EROSION CONTROL CONSISTS OF CONTINUOUS GROUND COVER LIKE GRASS, OR WASHED ROCK WITH A DIAMETER OF 1" OR LARGER, PLACED TO A DEPTH OF 3" OVER WEED BARRIER CLOTH.)

CITY OF RANCHO MIRAGE		STANDARD
REVISIONS	RETENTION BASIN	DETAIL
* 7/5/2012		310
	7/12/12	
	APPROVED BY: CITY ENGINEER DATE	SHT. 1 OF 2

CITY OF RANCHO MIRAGE

AT A MINIMUM, PLANS SHALL INCLUDE THE FOLLOWING INFORMATION:

1. BOUNDARY (LOT LINES) INCLUDING BEARING AND DISTANCES
2. SLOPE SYMBOLS, OR FINISH CONTOURS, WITH SLOPE RATIOS OR PERCENTAGES
* 3. ELEVATION LABELS FOR: BOTTOM, WATER SURFACE AT VOL. MAX. FOR 100YR. STORM, AND TOP (HYDROLOGY CALCULATIONS SHALL BE SUBMITTED VERIFYING BASIN AREA, DEPTH, AND VOLUME.)
4. DIMENSIONS (LENGTH, WIDTH AND DEPTH) OR SCALED DRAWING.
5. FINISHED SURFACE ELEVATIONS FOR IDENTIFYING THE FLOW PATHS
6. RIP-RAP OR APPROPRIATE EROSION CONTROL IF SLOPES EXCEED 20% (5:1)
7. ANY STRUCTURES, PIPES, HEADWALLS, RIP-RAP, DRYWELLS, ETC. SHOWN WITH REFERENCE TO STREET PLANS, STORM DRAIN PLANS, OR GRADING PLANS (A DRYWELL IS RECOMMENDED FOR LARGER RETENTION BASINS AS A WAY OF INTERCEPTING "NUISANCE WATER' THAT MIGHT CAUSE A CONSTANT SWAMPY AREA TO DEVELOP IN THE RETENTION BASIN. FLOWS TO CVWD CHANNELS OR TO LAKES TYPICALLY REQUIRE A DRYWELL TO INTERCEPT STREET RUNOFF. MAINTENANCE IS EASIEST IF THE DRYWELL IS NEAR THE STREET SO VACUUM TRUCKS CAN ACCESS THEM. SEE STANDARD DRAWINGS 306 AND 311.)

CITY OF RANCHO MIRAGE		STANDARD
REVISIONS * 7/5/2012	RETENTION BASIN NOTES	DETAIL 310
	APPROVED BY: CITY ENGINEER 7/12/12 DATE	SHT. 2 OF 2

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent(2)
Natural or Agriculture	0 - 10	0
Single Family Residential: (3)		
40,000 S. F. (1 Acre) Lots	10 - 25	20
20,000 S. F. (½ Acre) Lots	30 - 45	40
7,200 - 10,000 S. F. Lots	45 - 55	50
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 -100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.

2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.

3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

RCFC & WCD
HYDROLOGY MANUAL

IMPERVIOUS COVER FOR DEVELOPED AREAS

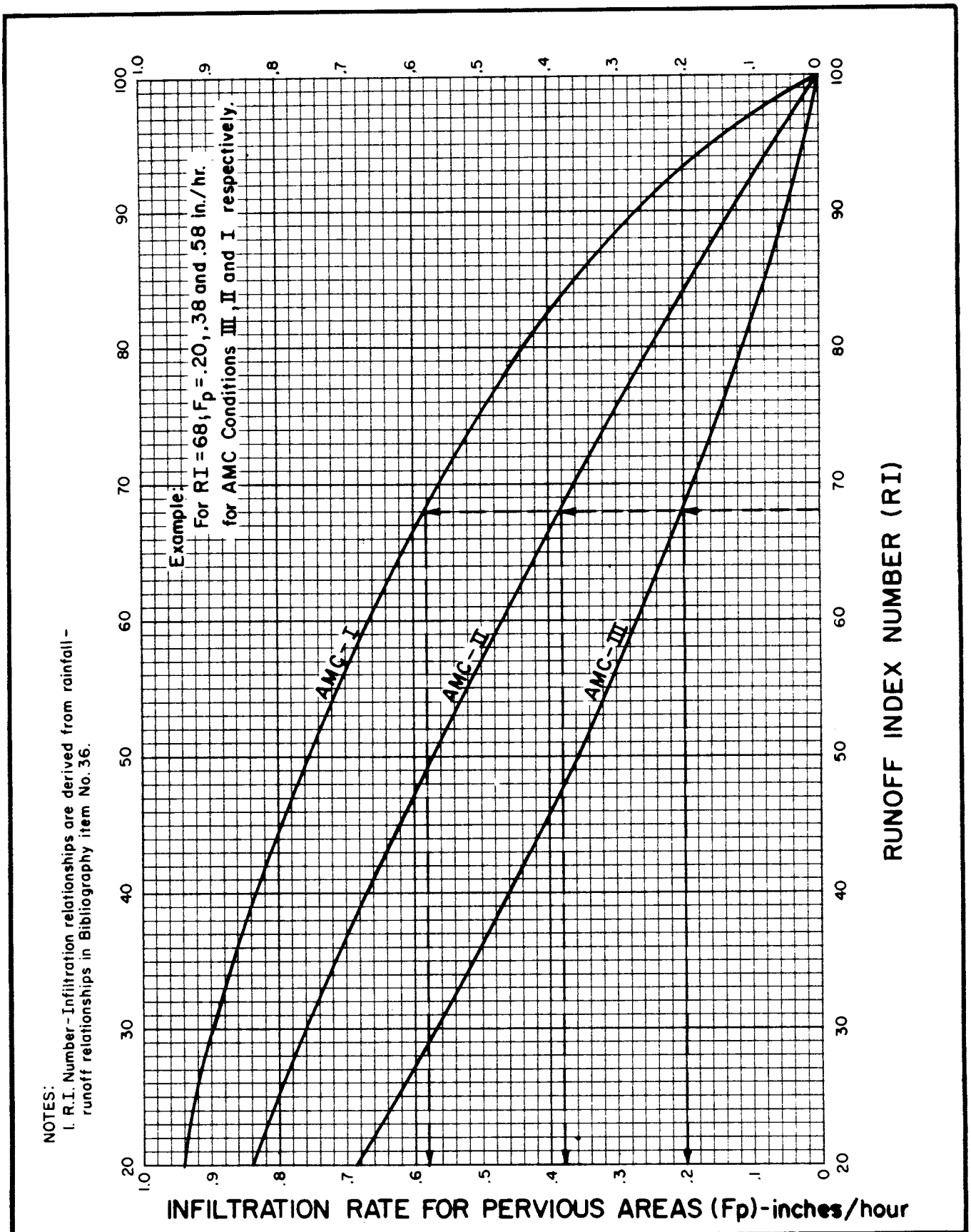
PLATE D-5.6

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	72	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	28	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

RCFC & WCD
HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREA



NOTES:
1. R.I. Number-Infiltration relationships are derived from rainfall-runoff relationships in Bibliography item No. 36.

RCFC & WCD

HYDROLOGY MANUAL

INFILTRATION RATE FOR PERVIOUS AREAS VERSUS RUNOFF INDEX NUMBERS

PLATE E-6.2

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2

Area=1.00ac+0.09ac typ street frontage=1.09ac
5/7/2024 LOT 1

Drainage Area (ac.)	1.0900		JOB NUMBER 22106		
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3702 s.f. Bot. = 1062 s.f. Max. Depth (d)= 4 Max. storage= 8995.74 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5575	167.24	0.00	0.00	0.00	0.00	0.00	167.24	1062.00	0.07	167.16	0.07	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9071	272.13	0.00	0.00	0.00	0.00	0.00	272.13	1111.06	0.08	439.21	0.20	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0024	300.73	0.00	0.00	0.00	0.00	0.00	300.73	1190.90	0.08	739.86	0.33	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9389	281.66	0.00	0.00	0.00	0.00	0.00	281.66	1279.13	0.09	1021.44	0.45	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.4792	443.77	0.00	0.00	0.00	0.00	0.00	443.77	1361.76	0.09	1465.11	0.65	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.7017	510.52	0.00	0.00	0.00	0.00	0.00	510.52	1491.97	0.10	1975.53	0.88	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.0514	615.41	0.00	0.00	0.00	0.00	0.00	615.41	1641.76	0.11	2590.82	1.15	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.2421	672.62	0.00	0.00	0.00	0.00	0.00	672.62	1822.33	0.13	3263.32	1.45	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.2910	987.30	0.00	0.00	0.00	0.00	0.00	987.30	2019.69	0.14	4250.48	1.89	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	4.9756	1492.69	0.00	0.00	0.00	0.00	0.00	1492.69	2309.40	0.16	5743.01	2.55	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.4989	1349.66	0.00	0.00	0.00	0.00	0.00	1349.66	2747.41	0.19	7092.48	3.15	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7164	214.91	0.00	0.00	0.00	0.00	0.00	214.91	3143.44	0.22	7307.17	3.25	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3206.45	0.22	7306.95	3.25	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3206.39	0.22	7306.73	3.25	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3206.32	0.22	7306.50	3.25	0.00	0.00	
					Total volume (cf)			7308.64								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0532	15.95	0.00	0.00	0.00	0.00	0.00	15.95	1062.00	0.07	15.87	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0532	15.95	0.00	0.00	0.00	0.00	0.00	15.95	1066.66	0.07	31.74	0.01	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0450	13.49	0.00	0.00	0.00	0.00	0.00	13.49	1071.32	0.07	45.16	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0613	18.40	0.00	0.00	0.00	0.00	0.00	18.40	1075.25	0.07	63.49	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0613	18.40	0.00	0.00	0.00	0.00	0.00	18.40	1080.63	0.08	81.81	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	1086.01	0.08	116.93	0.05	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0613	18.40	0.00	0.00	0.00	0.00	0.00	18.40	1096.32	0.08	135.26	0.06	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	1101.69	0.08	170.38	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	1112.00	0.08	205.50	0.09	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0613	18.40	0.00	0.00	0.00	0.00	0.00	18.40	1122.31	0.08	223.82	0.10	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0654	19.63	0.00	0.00	0.00	0.00	0.00	19.63	1127.69	0.08	243.37	0.11	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	1133.42	0.08	278.49	0.12	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2809	84.26	0.00	0.00	0.00	0.00	0.00	84.26	1143.73	0.08	362.68	0.16	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2809	84.26	0.00	0.00	0.00	0.00	0.00	84.26	1168.44	0.08	446.86	0.20	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2809	84.26	0.00	0.00	0.00	0.00	0.00	84.26	1193.14	0.08	531.04	0.24	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1991	59.73	0.00	0.00	0.00	0.00	0.00	59.73	1217.84	0.08	590.68	0.26	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4444	133.33	0.00	0.00	0.00	0.00	0.00	133.33	1235.35	0.09	723.93	0.32	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4853	145.59	0.00	0.00	0.00	0.00	0.00	145.59	1274.45	0.09	869.43	0.39	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3626	108.79	0.00	0.00	0.00	0.00	0.00	108.79	1317.15	0.09	978.13	0.43	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4853	145.59	0.00	0.00	0.00	0.00	0.00	145.59	1349.05	0.09	1123.63	0.50	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7306	219.19	0.00	0.00	0.00	0.00	0.00	219.19	1391.75	0.10	1342.72	0.60	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6489	194.66	0.00	0.00	0.00	0.00	0.00	194.66	1456.05	0.10	1537.27	0.68	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5671	170.12	0.00	0.00	0.00	0.00	0.00	170.12	1513.15	0.11	1707.29	0.76	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6080	182.39	0.00	0.00	0.00	0.00	0.00	182.39	1563.04	0.11	1889.57	0.84	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6489	194.66	0.00	0.00	0.00	0.00	0.00	194.66	1616.54	0.11	2084.12	0.93	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.0986	329.58	0.00	0.00	0.00	0.00	0.00	329.58	1673.63	0.12	2413.58	1.07	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.4257	427.70	0.00	0.00	0.00	0.00	0.00	427.70	1770.32	0.12	2841.16	1.26	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8124	243.72	0.00	0.00	0.00	0.00	0.00	243.72	1895.80	0.13	3084.75	1.37	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.1616	648.49	0.00	0.00	0.00	0.00	0.00	648.49	1967.29	0.14	3733.10	1.66	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.3661	709.82	0.00	0.00	0.00	0.00	0.00	709.82	2157.56	0.15	4442.77	1.98	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.7340	820.21	0.00	0.00	0.00	0.00	0.00	820.21	2365.83	0.16	5262.81	2.34	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.7937	538.10	0.00	0.00	0.00	0.00	0.00	538.10	2606.49	0.18	5800.73	2.58	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1991	59.73	0.00	0.00	0.00	0.00	0.00	59.73	2764.35	0.19	5860.27	2.61	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	2781.83	0.19	5895.27	2.62	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	2792.10	0.19	5930.28	2.64	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	2802.37	0.19	5937.45	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.47	0.19	5937.25	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.42	0.19	5937.06	2.64	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.36	0.19	5936.86	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.30	0.19	5936.67	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.25	0.19	5936.47	2.64	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.19	0.19	5936.28	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.13	0.19	5936.08	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.07	0.19	5935.89	2.64	0.00	0.00
					Total volume (cf)		5941.35								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0250	7.50	0.00	0.00	0.00	0.00	0.00	7.50	1062.00	0.07	7.42	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	1064.18	0.07	16.35	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	1066.80	0.07	25.27	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	1069.42	0.07	34.19	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	1072.04	0.07	43.12	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1074.65	0.07	53.54	0.02	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1077.71	0.07	63.96	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1080.77	0.08	74.38	0.03	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1083.83	0.08	84.81	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1086.89	0.08	95.23	0.04	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1089.95	0.08	105.65	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1093.01	0.08	117.57	0.05	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1096.50	0.08	129.49	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1100.00	0.08	141.41	0.06	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1103.50	0.08	153.33	0.07	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1107.00	0.08	165.25	0.07	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1110.50	0.08	177.17	0.08	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1113.99	0.08	189.09	0.08	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1117.49	0.08	201.01	0.09	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1120.99	0.08	212.93	0.09	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1124.49	0.08	224.85	0.10	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1127.99	0.08	236.76	0.11	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1131.48	0.08	248.68	0.11	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1134.98	0.08	262.10	0.12	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1138.92	0.08	274.02	0.12	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1142.42	0.08	287.44	0.13	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1146.35	0.08	300.85	0.13	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1150.29	0.08	314.27	0.14	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1154.23	0.08	327.68	0.15	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1158.17	0.08	341.10	0.15	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1162.10	0.08	354.52	0.16	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1166.04	0.08	367.93	0.16	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1169.98	0.08	382.85	0.17	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1174.35	0.08	397.76	0.18	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1178.73	0.08	412.67	0.18	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1183.11	0.08	427.59	0.19	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1187.49	0.08	442.50	0.20	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0550	16.50	0.00	0.00	0.00	0.00	0.00	16.50	1191.86	0.08	458.91	0.20	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0550	16.50	0.00	0.00	0.00	0.00	0.00	16.50	1196.68	0.08	475.33	0.21	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0550	16.50	0.00	0.00	0.00	0.00	0.00	16.50	1201.50	0.08	491.74	0.22	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0600	18.00	0.00	0.00	0.00	0.00	0.00	18.00	1206.31	0.08	509.65	0.23	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0650	19.49	0.00	0.00	0.00	0.00	0.00	19.49	1211.57	0.08	529.06	0.24	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0812	24.36	0.00	0.00	0.00	0.00	0.00	24.36	1217.26	0.08	553.33	0.25	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0812	24.36	0.00	0.00	0.00	0.00	0.00	24.36	1224.39	0.09	577.61	0.26	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1312	39.35	0.00	0.00	0.00	0.00	0.00	39.35	1231.51	0.09	616.88	0.27	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1312	39.35	0.00	0.00	0.00	0.00	0.00	39.35	1243.04	0.09	656.15	0.29	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1812	54.35	0.00	0.00	0.00	0.00	0.00	54.35	1254.56	0.09	710.41	0.32	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1812	54.35	0.00	0.00	0.00	0.00	0.00	54.35	1270.49	0.09	764.67	0.34	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2312	69.35	0.00	0.00	0.00	0.00	0.00	69.35	1286.41	0.09	833.93	0.37	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2811	84.34	0.00	0.00	0.00	0.00	0.00	84.34	1306.73	0.09	918.18	0.41	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3311	99.34	0.00	0.00	0.00	0.00	0.00	99.34	1331.46	0.09	1017.43	0.45	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3811	114.33	0.00	0.00	0.00	0.00	0.00	114.33	1360.59	0.09	1131.67	0.50	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4311	129.33	0.00	0.00	0.00	0.00	0.00	129.33	1394.11	0.10	1260.90	0.56	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4311	129.33	0.00	0.00	0.00	0.00	0.00	129.33	1432.04	0.10	1390.13	0.62	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4811	144.33	0.00	0.00	0.00	0.00	0.00	144.33	1469.96	0.10	1534.35	0.68	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5311	159.32	0.00	0.00	0.00	0.00	0.00	159.32	1512.29	0.11	1693.57	0.75	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5811	174.32	0.00	0.00	0.00	0.00	0.00	174.32	1559.02	0.11	1867.78	0.83	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5811	174.32	0.00	0.00	0.00	0.00	0.00	174.32	1610.14	0.11	2041.99	0.91	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6310	189.31	0.00	0.00	0.00	0.00	0.00	189.31	1661.27	0.12	2231.18	0.99	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6810	204.31	0.00	0.00	0.00	0.00	0.00	204.31	1716.79	0.12	2435.37	1.08	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9310	279.29	0.00	0.00	0.00	0.00	0.00	279.29	1776.71	0.12	2714.54	1.21	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.1809	354.27	0.00	0.00	0.00	0.00	0.00	354.27	1858.64	0.13	3068.68	1.36	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3309	399.26	0.00	0.00	0.00	0.00	0.00	399.26	1962.57	0.14	3467.80	1.54	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.4808	444.24	0.00	0.00	0.00	0.00	0.00	444.24	2079.70	0.14	3911.90	1.74	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.7307	519.22	0.00	0.00	0.00	0.00	0.00	519.22	2210.03	0.15	4430.97	1.97	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.1806	654.19	0.00	0.00	0.00	0.00	0.00	654.19	2362.37	0.16	5084.99	2.26	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3311	99.34	0.00	0.00	0.00	0.00	0.00	99.34	2554.30	0.18	5184.15	2.31	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	2583.40	0.18	5197.47	2.31	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	2587.31	0.18	5206.29	2.31	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0250	7.50	0.00	0.00	0.00	0.00	0.00	7.50	2589.90	0.18	5213.60	2.32	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0150	4.50	0.00	0.00	0.00	0.00	0.00	4.50	2592.05	0.18	5217.92	2.32	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0100	3.00	0.00	0.00	0.00	0.00	0.00	3.00	2593.31	0.18	5220.74	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2594.14	0.18	5220.56	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2594.09	0.18	5220.38	2.32	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2594.04	0.18	5220.20	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.98	0.18	5220.02	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.93	0.18	5219.84	2.32	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.88	0.18	5219.66	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.83	0.18	5219.48	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.77	0.18	5219.30	2.32	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.72	0.18	5219.12	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.67	0.18	5218.94	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.61	0.18	5218.76	2.32	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.56	0.18	5218.58	2.32	0.00	0.00
					Total volume (cf)			5227.70								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1062.00	0.22	3.78	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1063.11	0.22	9.55	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1064.80	0.22	15.32	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1066.50	0.22	23.09	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1068.78	0.22	28.86	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1070.47	0.22	34.63	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1072.16	0.22	40.41	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1073.86	0.22	48.17	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1076.14	0.22	55.94	0.02	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1078.42	0.22	63.71	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1080.70	0.23	73.48	0.03	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1083.56	0.23	83.24	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1086.43	0.23	93.00	0.04	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1089.29	0.23	102.77	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1092.16	0.23	112.53	0.05	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0133	11.99	0.00	0.00	0.00	0.00	0.00	11.99	1095.02	0.23	124.29	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0133	11.99	0.00	0.00	0.00	0.00	0.00	11.99	1098.48	0.23	136.05	0.06	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0155	13.99	0.00	0.00	0.00	0.00	0.00	13.99	1101.93	0.23	149.81	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0155	13.99	0.00	0.00	0.00	0.00	0.00	13.99	1105.96	0.23	163.57	0.07	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0178	15.99	0.00	0.00	0.00	0.00	0.00	15.99	1110.00	0.23	179.32	0.08	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0133	11.99	0.00	0.00	0.00	0.00	0.00	11.99	1114.63	0.23	191.08	0.08	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0155	13.99	0.00	0.00	0.00	0.00	0.00	13.99	1118.08	0.23	204.83	0.09	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0178	15.99	0.00	0.00	0.00	0.00	0.00	15.99	1122.11	0.23	220.58	0.10	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0178	15.99	0.00	0.00	0.00	0.00	0.00	15.99	1126.73	0.23	236.33	0.11	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0200	17.98	0.00	0.00	0.00	0.00	0.00	17.98	1131.36	0.24	254.08	0.11	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0200	17.98	0.00	0.00	0.00	0.00	0.00	17.98	1136.57	0.24	271.83	0.12	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0222	19.98	0.00	0.00	0.00	0.00	0.00	19.98	1141.77	0.24	291.57	0.13	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0222	19.98	0.00	0.00	0.00	0.00	0.00	19.98	1147.57	0.24	311.31	0.14	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0222	19.98	0.00	0.00	0.00	0.00	0.00	19.98	1153.36	0.24	331.05	0.15	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0244	21.98	0.00	0.00	0.00	0.00	0.00	21.98	1159.15	0.24	352.79	0.16	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0266	23.98	0.00	0.00	0.00	0.00	0.00	23.98	1165.53	0.24	376.53	0.17	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0289	25.98	0.00	0.00	0.00	0.00	0.00	25.98	1172.50	0.24	402.26	0.18	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0333	29.97	0.00	0.00	0.00	0.00	0.00	29.97	1180.05	0.25	431.98	0.19	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0333	29.97	0.00	0.00	0.00	0.00	0.00	29.97	1188.78	0.25	461.71	0.21	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0355	31.97	0.00	0.00	0.00	0.00	0.00	31.97	1197.50	0.25	493.43	0.22	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0377	33.97	0.00	0.00	0.00	0.00	0.00	33.97	1206.81	0.25	527.15	0.23	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1216.70	0.25	564.86	0.25	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0444	39.96	0.00	0.00	0.00	0.00	0.00	39.96	1227.77	0.26	604.56	0.27	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0466	41.96	0.00	0.00	0.00	0.00	0.00	41.96	1239.42	0.26	646.27	0.29	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0488	43.96	0.00	0.00	0.00	0.00	0.00	43.96	1251.66	0.26	689.96	0.31	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0333	29.97	0.00	0.00	0.00	0.00	0.00	29.97	1264.49	0.26	719.67	0.32	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0333	29.97	0.00	0.00	0.00	0.00	0.00	29.97	1273.20	0.27	749.38	0.33	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0444	39.96	0.00	0.00	0.00	0.00	0.00	39.96	1281.92	0.27	789.07	0.35	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0444	39.96	0.00	0.00	0.00	0.00	0.00	39.96	1293.57	0.27	828.77	0.37	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1305.22	0.27	866.46	0.39	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1316.28	0.27	904.15	0.40	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0377	33.97	0.00	0.00	0.00	0.00	0.00	33.97	1327.34	0.28	937.84	0.42	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0400	35.97	0.00	0.00	0.00	0.00	0.00	35.97	1337.23	0.28	973.53	0.43	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0555	49.95	0.00	0.00	0.00	0.00	0.00	49.95	1347.70	0.28	1023.20	0.45	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0577	51.95	0.00	0.00	0.00	0.00	0.00	51.95	1362.28	0.28	1074.87	0.48	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0684	61.56	0.00	0.00	0.00	0.00	0.00	61.56	1377.44	0.29	1136.14	0.51	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.0989	89.05	0.00	0.00	0.00	0.00	0.00	89.05	1395.43	0.29	1224.90	0.54	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2182	196.38	0.00	0.00	0.00	0.00	0.00	196.38	1421.48	0.30	1420.99	0.63	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2263	203.71	0.00	0.00	0.00	0.00	0.00	203.71	1479.02	0.31	1624.39	0.72	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0511	45.96	0.00	0.00	0.00	0.00	0.00	45.96	1538.71	0.32	1670.03	0.74	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0511	45.96	0.00	0.00	0.00	0.00	0.00	45.96	1552.11	0.32	1715.66	0.76	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.0947	85.25	0.00	0.00	0.00	0.00	0.00	85.25	1565.50	0.33	1800.59	0.80	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0802	72.21	0.00	0.00	0.00	0.00	0.00	72.21	1590.42	0.33	1872.46	0.83	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0878	79.05	0.00	0.00	0.00	0.00	0.00	79.05	1611.52	0.34	1951.18	0.87	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0731	65.81	0.00	0.00	0.00	0.00	0.00	65.81	1634.62	0.34	2016.64	0.90	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0583	52.46	0.00	0.00	0.00	0.00	0.00	52.46	1653.83	0.34	2068.76	0.92	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0511	45.96	0.00	0.00	0.00	0.00	0.00	45.96	1669.12	0.35	2114.37	0.94	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1682.51	0.35	2151.98	0.96	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1693.55	0.35	2189.60	0.97	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1704.59	0.36	2197.23	0.98	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1706.83	0.36	2204.87	0.98	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1709.07	0.36	2210.51	0.98	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1710.72	0.36	2216.15	0.99	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1712.38	0.36	2225.78	0.99	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1715.20	0.36	2235.41	0.99	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1718.03	0.36	2245.05	1.00	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1720.86	0.36	2252.68	1.00	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1723.10	0.36	2260.31	1.01	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1725.34	0.36	2267.95	1.01	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1727.58	0.36	2273.58	1.01	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1729.23	0.36	2277.22	1.01	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1730.30	0.36	2282.85	1.02	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1731.95	0.36	2290.48	1.02	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1734.19	0.36	2296.12	1.02	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1735.85	0.36	2299.75	1.02	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1736.91	0.36	2305.38	1.03	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1738.57	0.36	2311.02	1.03	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1740.22	0.36	2316.65	1.03	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1741.87	0.36	2320.28	1.03	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1742.94	0.36	2325.91	1.03	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1744.59	0.36	2329.55	1.04	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1745.66	0.36	2335.18	1.04	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1747.31	0.36	2338.81	1.04	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1748.38	0.36	2344.44	1.04	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1750.03	0.36	2348.07	1.04	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1751.09	0.36	2351.70	1.05	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1752.16	0.37	2355.33	1.05	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1753.22	0.37	2358.96	1.05	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1754.29	0.37	2362.59	1.05	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1755.36	0.37	2366.23	1.05	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1756.42	0.37	2369.86	1.05	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1757.49	0.37	2369.49	1.05	0.00	0.00
					Total volume (cf)		2398.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.07ac+0.09ac typ street frontage=1.16ac

5/7/2024 LOT 2

Drainage Area (ac.)	1.1600	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5933	177.98	0.00	0.00	0.00	0.00	0.00	177.98	1078.00	0.07	177.90	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9653	289.60	0.00	0.00	0.00	0.00	0.00	289.60	1124.55	0.08	467.43	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0668	320.05	0.00	0.00	0.00	0.00	0.00	320.05	1200.32	0.08	787.39	0.38	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9992	299.75	0.00	0.00	0.00	0.00	0.00	299.75	1284.05	0.09	1087.05	0.53	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.5742	472.27	0.00	0.00	0.00	0.00	0.00	472.27	1362.47	0.09	1559.23	0.76	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.8110	543.30	0.00	0.00	0.00	0.00	0.00	543.30	1486.03	0.10	2102.43	1.02	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.1831	654.93	0.00	0.00	0.00	0.00	0.00	654.93	1628.18	0.11	2757.25	1.34	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.3861	715.82	0.00	0.00	0.00	0.00	0.00	715.82	1799.53	0.12	3472.94	1.69	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.5024	1050.71	0.00	0.00	0.00	0.00	0.00	1050.71	1986.82	0.14	4523.51	2.20	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.2952	1588.55	0.00	0.00	0.00	0.00	0.00	1588.55	2261.74	0.16	6111.90	2.97	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.7878	1436.33	0.00	0.00	0.00	0.00	0.00	1436.33	2677.40	0.19	7548.05	3.66	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7624	228.72	0.00	0.00	0.00	0.00	0.00	228.72	3053.22	0.21	7776.55	3.78	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3113.02	0.22	7776.33	3.78	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3112.96	0.22	7776.12	3.78	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3112.90	0.22	7775.90	3.78	0.00	0.00	
					Total volume (cf)			7778.00								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0566	16.97	0.00	0.00	0.00	0.00	0.00	16.97	1078.00	0.07	16.89	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0566	16.97	0.00	0.00	0.00	0.00	0.00	16.97	1082.42	0.08	33.79	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1086.84	0.08	48.07	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0653	19.58	0.00	0.00	0.00	0.00	0.00	19.58	1090.58	0.08	67.58	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0653	19.58	0.00	0.00	0.00	0.00	0.00	19.58	1095.68	0.08	87.08	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	1100.79	0.08	124.47	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0653	19.58	0.00	0.00	0.00	0.00	0.00	19.58	1110.57	0.08	143.97	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	1115.67	0.08	181.35	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	1125.46	0.08	218.73	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0653	19.58	0.00	0.00	0.00	0.00	0.00	19.58	1135.24	0.08	238.24	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0696	20.89	0.00	0.00	0.00	0.00	0.00	20.89	1140.34	0.08	259.04	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	1145.79	0.08	296.42	0.14	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2989	89.67	0.00	0.00	0.00	0.00	0.00	89.67	1155.57	0.08	386.02	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2989	89.67	0.00	0.00	0.00	0.00	0.00	89.67	1179.02	0.08	475.61	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2989	89.67	0.00	0.00	0.00	0.00	0.00	89.67	1202.46	0.08	565.20	0.27	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2119	63.57	0.00	0.00	0.00	0.00	0.00	63.57	1225.91	0.09	628.68	0.31	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4730	141.89	0.00	0.00	0.00	0.00	0.00	141.89	1242.52	0.09	770.49	0.37	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5165	154.94	0.00	0.00	0.00	0.00	0.00	154.94	1279.63	0.09	925.34	0.45	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3859	115.78	0.00	0.00	0.00	0.00	0.00	115.78	1320.15	0.09	1041.03	0.51	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5165	154.94	0.00	0.00	0.00	0.00	0.00	154.94	1350.42	0.09	1195.88	0.58	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7775	233.26	0.00	0.00	0.00	0.00	0.00	233.26	1390.94	0.10	1429.04	0.69	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6905	207.16	0.00	0.00	0.00	0.00	0.00	207.16	1451.96	0.10	1636.10	0.79	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6035	181.05	0.00	0.00	0.00	0.00	0.00	181.05	1506.14	0.10	1817.04	0.88	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6470	194.10	0.00	0.00	0.00	0.00	0.00	194.10	1553.50	0.11	2011.04	0.98	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6905	207.16	0.00	0.00	0.00	0.00	0.00	207.16	1604.26	0.11	2218.08	1.08	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1691	350.74	0.00	0.00	0.00	0.00	0.00	350.74	1658.44	0.12	2568.71	1.25	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.5172	455.17	0.00	0.00	0.00	0.00	0.00	455.17	1750.20	0.12	3023.76	1.47	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8646	259.37	0.00	0.00	0.00	0.00	0.00	259.37	1869.28	0.13	3283.00	1.59	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.3004	690.13	0.00	0.00	0.00	0.00	0.00	690.13	1937.12	0.13	3973.00	1.93	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.5180	755.40	0.00	0.00	0.00	0.00	0.00	755.40	2117.68	0.15	4728.26	2.30	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.9096	872.88	0.00	0.00	0.00	0.00	0.00	872.88	2315.32	0.16	5600.98	2.72	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.9088	572.65	0.00	0.00	0.00	0.00	0.00	572.65	2543.70	0.18	6173.46	3.00	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2119	63.57	0.00	0.00	0.00	0.00	0.00	63.57	2693.51	0.19	6236.84	3.03	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	2710.10	0.19	6274.11	3.05	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	2719.85	0.19	6311.38	3.06	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0261	7.83	0.00	0.00	0.00	0.00	0.00	7.83	2729.60	0.19	6319.02	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.60	0.19	6318.83	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.55	0.19	6318.64	3.07	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.50	0.19	6318.45	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.45	0.19	6318.26	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.40	0.19	6318.07	3.07	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.35	0.19	6317.89	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.30	0.19	6317.70	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.26	0.19	6317.51	3.07	0.00	0.00
					Total volume (cf)		6322.90								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0266	7.98	0.00	0.00	0.00	0.00	0.00	7.98	1078.00	0.07	7.90	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	1080.07	0.08	17.40	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	1082.55	0.08	26.91	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	1085.04	0.08	36.41	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	1087.53	0.08	45.90	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1090.01	0.08	57.00	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1092.92	0.08	68.10	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1095.82	0.08	79.19	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1098.72	0.08	90.29	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1101.63	0.08	101.38	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1104.53	0.08	112.48	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1107.43	0.08	125.17	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1110.75	0.08	137.86	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1114.07	0.08	150.55	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1117.40	0.08	163.23	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1120.72	0.08	175.92	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1124.04	0.08	188.61	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1127.36	0.08	201.30	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1130.68	0.08	213.99	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1134.00	0.08	226.68	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1137.32	0.08	239.37	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1140.64	0.08	252.06	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1143.96	0.08	264.74	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1147.28	0.08	279.03	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1151.02	0.08	291.71	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1154.34	0.08	306.00	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1158.08	0.08	320.28	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1161.81	0.08	334.56	0.16	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1165.55	0.08	348.84	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1169.29	0.08	363.13	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1173.02	0.08	377.41	0.18	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1176.76	0.08	391.69	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1180.50	0.08	407.57	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1184.65	0.08	423.44	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1188.81	0.08	439.32	0.21	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1192.96	0.08	455.19	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1197.12	0.08	471.07	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0585	17.55	0.00	0.00	0.00	0.00	0.00	17.55	1201.27	0.08	488.54	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0585	17.55	0.00	0.00	0.00	0.00	0.00	17.55	1205.84	0.08	506.01	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0585	17.55	0.00	0.00	0.00	0.00	0.00	17.55	1210.42	0.08	523.48	0.25	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0638	19.15	0.00	0.00	0.00	0.00	0.00	19.15	1214.99	0.08	542.55	0.26	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0692	20.75	0.00	0.00	0.00	0.00	0.00	20.75	1219.98	0.08	563.21	0.27	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0864	25.92	0.00	0.00	0.00	0.00	0.00	25.92	1225.38	0.09	589.05	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0864	25.92	0.00	0.00	0.00	0.00	0.00	25.92	1232.15	0.09	614.89	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1396	41.88	0.00	0.00	0.00	0.00	0.00	41.88	1238.91	0.09	656.68	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1396	41.88	0.00	0.00	0.00	0.00	0.00	41.88	1249.85	0.09	698.48	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1928	57.84	0.00	0.00	0.00	0.00	0.00	57.84	1260.78	0.09	756.23	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1928	57.84	0.00	0.00	0.00	0.00	0.00	57.84	1275.90	0.09	813.98	0.40	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2460	73.80	0.00	0.00	0.00	0.00	0.00	73.80	1291.01	0.09	887.69	0.43	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2992	89.76	0.00	0.00	0.00	0.00	0.00	89.76	1310.30	0.09	977.36	0.47	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3524	105.72	0.00	0.00	0.00	0.00	0.00	105.72	1333.76	0.09	1082.99	0.53	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.4056	121.68	0.00	0.00	0.00	0.00	0.00	121.68	1361.40	0.09	1204.57	0.58	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4588	137.64	0.00	0.00	0.00	0.00	0.00	137.64	1393.22	0.10	1342.11	0.65	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4588	137.64	0.00	0.00	0.00	0.00	0.00	137.64	1429.21	0.10	1479.64	0.72	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5120	153.59	0.00	0.00	0.00	0.00	0.00	153.59	1465.20	0.10	1633.14	0.79	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5652	169.55	0.00	0.00	0.00	0.00	0.00	169.55	1505.37	0.10	1802.59	0.88	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6184	185.51	0.00	0.00	0.00	0.00	0.00	185.51	1549.71	0.11	1987.99	0.97	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6184	185.51	0.00	0.00	0.00	0.00	0.00	185.51	1598.23	0.11	2173.39	1.06	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6716	201.47	0.00	0.00	0.00	0.00	0.00	201.47	1646.75	0.11	2374.75	1.15	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7248	217.43	0.00	0.00	0.00	0.00	0.00	217.43	1699.44	0.12	2592.06	1.26	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9907	297.22	0.00	0.00	0.00	0.00	0.00	297.22	1756.31	0.12	2889.16	1.40	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2567	377.02	0.00	0.00	0.00	0.00	0.00	377.02	1834.06	0.13	3266.06	1.59	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.4163	424.90	0.00	0.00	0.00	0.00	0.00	424.90	1932.68	0.13	3690.82	1.79	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.5759	472.77	0.00	0.00	0.00	0.00	0.00	472.77	2043.84	0.14	4163.45	2.02	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8419	552.57	0.00	0.00	0.00	0.00	0.00	552.57	2167.52	0.15	4715.87	2.29	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.3207	696.20	0.00	0.00	0.00	0.00	0.00	696.20	2312.08	0.16	5411.91	2.63	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3524	105.72	0.00	0.00	0.00	0.00	0.00	105.72	2494.22	0.17	5517.45	2.68	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	2521.84	0.18	5531.64	2.69	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	2525.55	0.18	5541.04	2.69	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0266	7.98	0.00	0.00	0.00	0.00	0.00	7.98	2528.01	0.18	5548.84	2.69	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0160	4.79	0.00	0.00	0.00	0.00	0.00	4.79	2530.06	0.18	5553.45	2.70	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0106	3.19	0.00	0.00	0.00	0.00	0.00	3.19	2531.26	0.18	5556.47	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2532.05	0.18	5556.29	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2532.01	0.18	5556.12	2.70	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.96	0.18	5555.94	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.91	0.18	5555.77	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.87	0.18	5555.59	2.70	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.82	0.18	5555.41	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.78	0.18	5555.24	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.73	0.18	5555.06	2.70	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.68	0.18	5554.89	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.64	0.18	5554.71	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.59	0.18	5554.54	2.70	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.55	0.18	5554.36	2.70	0.00	0.00
					Total volume (cf)			5563.43								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1078.00	0.22	4.03	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1079.05	0.22	10.18	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1080.66	0.23	16.34	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1082.28	0.23	24.62	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1084.44	0.23	30.77	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1086.05	0.23	36.92	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1087.66	0.23	43.08	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1089.27	0.23	51.36	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1091.44	0.23	59.63	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1093.61	0.23	67.91	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1095.77	0.23	78.32	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1098.49	0.23	88.72	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1101.22	0.23	99.12	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1103.94	0.23	109.52	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1106.66	0.23	119.93	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0142	12.76	0.00	0.00	0.00	0.00	0.00	12.76	1109.38	0.23	132.45	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0142	12.76	0.00	0.00	0.00	0.00	0.00	12.76	1112.66	0.23	144.98	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0165	14.89	0.00	0.00	0.00	0.00	0.00	14.89	1115.94	0.23	159.63	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0165	14.89	0.00	0.00	0.00	0.00	0.00	14.89	1119.77	0.23	174.29	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0189	17.01	0.00	0.00	0.00	0.00	0.00	17.01	1123.61	0.23	191.06	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0142	12.76	0.00	0.00	0.00	0.00	0.00	12.76	1128.00	0.23	203.59	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0165	14.89	0.00	0.00	0.00	0.00	0.00	14.89	1131.28	0.24	218.24	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0189	17.01	0.00	0.00	0.00	0.00	0.00	17.01	1135.11	0.24	235.01	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0189	17.01	0.00	0.00	0.00	0.00	0.00	17.01	1139.50	0.24	251.79	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0213	19.14	0.00	0.00	0.00	0.00	0.00	19.14	1143.89	0.24	270.69	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0213	19.14	0.00	0.00	0.00	0.00	0.00	19.14	1148.83	0.24	289.58	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0236	21.26	0.00	0.00	0.00	0.00	0.00	21.26	1153.78	0.24	310.61	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0236	21.26	0.00	0.00	0.00	0.00	0.00	21.26	1159.28	0.24	331.63	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0236	21.26	0.00	0.00	0.00	0.00	0.00	21.26	1164.78	0.24	352.65	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0260	23.39	0.00	0.00	0.00	0.00	0.00	23.39	1170.28	0.24	375.80	0.18	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0284	25.52	0.00	0.00	0.00	0.00	0.00	25.52	1176.34	0.25	401.07	0.19	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0307	27.64	0.00	0.00	0.00	0.00	0.00	27.64	1182.96	0.25	428.47	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0354	31.90	0.00	0.00	0.00	0.00	0.00	31.90	1190.12	0.25	460.12	0.22	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0354	31.90	0.00	0.00	0.00	0.00	0.00	31.90	1198.41	0.25	491.77	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0378	34.02	0.00	0.00	0.00	0.00	0.00	34.02	1206.69	0.25	525.54	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0402	36.15	0.00	0.00	0.00	0.00	0.00	36.15	1215.53	0.25	561.43	0.27	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1224.92	0.26	601.58	0.29	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0473	42.53	0.00	0.00	0.00	0.00	0.00	42.53	1235.43	0.26	643.85	0.31	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0496	44.66	0.00	0.00	0.00	0.00	0.00	44.66	1246.49	0.26	688.25	0.33	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0520	46.78	0.00	0.00	0.00	0.00	0.00	46.78	1258.11	0.26	734.77	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0354	31.90	0.00	0.00	0.00	0.00	0.00	31.90	1270.28	0.26	766.40	0.37	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0354	31.90	0.00	0.00	0.00	0.00	0.00	31.90	1278.56	0.27	798.03	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0473	42.53	0.00	0.00	0.00	0.00	0.00	42.53	1286.83	0.27	840.29	0.41	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0473	42.53	0.00	0.00	0.00	0.00	0.00	42.53	1297.89	0.27	882.55	0.43	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1308.95	0.27	922.68	0.45	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1319.45	0.27	962.81	0.47	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0402	36.15	0.00	0.00	0.00	0.00	0.00	36.15	1329.95	0.28	998.68	0.48	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0425	38.28	0.00	0.00	0.00	0.00	0.00	38.28	1339.34	0.28	1036.68	0.50	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0591	53.16	0.00	0.00	0.00	0.00	0.00	53.16	1349.28	0.28	1089.56	0.53	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0614	55.29	0.00	0.00	0.00	0.00	0.00	55.29	1363.12	0.28	1144.56	0.56	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0728	65.51	0.00	0.00	0.00	0.00	0.00	65.51	1377.52	0.29	1209.79	0.59	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.1053	94.77	0.00	0.00	0.00	0.00	0.00	94.77	1394.58	0.29	1304.27	0.63	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2322	208.99	0.00	0.00	0.00	0.00	0.00	208.99	1419.31	0.30	1512.97	0.73	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2409	216.79	0.00	0.00	0.00	0.00	0.00	216.79	1473.92	0.31	1729.45	0.84	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0543	48.91	0.00	0.00	0.00	0.00	0.00	48.91	1530.57	0.32	1778.04	0.86	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0543	48.91	0.00	0.00	0.00	0.00	0.00	48.91	1543.29	0.32	1826.63	0.89	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.1008	90.72	0.00	0.00	0.00	0.00	0.00	90.72	1556.00	0.32	1917.03	0.93	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0854	76.85	0.00	0.00	0.00	0.00	0.00	76.85	1579.66	0.33	1993.55	0.97	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0935	84.13	0.00	0.00	0.00	0.00	0.00	84.13	1599.68	0.33	2077.34	1.01	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0778	70.03	0.00	0.00	0.00	0.00	0.00	70.03	1621.61	0.34	2147.03	1.04	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0620	55.83	0.00	0.00	0.00	0.00	0.00	55.83	1639.85	0.34	2202.52	1.07	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0543	48.91	0.00	0.00	0.00	0.00	0.00	48.91	1654.37	0.34	2251.09	1.09	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1667.08	0.35	2291.14	1.11	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1677.56	0.35	2331.20	1.13	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1688.04	0.35	2339.35	1.14	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1690.18	0.35	2347.50	1.14	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1692.31	0.35	2353.53	1.14	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1693.89	0.35	2359.56	1.15	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1695.46	0.35	2369.84	1.15	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1698.15	0.35	2380.11	1.16	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1700.84	0.35	2390.39	1.16	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1703.53	0.35	2398.54	1.16	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1705.67	0.36	2406.69	1.17	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1707.80	0.36	2414.84	1.17	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1709.93	0.36	2420.87	1.18	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1711.51	0.36	2424.76	1.18	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1712.53	0.36	2430.79	1.18	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1714.10	0.36	2438.93	1.18	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1716.24	0.36	2444.96	1.19	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1717.81	0.36	2448.85	1.19	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1718.83	0.36	2454.87	1.19	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1720.41	0.36	2460.89	1.19	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1721.98	0.36	2466.91	1.20	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1723.56	0.36	2470.81	1.20	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1724.58	0.36	2476.83	1.20	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1726.15	0.36	2480.72	1.20	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1727.17	0.36	2486.74	1.21	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1728.75	0.36	2490.63	1.21	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1729.77	0.36	2496.65	1.21	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1731.34	0.36	2500.55	1.21	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1732.36	0.36	2504.44	1.22	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1733.38	0.36	2508.33	1.22	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1734.40	0.36	2512.22	1.22	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1735.41	0.36	2516.11	1.22	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1736.43	0.36	2520.00	1.22	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1737.45	0.36	2523.89	1.23	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1738.47	0.36	2523.53	1.23	0.00	0.00
						Total volume (cf)		2552.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.09ac+0.09ac typ street frontage=1.18ac

5/7/2024 LOT 3

Drainage Area (ac.)	1.1800	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6035	181.04	0.00	0.00	0.00	0.00	0.00	181.04	1078.00	0.07	180.97	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9820	294.60	0.00	0.00	0.00	0.00	0.00	294.60	1125.36	0.08	475.49	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0852	325.57	0.00	0.00	0.00	0.00	0.00	325.57	1202.43	0.08	800.97	0.39	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0164	304.92	0.00	0.00	0.00	0.00	0.00	304.92	1287.60	0.09	1105.80	0.54	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6014	480.41	0.00	0.00	0.00	0.00	0.00	480.41	1367.37	0.09	1586.11	0.77	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.8422	552.67	0.00	0.00	0.00	0.00	0.00	552.67	1493.06	0.10	2138.68	1.04	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.2207	666.22	0.00	0.00	0.00	0.00	0.00	666.22	1637.66	0.11	2804.79	1.36	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.4272	728.16	0.00	0.00	0.00	0.00	0.00	728.16	1811.98	0.13	3532.83	1.72	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.5627	1068.82	0.00	0.00	0.00	0.00	0.00	1068.82	2002.49	0.14	4601.51	2.23	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.3865	1615.94	0.00	0.00	0.00	0.00	0.00	1615.94	2282.15	0.16	6217.29	3.02	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.8703	1461.09	0.00	0.00	0.00	0.00	0.00	1461.09	2704.98	0.19	7678.20	3.73	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7755	232.66	0.00	0.00	0.00	0.00	0.00	232.66	3087.28	0.21	7910.64	3.84	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.11	0.22	7910.43	3.84	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.05	0.22	7910.21	3.84	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3147.99	0.22	7909.99	3.84	0.00	0.00	
					Total volume (cf)			7912.11								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1078.00	0.07	17.19	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1082.50	0.08	34.37	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1087.00	0.08	48.91	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1090.80	0.08	68.75	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1095.99	0.08	88.59	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1101.18	0.08	126.62	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1111.13	0.08	146.46	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1116.33	0.08	184.49	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1126.28	0.08	222.52	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1136.23	0.08	242.36	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0708	21.25	0.00	0.00	0.00	0.00	0.00	21.25	1141.42	0.08	263.52	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1146.96	0.08	301.55	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1156.91	0.08	392.69	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1180.76	0.08	483.83	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1204.61	0.08	574.97	0.28	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	1228.46	0.09	639.54	0.31	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4811	144.33	0.00	0.00	0.00	0.00	0.00	144.33	1245.36	0.09	783.79	0.38	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1283.11	0.09	941.32	0.46	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3926	117.78	0.00	0.00	0.00	0.00	0.00	117.78	1324.33	0.09	1059.00	0.51	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1355.13	0.09	1216.52	0.59	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7909	237.28	0.00	0.00	0.00	0.00	0.00	237.28	1396.35	0.10	1453.71	0.71	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1458.42	0.10	1664.34	0.81	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6139	184.17	0.00	0.00	0.00	0.00	0.00	184.17	1513.53	0.11	1848.40	0.90	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6582	197.45	0.00	0.00	0.00	0.00	0.00	197.45	1561.70	0.11	2045.74	0.99	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1613.34	0.11	2256.36	1.10	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1893	356.79	0.00	0.00	0.00	0.00	0.00	356.79	1668.46	0.12	2613.03	1.27	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.5434	463.02	0.00	0.00	0.00	0.00	0.00	463.02	1761.80	0.12	3075.93	1.49	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8795	263.84	0.00	0.00	0.00	0.00	0.00	263.84	1882.93	0.13	3339.64	1.62	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.3401	702.03	0.00	0.00	0.00	0.00	0.00	702.03	1951.94	0.14	4041.54	1.96	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.5614	768.43	0.00	0.00	0.00	0.00	0.00	768.43	2135.62	0.15	4809.82	2.34	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.9598	887.93	0.00	0.00	0.00	0.00	0.00	887.93	2336.66	0.16	5697.59	2.77	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.9418	582.53	0.00	0.00	0.00	0.00	0.00	582.53	2568.98	0.18	6279.94	3.05	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	2721.37	0.19	6344.41	3.08	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2738.25	0.19	6382.33	3.10	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2748.17	0.19	6420.24	3.12	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0266	7.97	0.00	0.00	0.00	0.00	0.00	7.97	2758.09	0.19	6428.02	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.13	0.19	6427.83	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.08	0.19	6427.64	3.12	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.02	0.19	6427.44	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.97	0.19	6427.25	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.92	0.19	6427.06	3.12	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.87	0.19	6426.87	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.82	0.19	6426.68	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.77	0.19	6426.49	3.12	0.00	0.00
					Total volume (cf)		6431.91								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	1078.00	0.07	8.04	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1080.10	0.08	17.71	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1082.63	0.08	27.37	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1085.16	0.08	37.04	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1087.69	0.08	46.70	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1090.22	0.08	57.99	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1093.18	0.08	69.28	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1096.13	0.08	80.57	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1099.08	0.08	91.85	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1102.04	0.08	103.14	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1104.99	0.08	114.43	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1107.94	0.08	127.34	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1111.32	0.08	140.25	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1114.70	0.08	153.16	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1118.08	0.08	166.07	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1121.46	0.08	178.98	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1124.84	0.08	191.89	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1128.21	0.08	204.80	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1131.59	0.08	217.70	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1134.97	0.08	230.61	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1138.35	0.08	243.52	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1141.73	0.08	256.43	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1145.10	0.08	269.34	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1148.48	0.08	283.87	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1152.28	0.08	296.78	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1155.66	0.08	311.31	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1159.46	0.08	325.84	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1163.27	0.08	340.37	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1167.07	0.08	354.90	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1170.87	0.08	369.42	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1174.67	0.08	383.95	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1178.48	0.08	398.48	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1182.28	0.08	414.63	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1186.50	0.08	430.79	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1190.73	0.08	446.94	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1194.96	0.08	463.09	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1199.18	0.08	479.24	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1203.41	0.08	497.01	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1208.06	0.08	514.79	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1212.71	0.08	532.56	0.26	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0649	19.48	0.00	0.00	0.00	0.00	0.00	19.48	1217.36	0.08	551.96	0.27	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1222.44	0.08	572.98	0.28	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1227.94	0.09	599.26	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1234.82	0.09	625.55	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1241.70	0.09	668.06	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1252.82	0.09	710.58	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1263.95	0.09	769.33	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1279.32	0.09	828.08	0.40	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2502	75.07	0.00	0.00	0.00	0.00	0.00	75.07	1294.70	0.09	903.06	0.44	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3044	91.31	0.00	0.00	0.00	0.00	0.00	91.31	1314.32	0.09	994.28	0.48	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	1338.19	0.09	1101.73	0.53	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.4126	123.77	0.00	0.00	0.00	0.00	0.00	123.77	1366.31	0.09	1225.40	0.59	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1398.67	0.10	1365.32	0.66	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1435.28	0.10	1505.23	0.73	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5208	156.24	0.00	0.00	0.00	0.00	0.00	156.24	1471.90	0.10	1661.37	0.81	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5749	172.48	0.00	0.00	0.00	0.00	0.00	172.48	1512.76	0.11	1833.74	0.89	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1557.86	0.11	2022.34	0.98	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1607.22	0.11	2210.94	1.07	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6831	204.94	0.00	0.00	0.00	0.00	0.00	204.94	1656.57	0.12	2415.77	1.17	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7373	221.18	0.00	0.00	0.00	0.00	0.00	221.18	1710.17	0.12	2636.83	1.28	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	1.0078	302.35	0.00	0.00	0.00	0.00	0.00	302.35	1768.02	0.12	2939.06	1.43	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2784	383.52	0.00	0.00	0.00	0.00	0.00	383.52	1847.11	0.13	3322.45	1.61	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.4407	432.22	0.00	0.00	0.00	0.00	0.00	432.22	1947.44	0.14	3754.54	1.82	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.6031	480.92	0.00	0.00	0.00	0.00	0.00	480.92	2060.51	0.14	4235.32	2.06	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8736	562.09	0.00	0.00	0.00	0.00	0.00	562.09	2186.32	0.15	4797.26	2.33	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.3607	708.20	0.00	0.00	0.00	0.00	0.00	708.20	2333.38	0.16	5505.30	2.67	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	2518.66	0.17	5612.66	2.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	2546.76	0.18	5627.10	2.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	2550.54	0.18	5636.66	2.74	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	2553.04	0.18	5644.60	2.74	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0162	4.87	0.00	0.00	0.00	0.00	0.00	4.87	2555.12	0.18	5649.29	2.74	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0108	3.25	0.00	0.00	0.00	0.00	0.00	3.25	2556.34	0.18	5652.36	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.15	0.18	5652.19	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.10	0.18	5652.01	2.74	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.05	0.18	5651.83	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.01	0.18	5651.65	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.96	0.18	5651.48	2.74	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.91	0.18	5651.30	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.87	0.18	5651.12	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.82	0.18	5650.94	2.74	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.78	0.18	5650.77	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.73	0.18	5650.59	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.68	0.18	5650.41	2.74	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.64	0.18	5650.23	2.74	0.00	0.00
					Total volume (cf)			5659.35								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1078.00	0.22	4.10	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1079.07	0.22	10.37	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1080.71	0.23	16.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1082.35	0.23	25.06	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1084.56	0.23	31.32	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1086.20	0.23	37.58	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1087.84	0.23	43.85	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1089.47	0.23	52.27	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1091.68	0.23	60.70	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1093.88	0.23	69.12	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1096.09	0.23	79.71	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1098.86	0.23	90.30	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1101.63	0.23	100.88	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1104.40	0.23	111.47	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1107.17	0.23	122.05	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1109.94	0.23	134.80	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1113.28	0.23	147.55	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1116.61	0.23	162.46	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1120.51	0.23	177.36	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1124.41	0.23	194.43	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1128.88	0.24	207.18	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1132.22	0.24	222.08	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1136.12	0.24	239.15	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1140.58	0.24	256.22	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1145.05	0.24	275.45	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1150.08	0.24	294.68	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1155.11	0.24	316.07	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1160.71	0.24	337.46	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1166.31	0.24	358.85	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0264	23.79	0.00	0.00	0.00	0.00	0.00	23.79	1171.91	0.24	382.40	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0288	25.96	0.00	0.00	0.00	0.00	0.00	25.96	1178.07	0.25	408.11	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0312	28.12	0.00	0.00	0.00	0.00	0.00	28.12	1184.80	0.25	435.98	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1192.09	0.25	468.18	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1200.52	0.25	500.38	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0385	34.61	0.00	0.00	0.00	0.00	0.00	34.61	1208.94	0.25	534.73	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1217.93	0.25	571.25	0.28	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1227.49	0.26	612.10	0.30	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1238.18	0.26	655.10	0.32	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0505	45.43	0.00	0.00	0.00	0.00	0.00	45.43	1249.43	0.26	700.27	0.34	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0529	47.59	0.00	0.00	0.00	0.00	0.00	47.59	1261.25	0.26	747.59	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1273.63	0.27	779.77	0.38	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1282.06	0.27	811.95	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1290.48	0.27	854.95	0.42	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1301.73	0.27	897.94	0.44	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1312.98	0.27	938.76	0.46	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1323.66	0.28	979.59	0.48	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1334.34	0.28	1016.08	0.49	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0433	38.94	0.00	0.00	0.00	0.00	0.00	38.94	1343.89	0.28	1054.74	0.51	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0601	54.08	0.00	0.00	0.00	0.00	0.00	54.08	1354.01	0.28	1108.53	0.54	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0625	56.24	0.00	0.00	0.00	0.00	0.00	56.24	1368.09	0.29	1164.49	0.57	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0740	66.64	0.00	0.00	0.00	0.00	0.00	66.64	1382.73	0.29	1230.84	0.60	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1071	96.41	0.00	0.00	0.00	0.00	0.00	96.41	1400.09	0.29	1326.96	0.64	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2362	212.60	0.00	0.00	0.00	0.00	0.00	212.60	1425.25	0.30	1539.26	0.75	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2450	220.53	0.00	0.00	0.00	0.00	0.00	220.53	1480.80	0.31	1759.48	0.85	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1538.43	0.32	1808.91	0.88	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1551.37	0.32	1858.34	0.90	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1025	92.29	0.00	0.00	0.00	0.00	0.00	92.29	1564.30	0.33	1950.30	0.95	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0869	78.17	0.00	0.00	0.00	0.00	0.00	78.17	1588.37	0.33	2028.14	0.98	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0951	85.58	0.00	0.00	0.00	0.00	0.00	85.58	1608.74	0.34	2113.38	1.03	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0792	71.24	0.00	0.00	0.00	0.00	0.00	71.24	1631.04	0.34	2184.28	1.06	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0631	56.79	0.00	0.00	0.00	0.00	0.00	56.79	1649.60	0.34	2240.73	1.09	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1664.37	0.35	2290.14	1.11	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1677.30	0.35	2330.89	1.13	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1687.96	0.35	2371.64	1.15	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1698.63	0.35	2379.94	1.16	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1700.80	0.35	2388.23	1.16	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1702.97	0.35	2394.37	1.16	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1704.57	0.36	2400.50	1.17	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1706.18	0.36	2410.96	1.17	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1708.92	0.36	2421.42	1.18	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1711.65	0.36	2431.88	1.18	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1714.39	0.36	2440.18	1.18	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1716.56	0.36	2448.47	1.19	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1718.73	0.36	2456.77	1.19	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1720.90	0.36	2462.90	1.20	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1722.51	0.36	2466.86	1.20	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1723.54	0.36	2472.99	1.20	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1725.15	0.36	2481.29	1.20	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1727.32	0.36	2487.42	1.21	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1728.92	0.36	2491.38	1.21	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1729.96	0.36	2497.51	1.21	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1731.56	0.36	2503.64	1.22	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1733.17	0.36	2509.77	1.22	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1734.77	0.36	2513.73	1.22	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1735.81	0.36	2519.86	1.22	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1737.41	0.36	2523.83	1.23	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1738.45	0.36	2529.95	1.23	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1740.05	0.36	2533.92	1.23	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1741.09	0.36	2540.04	1.23	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1742.69	0.36	2544.01	1.24	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1743.73	0.36	2547.97	1.24	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1744.77	0.36	2551.93	1.24	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1745.81	0.36	2555.89	1.24	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1746.84	0.36	2559.86	1.24	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1747.88	0.36	2563.82	1.24	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1748.92	0.36	2567.78	1.25	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1749.95	0.36	2567.42	1.25	0.00	0.00
					Total volume (cf)		2596.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.09ac+0.09ac typ street frontage=1.18ac

5/7/2024 LOT 4

Drainage Area (ac.)	1.1800	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6035	181.04	0.00	0.00	0.00	0.00	0.00	181.04	1078.00	0.07	180.97	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9820	294.60	0.00	0.00	0.00	0.00	0.00	294.60	1125.36	0.08	475.49	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0852	325.57	0.00	0.00	0.00	0.00	0.00	325.57	1202.43	0.08	800.97	0.39	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0164	304.92	0.00	0.00	0.00	0.00	0.00	304.92	1287.60	0.09	1105.80	0.54	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6014	480.41	0.00	0.00	0.00	0.00	0.00	480.41	1367.37	0.09	1586.11	0.77	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.8422	552.67	0.00	0.00	0.00	0.00	0.00	552.67	1493.06	0.10	2138.68	1.04	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.2207	666.22	0.00	0.00	0.00	0.00	0.00	666.22	1637.66	0.11	2804.79	1.36	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.4272	728.16	0.00	0.00	0.00	0.00	0.00	728.16	1811.98	0.13	3532.83	1.72	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.5627	1068.82	0.00	0.00	0.00	0.00	0.00	1068.82	2002.49	0.14	4601.51	2.23	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.3865	1615.94	0.00	0.00	0.00	0.00	0.00	1615.94	2282.15	0.16	6217.29	3.02	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.8703	1461.09	0.00	0.00	0.00	0.00	0.00	1461.09	2704.98	0.19	7678.20	3.73	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7755	232.66	0.00	0.00	0.00	0.00	0.00	232.66	3087.28	0.21	7910.64	3.84	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.11	0.22	7910.43	3.84	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.05	0.22	7910.21	3.84	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3147.99	0.22	7909.99	3.84	0.00	0.00	
					Total volume (cf)			7912.11								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1078.00	0.07	17.19	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1082.50	0.08	34.37	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1087.00	0.08	48.91	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1090.80	0.08	68.75	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1095.99	0.08	88.59	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1101.18	0.08	126.62	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1111.13	0.08	146.46	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1116.33	0.08	184.49	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1126.28	0.08	222.52	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1136.23	0.08	242.36	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0708	21.25	0.00	0.00	0.00	0.00	0.00	21.25	1141.42	0.08	263.52	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1146.96	0.08	301.55	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1156.91	0.08	392.69	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1180.76	0.08	483.83	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1204.61	0.08	574.97	0.28	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	1228.46	0.09	639.54	0.31	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4811	144.33	0.00	0.00	0.00	0.00	0.00	144.33	1245.36	0.09	783.79	0.38	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1283.11	0.09	941.32	0.46	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3926	117.78	0.00	0.00	0.00	0.00	0.00	117.78	1324.33	0.09	1059.00	0.51	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1355.13	0.09	1216.52	0.59	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7909	237.28	0.00	0.00	0.00	0.00	0.00	237.28	1396.35	0.10	1453.71	0.71	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1458.42	0.10	1664.34	0.81	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6139	184.17	0.00	0.00	0.00	0.00	0.00	184.17	1513.53	0.11	1848.40	0.90	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6582	197.45	0.00	0.00	0.00	0.00	0.00	197.45	1561.70	0.11	2045.74	0.99	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1613.34	0.11	2256.36	1.10	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1893	356.79	0.00	0.00	0.00	0.00	0.00	356.79	1668.46	0.12	2613.03	1.27	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.5434	463.02	0.00	0.00	0.00	0.00	0.00	463.02	1761.80	0.12	3075.93	1.49	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8795	263.84	0.00	0.00	0.00	0.00	0.00	263.84	1882.93	0.13	3339.64	1.62	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.3401	702.03	0.00	0.00	0.00	0.00	0.00	702.03	1951.94	0.14	4041.54	1.96	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.5614	768.43	0.00	0.00	0.00	0.00	0.00	768.43	2135.62	0.15	4809.82	2.34	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.9598	887.93	0.00	0.00	0.00	0.00	0.00	887.93	2336.66	0.16	5697.59	2.77	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.9418	582.53	0.00	0.00	0.00	0.00	0.00	582.53	2568.98	0.18	6279.94	3.05	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	2721.37	0.19	6344.41	3.08	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2738.25	0.19	6382.33	3.10	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2748.17	0.19	6420.24	3.12	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0266	7.97	0.00	0.00	0.00	0.00	0.00	7.97	2758.09	0.19	6428.02	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.13	0.19	6427.83	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.08	0.19	6427.64	3.12	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.02	0.19	6427.44	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.97	0.19	6427.25	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.92	0.19	6427.06	3.12	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.87	0.19	6426.87	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.82	0.19	6426.68	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.77	0.19	6426.49	3.12	0.00	0.00
					Total volume (cf)		6431.91								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	1078.00	0.07	8.04	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1080.10	0.08	17.71	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1082.63	0.08	27.37	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1085.16	0.08	37.04	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1087.69	0.08	46.70	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1090.22	0.08	57.99	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1093.18	0.08	69.28	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1096.13	0.08	80.57	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1099.08	0.08	91.85	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1102.04	0.08	103.14	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1104.99	0.08	114.43	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1107.94	0.08	127.34	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1111.32	0.08	140.25	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1114.70	0.08	153.16	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1118.08	0.08	166.07	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1121.46	0.08	178.98	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1124.84	0.08	191.89	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1128.21	0.08	204.80	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1131.59	0.08	217.70	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1134.97	0.08	230.61	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1138.35	0.08	243.52	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1141.73	0.08	256.43	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1145.10	0.08	269.34	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1148.48	0.08	283.87	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1152.28	0.08	296.78	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1155.66	0.08	311.31	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1159.46	0.08	325.84	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1163.27	0.08	340.37	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1167.07	0.08	354.90	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1170.87	0.08	369.42	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1174.67	0.08	383.95	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1178.48	0.08	398.48	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1182.28	0.08	414.63	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1186.50	0.08	430.79	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1190.73	0.08	446.94	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1194.96	0.08	463.09	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1199.18	0.08	479.24	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1203.41	0.08	497.01	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1208.06	0.08	514.79	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1212.71	0.08	532.56	0.26	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0649	19.48	0.00	0.00	0.00	0.00	0.00	19.48	1217.36	0.08	551.96	0.27	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1222.44	0.08	572.98	0.28	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1227.94	0.09	599.26	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1234.82	0.09	625.55	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1241.70	0.09	668.06	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1252.82	0.09	710.58	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1263.95	0.09	769.33	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1279.32	0.09	828.08	0.40	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2502	75.07	0.00	0.00	0.00	0.00	0.00	75.07	1294.70	0.09	903.06	0.44	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3044	91.31	0.00	0.00	0.00	0.00	0.00	91.31	1314.32	0.09	994.28	0.48	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	1338.19	0.09	1101.73	0.53	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.4126	123.77	0.00	0.00	0.00	0.00	0.00	123.77	1366.31	0.09	1225.40	0.59	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1398.67	0.10	1365.32	0.66	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1435.28	0.10	1505.23	0.73	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5208	156.24	0.00	0.00	0.00	0.00	0.00	156.24	1471.90	0.10	1661.37	0.81	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5749	172.48	0.00	0.00	0.00	0.00	0.00	172.48	1512.76	0.11	1833.74	0.89	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1557.86	0.11	2022.34	0.98	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1607.22	0.11	2210.94	1.07	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6831	204.94	0.00	0.00	0.00	0.00	0.00	204.94	1656.57	0.12	2415.77	1.17	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7373	221.18	0.00	0.00	0.00	0.00	0.00	221.18	1710.17	0.12	2636.83	1.28	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	1.0078	302.35	0.00	0.00	0.00	0.00	0.00	302.35	1768.02	0.12	2939.06	1.43	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2784	383.52	0.00	0.00	0.00	0.00	0.00	383.52	1847.11	0.13	3322.45	1.61	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.4407	432.22	0.00	0.00	0.00	0.00	0.00	432.22	1947.44	0.14	3754.54	1.82	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.6031	480.92	0.00	0.00	0.00	0.00	0.00	480.92	2060.51	0.14	4235.32	2.06	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8736	562.09	0.00	0.00	0.00	0.00	0.00	562.09	2186.32	0.15	4797.26	2.33	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.3607	708.20	0.00	0.00	0.00	0.00	0.00	708.20	2333.38	0.16	5505.30	2.67	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	2518.66	0.17	5612.66	2.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	2546.76	0.18	5627.10	2.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	2550.54	0.18	5636.66	2.74	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	2553.04	0.18	5644.60	2.74	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0162	4.87	0.00	0.00	0.00	0.00	0.00	4.87	2555.12	0.18	5649.29	2.74	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0108	3.25	0.00	0.00	0.00	0.00	0.00	3.25	2556.34	0.18	5652.36	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.15	0.18	5652.19	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.10	0.18	5652.01	2.74	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.05	0.18	5651.83	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.01	0.18	5651.65	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.96	0.18	5651.48	2.74	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.91	0.18	5651.30	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.87	0.18	5651.12	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.82	0.18	5650.94	2.74	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.78	0.18	5650.77	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.73	0.18	5650.59	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.68	0.18	5650.41	2.74	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.64	0.18	5650.23	2.74	0.00	0.00
					Total volume (cf)			5659.35								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1078.00	0.22	4.10	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1079.07	0.22	10.37	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1080.71	0.23	16.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1082.35	0.23	25.06	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1084.56	0.23	31.32	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1086.20	0.23	37.58	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1087.84	0.23	43.85	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1089.47	0.23	52.27	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1091.68	0.23	60.70	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1093.88	0.23	69.12	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1096.09	0.23	79.71	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1098.86	0.23	90.30	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1101.63	0.23	100.88	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1104.40	0.23	111.47	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1107.17	0.23	122.05	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1109.94	0.23	134.80	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1113.28	0.23	147.55	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1116.61	0.23	162.46	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1120.51	0.23	177.36	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1124.41	0.23	194.43	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1128.88	0.24	207.18	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1132.22	0.24	222.08	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1136.12	0.24	239.15	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1140.58	0.24	256.22	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1145.05	0.24	275.45	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1150.08	0.24	294.68	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1155.11	0.24	316.07	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1160.71	0.24	337.46	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1166.31	0.24	358.85	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0264	23.79	0.00	0.00	0.00	0.00	0.00	23.79	1171.91	0.24	382.40	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0288	25.96	0.00	0.00	0.00	0.00	0.00	25.96	1178.07	0.25	408.11	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0312	28.12	0.00	0.00	0.00	0.00	0.00	28.12	1184.80	0.25	435.98	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1192.09	0.25	468.18	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1200.52	0.25	500.38	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0385	34.61	0.00	0.00	0.00	0.00	0.00	34.61	1208.94	0.25	534.73	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1217.93	0.25	571.25	0.28	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1227.49	0.26	612.10	0.30	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1238.18	0.26	655.10	0.32	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0505	45.43	0.00	0.00	0.00	0.00	0.00	45.43	1249.43	0.26	700.27	0.34	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0529	47.59	0.00	0.00	0.00	0.00	0.00	47.59	1261.25	0.26	747.59	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1273.63	0.27	779.77	0.38	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1282.06	0.27	811.95	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1290.48	0.27	854.95	0.42	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1301.73	0.27	897.94	0.44	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1312.98	0.27	938.76	0.46	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1323.66	0.28	979.59	0.48	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1334.34	0.28	1016.08	0.49	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0433	38.94	0.00	0.00	0.00	0.00	0.00	38.94	1343.89	0.28	1054.74	0.51	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0601	54.08	0.00	0.00	0.00	0.00	0.00	54.08	1354.01	0.28	1108.53	0.54	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0625	56.24	0.00	0.00	0.00	0.00	0.00	56.24	1368.09	0.29	1164.49	0.57	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0740	66.64	0.00	0.00	0.00	0.00	0.00	66.64	1382.73	0.29	1230.84	0.60	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1071	96.41	0.00	0.00	0.00	0.00	0.00	96.41	1400.09	0.29	1326.96	0.64	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2362	212.60	0.00	0.00	0.00	0.00	0.00	212.60	1425.25	0.30	1539.26	0.75	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2450	220.53	0.00	0.00	0.00	0.00	0.00	220.53	1480.80	0.31	1759.48	0.85	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1538.43	0.32	1808.91	0.88	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1551.37	0.32	1858.34	0.90	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1025	92.29	0.00	0.00	0.00	0.00	0.00	92.29	1564.30	0.33	1950.30	0.95	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0869	78.17	0.00	0.00	0.00	0.00	0.00	78.17	1588.37	0.33	2028.14	0.98	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0951	85.58	0.00	0.00	0.00	0.00	0.00	85.58	1608.74	0.34	2113.38	1.03	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0792	71.24	0.00	0.00	0.00	0.00	0.00	71.24	1631.04	0.34	2184.28	1.06	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0631	56.79	0.00	0.00	0.00	0.00	0.00	56.79	1649.60	0.34	2240.73	1.09	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1664.37	0.35	2290.14	1.11	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1677.30	0.35	2330.89	1.13	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1687.96	0.35	2371.64	1.15	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1698.63	0.35	2379.94	1.16	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1700.80	0.35	2388.23	1.16	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1702.97	0.35	2394.37	1.16	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1704.57	0.36	2400.50	1.17	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1706.18	0.36	2410.96	1.17	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1708.92	0.36	2421.42	1.18	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1711.65	0.36	2431.88	1.18	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1714.39	0.36	2440.18	1.18	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1716.56	0.36	2448.47	1.19	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1718.73	0.36	2456.77	1.19	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1720.90	0.36	2462.90	1.20	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1722.51	0.36	2466.86	1.20	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1723.54	0.36	2472.99	1.20	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1725.15	0.36	2481.29	1.20	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1727.32	0.36	2487.42	1.21	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1728.92	0.36	2491.38	1.21	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1729.96	0.36	2497.51	1.21	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1731.56	0.36	2503.64	1.22	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1733.17	0.36	2509.77	1.22	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1734.77	0.36	2513.73	1.22	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1735.81	0.36	2519.86	1.22	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1737.41	0.36	2523.83	1.23	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1738.45	0.36	2529.95	1.23	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1740.05	0.36	2533.92	1.23	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1741.09	0.36	2540.04	1.23	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1742.69	0.36	2544.01	1.24	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1743.73	0.36	2547.97	1.24	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1744.77	0.36	2551.93	1.24	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1745.81	0.36	2555.89	1.24	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1746.84	0.36	2559.86	1.24	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1747.88	0.36	2563.82	1.24	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1748.92	0.36	2567.78	1.25	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1749.95	0.36	2567.42	1.25	0.00	0.00
					Total volume (cf)		2596.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.09ac+0.09ac typ street frontage=1.18ac

5/7/2024 LOT 5

Drainage Area (ac.)	1.1800	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6035	181.04	0.00	0.00	0.00	0.00	0.00	181.04	1078.00	0.07	180.97	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9820	294.60	0.00	0.00	0.00	0.00	0.00	294.60	1125.36	0.08	475.49	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0852	325.57	0.00	0.00	0.00	0.00	0.00	325.57	1202.43	0.08	800.97	0.39	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0164	304.92	0.00	0.00	0.00	0.00	0.00	304.92	1287.60	0.09	1105.80	0.54	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6014	480.41	0.00	0.00	0.00	0.00	0.00	480.41	1367.37	0.09	1586.11	0.77	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.8422	552.67	0.00	0.00	0.00	0.00	0.00	552.67	1493.06	0.10	2138.68	1.04	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.2207	666.22	0.00	0.00	0.00	0.00	0.00	666.22	1637.66	0.11	2804.79	1.36	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.4272	728.16	0.00	0.00	0.00	0.00	0.00	728.16	1811.98	0.13	3532.83	1.72	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.5627	1068.82	0.00	0.00	0.00	0.00	0.00	1068.82	2002.49	0.14	4601.51	2.23	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.3865	1615.94	0.00	0.00	0.00	0.00	0.00	1615.94	2282.15	0.16	6217.29	3.02	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.8703	1461.09	0.00	0.00	0.00	0.00	0.00	1461.09	2704.98	0.19	7678.20	3.73	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7755	232.66	0.00	0.00	0.00	0.00	0.00	232.66	3087.28	0.21	7910.64	3.84	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.11	0.22	7910.43	3.84	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.05	0.22	7910.21	3.84	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3147.99	0.22	7909.99	3.84	0.00	0.00	
					Total volume (cf)			7912.11								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1078.00	0.07	17.19	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1082.50	0.08	34.37	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1087.00	0.08	48.91	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1090.80	0.08	68.75	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1095.99	0.08	88.59	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1101.18	0.08	126.62	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1111.13	0.08	146.46	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1116.33	0.08	184.49	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1126.28	0.08	222.52	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1136.23	0.08	242.36	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0708	21.25	0.00	0.00	0.00	0.00	0.00	21.25	1141.42	0.08	263.52	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1146.96	0.08	301.55	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1156.91	0.08	392.69	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1180.76	0.08	483.83	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1204.61	0.08	574.97	0.28	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	1228.46	0.09	639.54	0.31	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4811	144.33	0.00	0.00	0.00	0.00	0.00	144.33	1245.36	0.09	783.79	0.38	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1283.11	0.09	941.32	0.46	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3926	117.78	0.00	0.00	0.00	0.00	0.00	117.78	1324.33	0.09	1059.00	0.51	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1355.13	0.09	1216.52	0.59	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7909	237.28	0.00	0.00	0.00	0.00	0.00	237.28	1396.35	0.10	1453.71	0.71	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1458.42	0.10	1664.34	0.81	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6139	184.17	0.00	0.00	0.00	0.00	0.00	184.17	1513.53	0.11	1848.40	0.90	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6582	197.45	0.00	0.00	0.00	0.00	0.00	197.45	1561.70	0.11	2045.74	0.99	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1613.34	0.11	2256.36	1.10	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1893	356.79	0.00	0.00	0.00	0.00	0.00	356.79	1668.46	0.12	2613.03	1.27	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.5434	463.02	0.00	0.00	0.00	0.00	0.00	463.02	1761.80	0.12	3075.93	1.49	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8795	263.84	0.00	0.00	0.00	0.00	0.00	263.84	1882.93	0.13	3339.64	1.62	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.3401	702.03	0.00	0.00	0.00	0.00	0.00	702.03	1951.94	0.14	4041.54	1.96	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.5614	768.43	0.00	0.00	0.00	0.00	0.00	768.43	2135.62	0.15	4809.82	2.34	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.9598	887.93	0.00	0.00	0.00	0.00	0.00	887.93	2336.66	0.16	5697.59	2.77	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.9418	582.53	0.00	0.00	0.00	0.00	0.00	582.53	2568.98	0.18	6279.94	3.05	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	2721.37	0.19	6344.41	3.08	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2738.25	0.19	6382.33	3.10	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2748.17	0.19	6420.24	3.12	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0266	7.97	0.00	0.00	0.00	0.00	0.00	7.97	2758.09	0.19	6428.02	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.13	0.19	6427.83	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.08	0.19	6427.64	3.12	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.02	0.19	6427.44	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.97	0.19	6427.25	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.92	0.19	6427.06	3.12	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.87	0.19	6426.87	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.82	0.19	6426.68	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.77	0.19	6426.49	3.12	0.00	0.00
					Total volume (cf)		6431.91								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	1078.00	0.07	8.04	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1080.10	0.08	17.71	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1082.63	0.08	27.37	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1085.16	0.08	37.04	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1087.69	0.08	46.70	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1090.22	0.08	57.99	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1093.18	0.08	69.28	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1096.13	0.08	80.57	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1099.08	0.08	91.85	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1102.04	0.08	103.14	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1104.99	0.08	114.43	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1107.94	0.08	127.34	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1111.32	0.08	140.25	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1114.70	0.08	153.16	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1118.08	0.08	166.07	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1121.46	0.08	178.98	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1124.84	0.08	191.89	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1128.21	0.08	204.80	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1131.59	0.08	217.70	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1134.97	0.08	230.61	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1138.35	0.08	243.52	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1141.73	0.08	256.43	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1145.10	0.08	269.34	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1148.48	0.08	283.87	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1152.28	0.08	296.78	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1155.66	0.08	311.31	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1159.46	0.08	325.84	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1163.27	0.08	340.37	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1167.07	0.08	354.90	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1170.87	0.08	369.42	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1174.67	0.08	383.95	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1178.48	0.08	398.48	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1182.28	0.08	414.63	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1186.50	0.08	430.79	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1190.73	0.08	446.94	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1194.96	0.08	463.09	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1199.18	0.08	479.24	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1203.41	0.08	497.01	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1208.06	0.08	514.79	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1212.71	0.08	532.56	0.26	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0649	19.48	0.00	0.00	0.00	0.00	0.00	19.48	1217.36	0.08	551.96	0.27	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1222.44	0.08	572.98	0.28	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1227.94	0.09	599.26	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1234.82	0.09	625.55	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1241.70	0.09	668.06	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1252.82	0.09	710.58	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1263.95	0.09	769.33	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1279.32	0.09	828.08	0.40	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2502	75.07	0.00	0.00	0.00	0.00	0.00	75.07	1294.70	0.09	903.06	0.44	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3044	91.31	0.00	0.00	0.00	0.00	0.00	91.31	1314.32	0.09	994.28	0.48	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	1338.19	0.09	1101.73	0.53	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.4126	123.77	0.00	0.00	0.00	0.00	0.00	123.77	1366.31	0.09	1225.40	0.59	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1398.67	0.10	1365.32	0.66	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1435.28	0.10	1505.23	0.73	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5208	156.24	0.00	0.00	0.00	0.00	0.00	156.24	1471.90	0.10	1661.37	0.81	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5749	172.48	0.00	0.00	0.00	0.00	0.00	172.48	1512.76	0.11	1833.74	0.89	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1557.86	0.11	2022.34	0.98	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1607.22	0.11	2210.94	1.07	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6831	204.94	0.00	0.00	0.00	0.00	0.00	204.94	1656.57	0.12	2415.77	1.17	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7373	221.18	0.00	0.00	0.00	0.00	0.00	221.18	1710.17	0.12	2636.83	1.28	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	1.0078	302.35	0.00	0.00	0.00	0.00	0.00	302.35	1768.02	0.12	2939.06	1.43	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2784	383.52	0.00	0.00	0.00	0.00	0.00	383.52	1847.11	0.13	3322.45	1.61	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.4407	432.22	0.00	0.00	0.00	0.00	0.00	432.22	1947.44	0.14	3754.54	1.82	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.6031	480.92	0.00	0.00	0.00	0.00	0.00	480.92	2060.51	0.14	4235.32	2.06	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8736	562.09	0.00	0.00	0.00	0.00	0.00	562.09	2186.32	0.15	4797.26	2.33	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.3607	708.20	0.00	0.00	0.00	0.00	0.00	708.20	2333.38	0.16	5505.30	2.67	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	2518.66	0.17	5612.66	2.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	2546.76	0.18	5627.10	2.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	2550.54	0.18	5636.66	2.74	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	2553.04	0.18	5644.60	2.74	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0162	4.87	0.00	0.00	0.00	0.00	0.00	4.87	2555.12	0.18	5649.29	2.74	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0108	3.25	0.00	0.00	0.00	0.00	0.00	3.25	2556.34	0.18	5652.36	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.15	0.18	5652.19	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.10	0.18	5652.01	2.74	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.05	0.18	5651.83	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.01	0.18	5651.65	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.96	0.18	5651.48	2.74	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.91	0.18	5651.30	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.87	0.18	5651.12	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.82	0.18	5650.94	2.74	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.78	0.18	5650.77	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.73	0.18	5650.59	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.68	0.18	5650.41	2.74	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.64	0.18	5650.23	2.74	0.00	0.00
					Total volume (cf)			5659.35								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1078.00	0.22	4.10	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1079.07	0.22	10.37	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1080.71	0.23	16.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1082.35	0.23	25.06	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1084.56	0.23	31.32	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1086.20	0.23	37.58	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1087.84	0.23	43.85	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1089.47	0.23	52.27	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1091.68	0.23	60.70	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1093.88	0.23	69.12	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1096.09	0.23	79.71	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1098.86	0.23	90.30	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1101.63	0.23	100.88	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1104.40	0.23	111.47	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1107.17	0.23	122.05	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1109.94	0.23	134.80	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1113.28	0.23	147.55	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1116.61	0.23	162.46	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1120.51	0.23	177.36	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1124.41	0.23	194.43	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1128.88	0.24	207.18	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1132.22	0.24	222.08	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1136.12	0.24	239.15	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1140.58	0.24	256.22	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1145.05	0.24	275.45	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1150.08	0.24	294.68	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1155.11	0.24	316.07	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1160.71	0.24	337.46	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1166.31	0.24	358.85	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0264	23.79	0.00	0.00	0.00	0.00	0.00	23.79	1171.91	0.24	382.40	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0288	25.96	0.00	0.00	0.00	0.00	0.00	25.96	1178.07	0.25	408.11	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0312	28.12	0.00	0.00	0.00	0.00	0.00	28.12	1184.80	0.25	435.98	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1192.09	0.25	468.18	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1200.52	0.25	500.38	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0385	34.61	0.00	0.00	0.00	0.00	0.00	34.61	1208.94	0.25	534.73	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1217.93	0.25	571.25	0.28	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1227.49	0.26	612.10	0.30	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1238.18	0.26	655.10	0.32	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0505	45.43	0.00	0.00	0.00	0.00	0.00	45.43	1249.43	0.26	700.27	0.34	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0529	47.59	0.00	0.00	0.00	0.00	0.00	47.59	1261.25	0.26	747.59	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1273.63	0.27	779.77	0.38	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1282.06	0.27	811.95	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1290.48	0.27	854.95	0.42	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1301.73	0.27	897.94	0.44	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1312.98	0.27	938.76	0.46	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1323.66	0.28	979.59	0.48	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1334.34	0.28	1016.08	0.49	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0433	38.94	0.00	0.00	0.00	0.00	0.00	38.94	1343.89	0.28	1054.74	0.51	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0601	54.08	0.00	0.00	0.00	0.00	0.00	54.08	1354.01	0.28	1108.53	0.54	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0625	56.24	0.00	0.00	0.00	0.00	0.00	56.24	1368.09	0.29	1164.49	0.57	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0740	66.64	0.00	0.00	0.00	0.00	0.00	66.64	1382.73	0.29	1230.84	0.60	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1071	96.41	0.00	0.00	0.00	0.00	0.00	96.41	1400.09	0.29	1326.96	0.64	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2362	212.60	0.00	0.00	0.00	0.00	0.00	212.60	1425.25	0.30	1539.26	0.75	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2450	220.53	0.00	0.00	0.00	0.00	0.00	220.53	1480.80	0.31	1759.48	0.85	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1538.43	0.32	1808.91	0.88	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1551.37	0.32	1858.34	0.90	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1025	92.29	0.00	0.00	0.00	0.00	0.00	92.29	1564.30	0.33	1950.30	0.95	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0869	78.17	0.00	0.00	0.00	0.00	0.00	78.17	1588.37	0.33	2028.14	0.98	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0951	85.58	0.00	0.00	0.00	0.00	0.00	85.58	1608.74	0.34	2113.38	1.03	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0792	71.24	0.00	0.00	0.00	0.00	0.00	71.24	1631.04	0.34	2184.28	1.06	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0631	56.79	0.00	0.00	0.00	0.00	0.00	56.79	1649.60	0.34	2240.73	1.09	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1664.37	0.35	2290.14	1.11	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1677.30	0.35	2330.89	1.13	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1687.96	0.35	2371.64	1.15	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1698.63	0.35	2379.94	1.16	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1700.80	0.35	2388.23	1.16	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1702.97	0.35	2394.37	1.16	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1704.57	0.36	2400.50	1.17	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1706.18	0.36	2410.96	1.17	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1708.92	0.36	2421.42	1.18	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1711.65	0.36	2431.88	1.18	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1714.39	0.36	2440.18	1.18	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1716.56	0.36	2448.47	1.19	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1718.73	0.36	2456.77	1.19	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1720.90	0.36	2462.90	1.20	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1722.51	0.36	2466.86	1.20	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1723.54	0.36	2472.99	1.20	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1725.15	0.36	2481.29	1.20	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1727.32	0.36	2487.42	1.21	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1728.92	0.36	2491.38	1.21	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1729.96	0.36	2497.51	1.21	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1731.56	0.36	2503.64	1.22	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1733.17	0.36	2509.77	1.22	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1734.77	0.36	2513.73	1.22	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1735.81	0.36	2519.86	1.22	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1737.41	0.36	2523.83	1.23	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1738.45	0.36	2529.95	1.23	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1740.05	0.36	2533.92	1.23	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1741.09	0.36	2540.04	1.23	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1742.69	0.36	2544.01	1.24	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1743.73	0.36	2547.97	1.24	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1744.77	0.36	2551.93	1.24	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1745.81	0.36	2555.89	1.24	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1746.84	0.36	2559.86	1.24	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1747.88	0.36	2563.82	1.24	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1748.92	0.36	2567.78	1.25	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1749.95	0.36	2567.42	1.25	0.00	0.00
					Total volume (cf)		2596.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.16ac+0.09ac typ street frontage=1.25ac

			5/7/2024	LOT 6	
Drainage Area (ac.)	1.2500		JOB NUMBER 22106		
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3304 s.f. Bot. = 1123 s.f. Max. Depth (d)= 4 Max. storage= 8470.98 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6393	191.78	0.00	0.00	0.00	0.00	0.00	191.78	1123.00	0.08	191.71	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	1.0402	312.07	0.00	0.00	0.00	0.00	0.00	312.07	1172.36	0.08	503.70	0.24	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.1496	344.88	0.00	0.00	0.00	0.00	0.00	344.88	1252.69	0.09	848.49	0.40	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0767	323.01	0.00	0.00	0.00	0.00	0.00	323.01	1341.46	0.09	1171.40	0.55	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6964	508.91	0.00	0.00	0.00	0.00	0.00	508.91	1424.60	0.10	1680.21	0.79	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.9515	585.46	0.00	0.00	0.00	0.00	0.00	585.46	1555.60	0.11	2265.56	1.07	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.3525	705.75	0.00	0.00	0.00	0.00	0.00	705.75	1706.31	0.12	2971.19	1.40	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.5712	771.36	0.00	0.00	0.00	0.00	0.00	771.36	1887.98	0.13	3742.42	1.77	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.7741	1132.23	0.00	0.00	0.00	0.00	0.00	1132.23	2086.55	0.14	4874.50	2.30	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.7060	1711.80	0.00	0.00	0.00	0.00	0.00	1711.80	2378.02	0.17	6586.13	3.11	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	5.1592	1547.77	0.00	0.00	0.00	0.00	0.00	1547.77	2818.71	0.20	8133.71	3.84	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.8215	246.46	0.00	0.00	0.00	0.00	0.00	246.46	3217.16	0.22	8379.95	3.96	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.56	0.23	8379.72	3.96	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.50	0.23	8379.49	3.96	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.44	0.23	8379.26	3.96	0.00	0.00	
					Total volume (cf)			8381.47								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0610	18.29	0.00	0.00	0.00	0.00	0.00	18.29	1123.00	0.08	18.21	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0610	18.29	0.00	0.00	0.00	0.00	0.00	18.29	1127.69	0.08	36.42	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0516	15.47	0.00	0.00	0.00	0.00	0.00	15.47	1132.38	0.08	51.81	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1136.34	0.08	72.83	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1141.75	0.08	93.85	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1147.16	0.08	134.14	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1157.54	0.08	155.16	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1162.95	0.08	195.44	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1173.32	0.08	235.73	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1183.69	0.08	256.75	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0750	22.51	0.00	0.00	0.00	0.00	0.00	22.51	1189.10	0.08	279.17	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1194.88	0.08	319.45	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1205.25	0.08	416.00	0.20	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1230.11	0.09	512.55	0.24	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1254.96	0.09	609.09	0.29	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2283	68.50	0.00	0.00	0.00	0.00	0.00	68.50	1279.82	0.09	677.50	0.32	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.5097	152.90	0.00	0.00	0.00	0.00	0.00	152.90	1297.44	0.09	830.31	0.39	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5565	166.96	0.00	0.00	0.00	0.00	0.00	166.96	1336.78	0.09	997.18	0.47	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.4159	124.76	0.00	0.00	0.00	0.00	0.00	124.76	1379.74	0.10	1121.85	0.53	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5565	166.96	0.00	0.00	0.00	0.00	0.00	166.96	1411.84	0.10	1288.72	0.61	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.8379	251.36	0.00	0.00	0.00	0.00	0.00	251.36	1454.80	0.10	1539.98	0.73	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7441	223.23	0.00	0.00	0.00	0.00	0.00	223.23	1519.49	0.11	1763.10	0.83	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6503	195.10	0.00	0.00	0.00	0.00	0.00	195.10	1576.94	0.11	1958.09	0.92	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6972	209.16	0.00	0.00	0.00	0.00	0.00	209.16	1627.14	0.11	2167.13	1.02	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7441	223.23	0.00	0.00	0.00	0.00	0.00	223.23	1680.97	0.12	2390.25	1.13	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.2599	377.96	0.00	0.00	0.00	0.00	0.00	377.96	1738.41	0.12	2768.08	1.31	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.6350	490.49	0.00	0.00	0.00	0.00	0.00	490.49	1835.69	0.13	3258.44	1.54	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.9316	279.49	0.00	0.00	0.00	0.00	0.00	279.49	1961.94	0.14	3537.80	1.67	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.4789	743.68	0.00	0.00	0.00	0.00	0.00	743.68	2033.87	0.14	4281.34	2.02	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.7134	814.01	0.00	0.00	0.00	0.00	0.00	814.01	2225.30	0.15	5095.19	2.41	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	3.1354	940.61	0.00	0.00	0.00	0.00	0.00	940.61	2434.85	0.17	6035.63	2.85	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	2.0569	617.08	0.00	0.00	0.00	0.00	0.00	617.08	2676.98	0.19	6652.53	3.14	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2283	68.50	0.00	0.00	0.00	0.00	0.00	68.50	2835.81	0.20	6720.83	3.17	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	2853.39	0.20	6761.00	3.19	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	2863.74	0.20	6801.17	3.21	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	2874.08	0.20	6809.41	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.20	0.20	6809.21	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.15	0.20	6809.01	3.22	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.10	0.20	6808.81	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.04	0.20	6808.61	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.99	0.20	6808.41	3.21	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.94	0.20	6808.21	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.89	0.20	6808.01	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.84	0.20	6807.81	3.21	0.00	0.00
					Total volume (cf)		6813.47								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0287	8.60	0.00	0.00	0.00	0.00	0.00	8.60	1123.00	0.08	8.52	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1125.19	0.08	18.76	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1127.83	0.08	29.00	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1130.47	0.08	39.24	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1133.10	0.08	49.48	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1135.74	0.08	61.44	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1138.82	0.08	73.40	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1141.90	0.08	85.36	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1144.98	0.08	97.32	0.05	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1148.06	0.08	109.27	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1151.13	0.08	121.23	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1154.21	0.08	134.91	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1157.73	0.08	148.59	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1161.26	0.08	162.26	0.08	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1164.78	0.08	175.94	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1168.30	0.08	189.62	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1171.82	0.08	203.29	0.10	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1175.34	0.08	216.97	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1178.86	0.08	230.65	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1182.38	0.08	244.32	0.12	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1185.90	0.08	258.00	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1189.43	0.08	271.67	0.13	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1192.95	0.08	285.35	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1196.47	0.08	300.74	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1200.43	0.08	314.41	0.15	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1203.95	0.08	329.81	0.16	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1207.91	0.08	345.20	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1211.88	0.08	360.60	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1215.84	0.08	375.99	0.18	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1219.80	0.08	391.38	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1223.77	0.08	406.77	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1227.73	0.09	422.17	0.20	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1231.69	0.09	439.28	0.21	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1236.10	0.09	456.39	0.22	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1240.50	0.09	473.50	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1244.91	0.09	490.61	0.23	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1249.32	0.09	507.72	0.24	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1253.72	0.09	526.55	0.25	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1258.57	0.09	545.38	0.26	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1263.42	0.09	564.21	0.27	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0688	20.64	0.00	0.00	0.00	0.00	0.00	20.64	1268.27	0.09	584.76	0.28	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0745	22.36	0.00	0.00	0.00	0.00	0.00	22.36	1273.56	0.09	607.02	0.29	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0931	27.93	0.00	0.00	0.00	0.00	0.00	27.93	1279.29	0.09	634.87	0.30	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0931	27.93	0.00	0.00	0.00	0.00	0.00	27.93	1286.46	0.09	662.72	0.31	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1504	45.13	0.00	0.00	0.00	0.00	0.00	45.13	1293.63	0.09	707.76	0.33	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1504	45.13	0.00	0.00	0.00	0.00	0.00	45.13	1305.22	0.09	752.80	0.36	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.2078	62.33	0.00	0.00	0.00	0.00	0.00	62.33	1316.82	0.09	815.04	0.38	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.2078	62.33	0.00	0.00	0.00	0.00	0.00	62.33	1332.84	0.09	877.27	0.41	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2651	79.53	0.00	0.00	0.00	0.00	0.00	79.53	1348.87	0.09	956.70	0.45	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3224	96.72	0.00	0.00	0.00	0.00	0.00	96.72	1369.32	0.10	1053.33	0.50	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3797	113.92	0.00	0.00	0.00	0.00	0.00	113.92	1394.20	0.10	1167.15	0.55	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.4371	131.12	0.00	0.00	0.00	0.00	0.00	131.12	1423.50	0.10	1298.17	0.61	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.4944	148.31	0.00	0.00	0.00	0.00	0.00	148.31	1457.24	0.10	1446.39	0.68	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.4944	148.31	0.00	0.00	0.00	0.00	0.00	148.31	1495.40	0.10	1594.60	0.75	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.5517	165.51	0.00	0.00	0.00	0.00	0.00	165.51	1533.56	0.11	1760.00	0.83	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.6090	182.71	0.00	0.00	0.00	0.00	0.00	182.71	1576.14	0.11	1942.60	0.92	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.6664	199.91	0.00	0.00	0.00	0.00	0.00	199.91	1623.16	0.11	2142.39	1.01	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.6664	199.91	0.00	0.00	0.00	0.00	0.00	199.91	1674.60	0.12	2342.18	1.11	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.7237	217.10	0.00	0.00	0.00	0.00	0.00	217.10	1726.03	0.12	2559.16	1.21	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.7810	234.30	0.00	0.00	0.00	0.00	0.00	234.30	1781.90	0.12	2793.34	1.32	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	1.0676	320.29	0.00	0.00	0.00	0.00	0.00	320.29	1842.19	0.13	3113.50	1.47	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	1.3542	406.27	0.00	0.00	0.00	0.00	0.00	406.27	1924.62	0.13	3519.64	1.66	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	1.5262	457.86	0.00	0.00	0.00	0.00	0.00	457.86	2029.19	0.14	3977.36	1.88	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	1.6982	509.45	0.00	0.00	0.00	0.00	0.00	509.45	2147.04	0.15	4486.66	2.12	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	1.9848	595.44	0.00	0.00	0.00	0.00	0.00	595.44	2278.17	0.16	5081.94	2.40	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	2.5007	750.21	0.00	0.00	0.00	0.00	0.00	750.21	2431.43	0.17	5831.99	2.75	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.3797	113.92	0.00	0.00	0.00	0.00	0.00	113.92	2624.55	0.18	5945.73	2.81	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	2653.83	0.18	5961.02	2.81	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	2657.77	0.18	5971.15	2.82	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0287	8.60	0.00	0.00	0.00	0.00	0.00	8.60	2660.38	0.18	5979.57	2.82	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0172	5.16	0.00	0.00	0.00	0.00	0.00	5.16	2662.54	0.18	5984.54	2.83	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	2663.82	0.18	5987.80	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.66	0.19	5987.61	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.61	0.19	5987.43	2.83	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.57	0.19	5987.24	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.52	0.19	5987.06	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.47	0.19	5986.87	2.83	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.42	0.19	5986.69	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.37	0.19	5986.50	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.33	0.19	5986.32	2.83	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.28	0.19	5986.13	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.23	0.19	5985.95	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.18	0.19	5985.76	2.83	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.14	0.19	5985.58	2.83	0.00	0.00
					Total volume (cf)		5995.07									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1123.00	0.23	4.35	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1124.12	0.23	10.99	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1125.83	0.23	17.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1127.54	0.23	26.56	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1129.84	0.24	33.20	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1131.55	0.24	39.84	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1133.26	0.24	46.48	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1134.97	0.24	55.40	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1137.26	0.24	64.33	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1139.56	0.24	73.26	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1141.86	0.24	84.48	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1144.75	0.24	95.70	0.05	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1147.64	0.24	106.92	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1150.53	0.24	118.14	0.06	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1153.42	0.24	129.35	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1156.30	0.24	142.86	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1159.78	0.24	156.37	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1163.26	0.24	172.16	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1167.33	0.24	187.96	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1171.39	0.24	206.05	0.10	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1176.05	0.25	219.55	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1179.53	0.25	235.35	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1183.59	0.25	253.43	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1188.25	0.25	271.52	0.13	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0229	20.62	0.00	0.00	0.00	0.00	0.00	20.62	1192.91	0.25	291.89	0.14	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0229	20.62	0.00	0.00	0.00	0.00	0.00	20.62	1198.15	0.25	312.26	0.15	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1203.40	0.25	334.93	0.16	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1209.23	0.25	357.59	0.17	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1215.07	0.25	380.25	0.18	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0280	25.21	0.00	0.00	0.00	0.00	0.00	25.21	1220.90	0.25	405.20	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0306	27.50	0.00	0.00	0.00	0.00	0.00	27.50	1227.33	0.26	432.44	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0331	29.79	0.00	0.00	0.00	0.00	0.00	29.79	1234.34	0.26	461.98	0.22	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1241.94	0.26	496.09	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1250.73	0.26	530.20	0.25	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0407	36.66	0.00	0.00	0.00	0.00	0.00	36.66	1259.51	0.26	566.60	0.27	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0433	38.95	0.00	0.00	0.00	0.00	0.00	38.95	1268.88	0.26	605.29	0.29	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1278.84	0.27	648.56	0.31	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1289.98	0.27	694.12	0.33	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0535	48.12	0.00	0.00	0.00	0.00	0.00	48.12	1301.71	0.27	741.97	0.35	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0560	50.41	0.00	0.00	0.00	0.00	0.00	50.41	1314.03	0.27	792.11	0.37	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1326.94	0.28	826.20	0.39	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1335.72	0.28	860.30	0.41	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1344.50	0.28	905.84	0.43	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1356.23	0.28	951.39	0.45	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1367.95	0.28	994.64	0.47	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1379.09	0.29	1037.89	0.49	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0433	38.95	0.00	0.00	0.00	0.00	0.00	38.95	1390.22	0.29	1076.56	0.51	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0458	41.25	0.00	0.00	0.00	0.00	0.00	41.25	1400.18	0.29	1117.51	0.53	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0637	57.29	0.00	0.00	0.00	0.00	0.00	57.29	1410.72	0.29	1174.50	0.55	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0662	59.58	0.00	0.00	0.00	0.00	0.00	59.58	1425.40	0.30	1233.78	0.58	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0784	70.59	0.00	0.00	0.00	0.00	0.00	70.59	1440.66	0.30	1304.08	0.62	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1135	102.13	0.00	0.00	0.00	0.00	0.00	102.13	1458.76	0.30	1405.90	0.66	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2502	225.21	0.00	0.00	0.00	0.00	0.00	225.21	1484.97	0.31	1630.80	0.77	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2596	233.61	0.00	0.00	0.00	0.00	0.00	233.61	1542.88	0.32	1864.09	0.88	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1602.94	0.33	1916.46	0.90	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1616.43	0.34	1968.83	0.93	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1086	97.76	0.00	0.00	0.00	0.00	0.00	97.76	1629.91	0.34	2066.25	0.98	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0920	82.81	0.00	0.00	0.00	0.00	0.00	82.81	1654.99	0.34	2148.71	1.01	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.1007	90.65	0.00	0.00	0.00	0.00	0.00	90.65	1676.22	0.35	2239.02	1.06	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0839	75.47	0.00	0.00	0.00	0.00	0.00	75.47	1699.47	0.35	2314.13	1.09	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0668	60.16	0.00	0.00	0.00	0.00	0.00	60.16	1718.81	0.36	2373.93	1.12	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1734.21	0.36	2426.28	1.15	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1747.69	0.36	2469.45	1.17	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1758.80	0.37	2512.62	1.19	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1769.92	0.37	2521.42	1.19	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1772.18	0.37	2530.21	1.19	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1774.45	0.37	2536.72	1.20	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1776.12	0.37	2543.22	1.20	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1777.80	0.37	2554.31	1.21	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1780.65	0.37	2565.40	1.21	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1783.51	0.37	2576.48	1.22	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1786.36	0.37	2585.28	1.22	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1788.62	0.37	2594.07	1.22	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1790.89	0.37	2602.86	1.23	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1793.15	0.37	2609.36	1.23	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1794.82	0.37	2613.57	1.23	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1795.91	0.37	2620.07	1.24	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1797.58	0.37	2628.86	1.24	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1799.85	0.37	2635.36	1.24	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1801.52	0.38	2639.57	1.25	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1802.60	0.38	2646.07	1.25	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1804.28	0.38	2652.57	1.25	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1805.95	0.38	2659.06	1.26	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1807.62	0.38	2663.27	1.26	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1808.70	0.38	2669.77	1.26	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1810.38	0.38	2673.97	1.26	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1811.46	0.38	2680.47	1.27	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1813.13	0.38	2684.68	1.27	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1814.22	0.38	2691.17	1.27	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1815.89	0.38	2695.38	1.27	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1816.97	0.38	2699.58	1.27	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1818.05	0.38	2703.79	1.28	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1819.14	0.38	2707.99	1.28	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1820.22	0.38	2712.19	1.28	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1821.30	0.38	2716.40	1.28	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1822.38	0.38	2720.60	1.28	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1823.46	0.38	2720.22	1.28	0.00	0.00
					Total volume (cf)		2750.10									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.16ac+0.09ac typ street frontage=1.25ac

5/7/2024 LOT 7

Drainage Area (ac.)	1.2500	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3304 s.f. Bot. = 1123 s.f. Max. Depth (d)= 4 Max. storage= 8470.98 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6393	191.78	0.00	0.00	0.00	0.00	0.00	191.78	1123.00	0.08	191.71	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	1.0402	312.07	0.00	0.00	0.00	0.00	0.00	312.07	1172.36	0.08	503.70	0.24	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.1496	344.88	0.00	0.00	0.00	0.00	0.00	344.88	1252.69	0.09	848.49	0.40	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0767	323.01	0.00	0.00	0.00	0.00	0.00	323.01	1341.46	0.09	1171.40	0.55	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6964	508.91	0.00	0.00	0.00	0.00	0.00	508.91	1424.60	0.10	1680.21	0.79	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.9515	585.46	0.00	0.00	0.00	0.00	0.00	585.46	1555.60	0.11	2265.56	1.07	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.3525	705.75	0.00	0.00	0.00	0.00	0.00	705.75	1706.31	0.12	2971.19	1.40	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.5712	771.36	0.00	0.00	0.00	0.00	0.00	771.36	1887.98	0.13	3742.42	1.77	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.7741	1132.23	0.00	0.00	0.00	0.00	0.00	1132.23	2086.55	0.14	4874.50	2.30	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.7060	1711.80	0.00	0.00	0.00	0.00	0.00	1711.80	2378.02	0.17	6586.13	3.11	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	5.1592	1547.77	0.00	0.00	0.00	0.00	0.00	1547.77	2818.71	0.20	8133.71	3.84	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.8215	246.46	0.00	0.00	0.00	0.00	0.00	246.46	3217.16	0.22	8379.95	3.96	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.56	0.23	8379.72	3.96	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.50	0.23	8379.49	3.96	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.44	0.23	8379.26	3.96	0.00	0.00	
					Total volume (cf)			8381.47										Total Overflow (cf)	0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0610	18.29	0.00	0.00	0.00	0.00	0.00	18.29	1123.00	0.08	18.21	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0610	18.29	0.00	0.00	0.00	0.00	0.00	18.29	1127.69	0.08	36.42	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0516	15.47	0.00	0.00	0.00	0.00	0.00	15.47	1132.38	0.08	51.81	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1136.34	0.08	72.83	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1141.75	0.08	93.85	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1147.16	0.08	134.14	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1157.54	0.08	155.16	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1162.95	0.08	195.44	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1173.32	0.08	235.73	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1183.69	0.08	256.75	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0750	22.51	0.00	0.00	0.00	0.00	0.00	22.51	1189.10	0.08	279.17	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1194.88	0.08	319.45	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1205.25	0.08	416.00	0.20	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1230.11	0.09	512.55	0.24	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1254.96	0.09	609.09	0.29	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2283	68.50	0.00	0.00	0.00	0.00	0.00	68.50	1279.82	0.09	677.50	0.32	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.5097	152.90	0.00	0.00	0.00	0.00	0.00	152.90	1297.44	0.09	830.31	0.39	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5565	166.96	0.00	0.00	0.00	0.00	0.00	166.96	1336.78	0.09	997.18	0.47	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.4159	124.76	0.00	0.00	0.00	0.00	0.00	124.76	1379.74	0.10	1121.85	0.53	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5565	166.96	0.00	0.00	0.00	0.00	0.00	166.96	1411.84	0.10	1288.72	0.61	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.8379	251.36	0.00	0.00	0.00	0.00	0.00	251.36	1454.80	0.10	1539.98	0.73	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7441	223.23	0.00	0.00	0.00	0.00	0.00	223.23	1519.49	0.11	1763.10	0.83	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6503	195.10	0.00	0.00	0.00	0.00	0.00	195.10	1576.94	0.11	1958.09	0.92	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6972	209.16	0.00	0.00	0.00	0.00	0.00	209.16	1627.14	0.11	2167.13	1.02	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7441	223.23	0.00	0.00	0.00	0.00	0.00	223.23	1680.97	0.12	2390.25	1.13	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.2599	377.96	0.00	0.00	0.00	0.00	0.00	377.96	1738.41	0.12	2768.08	1.31	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.6350	490.49	0.00	0.00	0.00	0.00	0.00	490.49	1835.69	0.13	3258.44	1.54	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.9316	279.49	0.00	0.00	0.00	0.00	0.00	279.49	1961.94	0.14	3537.80	1.67	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.4789	743.68	0.00	0.00	0.00	0.00	0.00	743.68	2033.87	0.14	4281.34	2.02	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.7134	814.01	0.00	0.00	0.00	0.00	0.00	814.01	2225.30	0.15	5095.19	2.41	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	3.1354	940.61	0.00	0.00	0.00	0.00	0.00	940.61	2434.85	0.17	6035.63	2.85	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	2.0569	617.08	0.00	0.00	0.00	0.00	0.00	617.08	2676.98	0.19	6652.53	3.14	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2283	68.50	0.00	0.00	0.00	0.00	0.00	68.50	2835.81	0.20	6720.83	3.17	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	2853.39	0.20	6761.00	3.19	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	2863.74	0.20	6801.17	3.21	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	2874.08	0.20	6809.41	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.20	0.20	6809.21	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.15	0.20	6809.01	3.22	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.10	0.20	6808.81	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.04	0.20	6808.61	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.99	0.20	6808.41	3.21	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.94	0.20	6808.21	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.89	0.20	6808.01	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.84	0.20	6807.81	3.21	0.00	0.00
					Total volume (cf)		6813.47								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0287	8.60	0.00	0.00	0.00	0.00	0.00	8.60	1123.00	0.08	8.52	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1125.19	0.08	18.76	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1127.83	0.08	29.00	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1130.47	0.08	39.24	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1133.10	0.08	49.48	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1135.74	0.08	61.44	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1138.82	0.08	73.40	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1141.90	0.08	85.36	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1144.98	0.08	97.32	0.05	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1148.06	0.08	109.27	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1151.13	0.08	121.23	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1154.21	0.08	134.91	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1157.73	0.08	148.59	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1161.26	0.08	162.26	0.08	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1164.78	0.08	175.94	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1168.30	0.08	189.62	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1171.82	0.08	203.29	0.10	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1175.34	0.08	216.97	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1178.86	0.08	230.65	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1182.38	0.08	244.32	0.12	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1185.90	0.08	258.00	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1189.43	0.08	271.67	0.13	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1192.95	0.08	285.35	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1196.47	0.08	300.74	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1200.43	0.08	314.41	0.15	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1203.95	0.08	329.81	0.16	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1207.91	0.08	345.20	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1211.88	0.08	360.60	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1215.84	0.08	375.99	0.18	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1219.80	0.08	391.38	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1223.77	0.08	406.77	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1227.73	0.09	422.17	0.20	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1231.69	0.09	439.28	0.21	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1236.10	0.09	456.39	0.22	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1240.50	0.09	473.50	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1244.91	0.09	490.61	0.23	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1249.32	0.09	507.72	0.24	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1253.72	0.09	526.55	0.25	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1258.57	0.09	545.38	0.26	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1263.42	0.09	564.21	0.27	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0688	20.64	0.00	0.00	0.00	0.00	0.00	20.64	1268.27	0.09	584.76	0.28	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0745	22.36	0.00	0.00	0.00	0.00	0.00	22.36	1273.56	0.09	607.02	0.29	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0931	27.93	0.00	0.00	0.00	0.00	0.00	27.93	1279.29	0.09	634.87	0.30	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0931	27.93	0.00	0.00	0.00	0.00	0.00	27.93	1286.46	0.09	662.72	0.31	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1504	45.13	0.00	0.00	0.00	0.00	0.00	45.13	1293.63	0.09	707.76	0.33	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1504	45.13	0.00	0.00	0.00	0.00	0.00	45.13	1305.22	0.09	752.80	0.36	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.2078	62.33	0.00	0.00	0.00	0.00	0.00	62.33	1316.82	0.09	815.04	0.38	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.2078	62.33	0.00	0.00	0.00	0.00	0.00	62.33	1332.84	0.09	877.27	0.41	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2651	79.53	0.00	0.00	0.00	0.00	0.00	79.53	1348.87	0.09	956.70	0.45	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3224	96.72	0.00	0.00	0.00	0.00	0.00	96.72	1369.32	0.10	1053.33	0.50	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3797	113.92	0.00	0.00	0.00	0.00	0.00	113.92	1394.20	0.10	1167.15	0.55	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.4371	131.12	0.00	0.00	0.00	0.00	0.00	131.12	1423.50	0.10	1298.17	0.61	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.4944	148.31	0.00	0.00	0.00	0.00	0.00	148.31	1457.24	0.10	1446.39	0.68	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.4944	148.31	0.00	0.00	0.00	0.00	0.00	148.31	1495.40	0.10	1594.60	0.75	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.5517	165.51	0.00	0.00	0.00	0.00	0.00	165.51	1533.56	0.11	1760.00	0.83	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.6090	182.71	0.00	0.00	0.00	0.00	0.00	182.71	1576.14	0.11	1942.60	0.92	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.6664	199.91	0.00	0.00	0.00	0.00	0.00	199.91	1623.16	0.11	2142.39	1.01	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.6664	199.91	0.00	0.00	0.00	0.00	0.00	199.91	1674.60	0.12	2342.18	1.11	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.7237	217.10	0.00	0.00	0.00	0.00	0.00	217.10	1726.03	0.12	2559.16	1.21	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.7810	234.30	0.00	0.00	0.00	0.00	0.00	234.30	1781.90	0.12	2793.34	1.32	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	1.0676	320.29	0.00	0.00	0.00	0.00	0.00	320.29	1842.19	0.13	3113.50	1.47	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	1.3542	406.27	0.00	0.00	0.00	0.00	0.00	406.27	1924.62	0.13	3519.64	1.66	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	1.5262	457.86	0.00	0.00	0.00	0.00	0.00	457.86	2029.19	0.14	3977.36	1.88	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	1.6982	509.45	0.00	0.00	0.00	0.00	0.00	509.45	2147.04	0.15	4486.66	2.12	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	1.9848	595.44	0.00	0.00	0.00	0.00	0.00	595.44	2278.17	0.16	5081.94	2.40	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	2.5007	750.21	0.00	0.00	0.00	0.00	0.00	750.21	2431.43	0.17	5831.99	2.75	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.3797	113.92	0.00	0.00	0.00	0.00	0.00	113.92	2624.55	0.18	5945.73	2.81	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	2653.83	0.18	5961.02	2.81	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	2657.77	0.18	5971.15	2.82	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0287	8.60	0.00	0.00	0.00	0.00	0.00	8.60	2660.38	0.18	5979.57	2.82	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0172	5.16	0.00	0.00	0.00	0.00	0.00	5.16	2662.54	0.18	5984.54	2.83	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	2663.82	0.18	5987.80	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.66	0.19	5987.61	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.61	0.19	5987.43	2.83	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.57	0.19	5987.24	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.52	0.19	5987.06	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.47	0.19	5986.87	2.83	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.42	0.19	5986.69	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.37	0.19	5986.50	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.33	0.19	5986.32	2.83	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.28	0.19	5986.13	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.23	0.19	5985.95	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.18	0.19	5985.76	2.83	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.14	0.19	5985.58	2.83	0.00	0.00
					Total volume (cf)		5995.07									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1123.00	0.23	4.35	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1124.12	0.23	10.99	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1125.83	0.23	17.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1127.54	0.23	26.56	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1129.84	0.24	33.20	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1131.55	0.24	39.84	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1133.26	0.24	46.48	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1134.97	0.24	55.40	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1137.26	0.24	64.33	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1139.56	0.24	73.26	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1141.86	0.24	84.48	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1144.75	0.24	95.70	0.05	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1147.64	0.24	106.92	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1150.53	0.24	118.14	0.06	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1153.42	0.24	129.35	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1156.30	0.24	142.86	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1159.78	0.24	156.37	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1163.26	0.24	172.16	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1167.33	0.24	187.96	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1171.39	0.24	206.05	0.10	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1176.05	0.25	219.55	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1179.53	0.25	235.35	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1183.59	0.25	253.43	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1188.25	0.25	271.52	0.13	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0229	20.62	0.00	0.00	0.00	0.00	0.00	20.62	1192.91	0.25	291.89	0.14	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0229	20.62	0.00	0.00	0.00	0.00	0.00	20.62	1198.15	0.25	312.26	0.15	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1203.40	0.25	334.93	0.16	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1209.23	0.25	357.59	0.17	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1215.07	0.25	380.25	0.18	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0280	25.21	0.00	0.00	0.00	0.00	0.00	25.21	1220.90	0.25	405.20	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0306	27.50	0.00	0.00	0.00	0.00	0.00	27.50	1227.33	0.26	432.44	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0331	29.79	0.00	0.00	0.00	0.00	0.00	29.79	1234.34	0.26	461.98	0.22	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1241.94	0.26	496.09	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1250.73	0.26	530.20	0.25	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0407	36.66	0.00	0.00	0.00	0.00	0.00	36.66	1259.51	0.26	566.60	0.27	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0433	38.95	0.00	0.00	0.00	0.00	0.00	38.95	1268.88	0.26	605.29	0.29	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1278.84	0.27	648.56	0.31	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1289.98	0.27	694.12	0.33	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0535	48.12	0.00	0.00	0.00	0.00	0.00	48.12	1301.71	0.27	741.97	0.35	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0560	50.41	0.00	0.00	0.00	0.00	0.00	50.41	1314.03	0.27	792.11	0.37	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1326.94	0.28	826.20	0.39	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1335.72	0.28	860.30	0.41	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1344.50	0.28	905.84	0.43	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1356.23	0.28	951.39	0.45	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1367.95	0.28	994.64	0.47	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1379.09	0.29	1037.89	0.49	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0433	38.95	0.00	0.00	0.00	0.00	0.00	38.95	1390.22	0.29	1076.56	0.51	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0458	41.25	0.00	0.00	0.00	0.00	0.00	41.25	1400.18	0.29	1117.51	0.53	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0637	57.29	0.00	0.00	0.00	0.00	0.00	57.29	1410.72	0.29	1174.50	0.55	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0662	59.58	0.00	0.00	0.00	0.00	0.00	59.58	1425.40	0.30	1233.78	0.58	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0784	70.59	0.00	0.00	0.00	0.00	0.00	70.59	1440.66	0.30	1304.08	0.62	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1135	102.13	0.00	0.00	0.00	0.00	0.00	102.13	1458.76	0.30	1405.90	0.66	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2502	225.21	0.00	0.00	0.00	0.00	0.00	225.21	1484.97	0.31	1630.80	0.77	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2596	233.61	0.00	0.00	0.00	0.00	0.00	233.61	1542.88	0.32	1864.09	0.88	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1602.94	0.33	1916.46	0.90	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1616.43	0.34	1968.83	0.93	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1086	97.76	0.00	0.00	0.00	0.00	0.00	97.76	1629.91	0.34	2066.25	0.98	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0920	82.81	0.00	0.00	0.00	0.00	0.00	82.81	1654.99	0.34	2148.71	1.01	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.1007	90.65	0.00	0.00	0.00	0.00	0.00	90.65	1676.22	0.35	2239.02	1.06	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0839	75.47	0.00	0.00	0.00	0.00	0.00	75.47	1699.47	0.35	2314.13	1.09	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0668	60.16	0.00	0.00	0.00	0.00	0.00	60.16	1718.81	0.36	2373.93	1.12	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1734.21	0.36	2426.28	1.15	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1747.69	0.36	2469.45	1.17	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1758.80	0.37	2512.62	1.19	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1769.92	0.37	2521.42	1.19	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1772.18	0.37	2530.21	1.19	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1774.45	0.37	2536.72	1.20	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1776.12	0.37	2543.22	1.20	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1777.80	0.37	2554.31	1.21	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1780.65	0.37	2565.40	1.21	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1783.51	0.37	2576.48	1.22	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1786.36	0.37	2585.28	1.22	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1788.62	0.37	2594.07	1.22	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1790.89	0.37	2602.86	1.23	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1793.15	0.37	2609.36	1.23	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1794.82	0.37	2613.57	1.23	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1795.91	0.37	2620.07	1.24	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1797.58	0.37	2628.86	1.24	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1799.85	0.37	2635.36	1.24	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1801.52	0.38	2639.57	1.25	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1802.60	0.38	2646.07	1.25	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1804.28	0.38	2652.57	1.25	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1805.95	0.38	2659.06	1.26	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1807.62	0.38	2663.27	1.26	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1808.70	0.38	2669.77	1.26	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1810.38	0.38	2673.97	1.26	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1811.46	0.38	2680.47	1.27	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1813.13	0.38	2684.68	1.27	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1814.22	0.38	2691.17	1.27	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1815.89	0.38	2695.38	1.27	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1816.97	0.38	2699.58	1.27	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1818.05	0.38	2703.79	1.28	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1819.14	0.38	2707.99	1.28	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1820.22	0.38	2712.19	1.28	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1821.30	0.38	2716.40	1.28	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1822.38	0.38	2720.60	1.28	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1823.46	0.38	2720.22	1.28	0.00	0.00
					Total volume (cf)		2750.10									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.98ac+0.09ac typ street frontage=1.07ac

5/7/2024 LOT 8

Drainage Area (ac.)	1.0700	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5472	164.17	0.00	0.00	0.00	0.00	0.00	164.17	1078.00	0.07	164.09	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.8904	267.13	0.00	0.00	0.00	0.00	0.00	267.13	1120.94	0.08	431.15	0.21	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.9841	295.22	0.00	0.00	0.00	0.00	0.00	295.22	1190.83	0.08	726.28	0.35	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9216	276.49	0.00	0.00	0.00	0.00	0.00	276.49	1268.06	0.09	1002.69	0.49	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.4521	435.63	0.00	0.00	0.00	0.00	0.00	435.63	1340.39	0.09	1438.22	0.70	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.6705	501.15	0.00	0.00	0.00	0.00	0.00	501.15	1454.36	0.10	1939.27	0.94	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.0137	604.12	0.00	0.00	0.00	0.00	0.00	604.12	1585.48	0.11	2543.28	1.23	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.2009	660.28	0.00	0.00	0.00	0.00	0.00	660.28	1743.54	0.12	3203.44	1.56	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.2306	969.19	0.00	0.00	0.00	0.00	0.00	969.19	1916.30	0.13	4172.49	2.03	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	4.8843	1465.30	0.00	0.00	0.00	0.00	0.00	1465.30	2169.89	0.15	5637.64	2.74	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.4163	1324.89	0.00	0.00	0.00	0.00	0.00	1324.89	2553.30	0.18	6962.36	3.38	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7032	210.97	0.00	0.00	0.00	0.00	0.00	210.97	2899.95	0.20	7173.13	3.48	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.11	0.21	7172.92	3.48	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.06	0.21	7172.72	3.48	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.00	0.21	7172.51	3.48	0.00	0.00	
					Total volume (cf)			7174.54								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0522	15.65	0.00	0.00	0.00	0.00	0.00	15.65	1078.00	0.07	15.58	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0522	15.65	0.00	0.00	0.00	0.00	0.00	15.65	1082.08	0.08	31.16	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0441	13.24	0.00	0.00	0.00	0.00	0.00	13.24	1086.15	0.08	44.33	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1089.60	0.08	62.31	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1094.31	0.08	80.30	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1099.01	0.08	114.77	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1108.03	0.08	132.76	0.06	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1112.74	0.08	167.23	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1121.76	0.08	201.71	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1130.79	0.08	219.69	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0642	19.27	0.00	0.00	0.00	0.00	0.00	19.27	1135.49	0.08	238.88	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1140.51	0.08	273.35	0.13	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1149.53	0.08	355.99	0.17	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1171.16	0.08	438.63	0.21	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1192.78	0.08	521.26	0.25	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1955	58.64	0.00	0.00	0.00	0.00	0.00	58.64	1214.41	0.08	579.81	0.28	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4363	130.88	0.00	0.00	0.00	0.00	0.00	130.88	1229.73	0.09	710.61	0.35	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4764	142.92	0.00	0.00	0.00	0.00	0.00	142.92	1263.96	0.09	853.44	0.41	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3560	106.80	0.00	0.00	0.00	0.00	0.00	106.80	1301.33	0.09	960.15	0.47	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4764	142.92	0.00	0.00	0.00	0.00	0.00	142.92	1329.26	0.09	1102.98	0.54	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7172	215.16	0.00	0.00	0.00	0.00	0.00	215.16	1366.63	0.09	1318.05	0.64	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6369	191.08	0.00	0.00	0.00	0.00	0.00	191.08	1422.92	0.10	1509.03	0.73	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5567	167.00	0.00	0.00	0.00	0.00	0.00	167.00	1472.89	0.10	1675.93	0.81	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.5968	179.04	0.00	0.00	0.00	0.00	0.00	179.04	1516.57	0.11	1854.87	0.90	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6369	191.08	0.00	0.00	0.00	0.00	0.00	191.08	1563.39	0.11	2045.84	0.99	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.0784	323.53	0.00	0.00	0.00	0.00	0.00	323.53	1613.37	0.11	2369.26	1.15	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.3995	419.86	0.00	0.00	0.00	0.00	0.00	419.86	1698.00	0.12	2789.00	1.35	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.7975	239.25	0.00	0.00	0.00	0.00	0.00	239.25	1807.84	0.13	3028.12	1.47	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.1220	636.59	0.00	0.00	0.00	0.00	0.00	636.59	1870.42	0.13	3664.58	1.78	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.3226	696.79	0.00	0.00	0.00	0.00	0.00	696.79	2036.97	0.14	4361.23	2.12	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.6839	805.16	0.00	0.00	0.00	0.00	0.00	805.16	2219.28	0.15	5166.24	2.51	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.7607	528.22	0.00	0.00	0.00	0.00	0.00	528.22	2429.94	0.17	5694.30	2.76	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1955	58.64	0.00	0.00	0.00	0.00	0.00	58.64	2568.12	0.18	5752.75	2.79	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	2583.42	0.18	5787.13	2.81	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	2592.41	0.18	5821.50	2.83	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0241	7.22	0.00	0.00	0.00	0.00	0.00	7.22	2601.41	0.18	5828.55	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.25	0.18	5828.36	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.20	0.18	5828.18	2.83	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.16	0.18	5828.00	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.11	0.18	5827.82	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.06	0.18	5827.64	2.83	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.01	0.18	5827.46	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2602.97	0.18	5827.28	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2602.92	0.18	5827.10	2.83	0.00	0.00
					Total volume (cf)		5832.33								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	1078.00	0.07	7.29	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1079.91	0.07	16.04	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1082.20	0.08	24.80	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1084.49	0.08	33.56	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1086.78	0.08	42.31	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1089.07	0.08	52.54	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1091.75	0.08	62.77	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1094.43	0.08	73.00	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1097.10	0.08	83.23	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1099.78	0.08	93.46	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1102.46	0.08	103.68	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1105.13	0.08	115.38	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1108.19	0.08	127.08	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1111.26	0.08	138.78	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1114.32	0.08	150.48	0.07	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1117.38	0.08	162.18	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1120.44	0.08	173.88	0.08	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1123.50	0.08	185.58	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1126.56	0.08	197.28	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1129.62	0.08	208.98	0.10	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1132.69	0.08	220.67	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1135.75	0.08	232.37	0.11	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1138.81	0.08	244.07	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1141.87	0.08	257.24	0.12	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1145.32	0.08	268.94	0.13	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1148.38	0.08	282.10	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1151.82	0.08	295.27	0.14	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1155.27	0.08	308.44	0.15	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1158.71	0.08	321.61	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1162.16	0.08	334.78	0.16	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1165.61	0.08	347.95	0.17	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1169.05	0.08	361.11	0.18	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1172.50	0.08	375.75	0.18	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1176.33	0.08	390.39	0.19	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1180.16	0.08	405.03	0.20	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1183.99	0.08	419.67	0.20	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1187.82	0.08	434.31	0.21	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1191.65	0.08	450.42	0.22	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1195.87	0.08	466.53	0.23	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1200.08	0.08	482.64	0.23	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0589	17.66	0.00	0.00	0.00	0.00	0.00	17.66	1204.30	0.08	500.22	0.24	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0638	19.14	0.00	0.00	0.00	0.00	0.00	19.14	1208.90	0.08	519.27	0.25	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0797	23.91	0.00	0.00	0.00	0.00	0.00	23.91	1213.89	0.08	543.10	0.26	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0797	23.91	0.00	0.00	0.00	0.00	0.00	23.91	1220.12	0.08	566.92	0.28	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1288	38.63	0.00	0.00	0.00	0.00	0.00	38.63	1226.36	0.09	605.47	0.29	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1288	38.63	0.00	0.00	0.00	0.00	0.00	38.63	1236.44	0.09	644.02	0.31	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1778	53.35	0.00	0.00	0.00	0.00	0.00	53.35	1246.53	0.09	697.29	0.34	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1778	53.35	0.00	0.00	0.00	0.00	0.00	53.35	1260.47	0.09	750.55	0.36	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2269	68.07	0.00	0.00	0.00	0.00	0.00	68.07	1274.41	0.09	818.54	0.40	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2760	82.79	0.00	0.00	0.00	0.00	0.00	82.79	1292.20	0.09	901.24	0.44	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3251	97.52	0.00	0.00	0.00	0.00	0.00	97.52	1313.84	0.09	998.67	0.48	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3741	112.24	0.00	0.00	0.00	0.00	0.00	112.24	1339.34	0.09	1110.81	0.54	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4232	126.96	0.00	0.00	0.00	0.00	0.00	126.96	1368.68	0.10	1237.67	0.60	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4232	126.96	0.00	0.00	0.00	0.00	0.00	126.96	1401.88	0.10	1364.53	0.66	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4723	141.68	0.00	0.00	0.00	0.00	0.00	141.68	1435.08	0.10	1506.11	0.73	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5213	156.40	0.00	0.00	0.00	0.00	0.00	156.40	1472.13	0.10	1662.41	0.81	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5704	171.12	0.00	0.00	0.00	0.00	0.00	171.12	1513.03	0.11	1833.42	0.89	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5704	171.12	0.00	0.00	0.00	0.00	0.00	171.12	1557.78	0.11	2004.43	0.97	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6195	185.84	0.00	0.00	0.00	0.00	0.00	185.84	1602.53	0.11	2190.16	1.06	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6685	200.56	0.00	0.00	0.00	0.00	0.00	200.56	1651.13	0.11	2390.61	1.16	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9139	274.16	0.00	0.00	0.00	0.00	0.00	274.16	1703.59	0.12	2664.65	1.29	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.1592	347.77	0.00	0.00	0.00	0.00	0.00	347.77	1775.30	0.12	3012.30	1.46	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3064	391.93	0.00	0.00	0.00	0.00	0.00	391.93	1866.28	0.13	3404.10	1.65	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.4536	436.09	0.00	0.00	0.00	0.00	0.00	436.09	1968.81	0.14	3840.05	1.86	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.6990	509.70	0.00	0.00	0.00	0.00	0.00	509.70	2082.89	0.14	4349.60	2.11	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.1406	642.18	0.00	0.00	0.00	0.00	0.00	642.18	2216.23	0.15	4991.63	2.42	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3251	97.52	0.00	0.00	0.00	0.00	0.00	97.52	2384.24	0.17	5088.98	2.47	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	2409.72	0.17	5102.06	2.48	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	2413.14	0.17	5110.73	2.48	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	2415.41	0.17	5117.92	2.48	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0147	4.42	0.00	0.00	0.00	0.00	0.00	4.42	2417.29	0.17	5122.17	2.49	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0098	2.94	0.00	0.00	0.00	0.00	0.00	2.94	2418.40	0.17	5124.95	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.13	0.17	5124.78	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.09	0.17	5124.61	2.49	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.04	0.17	5124.44	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.00	0.17	5124.27	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.95	0.17	5124.11	2.49	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.91	0.17	5123.94	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.87	0.17	5123.77	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.82	0.17	5123.60	2.49	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.78	0.17	5123.43	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.73	0.17	5123.27	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.69	0.17	5123.10	2.49	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.65	0.17	5122.93	2.49	0.00	0.00
					Total volume (cf)			5131.78									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1078.00	0.22	3.70	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1078.97	0.22	9.36	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1080.45	0.23	15.02	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1081.93	0.23	22.64	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1083.92	0.23	28.30	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1085.40	0.23	33.95	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1086.89	0.23	39.61	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1088.37	0.23	47.23	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1090.36	0.23	54.85	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1092.35	0.23	62.47	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1094.35	0.23	72.05	0.03	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1096.85	0.23	81.63	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1099.36	0.23	91.21	0.04	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1101.87	0.23	100.78	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1104.37	0.23	110.36	0.05	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1106.88	0.23	121.90	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1109.90	0.23	133.44	0.06	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1112.92	0.23	146.93	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1116.45	0.23	160.43	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1119.98	0.23	175.89	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1124.03	0.23	187.43	0.09	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1127.05	0.23	200.92	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1130.58	0.24	216.38	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1134.62	0.24	231.83	0.11	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0196	17.65	0.00	0.00	0.00	0.00	0.00	17.65	1138.67	0.24	249.25	0.12	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0196	17.65	0.00	0.00	0.00	0.00	0.00	17.65	1143.22	0.24	266.66	0.13	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1147.78	0.24	286.04	0.14	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1152.85	0.24	305.41	0.15	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1157.92	0.24	324.79	0.16	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0240	21.58	0.00	0.00	0.00	0.00	0.00	21.58	1162.99	0.24	346.12	0.17	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0262	23.54	0.00	0.00	0.00	0.00	0.00	23.54	1168.58	0.24	369.42	0.18	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0283	25.50	0.00	0.00	0.00	0.00	0.00	25.50	1174.67	0.24	394.67	0.19	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1181.28	0.25	423.85	0.21	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1188.91	0.25	453.02	0.22	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0349	31.38	0.00	0.00	0.00	0.00	0.00	31.38	1196.55	0.25	484.15	0.24	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0370	33.34	0.00	0.00	0.00	0.00	0.00	33.34	1204.70	0.25	517.25	0.25	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1213.36	0.25	554.26	0.27	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1223.04	0.25	593.24	0.29	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0458	41.19	0.00	0.00	0.00	0.00	0.00	41.19	1233.24	0.26	634.17	0.31	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0479	43.15	0.00	0.00	0.00	0.00	0.00	43.15	1243.95	0.26	677.07	0.33	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1255.18	0.26	706.23	0.34	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1262.81	0.26	735.38	0.36	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1270.44	0.26	774.35	0.38	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1280.64	0.27	813.31	0.39	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1290.83	0.27	850.31	0.41	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1300.51	0.27	887.31	0.43	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0370	33.34	0.00	0.00	0.00	0.00	0.00	33.34	1310.20	0.27	920.38	0.45	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0392	35.31	0.00	0.00	0.00	0.00	0.00	35.31	1318.85	0.27	955.41	0.46	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0545	49.04	0.00	0.00	0.00	0.00	0.00	49.04	1328.02	0.28	1004.17	0.49	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0567	51.00	0.00	0.00	0.00	0.00	0.00	51.00	1340.78	0.28	1054.89	0.51	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0671	60.43	0.00	0.00	0.00	0.00	0.00	60.43	1354.05	0.28	1115.04	0.54	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0971	87.42	0.00	0.00	0.00	0.00	0.00	87.42	1369.79	0.29	1202.17	0.58	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2142	192.78	0.00	0.00	0.00	0.00	0.00	192.78	1392.59	0.29	1394.66	0.68	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2222	199.97	0.00	0.00	0.00	0.00	0.00	199.97	1442.96	0.30	1594.33	0.77	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1495.22	0.31	1639.13	0.80	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1506.94	0.31	1683.93	0.82	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0930	83.69	0.00	0.00	0.00	0.00	0.00	83.69	1518.66	0.32	1767.30	0.86	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0788	70.88	0.00	0.00	0.00	0.00	0.00	70.88	1540.48	0.32	1837.87	0.89	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0862	77.60	0.00	0.00	0.00	0.00	0.00	77.60	1558.94	0.32	1915.14	0.93	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0718	64.60	0.00	0.00	0.00	0.00	0.00	64.60	1579.17	0.33	1979.41	0.96	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0572	51.50	0.00	0.00	0.00	0.00	0.00	51.50	1595.98	0.33	2030.58	0.99	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1609.37	0.34	2075.36	1.01	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1621.09	0.34	2112.29	1.03	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1630.76	0.34	2149.21	1.04	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1640.42	0.34	2156.72	1.05	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1642.38	0.34	2164.22	1.05	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1644.35	0.34	2169.76	1.05	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1645.80	0.34	2175.31	1.06	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1647.25	0.34	2184.77	1.06	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1649.72	0.34	2194.23	1.07	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1652.20	0.34	2203.70	1.07	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1654.68	0.34	2211.20	1.07	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1656.64	0.35	2218.70	1.08	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1658.60	0.35	2226.20	1.08	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1660.57	0.35	2231.74	1.08	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1662.02	0.35	2235.31	1.09	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1662.95	0.35	2240.85	1.09	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1664.40	0.35	2248.35	1.09	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1666.36	0.35	2253.89	1.09	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1667.81	0.35	2257.46	1.10	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1668.75	0.35	2263.00	1.10	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1670.20	0.35	2268.54	1.10	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1671.65	0.35	2274.07	1.10	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1673.09	0.35	2277.65	1.11	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1674.03	0.35	2283.18	1.11	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1675.48	0.35	2286.76	1.11	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1676.41	0.35	2292.29	1.11	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1677.86	0.35	2295.87	1.11	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1678.80	0.35	2301.40	1.12	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1680.25	0.35	2304.97	1.12	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1681.18	0.35	2308.55	1.12	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1682.12	0.35	2312.12	1.12	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1683.05	0.35	2315.69	1.12	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1683.98	0.35	2319.26	1.13	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1684.92	0.35	2322.83	1.13	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1685.85	0.35	2326.41	1.13	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1686.79	0.35	2326.05	1.13	0.00	0.00
						Total volume (cf)		2354.08									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.98ac+0.09ac typ street frontage=1.07ac

5/7/2024 LOT 9

Drainage Area (ac.)	1.0700	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5472	164.17	0.00	0.00	0.00	0.00	0.00	164.17	1078.00	0.07	164.09	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.8904	267.13	0.00	0.00	0.00	0.00	0.00	267.13	1120.94	0.08	431.15	0.21	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.9841	295.22	0.00	0.00	0.00	0.00	0.00	295.22	1190.83	0.08	726.28	0.35	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9216	276.49	0.00	0.00	0.00	0.00	0.00	276.49	1268.06	0.09	1002.69	0.49	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.4521	435.63	0.00	0.00	0.00	0.00	0.00	435.63	1340.39	0.09	1438.22	0.70	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.6705	501.15	0.00	0.00	0.00	0.00	0.00	501.15	1454.36	0.10	1939.27	0.94	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.0137	604.12	0.00	0.00	0.00	0.00	0.00	604.12	1585.48	0.11	2543.28	1.23	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.2009	660.28	0.00	0.00	0.00	0.00	0.00	660.28	1743.54	0.12	3203.44	1.56	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.2306	969.19	0.00	0.00	0.00	0.00	0.00	969.19	1916.30	0.13	4172.49	2.03	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	4.8843	1465.30	0.00	0.00	0.00	0.00	0.00	1465.30	2169.89	0.15	5637.64	2.74	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.4163	1324.89	0.00	0.00	0.00	0.00	0.00	1324.89	2553.30	0.18	6962.36	3.38	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7032	210.97	0.00	0.00	0.00	0.00	0.00	210.97	2899.95	0.20	7173.13	3.48	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.11	0.21	7172.92	3.48	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.06	0.21	7172.72	3.48	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.00	0.21	7172.51	3.48	0.00	0.00	
					Total volume (cf)			7174.54								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0522	15.65	0.00	0.00	0.00	0.00	0.00	15.65	1078.00	0.07	15.58	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0522	15.65	0.00	0.00	0.00	0.00	0.00	15.65	1082.08	0.08	31.16	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0441	13.24	0.00	0.00	0.00	0.00	0.00	13.24	1086.15	0.08	44.33	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1089.60	0.08	62.31	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1094.31	0.08	80.30	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1099.01	0.08	114.77	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1108.03	0.08	132.76	0.06	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1112.74	0.08	167.23	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1121.76	0.08	201.71	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1130.79	0.08	219.69	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0642	19.27	0.00	0.00	0.00	0.00	0.00	19.27	1135.49	0.08	238.88	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1140.51	0.08	273.35	0.13	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1149.53	0.08	355.99	0.17	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1171.16	0.08	438.63	0.21	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1192.78	0.08	521.26	0.25	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1955	58.64	0.00	0.00	0.00	0.00	0.00	58.64	1214.41	0.08	579.81	0.28	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4363	130.88	0.00	0.00	0.00	0.00	0.00	130.88	1229.73	0.09	710.61	0.35	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4764	142.92	0.00	0.00	0.00	0.00	0.00	142.92	1263.96	0.09	853.44	0.41	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3560	106.80	0.00	0.00	0.00	0.00	0.00	106.80	1301.33	0.09	960.15	0.47	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4764	142.92	0.00	0.00	0.00	0.00	0.00	142.92	1329.26	0.09	1102.98	0.54	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7172	215.16	0.00	0.00	0.00	0.00	0.00	215.16	1366.63	0.09	1318.05	0.64	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6369	191.08	0.00	0.00	0.00	0.00	0.00	191.08	1422.92	0.10	1509.03	0.73	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5567	167.00	0.00	0.00	0.00	0.00	0.00	167.00	1472.89	0.10	1675.93	0.81	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.5968	179.04	0.00	0.00	0.00	0.00	0.00	179.04	1516.57	0.11	1854.87	0.90	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6369	191.08	0.00	0.00	0.00	0.00	0.00	191.08	1563.39	0.11	2045.84	0.99	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.0784	323.53	0.00	0.00	0.00	0.00	0.00	323.53	1613.37	0.11	2369.26	1.15	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.3995	419.86	0.00	0.00	0.00	0.00	0.00	419.86	1698.00	0.12	2789.00	1.35	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.7975	239.25	0.00	0.00	0.00	0.00	0.00	239.25	1807.84	0.13	3028.12	1.47	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.1220	636.59	0.00	0.00	0.00	0.00	0.00	636.59	1870.42	0.13	3664.58	1.78	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.3226	696.79	0.00	0.00	0.00	0.00	0.00	696.79	2036.97	0.14	4361.23	2.12	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.6839	805.16	0.00	0.00	0.00	0.00	0.00	805.16	2219.28	0.15	5166.24	2.51	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.7607	528.22	0.00	0.00	0.00	0.00	0.00	528.22	2429.94	0.17	5694.30	2.76	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1955	58.64	0.00	0.00	0.00	0.00	0.00	58.64	2568.12	0.18	5752.75	2.79	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	2583.42	0.18	5787.13	2.81	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	2592.41	0.18	5821.50	2.83	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0241	7.22	0.00	0.00	0.00	0.00	0.00	7.22	2601.41	0.18	5828.55	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.25	0.18	5828.36	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.20	0.18	5828.18	2.83	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.16	0.18	5828.00	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.11	0.18	5827.82	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.06	0.18	5827.64	2.83	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.01	0.18	5827.46	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2602.97	0.18	5827.28	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2602.92	0.18	5827.10	2.83	0.00	0.00
					Total volume (cf)		5832.33								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	1078.00	0.07	7.29	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1079.91	0.07	16.04	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1082.20	0.08	24.80	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1084.49	0.08	33.56	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1086.78	0.08	42.31	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1089.07	0.08	52.54	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1091.75	0.08	62.77	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1094.43	0.08	73.00	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1097.10	0.08	83.23	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1099.78	0.08	93.46	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1102.46	0.08	103.68	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1105.13	0.08	115.38	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1108.19	0.08	127.08	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1111.26	0.08	138.78	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1114.32	0.08	150.48	0.07	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1117.38	0.08	162.18	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1120.44	0.08	173.88	0.08	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1123.50	0.08	185.58	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1126.56	0.08	197.28	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1129.62	0.08	208.98	0.10	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1132.69	0.08	220.67	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1135.75	0.08	232.37	0.11	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1138.81	0.08	244.07	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1141.87	0.08	257.24	0.12	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1145.32	0.08	268.94	0.13	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1148.38	0.08	282.10	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1151.82	0.08	295.27	0.14	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1155.27	0.08	308.44	0.15	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1158.71	0.08	321.61	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1162.16	0.08	334.78	0.16	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1165.61	0.08	347.95	0.17	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1169.05	0.08	361.11	0.18	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1172.50	0.08	375.75	0.18	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1176.33	0.08	390.39	0.19	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1180.16	0.08	405.03	0.20	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1183.99	0.08	419.67	0.20	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1187.82	0.08	434.31	0.21	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1191.65	0.08	450.42	0.22	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1195.87	0.08	466.53	0.23	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1200.08	0.08	482.64	0.23	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0589	17.66	0.00	0.00	0.00	0.00	0.00	17.66	1204.30	0.08	500.22	0.24	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0638	19.14	0.00	0.00	0.00	0.00	0.00	19.14	1208.90	0.08	519.27	0.25	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0797	23.91	0.00	0.00	0.00	0.00	0.00	23.91	1213.89	0.08	543.10	0.26	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0797	23.91	0.00	0.00	0.00	0.00	0.00	23.91	1220.12	0.08	566.92	0.28	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1288	38.63	0.00	0.00	0.00	0.00	0.00	38.63	1226.36	0.09	605.47	0.29	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1288	38.63	0.00	0.00	0.00	0.00	0.00	38.63	1236.44	0.09	644.02	0.31	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1778	53.35	0.00	0.00	0.00	0.00	0.00	53.35	1246.53	0.09	697.29	0.34	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1778	53.35	0.00	0.00	0.00	0.00	0.00	53.35	1260.47	0.09	750.55	0.36	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2269	68.07	0.00	0.00	0.00	0.00	0.00	68.07	1274.41	0.09	818.54	0.40	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2760	82.79	0.00	0.00	0.00	0.00	0.00	82.79	1292.20	0.09	901.24	0.44	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3251	97.52	0.00	0.00	0.00	0.00	0.00	97.52	1313.84	0.09	998.67	0.48	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3741	112.24	0.00	0.00	0.00	0.00	0.00	112.24	1339.34	0.09	1110.81	0.54	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4232	126.96	0.00	0.00	0.00	0.00	0.00	126.96	1368.68	0.10	1237.67	0.60	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4232	126.96	0.00	0.00	0.00	0.00	0.00	126.96	1401.88	0.10	1364.53	0.66	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4723	141.68	0.00	0.00	0.00	0.00	0.00	141.68	1435.08	0.10	1506.11	0.73	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5213	156.40	0.00	0.00	0.00	0.00	0.00	156.40	1472.13	0.10	1662.41	0.81	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5704	171.12	0.00	0.00	0.00	0.00	0.00	171.12	1513.03	0.11	1833.42	0.89	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5704	171.12	0.00	0.00	0.00	0.00	0.00	171.12	1557.78	0.11	2004.43	0.97	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6195	185.84	0.00	0.00	0.00	0.00	0.00	185.84	1602.53	0.11	2190.16	1.06	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6685	200.56	0.00	0.00	0.00	0.00	0.00	200.56	1651.13	0.11	2390.61	1.16	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9139	274.16	0.00	0.00	0.00	0.00	0.00	274.16	1703.59	0.12	2664.65	1.29	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.1592	347.77	0.00	0.00	0.00	0.00	0.00	347.77	1775.30	0.12	3012.30	1.46	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3064	391.93	0.00	0.00	0.00	0.00	0.00	391.93	1866.28	0.13	3404.10	1.65	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.4536	436.09	0.00	0.00	0.00	0.00	0.00	436.09	1968.81	0.14	3840.05	1.86	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.6990	509.70	0.00	0.00	0.00	0.00	0.00	509.70	2082.89	0.14	4349.60	2.11	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.1406	642.18	0.00	0.00	0.00	0.00	0.00	642.18	2216.23	0.15	4991.63	2.42	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3251	97.52	0.00	0.00	0.00	0.00	0.00	97.52	2384.24	0.17	5088.98	2.47	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	2409.72	0.17	5102.06	2.48	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	2413.14	0.17	5110.73	2.48	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	2415.41	0.17	5117.92	2.48	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0147	4.42	0.00	0.00	0.00	0.00	0.00	4.42	2417.29	0.17	5122.17	2.49	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0098	2.94	0.00	0.00	0.00	0.00	0.00	2.94	2418.40	0.17	5124.95	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.13	0.17	5124.78	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.09	0.17	5124.61	2.49	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.04	0.17	5124.44	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.00	0.17	5124.27	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.95	0.17	5124.11	2.49	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.91	0.17	5123.94	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.87	0.17	5123.77	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.82	0.17	5123.60	2.49	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.78	0.17	5123.43	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.73	0.17	5123.27	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.69	0.17	5123.10	2.49	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.65	0.17	5122.93	2.49	0.00	0.00
					Total volume (cf)			5131.78									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1078.00	0.22	3.70	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1078.97	0.22	9.36	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1080.45	0.23	15.02	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1081.93	0.23	22.64	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1083.92	0.23	28.30	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1085.40	0.23	33.95	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1086.89	0.23	39.61	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1088.37	0.23	47.23	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1090.36	0.23	54.85	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1092.35	0.23	62.47	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1094.35	0.23	72.05	0.03	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1096.85	0.23	81.63	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1099.36	0.23	91.21	0.04	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1101.87	0.23	100.78	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1104.37	0.23	110.36	0.05	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1106.88	0.23	121.90	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1109.90	0.23	133.44	0.06	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1112.92	0.23	146.93	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1116.45	0.23	160.43	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1119.98	0.23	175.89	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1124.03	0.23	187.43	0.09	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1127.05	0.23	200.92	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1130.58	0.24	216.38	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1134.62	0.24	231.83	0.11	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0196	17.65	0.00	0.00	0.00	0.00	0.00	17.65	1138.67	0.24	249.25	0.12	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0196	17.65	0.00	0.00	0.00	0.00	0.00	17.65	1143.22	0.24	266.66	0.13	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1147.78	0.24	286.04	0.14	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1152.85	0.24	305.41	0.15	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1157.92	0.24	324.79	0.16	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0240	21.58	0.00	0.00	0.00	0.00	0.00	21.58	1162.99	0.24	346.12	0.17	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0262	23.54	0.00	0.00	0.00	0.00	0.00	23.54	1168.58	0.24	369.42	0.18	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0283	25.50	0.00	0.00	0.00	0.00	0.00	25.50	1174.67	0.24	394.67	0.19	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1181.28	0.25	423.85	0.21	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1188.91	0.25	453.02	0.22	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0349	31.38	0.00	0.00	0.00	0.00	0.00	31.38	1196.55	0.25	484.15	0.24	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0370	33.34	0.00	0.00	0.00	0.00	0.00	33.34	1204.70	0.25	517.25	0.25	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1213.36	0.25	554.26	0.27	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1223.04	0.25	593.24	0.29	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0458	41.19	0.00	0.00	0.00	0.00	0.00	41.19	1233.24	0.26	634.17	0.31	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0479	43.15	0.00	0.00	0.00	0.00	0.00	43.15	1243.95	0.26	677.07	0.33	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1255.18	0.26	706.23	0.34	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1262.81	0.26	735.38	0.36	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1270.44	0.26	774.35	0.38	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1280.64	0.27	813.31	0.39	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1290.83	0.27	850.31	0.41	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1300.51	0.27	887.31	0.43	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0370	33.34	0.00	0.00	0.00	0.00	0.00	33.34	1310.20	0.27	920.38	0.45	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0392	35.31	0.00	0.00	0.00	0.00	0.00	35.31	1318.85	0.27	955.41	0.46	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0545	49.04	0.00	0.00	0.00	0.00	0.00	49.04	1328.02	0.28	1004.17	0.49	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0567	51.00	0.00	0.00	0.00	0.00	0.00	51.00	1340.78	0.28	1054.89	0.51	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0671	60.43	0.00	0.00	0.00	0.00	0.00	60.43	1354.05	0.28	1115.04	0.54	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0971	87.42	0.00	0.00	0.00	0.00	0.00	87.42	1369.79	0.29	1202.17	0.58	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2142	192.78	0.00	0.00	0.00	0.00	0.00	192.78	1392.59	0.29	1394.66	0.68	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2222	199.97	0.00	0.00	0.00	0.00	0.00	199.97	1442.96	0.30	1594.33	0.77	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1495.22	0.31	1639.13	0.80	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1506.94	0.31	1683.93	0.82	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0930	83.69	0.00	0.00	0.00	0.00	0.00	83.69	1518.66	0.32	1767.30	0.86	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0788	70.88	0.00	0.00	0.00	0.00	0.00	70.88	1540.48	0.32	1837.87	0.89	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0862	77.60	0.00	0.00	0.00	0.00	0.00	77.60	1558.94	0.32	1915.14	0.93	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0718	64.60	0.00	0.00	0.00	0.00	0.00	64.60	1579.17	0.33	1979.41	0.96	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0572	51.50	0.00	0.00	0.00	0.00	0.00	51.50	1595.98	0.33	2030.58	0.99	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1609.37	0.34	2075.36	1.01	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1621.09	0.34	2112.29	1.03	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1630.76	0.34	2149.21	1.04	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1640.42	0.34	2156.72	1.05	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1642.38	0.34	2164.22	1.05	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1644.35	0.34	2169.76	1.05	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1645.80	0.34	2175.31	1.06	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1647.25	0.34	2184.77	1.06	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1649.72	0.34	2194.23	1.07	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1652.20	0.34	2203.70	1.07	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1654.68	0.34	2211.20	1.07	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1656.64	0.35	2218.70	1.08	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1658.60	0.35	2226.20	1.08	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1660.57	0.35	2231.74	1.08	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1662.02	0.35	2235.31	1.09	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1662.95	0.35	2240.85	1.09	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1664.40	0.35	2248.35	1.09	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1666.36	0.35	2253.89	1.09	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1667.81	0.35	2257.46	1.10	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1668.75	0.35	2263.00	1.10	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1670.20	0.35	2268.54	1.10	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1671.65	0.35	2274.07	1.10	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1673.09	0.35	2277.65	1.11	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1674.03	0.35	2283.18	1.11	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1675.48	0.35	2286.76	1.11	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1676.41	0.35	2292.29	1.11	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1677.86	0.35	2295.87	1.11	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1678.80	0.35	2301.40	1.12	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1680.25	0.35	2304.97	1.12	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1681.18	0.35	2308.55	1.12	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1682.12	0.35	2312.12	1.12	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1683.05	0.35	2315.69	1.12	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1683.98	0.35	2319.26	1.13	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1684.92	0.35	2322.83	1.13	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1685.85	0.35	2326.41	1.13	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1686.79	0.35	2326.05	1.13	0.00	0.00
						Total volume (cf)		2354.08									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.41ac+0.09ac typ street frontage=0.50ac

1.14

5/7/2024 LOT 10-FRONT

Drainage Area (ac.)	0.5000	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2118 s.f. Bot. = 756 s.f. Max. Depth (d)= 3 Max. storage= 4139.39 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.2557	76.71	0.00	0.00	0.00	0.00	0.00	76.71	756.00	0.05	76.66	0.06	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.4161	124.83	0.00	0.00	0.00	0.00	0.00	124.83	781.22	0.05	201.44	0.15	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.4598	137.95	0.00	0.00	0.00	0.00	0.00	137.95	822.28	0.06	339.33	0.25	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.4307	129.20	0.00	0.00	0.00	0.00	0.00	129.20	867.65	0.06	468.47	0.34	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	0.6785	203.56	0.00	0.00	0.00	0.00	0.00	203.56	910.14	0.06	671.97	0.49	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	0.7806	234.18	0.00	0.00	0.00	0.00	0.00	234.18	977.10	0.07	906.09	0.66	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	0.9410	282.30	0.00	0.00	0.00	0.00	0.00	282.30	1054.13	0.07	1188.31	0.86	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.0285	308.54	0.00	0.00	0.00	0.00	0.00	308.54	1147.00	0.08	1496.78	1.08	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	1.5096	452.89	0.00	0.00	0.00	0.00	0.00	452.89	1248.49	0.09	1949.58	1.41	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	2.2824	684.72	0.00	0.00	0.00	0.00	0.00	684.72	1397.48	0.10	2634.20	1.91	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	2.0637	619.11	0.00	0.00	0.00	0.00	0.00	619.11	1622.74	0.11	3253.20	2.36	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.3286	98.58	0.00	0.00	0.00	0.00	0.00	98.58	1826.41	0.13	3351.66	2.43	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.81	0.13	3351.53	2.43	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.77	0.13	3351.40	2.43	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.72	0.13	3351.27	2.43	0.00	0.00	
					Total volume (cf)			3352.59								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	756.00	0.05	7.26	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	758.39	0.05	14.52	0.01	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	760.78	0.05	20.66	0.01	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	762.80	0.05	29.05	0.02	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	765.56	0.05	37.43	0.03	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	768.32	0.05	53.53	0.04	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	773.61	0.05	61.91	0.04	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	776.37	0.05	78.01	0.06	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	781.67	0.05	94.10	0.07	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	786.96	0.05	102.48	0.07	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	789.72	0.05	111.43	0.08	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	792.66	0.06	127.52	0.09	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	797.96	0.06	166.12	0.12	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	810.66	0.06	204.72	0.15	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	823.36	0.06	243.31	0.18	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	836.06	0.06	270.65	0.20	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.2039	61.16	0.00	0.00	0.00	0.00	0.00	61.16	845.05	0.06	331.75	0.24	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	865.16	0.06	398.48	0.29	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.1664	49.91	0.00	0.00	0.00	0.00	0.00	49.91	887.11	0.06	448.32	0.32	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	903.51	0.06	515.05	0.37	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.3351	100.54	0.00	0.00	0.00	0.00	0.00	100.54	925.47	0.06	615.53	0.45	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	958.53	0.07	704.75	0.51	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.2601	78.04	0.00	0.00	0.00	0.00	0.00	78.04	987.89	0.07	782.72	0.57	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.2789	83.66	0.00	0.00	0.00	0.00	0.00	83.66	1013.54	0.07	866.32	0.63	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	1041.05	0.07	955.53	0.69	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.5039	151.18	0.00	0.00	0.00	0.00	0.00	151.18	1070.40	0.07	1106.64	0.80	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	0.6540	196.19	0.00	0.00	0.00	0.00	0.00	196.19	1120.12	0.08	1302.76	0.94	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.3727	111.80	0.00	0.00	0.00	0.00	0.00	111.80	1184.65	0.08	1414.48	1.03	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	0.9916	297.47	0.00	0.00	0.00	0.00	0.00	297.47	1221.41	0.08	1711.86	1.24	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	1.0853	325.60	0.00	0.00	0.00	0.00	0.00	325.60	1319.26	0.09	2037.38	1.48	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	1.2541	376.24	0.00	0.00	0.00	0.00	0.00	376.24	1426.37	0.10	2413.52	1.75	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	0.8228	246.83	0.00	0.00	0.00	0.00	0.00	246.83	1550.13	0.11	2660.24	1.93	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	1631.31	0.11	2687.53	1.95	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1640.29	0.11	2703.56	1.96	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1645.56	0.11	2719.60	1.97	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0113	3.38	0.00	0.00	0.00	0.00	0.00	3.38	1650.84	0.11	2722.86	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.91	0.11	2722.74	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.88	0.11	2722.63	1.97	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.84	0.11	2722.51	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.80	0.11	2722.40	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.76	0.11	2722.28	1.97	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.72	0.11	2722.17	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.69	0.11	2722.05	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.65	0.11	2721.94	1.97	0.00	0.00
					Total volume (cf)		2725.39								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	756.00	0.05	3.39	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	757.11	0.05	7.46	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	758.46	0.05	11.54	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	759.80	0.05	15.61	0.01	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	761.14	0.05	19.69	0.01	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	762.48	0.05	24.45	0.02	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	764.04	0.05	29.21	0.02	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	765.61	0.05	33.97	0.02	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	767.18	0.05	38.73	0.03	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	768.74	0.05	43.50	0.03	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	770.31	0.05	48.26	0.03	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	771.88	0.05	53.71	0.04	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	773.67	0.05	59.16	0.04	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	775.46	0.05	64.61	0.05	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	777.26	0.05	70.05	0.05	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	779.05	0.05	75.50	0.05	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	780.84	0.05	80.95	0.06	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.64	0.05	86.40	0.06	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	784.43	0.05	91.85	0.07	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	786.22	0.05	97.30	0.07	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	788.01	0.05	102.75	0.07	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	789.81	0.05	108.19	0.08	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	791.60	0.05	113.64	0.08	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	793.39	0.06	119.78	0.09	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	795.41	0.06	125.23	0.09	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	797.20	0.06	131.36	0.10	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	799.22	0.06	137.50	0.10	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	801.24	0.06	143.63	0.10	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	803.26	0.06	149.77	0.11	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	805.28	0.06	155.90	0.11	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	807.30	0.06	162.04	0.12	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	809.32	0.06	168.17	0.12	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	811.33	0.06	175.00	0.13	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	813.58	0.06	181.82	0.13	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	815.82	0.06	188.64	0.14	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	818.07	0.06	195.46	0.14	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	820.31	0.06	202.28	0.15	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	822.56	0.06	209.79	0.15	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	825.03	0.06	217.30	0.16	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	827.50	0.06	224.81	0.16	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0275	8.25	0.00	0.00	0.00	0.00	0.00	8.25	829.97	0.06	233.01	0.17	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0298	8.94	0.00	0.00	0.00	0.00	0.00	8.94	832.67	0.06	241.89	0.18	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	835.59	0.06	253.01	0.18	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	839.25	0.06	264.12	0.19	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	842.91	0.06	282.12	0.20	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	848.83	0.06	300.11	0.22	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	854.75	0.06	324.98	0.24	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	862.93	0.06	349.86	0.25	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.1060	31.81	0.00	0.00	0.00	0.00	0.00	31.81	871.11	0.06	381.61	0.28	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.1290	38.69	0.00	0.00	0.00	0.00	0.00	38.69	881.56	0.06	420.23	0.30	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	894.27	0.06	465.74	0.34	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.1748	52.45	0.00	0.00	0.00	0.00	0.00	52.45	909.24	0.06	518.12	0.38	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	926.48	0.06	577.38	0.42	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	945.98	0.07	636.64	0.46	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.2207	66.20	0.00	0.00	0.00	0.00	0.00	66.20	965.48	0.07	702.78	0.51	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.2436	73.08	0.00	0.00	0.00	0.00	0.00	73.08	987.24	0.07	775.80	0.56	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1011.26	0.07	855.69	0.62	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1037.55	0.07	935.58	0.68	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.2895	86.84	0.00	0.00	0.00	0.00	0.00	86.84	1063.84	0.07	1022.35	0.74	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.3124	93.72	0.00	0.00	0.00	0.00	0.00	93.72	1092.39	0.08	1115.99	0.81	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.4270	128.11	0.00	0.00	0.00	0.00	0.00	128.11	1123.20	0.08	1244.03	0.90	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	0.5417	162.51	0.00	0.00	0.00	0.00	0.00	162.51	1165.33	0.08	1406.45	1.02	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	0.6105	183.14	0.00	0.00	0.00	0.00	0.00	183.14	1218.77	0.08	1589.51	1.15	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	0.6793	203.78	0.00	0.00	0.00	0.00	0.00	203.78	1279.00	0.09	1793.21	1.30	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	0.7939	238.18	0.00	0.00	0.00	0.00	0.00	238.18	1346.03	0.09	2031.29	1.47	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.0003	300.09	0.00	0.00	0.00	0.00	0.00	300.09	1424.36	0.10	2331.28	1.69	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	1523.07	0.11	2376.74	1.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	1538.03	0.11	2382.82	1.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	1540.03	0.11	2386.84	1.73	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	1541.35	0.11	2390.18	1.73	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0069	2.06	0.00	0.00	0.00	0.00	0.00	2.06	1542.45	0.11	2392.13	1.73	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0046	1.38	0.00	0.00	0.00	0.00	0.00	1.38	1543.09	0.11	2393.40	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.51	0.11	2393.29	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.48	0.11	2393.19	1.73	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.44	0.11	2393.08	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.40	0.11	2392.97	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.37	0.11	2392.86	1.73	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.33	0.11	2392.76	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.30	0.11	2392.65	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.26	0.11	2392.54	1.73	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.23	0.11	2392.44	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.19	0.11	2392.33	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.16	0.11	2392.22	1.73	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.12	0.11	2392.11	1.73	0.00	0.00
					Total volume (cf)		2398.03								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	756.00	0.16	1.68	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	756.55	0.16	4.27	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	757.40	0.16	6.86	0.00	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	758.26	0.16	10.37	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	759.41	0.16	12.96	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	760.26	0.16	15.55	0.01	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	761.12	0.16	18.14	0.01	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	761.97	0.16	21.65	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	763.12	0.16	25.16	0.02	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	764.28	0.16	28.66	0.02	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	765.43	0.16	33.09	0.02	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	766.89	0.16	37.51	0.03	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	768.34	0.16	41.93	0.03	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	769.80	0.16	46.36	0.03	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	771.25	0.16	50.78	0.04	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	772.71	0.16	56.12	0.04	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	774.46	0.16	61.45	0.04	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	776.22	0.16	67.71	0.05	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	778.28	0.16	73.96	0.05	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	780.34	0.16	81.13	0.06	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.70	0.16	86.47	0.06	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	784.45	0.16	92.72	0.07	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	786.51	0.16	99.89	0.07	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	788.87	0.16	107.06	0.08	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	791.23	0.16	115.14	0.08	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	793.89	0.17	123.23	0.09	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	796.55	0.17	132.23	0.10	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	799.51	0.17	141.23	0.10	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	802.47	0.17	150.22	0.11	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0112	10.08	0.00	0.00	0.00	0.00	0.00	10.08	805.43	0.17	160.14	0.12	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0122	11.00	0.00	0.00	0.00	0.00	0.00	11.00	808.69	0.17	170.97	0.12	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0132	11.92	0.00	0.00	0.00	0.00	0.00	11.92	812.25	0.17	182.72	0.13	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	816.12	0.17	196.29	0.14	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	820.59	0.17	209.87	0.15	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0163	14.67	0.00	0.00	0.00	0.00	0.00	14.67	825.06	0.17	224.37	0.16	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	829.82	0.17	239.77	0.17	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	834.89	0.17	257.02	0.19	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	840.57	0.18	275.17	0.20	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0214	19.25	0.00	0.00	0.00	0.00	0.00	19.25	846.54	0.18	294.24	0.21	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0224	20.16	0.00	0.00	0.00	0.00	0.00	20.16	852.82	0.18	314.23	0.23	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	859.39	0.18	327.80	0.24	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	863.86	0.18	341.37	0.25	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	868.32	0.18	359.52	0.26	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	874.29	0.18	377.67	0.27	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	880.27	0.18	394.90	0.29	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	885.94	0.18	412.13	0.30	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	891.60	0.19	427.53	0.31	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0183	16.50	0.00	0.00	0.00	0.00	0.00	16.50	896.67	0.19	443.84	0.32	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	902.04	0.19	466.56	0.34	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0265	23.83	0.00	0.00	0.00	0.00	0.00	23.83	909.52	0.19	490.21	0.36	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0314	28.24	0.00	0.00	0.00	0.00	0.00	28.24	917.29	0.19	518.25	0.38	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0454	40.85	0.00	0.00	0.00	0.00	0.00	40.85	926.52	0.19	558.91	0.41	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.1001	90.08	0.00	0.00	0.00	0.00	0.00	90.08	939.90	0.20	648.80	0.47	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.1038	93.45	0.00	0.00	0.00	0.00	0.00	93.45	969.48	0.20	742.04	0.54	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1000.16	0.21	762.91	0.55	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1007.02	0.21	783.78	0.57	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0435	39.11	0.00	0.00	0.00	0.00	0.00	39.11	1013.89	0.21	822.68	0.60	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0368	33.12	0.00	0.00	0.00	0.00	0.00	33.12	1026.69	0.21	855.59	0.62	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0403	36.26	0.00	0.00	0.00	0.00	0.00	36.26	1037.52	0.22	891.63	0.65	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0335	30.19	0.00	0.00	0.00	0.00	0.00	30.19	1049.38	0.22	921.60	0.67	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0267	24.07	0.00	0.00	0.00	0.00	0.00	24.07	1059.24	0.22	945.45	0.69	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1067.08	0.22	966.30	0.70	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1073.95	0.22	983.50	0.71	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1079.60	0.22	1000.69	0.73	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1085.26	0.23	1004.13	0.73	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1086.39	0.23	1007.57	0.73	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1087.52	0.23	1010.09	0.73	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1088.35	0.23	1012.61	0.73	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1089.18	0.23	1016.97	0.74	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1090.62	0.23	1021.32	0.74	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1092.05	0.23	1025.68	0.74	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1093.48	0.23	1029.12	0.75	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1094.61	0.23	1032.56	0.75	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1095.75	0.23	1035.99	0.75	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1096.88	0.23	1038.51	0.75	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1097.71	0.23	1040.12	0.75	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1098.23	0.23	1042.64	0.76	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1099.06	0.23	1046.08	0.76	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1100.20	0.23	1048.60	0.76	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1101.02	0.23	1050.20	0.76	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1101.55	0.23	1052.72	0.76	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1102.38	0.23	1055.24	0.76	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1103.21	0.23	1057.76	0.77	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1104.04	0.23	1059.37	0.77	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1104.57	0.23	1061.88	0.77	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1105.40	0.23	1063.49	0.77	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1105.92	0.23	1066.01	0.77	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1106.75	0.23	1067.61	0.77	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1107.28	0.23	1070.13	0.78	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.11	0.23	1071.73	0.78	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.64	0.23	1073.33	0.78	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.16	0.23	1074.94	0.78	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.69	0.23	1076.54	0.78	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.22	0.23	1078.14	0.78	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.74	0.23	1079.74	0.78	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1111.27	0.23	1081.34	0.78	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1111.80	0.23	1081.11	0.78	0.00	0.00
						Total volume (cf)		1100.04									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.73ac

5/7/2024 LOT 10-BACK

Drainage Area (ac.)	0.7300	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2400 s.f. Bot. = 623 s.f. Max. Depth (d)= 4 Max. storage= 5661.04 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.3733	112.00	0.00	0.00	0.00	0.00	0.00	112.00	623.00	0.04	111.96	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.6075	182.25	0.00	0.00	0.00	0.00	0.00	182.25	658.14	0.05	294.16	0.21	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.6714	201.41	0.00	0.00	0.00	0.00	0.00	201.41	715.34	0.05	495.52	0.35	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.6288	188.64	0.00	0.00	0.00	0.00	0.00	188.64	778.54	0.05	684.11	0.48	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	0.9907	297.20	0.00	0.00	0.00	0.00	0.00	297.20	837.74	0.06	981.25	0.69	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.1397	341.91	0.00	0.00	0.00	0.00	0.00	341.91	931.01	0.06	1323.09	0.93	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	1.3739	412.16	0.00	0.00	0.00	0.00	0.00	412.16	1038.32	0.07	1735.18	1.23	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.5016	450.47	0.00	0.00	0.00	0.00	0.00	450.47	1167.67	0.08	2185.57	1.54	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	2.2041	661.22	0.00	0.00	0.00	0.00	0.00	661.22	1309.05	0.09	2846.70	2.01	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	3.3323	999.69	0.00	0.00	0.00	0.00	0.00	999.69	1516.58	0.11	3846.28	2.72	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	3.0130	903.90	0.00	0.00	0.00	0.00	0.00	903.90	1830.35	0.13	4750.05	3.36	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.4798	143.93	0.00	0.00	0.00	0.00	0.00	143.93	2114.04	0.15	4893.84	3.46	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2159.17	0.15	4893.69	3.46	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2159.13	0.15	4893.54	3.46	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2159.08	0.15	4893.39	3.46	0.00	0.00	
					Total volume (cf)			4894.78								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0356	10.68	0.00	0.00	0.00	0.00	0.00	10.68	623.00	0.04	10.64	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0356	10.68	0.00	0.00	0.00	0.00	0.00	10.68	626.34	0.04	21.27	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	629.68	0.04	30.26	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0411	12.32	0.00	0.00	0.00	0.00	0.00	12.32	632.50	0.04	42.54	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0411	12.32	0.00	0.00	0.00	0.00	0.00	12.32	636.35	0.04	54.82	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	640.21	0.04	78.35	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0411	12.32	0.00	0.00	0.00	0.00	0.00	12.32	647.59	0.04	90.63	0.06	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	651.45	0.05	114.16	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	658.83	0.05	137.68	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0411	12.32	0.00	0.00	0.00	0.00	0.00	12.32	666.22	0.05	149.96	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0438	13.14	0.00	0.00	0.00	0.00	0.00	13.14	670.07	0.05	163.06	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	674.18	0.05	186.58	0.13	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.1881	56.43	0.00	0.00	0.00	0.00	0.00	56.43	681.57	0.05	242.97	0.17	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.1881	56.43	0.00	0.00	0.00	0.00	0.00	56.43	699.27	0.05	299.36	0.21	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.1881	56.43	0.00	0.00	0.00	0.00	0.00	56.43	716.97	0.05	355.74	0.25	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1333	40.00	0.00	0.00	0.00	0.00	0.00	40.00	734.67	0.05	395.69	0.28	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	747.21	0.05	484.93	0.34	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.3250	97.51	0.00	0.00	0.00	0.00	0.00	97.51	775.22	0.05	582.38	0.41	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.2429	72.86	0.00	0.00	0.00	0.00	0.00	72.86	805.81	0.06	655.19	0.46	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.3250	97.51	0.00	0.00	0.00	0.00	0.00	97.51	828.66	0.06	752.64	0.53	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.4893	146.79	0.00	0.00	0.00	0.00	0.00	146.79	859.25	0.06	899.37	0.64	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.4346	130.37	0.00	0.00	0.00	0.00	0.00	130.37	905.31	0.06	1029.68	0.73	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.3798	113.94	0.00	0.00	0.00	0.00	0.00	113.94	946.22	0.07	1143.55	0.81	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.4072	122.15	0.00	0.00	0.00	0.00	0.00	122.15	981.96	0.07	1265.63	0.89	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.4346	130.37	0.00	0.00	0.00	0.00	0.00	130.37	1020.28	0.07	1395.92	0.99	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.7358	220.73	0.00	0.00	0.00	0.00	0.00	220.73	1061.18	0.07	1616.58	1.14	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	0.9548	286.44	0.00	0.00	0.00	0.00	0.00	286.44	1130.44	0.08	1902.94	1.34	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.5441	163.22	0.00	0.00	0.00	0.00	0.00	163.22	1220.33	0.08	2066.08	1.46	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	1.4477	434.31	0.00	0.00	0.00	0.00	0.00	434.31	1271.54	0.09	2500.30	1.77	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	1.5846	475.38	0.00	0.00	0.00	0.00	0.00	475.38	1407.84	0.10	2975.59	2.10	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	1.8310	549.31	0.00	0.00	0.00	0.00	0.00	549.31	1557.04	0.11	3524.79	2.49	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.2013	360.38	0.00	0.00	0.00	0.00	0.00	360.38	1729.43	0.12	3885.05	2.75	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1333	40.00	0.00	0.00	0.00	0.00	0.00	40.00	1842.52	0.13	3924.93	2.77	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	1855.03	0.13	3948.37	2.79	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	1862.39	0.13	3971.82	2.81	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0164	4.93	0.00	0.00	0.00	0.00	0.00	4.93	1869.75	0.13	3976.62	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.26	0.13	3976.49	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.22	0.13	3976.36	2.81	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.18	0.13	3976.23	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.14	0.13	3976.10	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.10	0.13	3975.97	2.81	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.05	0.13	3975.84	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.01	0.13	3975.71	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1870.97	0.13	3975.58	2.81	0.00	0.00
					Total volume (cf)		3979.07								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0167	5.02	0.00	0.00	0.00	0.00	0.00	5.02	623.00	0.04	4.98	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	624.56	0.04	10.96	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	626.44	0.04	16.94	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	628.32	0.04	22.93	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	630.20	0.04	28.91	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	632.07	0.04	35.89	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	634.27	0.04	42.88	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	636.46	0.04	49.87	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	638.65	0.04	56.85	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	640.85	0.04	63.84	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	643.04	0.04	70.82	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	645.23	0.04	78.81	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	647.74	0.04	86.80	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	650.25	0.05	94.79	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	652.76	0.05	102.78	0.07	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	655.26	0.05	110.77	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	657.77	0.05	118.76	0.08	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	660.28	0.05	126.75	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	662.79	0.05	134.74	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	665.29	0.05	142.72	0.10	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	667.80	0.05	150.71	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	670.31	0.05	158.70	0.11	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	672.82	0.05	166.69	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	675.32	0.05	175.68	0.12	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	678.15	0.05	183.67	0.13	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	680.65	0.05	192.66	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	683.48	0.05	201.65	0.14	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	686.30	0.05	210.64	0.15	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	689.12	0.05	219.63	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	691.94	0.05	228.62	0.16	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	694.76	0.05	237.61	0.17	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	697.59	0.05	246.60	0.17	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	700.41	0.05	256.60	0.18	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	703.55	0.05	266.59	0.19	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	706.68	0.05	276.59	0.20	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	709.82	0.05	286.58	0.20	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	712.96	0.05	296.57	0.21	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0368	11.05	0.00	0.00	0.00	0.00	0.00	11.05	716.09	0.05	307.57	0.22	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0368	11.05	0.00	0.00	0.00	0.00	0.00	11.05	719.55	0.05	318.57	0.23	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0368	11.05	0.00	0.00	0.00	0.00	0.00	11.05	723.00	0.05	329.57	0.23	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0402	12.05	0.00	0.00	0.00	0.00	0.00	12.05	726.45	0.05	341.57	0.24	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0435	13.06	0.00	0.00	0.00	0.00	0.00	13.06	730.22	0.05	354.57	0.25	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0544	16.31	0.00	0.00	0.00	0.00	0.00	16.31	734.30	0.05	370.84	0.26	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0544	16.31	0.00	0.00	0.00	0.00	0.00	16.31	739.41	0.05	387.10	0.27	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.0879	26.36	0.00	0.00	0.00	0.00	0.00	26.36	744.51	0.05	413.40	0.29	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.0879	26.36	0.00	0.00	0.00	0.00	0.00	26.36	752.77	0.05	439.71	0.31	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1213	36.40	0.00	0.00	0.00	0.00	0.00	36.40	761.02	0.05	476.05	0.34	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1213	36.40	0.00	0.00	0.00	0.00	0.00	36.40	772.43	0.05	512.40	0.36	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.1548	46.44	0.00	0.00	0.00	0.00	0.00	46.44	783.84	0.05	558.79	0.39	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.1883	56.49	0.00	0.00	0.00	0.00	0.00	56.49	798.40	0.06	615.22	0.43	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.2218	66.53	0.00	0.00	0.00	0.00	0.00	66.53	816.12	0.06	681.69	0.48	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.2552	76.57	0.00	0.00	0.00	0.00	0.00	76.57	836.98	0.06	758.21	0.54	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.2887	86.62	0.00	0.00	0.00	0.00	0.00	86.62	861.00	0.06	844.76	0.60	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.2887	86.62	0.00	0.00	0.00	0.00	0.00	86.62	888.17	0.06	931.32	0.66	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.3222	96.66	0.00	0.00	0.00	0.00	0.00	96.66	915.34	0.06	1027.91	0.73	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.3557	106.70	0.00	0.00	0.00	0.00	0.00	106.70	945.66	0.07	1134.55	0.80	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.3891	116.74	0.00	0.00	0.00	0.00	0.00	116.74	979.13	0.07	1251.22	0.88	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.3891	116.74	0.00	0.00	0.00	0.00	0.00	116.74	1015.76	0.07	1367.90	0.97	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.4226	126.79	0.00	0.00	0.00	0.00	0.00	126.79	1052.38	0.07	1494.61	1.06	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.4561	136.83	0.00	0.00	0.00	0.00	0.00	136.83	1092.16	0.08	1631.37	1.15	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.6235	187.05	0.00	0.00	0.00	0.00	0.00	187.05	1135.09	0.08	1818.34	1.28	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	0.7909	237.26	0.00	0.00	0.00	0.00	0.00	237.26	1193.78	0.08	2055.52	1.45	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	0.8913	267.39	0.00	0.00	0.00	0.00	0.00	267.39	1268.23	0.09	2322.82	1.64	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	0.9917	297.52	0.00	0.00	0.00	0.00	0.00	297.52	1352.13	0.09	2620.25	1.85	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	1.1591	347.74	0.00	0.00	0.00	0.00	0.00	347.74	1445.49	0.10	2967.88	2.10	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.4604	438.12	0.00	0.00	0.00	0.00	0.00	438.12	1554.62	0.11	3405.90	2.41	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.2218	66.53	0.00	0.00	0.00	0.00	0.00	66.53	1692.11	0.12	3472.31	2.45	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	1712.96	0.12	3481.23	2.46	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	1715.76	0.12	3487.14	2.46	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0167	5.02	0.00	0.00	0.00	0.00	0.00	5.02	1717.61	0.12	3492.04	2.47	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0100	3.01	0.00	0.00	0.00	0.00	0.00	3.01	1719.15	0.12	3494.93	2.47	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0067	2.01	0.00	0.00	0.00	0.00	0.00	2.01	1720.06	0.12	3496.82	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.65	0.12	3496.70	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.61	0.12	3496.58	2.47	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.58	0.12	3496.47	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.54	0.12	3496.35	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.50	0.12	3496.23	2.47	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.46	0.12	3496.11	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.43	0.12	3495.99	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.39	0.12	3495.87	2.47	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.35	0.12	3495.75	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.31	0.12	3495.63	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.28	0.12	3495.51	2.47	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.24	0.12	3495.39	2.47	0.00	0.00
					Total volume (cf)		3501.12									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	623.00	0.13	2.55	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	623.80	0.13	6.43	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	625.02	0.13	10.32	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	626.24	0.13	15.54	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	627.88	0.13	19.42	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	629.10	0.13	23.31	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	630.32	0.13	27.19	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	631.53	0.13	32.41	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	633.17	0.13	37.63	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	634.81	0.13	42.85	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	636.45	0.13	49.41	0.03	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	638.51	0.13	55.97	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	640.57	0.13	62.53	0.04	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	642.63	0.13	69.08	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	644.68	0.13	75.64	0.05	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0089	8.03	0.00	0.00	0.00	0.00	0.00	8.03	646.74	0.13	83.53	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0089	8.03	0.00	0.00	0.00	0.00	0.00	8.03	649.22	0.14	91.43	0.06	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0104	9.37	0.00	0.00	0.00	0.00	0.00	9.37	651.70	0.14	100.66	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0104	9.37	0.00	0.00	0.00	0.00	0.00	9.37	654.60	0.14	109.89	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0119	10.71	0.00	0.00	0.00	0.00	0.00	10.71	657.49	0.14	120.46	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0089	8.03	0.00	0.00	0.00	0.00	0.00	8.03	660.81	0.14	128.35	0.09	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0104	9.37	0.00	0.00	0.00	0.00	0.00	9.37	663.29	0.14	137.58	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0119	10.71	0.00	0.00	0.00	0.00	0.00	10.71	666.19	0.14	148.15	0.10	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0119	10.71	0.00	0.00	0.00	0.00	0.00	10.71	669.50	0.14	158.71	0.11	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0134	12.04	0.00	0.00	0.00	0.00	0.00	12.04	672.82	0.14	170.62	0.12	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0134	12.04	0.00	0.00	0.00	0.00	0.00	12.04	676.56	0.14	182.52	0.13	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0149	13.38	0.00	0.00	0.00	0.00	0.00	13.38	680.29	0.14	195.76	0.14	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0149	13.38	0.00	0.00	0.00	0.00	0.00	13.38	684.45	0.14	209.00	0.15	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0149	13.38	0.00	0.00	0.00	0.00	0.00	13.38	688.60	0.14	222.24	0.16	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0164	14.72	0.00	0.00	0.00	0.00	0.00	14.72	692.76	0.14	236.81	0.17	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0178	16.06	0.00	0.00	0.00	0.00	0.00	16.06	697.34	0.15	252.73	0.18	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0193	17.40	0.00	0.00	0.00	0.00	0.00	17.40	702.33	0.15	269.98	0.19	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0223	20.07	0.00	0.00	0.00	0.00	0.00	20.07	707.75	0.15	289.90	0.20	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0223	20.07	0.00	0.00	0.00	0.00	0.00	20.07	714.00	0.15	309.83	0.22	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0238	21.41	0.00	0.00	0.00	0.00	0.00	21.41	720.25	0.15	331.09	0.23	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0253	22.75	0.00	0.00	0.00	0.00	0.00	22.75	726.93	0.15	353.69	0.25	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	734.02	0.15	378.96	0.27	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0297	26.76	0.00	0.00	0.00	0.00	0.00	26.76	741.95	0.15	405.57	0.29	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0312	28.10	0.00	0.00	0.00	0.00	0.00	28.10	750.31	0.16	433.51	0.31	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0327	29.44	0.00	0.00	0.00	0.00	0.00	29.44	759.08	0.16	462.80	0.33	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0223	20.07	0.00	0.00	0.00	0.00	0.00	20.07	768.27	0.16	482.71	0.34	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0223	20.07	0.00	0.00	0.00	0.00	0.00	20.07	774.52	0.16	502.62	0.36	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0297	26.76	0.00	0.00	0.00	0.00	0.00	26.76	780.77	0.16	529.22	0.37	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0297	26.76	0.00	0.00	0.00	0.00	0.00	26.76	789.12	0.16	555.82	0.39	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	797.47	0.17	581.08	0.41	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	805.40	0.17	606.34	0.43	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0253	22.75	0.00	0.00	0.00	0.00	0.00	22.75	813.33	0.17	628.92	0.44	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0268	24.09	0.00	0.00	0.00	0.00	0.00	24.09	820.42	0.17	652.84	0.46	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0372	33.45	0.00	0.00	0.00	0.00	0.00	33.45	827.92	0.17	686.12	0.48	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0387	34.79	0.00	0.00	0.00	0.00	0.00	34.79	838.37	0.17	720.74	0.51	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0458	41.23	0.00	0.00	0.00	0.00	0.00	41.23	849.24	0.18	761.79	0.54	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.0663	59.64	0.00	0.00	0.00	0.00	0.00	59.64	862.12	0.18	821.25	0.58	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.1461	131.52	0.00	0.00	0.00	0.00	0.00	131.52	880.79	0.18	952.59	0.67	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.1516	136.43	0.00	0.00	0.00	0.00	0.00	136.43	922.02	0.19	1088.82	0.77	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0342	30.78	0.00	0.00	0.00	0.00	0.00	30.78	964.78	0.20	1119.40	0.79	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0342	30.78	0.00	0.00	0.00	0.00	0.00	30.78	974.38	0.20	1149.98	0.81	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.0634	57.09	0.00	0.00	0.00	0.00	0.00	57.09	983.98	0.20	1206.87	0.85	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0537	48.36	0.00	0.00	0.00	0.00	0.00	48.36	1001.83	0.21	1255.02	0.89	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0588	52.94	0.00	0.00	0.00	0.00	0.00	52.94	1016.95	0.21	1307.75	0.92	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0490	44.07	0.00	0.00	0.00	0.00	0.00	44.07	1033.50	0.22	1351.60	0.96	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0390	35.14	0.00	0.00	0.00	0.00	0.00	35.14	1047.27	0.22	1386.52	0.98	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0342	30.78	0.00	0.00	0.00	0.00	0.00	30.78	1058.23	0.22	1417.08	1.00	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	1067.82	0.22	1442.28	1.02	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	1075.73	0.22	1467.48	1.04	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1083.64	0.23	1472.61	1.04	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1085.25	0.23	1477.74	1.04	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1086.86	0.23	1481.53	1.05	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1088.05	0.23	1485.31	1.05	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	1089.24	0.23	1491.78	1.05	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	1091.27	0.23	1498.24	1.06	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	1093.30	0.23	1504.70	1.06	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1095.33	0.23	1509.83	1.07	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1096.93	0.23	1514.95	1.07	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1098.54	0.23	1520.08	1.07	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1100.15	0.23	1523.86	1.08	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1101.34	0.23	1526.31	1.08	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1102.11	0.23	1530.09	1.08	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1103.30	0.23	1535.22	1.08	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1104.90	0.23	1539.00	1.09	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1106.09	0.23	1541.45	1.09	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1106.86	0.23	1545.23	1.09	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1108.05	0.23	1549.02	1.09	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1109.24	0.23	1552.80	1.10	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1110.42	0.23	1555.24	1.10	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1111.19	0.23	1559.03	1.10	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1112.38	0.23	1561.47	1.10	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1113.15	0.23	1565.26	1.11	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1114.33	0.23	1567.70	1.11	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1115.10	0.23	1571.48	1.11	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1116.29	0.23	1573.93	1.11	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1117.05	0.23	1576.37	1.11	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1117.82	0.23	1578.81	1.12	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1118.59	0.23	1581.26	1.12	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1119.36	0.23	1583.70	1.12	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1120.12	0.23	1586.14	1.12	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1120.89	0.23	1588.59	1.12	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1121.66	0.23	1588.35	1.12	0.00	0.00
						Total volume (cf)	1606.06									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.41ac+0.09ac typ street frontage=0.50ac

1.14

5/7/2024 LOT 11-FRONT

Drainage Area (ac.)	0.5000	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2118 s.f. Bot. = 756 s.f. Max. Depth (d)= 3 Max. storage= 4139.39 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.2557	76.71	0.00	0.00	0.00	0.00	0.00	76.71	756.00	0.05	76.66	0.06	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.4161	124.83	0.00	0.00	0.00	0.00	0.00	124.83	781.22	0.05	201.44	0.15	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.4598	137.95	0.00	0.00	0.00	0.00	0.00	137.95	822.28	0.06	339.33	0.25	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.4307	129.20	0.00	0.00	0.00	0.00	0.00	129.20	867.65	0.06	468.47	0.34	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	0.6785	203.56	0.00	0.00	0.00	0.00	0.00	203.56	910.14	0.06	671.97	0.49	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	0.7806	234.18	0.00	0.00	0.00	0.00	0.00	234.18	977.10	0.07	906.09	0.66	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	0.9410	282.30	0.00	0.00	0.00	0.00	0.00	282.30	1054.13	0.07	1188.31	0.86	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.0285	308.54	0.00	0.00	0.00	0.00	0.00	308.54	1147.00	0.08	1496.78	1.08	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	1.5096	452.89	0.00	0.00	0.00	0.00	0.00	452.89	1248.49	0.09	1949.58	1.41	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	2.2824	684.72	0.00	0.00	0.00	0.00	0.00	684.72	1397.48	0.10	2634.20	1.91	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	2.0637	619.11	0.00	0.00	0.00	0.00	0.00	619.11	1622.74	0.11	3253.20	2.36	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.3286	98.58	0.00	0.00	0.00	0.00	0.00	98.58	1826.41	0.13	3351.66	2.43	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.81	0.13	3351.53	2.43	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.77	0.13	3351.40	2.43	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.72	0.13	3351.27	2.43	0.00	0.00	
					Total volume (cf)			3352.59								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	756.00	0.05	7.26	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	758.39	0.05	14.52	0.01	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	760.78	0.05	20.66	0.01	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	762.80	0.05	29.05	0.02	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	765.56	0.05	37.43	0.03	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	768.32	0.05	53.53	0.04	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	773.61	0.05	61.91	0.04	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	776.37	0.05	78.01	0.06	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	781.67	0.05	94.10	0.07	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	786.96	0.05	102.48	0.07	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	789.72	0.05	111.43	0.08	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	792.66	0.06	127.52	0.09	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	797.96	0.06	166.12	0.12	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	810.66	0.06	204.72	0.15	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	823.36	0.06	243.31	0.18	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	836.06	0.06	270.65	0.20	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.2039	61.16	0.00	0.00	0.00	0.00	0.00	61.16	845.05	0.06	331.75	0.24	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	865.16	0.06	398.48	0.29	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.1664	49.91	0.00	0.00	0.00	0.00	0.00	49.91	887.11	0.06	448.32	0.32	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	903.51	0.06	515.05	0.37	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.3351	100.54	0.00	0.00	0.00	0.00	0.00	100.54	925.47	0.06	615.53	0.45	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	958.53	0.07	704.75	0.51	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.2601	78.04	0.00	0.00	0.00	0.00	0.00	78.04	987.89	0.07	782.72	0.57	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.2789	83.66	0.00	0.00	0.00	0.00	0.00	83.66	1013.54	0.07	866.32	0.63	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	1041.05	0.07	955.53	0.69	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.5039	151.18	0.00	0.00	0.00	0.00	0.00	151.18	1070.40	0.07	1106.64	0.80	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	0.6540	196.19	0.00	0.00	0.00	0.00	0.00	196.19	1120.12	0.08	1302.76	0.94	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.3727	111.80	0.00	0.00	0.00	0.00	0.00	111.80	1184.65	0.08	1414.48	1.03	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	0.9916	297.47	0.00	0.00	0.00	0.00	0.00	297.47	1221.41	0.08	1711.86	1.24	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	1.0853	325.60	0.00	0.00	0.00	0.00	0.00	325.60	1319.26	0.09	2037.38	1.48	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	1.2541	376.24	0.00	0.00	0.00	0.00	0.00	376.24	1426.37	0.10	2413.52	1.75	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	0.8228	246.83	0.00	0.00	0.00	0.00	0.00	246.83	1550.13	0.11	2660.24	1.93	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	1631.31	0.11	2687.53	1.95	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1640.29	0.11	2703.56	1.96	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1645.56	0.11	2719.60	1.97	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0113	3.38	0.00	0.00	0.00	0.00	0.00	3.38	1650.84	0.11	2722.86	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.91	0.11	2722.74	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.88	0.11	2722.63	1.97	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.84	0.11	2722.51	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.80	0.11	2722.40	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.76	0.11	2722.28	1.97	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.72	0.11	2722.17	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.69	0.11	2722.05	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.65	0.11	2721.94	1.97	0.00	0.00
					Total volume (cf)		2725.39								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	756.00	0.05	3.39	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	757.11	0.05	7.46	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	758.46	0.05	11.54	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	759.80	0.05	15.61	0.01	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	761.14	0.05	19.69	0.01	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	762.48	0.05	24.45	0.02	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	764.04	0.05	29.21	0.02	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	765.61	0.05	33.97	0.02	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	767.18	0.05	38.73	0.03	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	768.74	0.05	43.50	0.03	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	770.31	0.05	48.26	0.03	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	771.88	0.05	53.71	0.04	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	773.67	0.05	59.16	0.04	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	775.46	0.05	64.61	0.05	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	777.26	0.05	70.05	0.05	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	779.05	0.05	75.50	0.05	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	780.84	0.05	80.95	0.06	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.64	0.05	86.40	0.06	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	784.43	0.05	91.85	0.07	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	786.22	0.05	97.30	0.07	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	788.01	0.05	102.75	0.07	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	789.81	0.05	108.19	0.08	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	791.60	0.05	113.64	0.08	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	793.39	0.06	119.78	0.09	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	795.41	0.06	125.23	0.09	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	797.20	0.06	131.36	0.10	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	799.22	0.06	137.50	0.10	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	801.24	0.06	143.63	0.10	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	803.26	0.06	149.77	0.11	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	805.28	0.06	155.90	0.11	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	807.30	0.06	162.04	0.12	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	809.32	0.06	168.17	0.12	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	811.33	0.06	175.00	0.13	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	813.58	0.06	181.82	0.13	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	815.82	0.06	188.64	0.14	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	818.07	0.06	195.46	0.14	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	820.31	0.06	202.28	0.15	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	822.56	0.06	209.79	0.15	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	825.03	0.06	217.30	0.16	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	827.50	0.06	224.81	0.16	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0275	8.25	0.00	0.00	0.00	0.00	0.00	8.25	829.97	0.06	233.01	0.17	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0298	8.94	0.00	0.00	0.00	0.00	0.00	8.94	832.67	0.06	241.89	0.18	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	835.59	0.06	253.01	0.18	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	839.25	0.06	264.12	0.19	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	842.91	0.06	282.12	0.20	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	848.83	0.06	300.11	0.22	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	854.75	0.06	324.98	0.24	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	862.93	0.06	349.86	0.25	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.1060	31.81	0.00	0.00	0.00	0.00	0.00	31.81	871.11	0.06	381.61	0.28	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.1290	38.69	0.00	0.00	0.00	0.00	0.00	38.69	881.56	0.06	420.23	0.30	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	894.27	0.06	465.74	0.34	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.1748	52.45	0.00	0.00	0.00	0.00	0.00	52.45	909.24	0.06	518.12	0.38	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	926.48	0.06	577.38	0.42	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	945.98	0.07	636.64	0.46	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.2207	66.20	0.00	0.00	0.00	0.00	0.00	66.20	965.48	0.07	702.78	0.51	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.2436	73.08	0.00	0.00	0.00	0.00	0.00	73.08	987.24	0.07	775.80	0.56	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1011.26	0.07	855.69	0.62	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1037.55	0.07	935.58	0.68	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.2895	86.84	0.00	0.00	0.00	0.00	0.00	86.84	1063.84	0.07	1022.35	0.74	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.3124	93.72	0.00	0.00	0.00	0.00	0.00	93.72	1092.39	0.08	1115.99	0.81	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.4270	128.11	0.00	0.00	0.00	0.00	0.00	128.11	1123.20	0.08	1244.03	0.90	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	0.5417	162.51	0.00	0.00	0.00	0.00	0.00	162.51	1165.33	0.08	1406.45	1.02	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	0.6105	183.14	0.00	0.00	0.00	0.00	0.00	183.14	1218.77	0.08	1589.51	1.15	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	0.6793	203.78	0.00	0.00	0.00	0.00	0.00	203.78	1279.00	0.09	1793.21	1.30	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	0.7939	238.18	0.00	0.00	0.00	0.00	0.00	238.18	1346.03	0.09	2031.29	1.47	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.0003	300.09	0.00	0.00	0.00	0.00	0.00	300.09	1424.36	0.10	2331.28	1.69	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	1523.07	0.11	2376.74	1.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	1538.03	0.11	2382.82	1.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	1540.03	0.11	2386.84	1.73	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	1541.35	0.11	2390.18	1.73	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0069	2.06	0.00	0.00	0.00	0.00	0.00	2.06	1542.45	0.11	2392.13	1.73	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0046	1.38	0.00	0.00	0.00	0.00	0.00	1.38	1543.09	0.11	2393.40	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.51	0.11	2393.29	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.48	0.11	2393.19	1.73	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.44	0.11	2393.08	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.40	0.11	2392.97	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.37	0.11	2392.86	1.73	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.33	0.11	2392.76	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.30	0.11	2392.65	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.26	0.11	2392.54	1.73	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.23	0.11	2392.44	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.19	0.11	2392.33	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.16	0.11	2392.22	1.73	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.12	0.11	2392.11	1.73	0.00	0.00
					Total volume (cf)		2398.03								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	756.00	0.16	1.68	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	756.55	0.16	4.27	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	757.40	0.16	6.86	0.00	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	758.26	0.16	10.37	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	759.41	0.16	12.96	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	760.26	0.16	15.55	0.01	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	761.12	0.16	18.14	0.01	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	761.97	0.16	21.65	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	763.12	0.16	25.16	0.02	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	764.28	0.16	28.66	0.02	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	765.43	0.16	33.09	0.02	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	766.89	0.16	37.51	0.03	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	768.34	0.16	41.93	0.03	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	769.80	0.16	46.36	0.03	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	771.25	0.16	50.78	0.04	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	772.71	0.16	56.12	0.04	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	774.46	0.16	61.45	0.04	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	776.22	0.16	67.71	0.05	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	778.28	0.16	73.96	0.05	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	780.34	0.16	81.13	0.06	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.70	0.16	86.47	0.06	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	784.45	0.16	92.72	0.07	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	786.51	0.16	99.89	0.07	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	788.87	0.16	107.06	0.08	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	791.23	0.16	115.14	0.08	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	793.89	0.17	123.23	0.09	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	796.55	0.17	132.23	0.10	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	799.51	0.17	141.23	0.10	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	802.47	0.17	150.22	0.11	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0112	10.08	0.00	0.00	0.00	0.00	0.00	10.08	805.43	0.17	160.14	0.12	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0122	11.00	0.00	0.00	0.00	0.00	0.00	11.00	808.69	0.17	170.97	0.12	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0132	11.92	0.00	0.00	0.00	0.00	0.00	11.92	812.25	0.17	182.72	0.13	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	816.12	0.17	196.29	0.14	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	820.59	0.17	209.87	0.15	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0163	14.67	0.00	0.00	0.00	0.00	0.00	14.67	825.06	0.17	224.37	0.16	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	829.82	0.17	239.77	0.17	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	834.89	0.17	257.02	0.19	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	840.57	0.18	275.17	0.20	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0214	19.25	0.00	0.00	0.00	0.00	0.00	19.25	846.54	0.18	294.24	0.21	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0224	20.16	0.00	0.00	0.00	0.00	0.00	20.16	852.82	0.18	314.23	0.23	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	859.39	0.18	327.80	0.24	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	863.86	0.18	341.37	0.25	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	868.32	0.18	359.52	0.26	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	874.29	0.18	377.67	0.27	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	880.27	0.18	394.90	0.29	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	885.94	0.18	412.13	0.30	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	891.60	0.19	427.53	0.31	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0183	16.50	0.00	0.00	0.00	0.00	0.00	16.50	896.67	0.19	443.84	0.32	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	902.04	0.19	466.56	0.34	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0265	23.83	0.00	0.00	0.00	0.00	0.00	23.83	909.52	0.19	490.21	0.36	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0314	28.24	0.00	0.00	0.00	0.00	0.00	28.24	917.29	0.19	518.25	0.38	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0454	40.85	0.00	0.00	0.00	0.00	0.00	40.85	926.52	0.19	558.91	0.41	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.1001	90.08	0.00	0.00	0.00	0.00	0.00	90.08	939.90	0.20	648.80	0.47	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.1038	93.45	0.00	0.00	0.00	0.00	0.00	93.45	969.48	0.20	742.04	0.54	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1000.16	0.21	762.91	0.55	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1007.02	0.21	783.78	0.57	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0435	39.11	0.00	0.00	0.00	0.00	0.00	39.11	1013.89	0.21	822.68	0.60	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0368	33.12	0.00	0.00	0.00	0.00	0.00	33.12	1026.69	0.21	855.59	0.62	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0403	36.26	0.00	0.00	0.00	0.00	0.00	36.26	1037.52	0.22	891.63	0.65	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0335	30.19	0.00	0.00	0.00	0.00	0.00	30.19	1049.38	0.22	921.60	0.67	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0267	24.07	0.00	0.00	0.00	0.00	0.00	24.07	1059.24	0.22	945.45	0.69	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1067.08	0.22	966.30	0.70	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1073.95	0.22	983.50	0.71	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1079.60	0.22	1000.69	0.73	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1085.26	0.23	1004.13	0.73	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1086.39	0.23	1007.57	0.73	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1087.52	0.23	1010.09	0.73	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1088.35	0.23	1012.61	0.73	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1089.18	0.23	1016.97	0.74	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1090.62	0.23	1021.32	0.74	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1092.05	0.23	1025.68	0.74	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1093.48	0.23	1029.12	0.75	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1094.61	0.23	1032.56	0.75	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1095.75	0.23	1035.99	0.75	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1096.88	0.23	1038.51	0.75	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1097.71	0.23	1040.12	0.75	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1098.23	0.23	1042.64	0.76	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1099.06	0.23	1046.08	0.76	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1100.20	0.23	1048.60	0.76	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1101.02	0.23	1050.20	0.76	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1101.55	0.23	1052.72	0.76	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1102.38	0.23	1055.24	0.76	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1103.21	0.23	1057.76	0.77	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1104.04	0.23	1059.37	0.77	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1104.57	0.23	1061.88	0.77	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1105.40	0.23	1063.49	0.77	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1105.92	0.23	1066.01	0.77	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1106.75	0.23	1067.61	0.77	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1107.28	0.23	1070.13	0.78	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.11	0.23	1071.73	0.78	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.64	0.23	1073.33	0.78	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.16	0.23	1074.94	0.78	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.69	0.23	1076.54	0.78	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.22	0.23	1078.14	0.78	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.74	0.23	1079.74	0.78	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1111.27	0.23	1081.34	0.78	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1111.80	0.23	1081.11	0.78	0.00	0.00
						Total volume (cf)		1100.04									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.95ac

5/7/2024 LOT 11 BACK

Drainage Area (ac.)	0.9500	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2788 s.f. Bot. = 794 s.f. Max. Depth (d)= 4 Max. storage= 6759.79 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.4859	145.76	0.00	0.00	0.00	0.00	0.00	145.76	794.00	0.06	145.70	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.7906	237.18	0.00	0.00	0.00	0.00	0.00	237.18	836.98	0.06	382.82	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.8737	262.11	0.00	0.00	0.00	0.00	0.00	262.11	906.92	0.06	644.86	0.38	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.8183	245.49	0.00	0.00	0.00	0.00	0.00	245.49	984.22	0.07	890.28	0.53	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.2892	386.77	0.00	0.00	0.00	0.00	0.00	386.77	1056.61	0.07	1276.98	0.76	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.4832	444.95	0.00	0.00	0.00	0.00	0.00	444.95	1170.68	0.08	1721.84	1.02	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	1.7879	536.37	0.00	0.00	0.00	0.00	0.00	536.37	1301.91	0.09	2258.12	1.34	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.9541	586.23	0.00	0.00	0.00	0.00	0.00	586.23	1460.10	0.10	2844.25	1.68	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	2.8683	860.49	0.00	0.00	0.00	0.00	0.00	860.49	1633.00	0.11	3704.63	2.19	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	4.3366	1300.97	0.00	0.00	0.00	0.00	0.00	1300.97	1886.79	0.13	5005.47	2.96	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	3.9210	1176.31	0.00	0.00	0.00	0.00	0.00	1176.31	2270.51	0.16	6181.61	3.66	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.6244	187.31	0.00	0.00	0.00	0.00	0.00	187.31	2617.45	0.18	6368.74	3.77	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2672.65	0.19	6368.56	3.77	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2672.59	0.19	6368.37	3.77	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2672.54	0.19	6368.19	3.77	0.00	0.00	
					Total volume (cf)			6369.92								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0463	13.90	0.00	0.00	0.00	0.00	0.00	13.90	794.00	0.06	13.84	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0463	13.90	0.00	0.00	0.00	0.00	0.00	13.90	798.08	0.06	27.68	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	802.17	0.06	39.39	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0535	16.04	0.00	0.00	0.00	0.00	0.00	16.04	805.62	0.06	55.37	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0535	16.04	0.00	0.00	0.00	0.00	0.00	16.04	810.33	0.06	71.35	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	815.05	0.06	101.97	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0535	16.04	0.00	0.00	0.00	0.00	0.00	16.04	824.08	0.06	117.95	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	828.79	0.06	148.57	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	837.82	0.06	179.19	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0535	16.04	0.00	0.00	0.00	0.00	0.00	16.04	846.86	0.06	195.17	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0570	17.10	0.00	0.00	0.00	0.00	0.00	17.10	851.57	0.06	212.21	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	856.60	0.06	242.83	0.14	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2448	73.44	0.00	0.00	0.00	0.00	0.00	73.44	865.63	0.06	316.21	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2448	73.44	0.00	0.00	0.00	0.00	0.00	73.44	887.28	0.06	389.59	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2448	73.44	0.00	0.00	0.00	0.00	0.00	73.44	908.92	0.06	462.97	0.27	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1735	52.06	0.00	0.00	0.00	0.00	0.00	52.06	930.57	0.06	514.96	0.30	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.3873	116.20	0.00	0.00	0.00	0.00	0.00	116.20	945.90	0.07	631.10	0.37	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4230	126.89	0.00	0.00	0.00	0.00	0.00	126.89	980.16	0.07	757.92	0.45	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3161	94.82	0.00	0.00	0.00	0.00	0.00	94.82	1017.57	0.07	852.67	0.50	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4230	126.89	0.00	0.00	0.00	0.00	0.00	126.89	1045.52	0.07	979.49	0.58	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.6368	191.03	0.00	0.00	0.00	0.00	0.00	191.03	1082.93	0.08	1170.45	0.69	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.5655	169.65	0.00	0.00	0.00	0.00	0.00	169.65	1139.26	0.08	1340.03	0.79	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.4942	148.27	0.00	0.00	0.00	0.00	0.00	148.27	1189.28	0.08	1488.22	0.88	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.5299	158.96	0.00	0.00	0.00	0.00	0.00	158.96	1232.99	0.09	1647.09	0.97	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.5655	169.65	0.00	0.00	0.00	0.00	0.00	169.65	1279.86	0.09	1816.66	1.07	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.9575	287.25	0.00	0.00	0.00	0.00	0.00	287.25	1329.88	0.09	2103.81	1.24	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.2426	372.77	0.00	0.00	0.00	0.00	0.00	372.77	1414.58	0.10	2476.49	1.47	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.7080	212.41	0.00	0.00	0.00	0.00	0.00	212.41	1524.51	0.11	2688.80	1.59	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	1.8840	565.20	0.00	0.00	0.00	0.00	0.00	565.20	1587.14	0.11	3253.88	1.93	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.0622	618.65	0.00	0.00	0.00	0.00	0.00	618.65	1753.83	0.12	3872.41	2.29	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.3829	714.86	0.00	0.00	0.00	0.00	0.00	714.86	1936.28	0.13	4587.13	2.71	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.5633	468.98	0.00	0.00	0.00	0.00	0.00	468.98	2147.11	0.15	5055.97	2.99	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1735	52.06	0.00	0.00	0.00	0.00	0.00	52.06	2285.41	0.16	5107.87	3.02	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	2300.72	0.16	5138.39	3.04	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	2309.72	0.16	5168.91	3.06	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0214	6.41	0.00	0.00	0.00	0.00	0.00	6.41	2318.72	0.16	5175.16	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.57	0.16	5175.00	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.52	0.16	5174.84	3.06	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.47	0.16	5174.68	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.42	0.16	5174.52	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.38	0.16	5174.36	3.06	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.33	0.16	5174.19	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.28	0.16	5174.03	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.23	0.16	5173.87	3.06	0.00	0.00
					Total volume (cf)		5178.24								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0218	6.53	0.00	0.00	0.00	0.00	0.00	6.53	794.00	0.06	6.48	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	795.91	0.06	14.27	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	798.21	0.06	22.05	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	800.51	0.06	29.84	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	802.80	0.06	37.63	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	805.10	0.06	46.72	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	807.78	0.06	55.81	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	810.46	0.06	64.90	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	813.15	0.06	74.00	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	815.83	0.06	83.09	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	818.51	0.06	92.18	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	821.19	0.06	102.58	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	824.26	0.06	112.98	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	827.33	0.06	123.38	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	830.39	0.06	133.77	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	833.46	0.06	144.17	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	836.53	0.06	154.57	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	839.60	0.06	164.97	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	842.66	0.06	175.36	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	845.73	0.06	185.76	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	848.80	0.06	196.16	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	851.86	0.06	206.56	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	854.93	0.06	216.95	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	858.00	0.06	228.66	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	861.45	0.06	239.05	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	864.52	0.06	250.75	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	867.97	0.06	262.46	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	871.42	0.06	274.16	0.16	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	874.87	0.06	285.86	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	878.32	0.06	297.56	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	881.78	0.06	309.26	0.18	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	885.23	0.06	320.97	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	888.68	0.06	333.97	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	892.52	0.06	346.98	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	896.35	0.06	359.99	0.21	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	900.19	0.06	373.00	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	904.03	0.06	386.00	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0479	14.38	0.00	0.00	0.00	0.00	0.00	14.38	907.86	0.06	400.32	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0479	14.38	0.00	0.00	0.00	0.00	0.00	14.38	912.09	0.06	414.63	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0479	14.38	0.00	0.00	0.00	0.00	0.00	14.38	916.31	0.06	428.94	0.25	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	920.53	0.06	444.56	0.26	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0566	16.99	0.00	0.00	0.00	0.00	0.00	16.99	925.14	0.06	461.49	0.27	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0708	21.23	0.00	0.00	0.00	0.00	0.00	21.23	930.13	0.06	482.66	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0708	21.23	0.00	0.00	0.00	0.00	0.00	21.23	936.37	0.07	503.82	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1143	34.30	0.00	0.00	0.00	0.00	0.00	34.30	942.62	0.07	538.06	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1143	34.30	0.00	0.00	0.00	0.00	0.00	34.30	952.72	0.07	572.29	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1579	47.37	0.00	0.00	0.00	0.00	0.00	47.37	962.81	0.07	619.59	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1579	47.37	0.00	0.00	0.00	0.00	0.00	47.37	976.77	0.07	666.89	0.39	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2015	60.44	0.00	0.00	0.00	0.00	0.00	60.44	990.72	0.07	727.26	0.43	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2450	73.51	0.00	0.00	0.00	0.00	0.00	73.51	1008.53	0.07	800.70	0.47	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	1030.19	0.07	887.21	0.52	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.3322	99.65	0.00	0.00	0.00	0.00	0.00	99.65	1055.71	0.07	986.79	0.58	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.3757	112.72	0.00	0.00	0.00	0.00	0.00	112.72	1085.08	0.08	1099.43	0.65	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.3757	112.72	0.00	0.00	0.00	0.00	0.00	112.72	1118.31	0.08	1212.07	0.72	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.4193	125.79	0.00	0.00	0.00	0.00	0.00	125.79	1151.54	0.08	1337.78	0.79	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.4629	138.86	0.00	0.00	0.00	0.00	0.00	138.86	1188.62	0.08	1476.56	0.87	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.5064	151.93	0.00	0.00	0.00	0.00	0.00	151.93	1229.55	0.09	1628.40	0.96	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.5064	151.93	0.00	0.00	0.00	0.00	0.00	151.93	1274.34	0.09	1780.24	1.05	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.5500	165.00	0.00	0.00	0.00	0.00	0.00	165.00	1319.13	0.09	1945.15	1.15	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.5936	178.07	0.00	0.00	0.00	0.00	0.00	178.07	1367.78	0.09	2123.12	1.26	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.8114	243.42	0.00	0.00	0.00	0.00	0.00	243.42	1420.28	0.10	2366.44	1.40	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	1.0292	308.77	0.00	0.00	0.00	0.00	0.00	308.77	1492.05	0.10	2675.10	1.58	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	1.1599	347.98	0.00	0.00	0.00	0.00	0.00	347.98	1583.10	0.11	3022.97	1.79	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	1.2906	387.18	0.00	0.00	0.00	0.00	0.00	387.18	1685.71	0.12	3410.03	2.02	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	1.5084	452.53	0.00	0.00	0.00	0.00	0.00	452.53	1799.89	0.12	3862.44	2.29	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.9005	570.16	0.00	0.00	0.00	0.00	0.00	570.16	1933.34	0.13	4432.47	2.62	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	2101.49	0.15	4518.90	2.67	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	2126.98	0.15	4530.52	2.68	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	2130.41	0.15	4538.21	2.69	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0218	6.53	0.00	0.00	0.00	0.00	0.00	6.53	2132.68	0.15	4544.60	2.69	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0131	3.92	0.00	0.00	0.00	0.00	0.00	3.92	2134.56	0.15	4548.37	2.69	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0087	2.61	0.00	0.00	0.00	0.00	0.00	2.61	2135.68	0.15	4550.84	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.40	0.15	4550.69	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.36	0.15	4550.54	2.69	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.32	0.15	4550.39	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.27	0.15	4550.24	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.23	0.15	4550.10	2.69	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.19	0.15	4549.95	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.14	0.15	4549.80	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.10	0.15	4549.65	2.69	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.05	0.15	4549.50	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.01	0.15	4549.35	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2135.97	0.15	4549.21	2.69	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2135.92	0.15	4549.06	2.69	0.00	0.00
					Total volume (cf)		4556.26								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	794.00	0.17	3.32	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	794.98	0.17	8.38	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	796.47	0.17	13.43	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	797.96	0.17	20.23	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	799.97	0.17	25.29	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	801.46	0.17	30.35	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	802.95	0.17	35.41	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	804.44	0.17	42.21	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	806.45	0.17	49.00	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	808.46	0.17	55.80	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	810.46	0.17	64.34	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	812.98	0.17	72.88	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	815.50	0.17	81.42	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	818.02	0.17	89.95	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	820.53	0.17	98.49	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	823.05	0.17	108.77	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	826.08	0.17	119.04	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0135	12.19	0.00	0.00	0.00	0.00	0.00	12.19	829.12	0.17	131.06	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0135	12.19	0.00	0.00	0.00	0.00	0.00	12.19	832.66	0.17	143.08	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0155	13.93	0.00	0.00	0.00	0.00	0.00	13.93	836.21	0.17	156.84	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	840.26	0.18	167.11	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0135	12.19	0.00	0.00	0.00	0.00	0.00	12.19	843.29	0.18	179.12	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0155	13.93	0.00	0.00	0.00	0.00	0.00	13.93	846.84	0.18	192.88	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0155	13.93	0.00	0.00	0.00	0.00	0.00	13.93	850.90	0.18	206.63	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0174	15.67	0.00	0.00	0.00	0.00	0.00	15.67	854.95	0.18	222.13	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0174	15.67	0.00	0.00	0.00	0.00	0.00	15.67	859.52	0.18	237.62	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	864.09	0.18	254.86	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	869.18	0.18	272.09	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	874.26	0.18	289.33	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0213	19.16	0.00	0.00	0.00	0.00	0.00	19.16	879.35	0.18	308.30	0.18	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0232	20.90	0.00	0.00	0.00	0.00	0.00	20.90	884.94	0.18	329.01	0.19	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0252	22.64	0.00	0.00	0.00	0.00	0.00	22.64	891.05	0.19	351.47	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0290	26.12	0.00	0.00	0.00	0.00	0.00	26.12	897.68	0.19	377.40	0.22	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0290	26.12	0.00	0.00	0.00	0.00	0.00	26.12	905.33	0.19	403.34	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0310	27.86	0.00	0.00	0.00	0.00	0.00	27.86	912.98	0.19	431.01	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0329	29.61	0.00	0.00	0.00	0.00	0.00	29.61	921.14	0.19	460.42	0.27	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	929.82	0.19	493.32	0.29	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0387	34.83	0.00	0.00	0.00	0.00	0.00	34.83	939.52	0.20	527.95	0.31	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0406	36.57	0.00	0.00	0.00	0.00	0.00	36.57	949.73	0.20	564.32	0.33	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0426	38.31	0.00	0.00	0.00	0.00	0.00	38.31	960.46	0.20	602.44	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0290	26.12	0.00	0.00	0.00	0.00	0.00	26.12	971.71	0.20	628.36	0.37	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0290	26.12	0.00	0.00	0.00	0.00	0.00	26.12	979.35	0.20	654.28	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0387	34.83	0.00	0.00	0.00	0.00	0.00	34.83	987.00	0.21	688.90	0.41	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0387	34.83	0.00	0.00	0.00	0.00	0.00	34.83	997.21	0.21	723.52	0.43	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	1007.42	0.21	756.40	0.45	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	1017.12	0.21	789.28	0.47	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0329	29.61	0.00	0.00	0.00	0.00	0.00	29.61	1026.82	0.21	818.67	0.48	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1035.49	0.22	849.80	0.50	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1044.67	0.22	893.12	0.53	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0503	45.28	0.00	0.00	0.00	0.00	0.00	45.28	1057.45	0.22	938.18	0.56	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0596	53.65	0.00	0.00	0.00	0.00	0.00	53.65	1070.74	0.22	991.61	0.59	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.0862	77.62	0.00	0.00	0.00	0.00	0.00	77.62	1086.50	0.23	1068.99	0.63	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.1902	171.16	0.00	0.00	0.00	0.00	0.00	171.16	1109.33	0.23	1239.92	0.73	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.1973	177.55	0.00	0.00	0.00	0.00	0.00	177.55	1159.75	0.24	1417.23	0.84	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0445	40.05	0.00	0.00	0.00	0.00	0.00	40.05	1212.05	0.25	1457.03	0.86	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0445	40.05	0.00	0.00	0.00	0.00	0.00	40.05	1223.79	0.25	1496.83	0.89	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.0826	74.30	0.00	0.00	0.00	0.00	0.00	74.30	1235.53	0.26	1570.87	0.93	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0699	62.93	0.00	0.00	0.00	0.00	0.00	62.93	1257.37	0.26	1633.54	0.97	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0766	68.90	0.00	0.00	0.00	0.00	0.00	68.90	1275.86	0.27	1702.17	1.01	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0637	57.35	0.00	0.00	0.00	0.00	0.00	57.35	1296.11	0.27	1759.26	1.04	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0508	45.72	0.00	0.00	0.00	0.00	0.00	45.72	1312.95	0.27	1804.71	1.07	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0445	40.05	0.00	0.00	0.00	0.00	0.00	40.05	1326.35	0.28	1844.49	1.09	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	1338.09	0.28	1877.30	1.11	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	1347.76	0.28	1910.10	1.13	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1357.44	0.28	1916.79	1.13	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1359.41	0.28	1923.47	1.14	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1361.38	0.28	1928.41	1.14	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1362.84	0.28	1933.35	1.14	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	1364.30	0.28	1941.77	1.15	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	1366.78	0.28	1950.20	1.15	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	1369.27	0.29	1958.62	1.16	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1371.75	0.29	1965.30	1.16	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1373.72	0.29	1971.98	1.17	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1375.69	0.29	1978.66	1.17	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1377.66	0.29	1983.60	1.17	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1379.12	0.29	1986.79	1.18	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1380.06	0.29	1991.73	1.18	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1381.52	0.29	1998.41	1.18	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1383.49	0.29	2003.34	1.19	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1384.95	0.29	2006.54	1.19	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1385.89	0.29	2011.47	1.19	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1387.34	0.29	2016.41	1.19	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1388.80	0.29	2021.34	1.20	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1390.26	0.29	2024.54	1.20	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1391.20	0.29	2029.47	1.20	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1392.65	0.29	2032.66	1.20	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1393.59	0.29	2037.60	1.21	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1395.05	0.29	2040.79	1.21	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1395.99	0.29	2045.72	1.21	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1397.45	0.29	2048.92	1.21	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1398.39	0.29	2052.11	1.21	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1399.33	0.29	2055.30	1.22	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1400.27	0.29	2058.49	1.22	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1401.21	0.29	2061.68	1.22	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1402.15	0.29	2064.87	1.22	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1403.10	0.29	2068.06	1.22	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1404.04	0.29	2067.77	1.22	0.00	0.00
					Total volume (cf)		2090.08									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.41ac+0.09ac typ street frontage=0.50ac

1.14

5/7/2024 LOT 12-FRONT

Drainage Area (ac.)	0.5000	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2118 s.f. Bot. = 756 s.f. Max. Depth (d)= 3 Max. storage= 4139.39 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.2557	76.71	0.00	0.00	0.00	0.00	0.00	76.71	756.00	0.05	76.66	0.06	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.4161	124.83	0.00	0.00	0.00	0.00	0.00	124.83	781.22	0.05	201.44	0.15	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.4598	137.95	0.00	0.00	0.00	0.00	0.00	137.95	822.28	0.06	339.33	0.25	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.4307	129.20	0.00	0.00	0.00	0.00	0.00	129.20	867.65	0.06	468.47	0.34	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	0.6785	203.56	0.00	0.00	0.00	0.00	0.00	203.56	910.14	0.06	671.97	0.49	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	0.7806	234.18	0.00	0.00	0.00	0.00	0.00	234.18	977.10	0.07	906.09	0.66	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	0.9410	282.30	0.00	0.00	0.00	0.00	0.00	282.30	1054.13	0.07	1188.31	0.86	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.0285	308.54	0.00	0.00	0.00	0.00	0.00	308.54	1147.00	0.08	1496.78	1.08	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	1.5096	452.89	0.00	0.00	0.00	0.00	0.00	452.89	1248.49	0.09	1949.58	1.41	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	2.2824	684.72	0.00	0.00	0.00	0.00	0.00	684.72	1397.48	0.10	2634.20	1.91	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	2.0637	619.11	0.00	0.00	0.00	0.00	0.00	619.11	1622.74	0.11	3253.20	2.36	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.3286	98.58	0.00	0.00	0.00	0.00	0.00	98.58	1826.41	0.13	3351.66	2.43	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.81	0.13	3351.53	2.43	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.77	0.13	3351.40	2.43	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.72	0.13	3351.27	2.43	0.00	0.00	
					Total volume (cf)			3352.59								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	756.00	0.05	7.26	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	758.39	0.05	14.52	0.01	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	760.78	0.05	20.66	0.01	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	762.80	0.05	29.05	0.02	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	765.56	0.05	37.43	0.03	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	768.32	0.05	53.53	0.04	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	773.61	0.05	61.91	0.04	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	776.37	0.05	78.01	0.06	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	781.67	0.05	94.10	0.07	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	786.96	0.05	102.48	0.07	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	789.72	0.05	111.43	0.08	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	792.66	0.06	127.52	0.09	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	797.96	0.06	166.12	0.12	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	810.66	0.06	204.72	0.15	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	823.36	0.06	243.31	0.18	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	836.06	0.06	270.65	0.20	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.2039	61.16	0.00	0.00	0.00	0.00	0.00	61.16	845.05	0.06	331.75	0.24	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	865.16	0.06	398.48	0.29	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.1664	49.91	0.00	0.00	0.00	0.00	0.00	49.91	887.11	0.06	448.32	0.32	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	903.51	0.06	515.05	0.37	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.3351	100.54	0.00	0.00	0.00	0.00	0.00	100.54	925.47	0.06	615.53	0.45	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	958.53	0.07	704.75	0.51	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.2601	78.04	0.00	0.00	0.00	0.00	0.00	78.04	987.89	0.07	782.72	0.57	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.2789	83.66	0.00	0.00	0.00	0.00	0.00	83.66	1013.54	0.07	866.32	0.63	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	1041.05	0.07	955.53	0.69	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.5039	151.18	0.00	0.00	0.00	0.00	0.00	151.18	1070.40	0.07	1106.64	0.80	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	0.6540	196.19	0.00	0.00	0.00	0.00	0.00	196.19	1120.12	0.08	1302.76	0.94	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.3727	111.80	0.00	0.00	0.00	0.00	0.00	111.80	1184.65	0.08	1414.48	1.03	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	0.9916	297.47	0.00	0.00	0.00	0.00	0.00	297.47	1221.41	0.08	1711.86	1.24	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	1.0853	325.60	0.00	0.00	0.00	0.00	0.00	325.60	1319.26	0.09	2037.38	1.48	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	1.2541	376.24	0.00	0.00	0.00	0.00	0.00	376.24	1426.37	0.10	2413.52	1.75	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	0.8228	246.83	0.00	0.00	0.00	0.00	0.00	246.83	1550.13	0.11	2660.24	1.93	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	1631.31	0.11	2687.53	1.95	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1640.29	0.11	2703.56	1.96	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1645.56	0.11	2719.60	1.97	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0113	3.38	0.00	0.00	0.00	0.00	0.00	3.38	1650.84	0.11	2722.86	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.91	0.11	2722.74	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.88	0.11	2722.63	1.97	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.84	0.11	2722.51	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.80	0.11	2722.40	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.76	0.11	2722.28	1.97	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.72	0.11	2722.17	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.69	0.11	2722.05	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.65	0.11	2721.94	1.97	0.00	0.00
					Total volume (cf)		2725.39								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	756.00	0.05	3.39	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	757.11	0.05	7.46	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	758.46	0.05	11.54	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	759.80	0.05	15.61	0.01	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	761.14	0.05	19.69	0.01	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	762.48	0.05	24.45	0.02	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	764.04	0.05	29.21	0.02	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	765.61	0.05	33.97	0.02	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	767.18	0.05	38.73	0.03	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	768.74	0.05	43.50	0.03	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	770.31	0.05	48.26	0.03	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	771.88	0.05	53.71	0.04	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	773.67	0.05	59.16	0.04	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	775.46	0.05	64.61	0.05	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	777.26	0.05	70.05	0.05	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	779.05	0.05	75.50	0.05	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	780.84	0.05	80.95	0.06	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.64	0.05	86.40	0.06	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	784.43	0.05	91.85	0.07	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	786.22	0.05	97.30	0.07	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	788.01	0.05	102.75	0.07	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	789.81	0.05	108.19	0.08	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	791.60	0.05	113.64	0.08	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	793.39	0.06	119.78	0.09	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	795.41	0.06	125.23	0.09	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	797.20	0.06	131.36	0.10	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	799.22	0.06	137.50	0.10	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	801.24	0.06	143.63	0.10	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	803.26	0.06	149.77	0.11	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	805.28	0.06	155.90	0.11	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	807.30	0.06	162.04	0.12	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	809.32	0.06	168.17	0.12	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	811.33	0.06	175.00	0.13	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	813.58	0.06	181.82	0.13	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	815.82	0.06	188.64	0.14	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	818.07	0.06	195.46	0.14	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	820.31	0.06	202.28	0.15	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	822.56	0.06	209.79	0.15	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	825.03	0.06	217.30	0.16	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	827.50	0.06	224.81	0.16	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0275	8.25	0.00	0.00	0.00	0.00	0.00	8.25	829.97	0.06	233.01	0.17	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0298	8.94	0.00	0.00	0.00	0.00	0.00	8.94	832.67	0.06	241.89	0.18	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	835.59	0.06	253.01	0.18	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	839.25	0.06	264.12	0.19	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	842.91	0.06	282.12	0.20	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	848.83	0.06	300.11	0.22	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	854.75	0.06	324.98	0.24	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	862.93	0.06	349.86	0.25	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.1060	31.81	0.00	0.00	0.00	0.00	0.00	31.81	871.11	0.06	381.61	0.28	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.1290	38.69	0.00	0.00	0.00	0.00	0.00	38.69	881.56	0.06	420.23	0.30	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	894.27	0.06	465.74	0.34	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.1748	52.45	0.00	0.00	0.00	0.00	0.00	52.45	909.24	0.06	518.12	0.38	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	926.48	0.06	577.38	0.42	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	945.98	0.07	636.64	0.46	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.2207	66.20	0.00	0.00	0.00	0.00	0.00	66.20	965.48	0.07	702.78	0.51	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.2436	73.08	0.00	0.00	0.00	0.00	0.00	73.08	987.24	0.07	775.80	0.56	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1011.26	0.07	855.69	0.62	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1037.55	0.07	935.58	0.68	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.2895	86.84	0.00	0.00	0.00	0.00	0.00	86.84	1063.84	0.07	1022.35	0.74	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.3124	93.72	0.00	0.00	0.00	0.00	0.00	93.72	1092.39	0.08	1115.99	0.81	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.4270	128.11	0.00	0.00	0.00	0.00	0.00	128.11	1123.20	0.08	1244.03	0.90	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	0.5417	162.51	0.00	0.00	0.00	0.00	0.00	162.51	1165.33	0.08	1406.45	1.02	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	0.6105	183.14	0.00	0.00	0.00	0.00	0.00	183.14	1218.77	0.08	1589.51	1.15	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	0.6793	203.78	0.00	0.00	0.00	0.00	0.00	203.78	1279.00	0.09	1793.21	1.30	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	0.7939	238.18	0.00	0.00	0.00	0.00	0.00	238.18	1346.03	0.09	2031.29	1.47	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.0003	300.09	0.00	0.00	0.00	0.00	0.00	300.09	1424.36	0.10	2331.28	1.69	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	1523.07	0.11	2376.74	1.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	1538.03	0.11	2382.82	1.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	1540.03	0.11	2386.84	1.73	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	1541.35	0.11	2390.18	1.73	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0069	2.06	0.00	0.00	0.00	0.00	0.00	2.06	1542.45	0.11	2392.13	1.73	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0046	1.38	0.00	0.00	0.00	0.00	0.00	1.38	1543.09	0.11	2393.40	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.51	0.11	2393.29	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.48	0.11	2393.19	1.73	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.44	0.11	2393.08	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.40	0.11	2392.97	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.37	0.11	2392.86	1.73	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.33	0.11	2392.76	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.30	0.11	2392.65	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.26	0.11	2392.54	1.73	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.23	0.11	2392.44	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.19	0.11	2392.33	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.16	0.11	2392.22	1.73	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.12	0.11	2392.11	1.73	0.00	0.00
					Total volume (cf)		2398.03								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	756.00	0.16	1.68	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	756.55	0.16	4.27	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	757.40	0.16	6.86	0.00	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	758.26	0.16	10.37	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	759.41	0.16	12.96	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	760.26	0.16	15.55	0.01	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	761.12	0.16	18.14	0.01	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	761.97	0.16	21.65	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	763.12	0.16	25.16	0.02	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	764.28	0.16	28.66	0.02	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	765.43	0.16	33.09	0.02	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	766.89	0.16	37.51	0.03	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	768.34	0.16	41.93	0.03	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	769.80	0.16	46.36	0.03	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	771.25	0.16	50.78	0.04	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	772.71	0.16	56.12	0.04	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	774.46	0.16	61.45	0.04	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	776.22	0.16	67.71	0.05	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	778.28	0.16	73.96	0.05	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	780.34	0.16	81.13	0.06	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.70	0.16	86.47	0.06	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	784.45	0.16	92.72	0.07	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	786.51	0.16	99.89	0.07	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	788.87	0.16	107.06	0.08	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	791.23	0.16	115.14	0.08	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	793.89	0.17	123.23	0.09	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	796.55	0.17	132.23	0.10	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	799.51	0.17	141.23	0.10	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	802.47	0.17	150.22	0.11	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0112	10.08	0.00	0.00	0.00	0.00	0.00	10.08	805.43	0.17	160.14	0.12	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0122	11.00	0.00	0.00	0.00	0.00	0.00	11.00	808.69	0.17	170.97	0.12	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0132	11.92	0.00	0.00	0.00	0.00	0.00	11.92	812.25	0.17	182.72	0.13	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	816.12	0.17	196.29	0.14	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	820.59	0.17	209.87	0.15	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0163	14.67	0.00	0.00	0.00	0.00	0.00	14.67	825.06	0.17	224.37	0.16	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	829.82	0.17	239.77	0.17	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	834.89	0.17	257.02	0.19	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	840.57	0.18	275.17	0.20	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0214	19.25	0.00	0.00	0.00	0.00	0.00	19.25	846.54	0.18	294.24	0.21	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0224	20.16	0.00	0.00	0.00	0.00	0.00	20.16	852.82	0.18	314.23	0.23	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	859.39	0.18	327.80	0.24	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	863.86	0.18	341.37	0.25	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	868.32	0.18	359.52	0.26	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	874.29	0.18	377.67	0.27	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	880.27	0.18	394.90	0.29	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	885.94	0.18	412.13	0.30	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	891.60	0.19	427.53	0.31	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0183	16.50	0.00	0.00	0.00	0.00	0.00	16.50	896.67	0.19	443.84	0.32	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	902.04	0.19	466.56	0.34	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0265	23.83	0.00	0.00	0.00	0.00	0.00	23.83	909.52	0.19	490.21	0.36	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0314	28.24	0.00	0.00	0.00	0.00	0.00	28.24	917.29	0.19	518.25	0.38	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0454	40.85	0.00	0.00	0.00	0.00	0.00	40.85	926.52	0.19	558.91	0.41	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.1001	90.08	0.00	0.00	0.00	0.00	0.00	90.08	939.90	0.20	648.80	0.47	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.1038	93.45	0.00	0.00	0.00	0.00	0.00	93.45	969.48	0.20	742.04	0.54	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1000.16	0.21	762.91	0.55	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1007.02	0.21	783.78	0.57	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0435	39.11	0.00	0.00	0.00	0.00	0.00	39.11	1013.89	0.21	822.68	0.60	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0368	33.12	0.00	0.00	0.00	0.00	0.00	33.12	1026.69	0.21	855.59	0.62	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0403	36.26	0.00	0.00	0.00	0.00	0.00	36.26	1037.52	0.22	891.63	0.65	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0335	30.19	0.00	0.00	0.00	0.00	0.00	30.19	1049.38	0.22	921.60	0.67	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0267	24.07	0.00	0.00	0.00	0.00	0.00	24.07	1059.24	0.22	945.45	0.69	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1067.08	0.22	966.30	0.70	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1073.95	0.22	983.50	0.71	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1079.60	0.22	1000.69	0.73	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1085.26	0.23	1004.13	0.73	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1086.39	0.23	1007.57	0.73	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1087.52	0.23	1010.09	0.73	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1088.35	0.23	1012.61	0.73	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1089.18	0.23	1016.97	0.74	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1090.62	0.23	1021.32	0.74	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1092.05	0.23	1025.68	0.74	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1093.48	0.23	1029.12	0.75	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1094.61	0.23	1032.56	0.75	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1095.75	0.23	1035.99	0.75	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1096.88	0.23	1038.51	0.75	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1097.71	0.23	1040.12	0.75	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1098.23	0.23	1042.64	0.76	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1099.06	0.23	1046.08	0.76	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1100.20	0.23	1048.60	0.76	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1101.02	0.23	1050.20	0.76	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1101.55	0.23	1052.72	0.76	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1102.38	0.23	1055.24	0.76	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1103.21	0.23	1057.76	0.77	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1104.04	0.23	1059.37	0.77	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1104.57	0.23	1061.88	0.77	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1105.40	0.23	1063.49	0.77	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1105.92	0.23	1066.01	0.77	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1106.75	0.23	1067.61	0.77	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1107.28	0.23	1070.13	0.78	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.11	0.23	1071.73	0.78	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.64	0.23	1073.33	0.78	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.16	0.23	1074.94	0.78	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.69	0.23	1076.54	0.78	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.22	0.23	1078.14	0.78	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.74	0.23	1079.74	0.78	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1111.27	0.23	1081.34	0.78	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1111.80	0.23	1081.11	0.78	0.00	0.00
						Total volume (cf)		1100.04									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.14ac

5/7/2024 LOT 12-BACK

Drainage Area (ac.)	1.1400	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3132 s.f. Bot. = 947 s.f. Max. Depth (d)= 4 Max. storage= 7734.95 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5830	174.91	0.00	0.00	0.00	0.00	0.00	174.91	947.00	0.07	174.84	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9487	284.61	0.00	0.00	0.00	0.00	0.00	284.61	996.39	0.07	459.38	0.24	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0484	314.53	0.00	0.00	0.00	0.00	0.00	314.53	1076.77	0.07	773.84	0.40	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9819	294.58	0.00	0.00	0.00	0.00	0.00	294.58	1165.60	0.08	1068.34	0.55	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.5471	464.13	0.00	0.00	0.00	0.00	0.00	464.13	1248.79	0.09	1532.38	0.79	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.7798	533.94	0.00	0.00	0.00	0.00	0.00	533.94	1379.87	0.10	2066.22	1.07	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.1455	643.64	0.00	0.00	0.00	0.00	0.00	643.64	1530.67	0.11	2709.75	1.40	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.3449	703.48	0.00	0.00	0.00	0.00	0.00	703.48	1712.46	0.12	3413.11	1.77	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.4420	1032.59	0.00	0.00	0.00	0.00	0.00	1032.59	1911.15	0.13	4445.57	2.30	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.2039	1561.16	0.00	0.00	0.00	0.00	0.00	1561.16	2202.80	0.15	6006.58	3.11	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.7052	1411.57	0.00	0.00	0.00	0.00	0.00	1411.57	2643.76	0.18	7417.96	3.84	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7492	224.77	0.00	0.00	0.00	0.00	0.00	224.77	3042.46	0.21	7642.52	3.95	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3105.89	0.22	7642.31	3.95	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3105.83	0.22	7642.09	3.95	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3105.77	0.22	7641.87	3.95	0.00	0.00	
					Total volume (cf)			7643.90								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0556	16.68	0.00	0.00	0.00	0.00	0.00	16.68	947.00	0.07	16.61	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0556	16.68	0.00	0.00	0.00	0.00	0.00	16.68	951.69	0.07	33.22	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0470	14.11	0.00	0.00	0.00	0.00	0.00	14.11	956.38	0.07	47.27	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0641	19.24	0.00	0.00	0.00	0.00	0.00	19.24	960.35	0.07	66.44	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0641	19.24	0.00	0.00	0.00	0.00	0.00	19.24	965.77	0.07	85.62	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	971.19	0.07	122.37	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0641	19.24	0.00	0.00	0.00	0.00	0.00	19.24	981.57	0.07	141.54	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	986.98	0.07	178.29	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	997.36	0.07	215.03	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0641	19.24	0.00	0.00	0.00	0.00	0.00	19.24	1007.74	0.07	234.20	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0684	20.53	0.00	0.00	0.00	0.00	0.00	20.53	1013.16	0.07	254.66	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	1018.94	0.07	291.40	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2938	88.13	0.00	0.00	0.00	0.00	0.00	88.13	1029.32	0.07	379.46	0.20	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2938	88.13	0.00	0.00	0.00	0.00	0.00	88.13	1054.19	0.07	467.52	0.24	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2938	88.13	0.00	0.00	0.00	0.00	0.00	88.13	1079.07	0.07	555.57	0.29	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2082	62.47	0.00	0.00	0.00	0.00	0.00	62.47	1103.94	0.08	617.96	0.32	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4648	139.44	0.00	0.00	0.00	0.00	0.00	139.44	1121.57	0.08	757.33	0.39	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5076	152.27	0.00	0.00	0.00	0.00	0.00	152.27	1160.93	0.08	909.52	0.47	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3793	113.79	0.00	0.00	0.00	0.00	0.00	113.79	1203.92	0.08	1023.22	0.53	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5076	152.27	0.00	0.00	0.00	0.00	0.00	152.27	1236.04	0.09	1175.41	0.61	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7641	229.24	0.00	0.00	0.00	0.00	0.00	229.24	1279.03	0.09	1404.56	0.73	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6786	203.58	0.00	0.00	0.00	0.00	0.00	203.58	1343.77	0.09	1608.05	0.83	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5931	177.93	0.00	0.00	0.00	0.00	0.00	177.93	1401.25	0.10	1785.88	0.92	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6359	190.76	0.00	0.00	0.00	0.00	0.00	190.76	1451.48	0.10	1976.53	1.02	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6786	203.58	0.00	0.00	0.00	0.00	0.00	203.58	1505.34	0.10	2180.01	1.13	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1490	344.70	0.00	0.00	0.00	0.00	0.00	344.70	1562.82	0.11	2524.60	1.31	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.4911	447.32	0.00	0.00	0.00	0.00	0.00	447.32	1660.16	0.12	2971.81	1.54	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8497	254.90	0.00	0.00	0.00	0.00	0.00	254.90	1786.49	0.12	3226.58	1.67	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.2608	678.24	0.00	0.00	0.00	0.00	0.00	678.24	1858.46	0.13	3904.69	2.02	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.4746	742.38	0.00	0.00	0.00	0.00	0.00	742.38	2050.01	0.14	4646.93	2.40	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.8594	857.83	0.00	0.00	0.00	0.00	0.00	857.83	2259.68	0.16	5504.60	2.85	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.8759	562.78	0.00	0.00	0.00	0.00	0.00	562.78	2501.96	0.17	6067.21	3.14	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2082	62.47	0.00	0.00	0.00	0.00	0.00	62.47	2660.89	0.18	6129.50	3.17	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	2678.49	0.19	6166.13	3.19	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	2688.83	0.19	6202.75	3.21	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0257	7.70	0.00	0.00	0.00	0.00	0.00	7.70	2699.18	0.19	6210.26	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.30	0.19	6210.08	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.25	0.19	6209.89	3.21	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.20	0.19	6209.70	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.14	0.19	6209.51	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.09	0.19	6209.33	3.21	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.04	0.19	6209.14	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2700.98	0.19	6208.95	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2700.93	0.19	6208.76	3.21	0.00	0.00
					Total volume (cf)		6213.88								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	947.00	0.07	7.78	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	949.20	0.07	17.12	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	951.84	0.07	26.46	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	954.48	0.07	35.81	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	957.12	0.07	45.15	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	959.75	0.07	56.06	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	962.84	0.07	66.98	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	965.92	0.07	77.89	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	969.00	0.07	88.80	0.05	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	972.08	0.07	99.71	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	975.17	0.07	110.62	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	978.25	0.07	123.10	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	981.77	0.07	135.58	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	985.30	0.07	148.06	0.08	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	988.82	0.07	160.54	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	992.35	0.07	173.01	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	995.87	0.07	185.49	0.10	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	999.40	0.07	197.97	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1002.92	0.07	210.45	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1006.45	0.07	222.92	0.12	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1009.97	0.07	235.40	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1013.50	0.07	247.88	0.13	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1017.02	0.07	260.35	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1020.55	0.07	274.40	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1024.51	0.07	286.87	0.15	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1028.04	0.07	300.92	0.16	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1032.00	0.07	314.96	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1035.97	0.07	329.01	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1039.94	0.07	343.05	0.18	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1043.91	0.07	357.09	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1047.87	0.07	371.13	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1051.84	0.07	385.18	0.20	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1055.81	0.07	400.79	0.21	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1060.22	0.07	416.40	0.22	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1064.63	0.07	432.01	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1069.04	0.07	447.62	0.23	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1073.44	0.07	463.23	0.24	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0575	17.25	0.00	0.00	0.00	0.00	0.00	17.25	1077.85	0.07	480.40	0.25	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0575	17.25	0.00	0.00	0.00	0.00	0.00	17.25	1082.71	0.08	497.58	0.26	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0575	17.25	0.00	0.00	0.00	0.00	0.00	17.25	1087.56	0.08	514.76	0.27	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0627	18.82	0.00	0.00	0.00	0.00	0.00	18.82	1092.41	0.08	533.50	0.28	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0680	20.39	0.00	0.00	0.00	0.00	0.00	20.39	1097.71	0.08	553.81	0.29	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0849	25.48	0.00	0.00	0.00	0.00	0.00	25.48	1103.44	0.08	579.21	0.30	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0849	25.48	0.00	0.00	0.00	0.00	0.00	25.48	1110.62	0.08	604.61	0.31	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1372	41.16	0.00	0.00	0.00	0.00	0.00	41.16	1117.79	0.08	645.70	0.33	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1372	41.16	0.00	0.00	0.00	0.00	0.00	41.16	1129.40	0.08	686.78	0.36	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1895	56.84	0.00	0.00	0.00	0.00	0.00	56.84	1141.00	0.08	743.54	0.38	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1895	56.84	0.00	0.00	0.00	0.00	0.00	56.84	1157.04	0.08	800.30	0.41	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2418	72.53	0.00	0.00	0.00	0.00	0.00	72.53	1173.07	0.08	872.75	0.45	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2940	88.21	0.00	0.00	0.00	0.00	0.00	88.21	1193.54	0.08	960.88	0.50	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3463	103.90	0.00	0.00	0.00	0.00	0.00	103.90	1218.43	0.08	1064.69	0.55	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3986	119.58	0.00	0.00	0.00	0.00	0.00	119.58	1247.76	0.09	1184.18	0.61	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4509	135.26	0.00	0.00	0.00	0.00	0.00	135.26	1281.51	0.09	1319.35	0.68	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4509	135.26	0.00	0.00	0.00	0.00	0.00	135.26	1319.70	0.09	1454.53	0.75	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5032	150.95	0.00	0.00	0.00	0.00	0.00	150.95	1357.88	0.09	1605.38	0.83	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5554	166.63	0.00	0.00	0.00	0.00	0.00	166.63	1400.49	0.10	1771.91	0.92	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6077	182.31	0.00	0.00	0.00	0.00	0.00	182.31	1447.54	0.10	1954.12	1.01	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6077	182.31	0.00	0.00	0.00	0.00	0.00	182.31	1499.01	0.10	2136.33	1.10	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6600	198.00	0.00	0.00	0.00	0.00	0.00	198.00	1550.48	0.11	2334.22	1.21	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7123	213.68	0.00	0.00	0.00	0.00	0.00	213.68	1606.38	0.11	2547.79	1.32	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9737	292.10	0.00	0.00	0.00	0.00	0.00	292.10	1666.71	0.12	2839.78	1.47	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2351	370.52	0.00	0.00	0.00	0.00	0.00	370.52	1749.19	0.12	3210.18	1.66	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3919	417.57	0.00	0.00	0.00	0.00	0.00	417.57	1853.82	0.13	3627.62	1.88	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.5487	464.62	0.00	0.00	0.00	0.00	0.00	464.62	1971.74	0.14	4092.10	2.12	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8101	543.04	0.00	0.00	0.00	0.00	0.00	543.04	2102.95	0.15	4635.00	2.40	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.2806	684.19	0.00	0.00	0.00	0.00	0.00	684.19	2256.31	0.16	5319.04	2.75	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3463	103.90	0.00	0.00	0.00	0.00	0.00	103.90	2449.54	0.17	5422.76	2.80	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	2478.84	0.17	5436.70	2.81	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	2482.78	0.17	5445.94	2.82	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	2485.39	0.17	5453.61	2.82	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0157	4.71	0.00	0.00	0.00	0.00	0.00	4.71	2487.56	0.17	5458.14	2.82	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0105	3.14	0.00	0.00	0.00	0.00	0.00	3.14	2488.84	0.17	5461.11	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.68	0.17	5460.93	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.63	0.17	5460.76	2.82	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.58	0.17	5460.59	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.53	0.17	5460.42	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.48	0.17	5460.24	2.82	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.43	0.17	5460.07	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.38	0.17	5459.90	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.33	0.17	5459.72	2.82	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.29	0.17	5459.55	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.24	0.17	5459.38	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.19	0.17	5459.21	2.82	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.14	0.17	5459.03	2.82	0.00	0.00
					Total volume (cf)			5467.51								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	947.00	0.20	3.98	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	948.12	0.20	10.05	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	949.84	0.20	16.13	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	951.56	0.20	24.29	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	953.86	0.20	30.36	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	955.58	0.20	36.43	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	957.29	0.20	42.50	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	959.00	0.20	50.66	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	961.31	0.20	58.82	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	963.61	0.20	66.97	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	965.92	0.20	77.22	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	968.81	0.20	87.47	0.05	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	971.71	0.20	97.72	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	974.60	0.20	107.96	0.06	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	977.50	0.20	118.21	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0139	12.54	0.00	0.00	0.00	0.00	0.00	12.54	980.39	0.20	130.54	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0139	12.54	0.00	0.00	0.00	0.00	0.00	12.54	983.88	0.20	142.87	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0163	14.63	0.00	0.00	0.00	0.00	0.00	14.63	987.36	0.21	157.30	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0163	14.63	0.00	0.00	0.00	0.00	0.00	14.63	991.43	0.21	171.72	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0186	16.72	0.00	0.00	0.00	0.00	0.00	16.72	995.51	0.21	188.23	0.10	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0139	12.54	0.00	0.00	0.00	0.00	0.00	12.54	1000.17	0.21	200.56	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0163	14.63	0.00	0.00	0.00	0.00	0.00	14.63	1003.66	0.21	214.98	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0186	16.72	0.00	0.00	0.00	0.00	0.00	16.72	1007.73	0.21	231.49	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0186	16.72	0.00	0.00	0.00	0.00	0.00	16.72	1012.39	0.21	248.00	0.13	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0209	18.81	0.00	0.00	0.00	0.00	0.00	18.81	1017.06	0.21	266.59	0.14	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0209	18.81	0.00	0.00	0.00	0.00	0.00	18.81	1022.31	0.21	285.19	0.15	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0232	20.90	0.00	0.00	0.00	0.00	0.00	20.90	1027.56	0.21	305.87	0.16	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0232	20.90	0.00	0.00	0.00	0.00	0.00	20.90	1033.40	0.22	326.55	0.17	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0232	20.90	0.00	0.00	0.00	0.00	0.00	20.90	1039.25	0.22	347.24	0.18	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0255	22.99	0.00	0.00	0.00	0.00	0.00	22.99	1045.09	0.22	370.01	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0279	25.08	0.00	0.00	0.00	0.00	0.00	25.08	1051.52	0.22	394.86	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0302	27.17	0.00	0.00	0.00	0.00	0.00	27.17	1058.54	0.22	421.81	0.22	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1066.15	0.22	452.94	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1074.95	0.22	484.06	0.25	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0372	33.44	0.00	0.00	0.00	0.00	0.00	33.44	1083.74	0.23	517.27	0.27	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0395	35.53	0.00	0.00	0.00	0.00	0.00	35.53	1093.12	0.23	552.57	0.29	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1103.09	0.23	592.04	0.31	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0464	41.80	0.00	0.00	0.00	0.00	0.00	41.80	1114.24	0.23	633.61	0.33	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0488	43.89	0.00	0.00	0.00	0.00	0.00	43.89	1125.98	0.23	677.26	0.35	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0511	45.98	0.00	0.00	0.00	0.00	0.00	45.98	1138.31	0.24	723.00	0.37	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1151.24	0.24	754.10	0.39	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1160.02	0.24	785.21	0.41	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0464	41.80	0.00	0.00	0.00	0.00	0.00	41.80	1168.81	0.24	826.76	0.43	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0464	41.80	0.00	0.00	0.00	0.00	0.00	41.80	1180.55	0.25	868.31	0.45	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1192.28	0.25	907.77	0.47	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1203.43	0.25	947.22	0.49	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0395	35.53	0.00	0.00	0.00	0.00	0.00	35.53	1214.58	0.25	982.50	0.51	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0418	37.62	0.00	0.00	0.00	0.00	0.00	37.62	1224.54	0.26	1019.86	0.53	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0580	52.24	0.00	0.00	0.00	0.00	0.00	52.24	1235.09	0.26	1071.85	0.55	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0604	54.33	0.00	0.00	0.00	0.00	0.00	54.33	1249.78	0.26	1125.92	0.58	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0715	64.38	0.00	0.00	0.00	0.00	0.00	64.38	1265.05	0.26	1190.04	0.62	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.1035	93.14	0.00	0.00	0.00	0.00	0.00	93.14	1283.17	0.27	1282.91	0.66	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2282	205.39	0.00	0.00	0.00	0.00	0.00	205.39	1309.40	0.27	1488.03	0.77	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2367	213.06	0.00	0.00	0.00	0.00	0.00	213.06	1367.34	0.28	1700.80	0.88	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0534	48.07	0.00	0.00	0.00	0.00	0.00	48.07	1427.45	0.30	1748.57	0.90	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0534	48.07	0.00	0.00	0.00	0.00	0.00	48.07	1440.94	0.30	1796.33	0.93	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0991	89.16	0.00	0.00	0.00	0.00	0.00	89.16	1454.44	0.30	1885.19	0.97	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0839	75.52	0.00	0.00	0.00	0.00	0.00	75.52	1479.54	0.31	1960.40	1.01	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0919	82.67	0.00	0.00	0.00	0.00	0.00	82.67	1500.78	0.31	2042.76	1.06	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0765	68.83	0.00	0.00	0.00	0.00	0.00	68.83	1524.05	0.32	2111.27	1.09	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0610	54.87	0.00	0.00	0.00	0.00	0.00	54.87	1543.40	0.32	2165.82	1.12	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0534	48.07	0.00	0.00	0.00	0.00	0.00	48.07	1558.81	0.32	2213.56	1.14	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1572.30	0.33	2252.94	1.17	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1583.42	0.33	2292.31	1.19	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1594.54	0.33	2300.34	1.19	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1596.81	0.33	2308.37	1.19	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1599.08	0.33	2314.30	1.20	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1600.75	0.33	2320.24	1.20	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	1602.43	0.33	2330.35	1.21	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	1605.29	0.33	2340.47	1.21	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	1608.15	0.34	2350.58	1.22	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1611.00	0.34	2358.61	1.22	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1613.27	0.34	2366.63	1.22	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1615.54	0.34	2374.65	1.23	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1617.80	0.34	2380.58	1.23	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1619.48	0.34	2384.43	1.23	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1620.56	0.34	2390.36	1.24	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1622.24	0.34	2398.38	1.24	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1624.50	0.34	2404.31	1.24	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1626.18	0.34	2408.15	1.25	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1627.26	0.34	2414.08	1.25	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1628.94	0.34	2420.01	1.25	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1630.61	0.34	2425.94	1.25	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1632.29	0.34	2429.78	1.26	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1633.37	0.34	2435.71	1.26	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1635.05	0.34	2439.55	1.26	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1636.13	0.34	2445.48	1.26	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1637.81	0.34	2449.32	1.27	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1638.89	0.34	2455.24	1.27	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1640.57	0.34	2459.08	1.27	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1641.65	0.34	2462.92	1.27	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1642.74	0.34	2466.76	1.28	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1643.82	0.34	2470.59	1.28	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1644.90	0.34	2474.43	1.28	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1645.99	0.34	2478.27	1.28	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1647.07	0.34	2482.10	1.28	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1648.15	0.34	2481.76	1.28	0.00	0.00
						Total volume (cf)		2508.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.03ac+0.09ac typ street frontage=1.12ac

5/7/2024 LOTs 13-15

Drainage Area (ac.)	1.1200	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5728	171.84	0.00	0.00	0.00	0.00	0.00	171.84	1078.00	0.07	171.76	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9321	279.62	0.00	0.00	0.00	0.00	0.00	279.62	1122.95	0.08	451.30	0.22	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0300	309.01	0.00	0.00	0.00	0.00	0.00	309.01	1196.10	0.08	760.23	0.37	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9647	289.42	0.00	0.00	0.00	0.00	0.00	289.42	1276.94	0.09	1049.56	0.51	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.5199	455.98	0.00	0.00	0.00	0.00	0.00	455.98	1352.65	0.09	1505.45	0.73	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.7486	524.57	0.00	0.00	0.00	0.00	0.00	524.57	1471.95	0.10	2029.91	0.99	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.1078	632.35	0.00	0.00	0.00	0.00	0.00	632.35	1609.20	0.11	2662.15	1.29	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.3038	691.14	0.00	0.00	0.00	0.00	0.00	691.14	1774.65	0.12	3353.16	1.63	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.3816	1014.47	0.00	0.00	0.00	0.00	0.00	1014.47	1955.48	0.14	4367.50	2.12	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.1126	1533.77	0.00	0.00	0.00	0.00	0.00	1533.77	2220.92	0.15	5901.12	2.87	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.6227	1386.80	0.00	0.00	0.00	0.00	0.00	1386.80	2622.24	0.18	7287.74	3.54	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7361	220.83	0.00	0.00	0.00	0.00	0.00	220.83	2985.10	0.21	7508.36	3.65	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3042.84	0.21	7508.15	3.65	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3042.78	0.21	7507.94	3.65	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3042.73	0.21	7507.73	3.65	0.00	0.00	
					Total volume (cf)			7509.80								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0546	16.38	0.00	0.00	0.00	0.00	0.00	16.38	1078.00	0.07	16.31	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0546	16.38	0.00	0.00	0.00	0.00	0.00	16.38	1082.27	0.08	32.62	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0462	13.86	0.00	0.00	0.00	0.00	0.00	13.86	1086.54	0.08	46.41	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0630	18.91	0.00	0.00	0.00	0.00	0.00	18.91	1090.14	0.08	65.24	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0630	18.91	0.00	0.00	0.00	0.00	0.00	18.91	1095.07	0.08	84.07	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	1100.00	0.08	120.16	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0630	18.91	0.00	0.00	0.00	0.00	0.00	18.91	1109.44	0.08	138.99	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	1114.37	0.08	175.08	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	1123.82	0.08	211.17	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0630	18.91	0.00	0.00	0.00	0.00	0.00	18.91	1133.26	0.08	229.99	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0672	20.17	0.00	0.00	0.00	0.00	0.00	20.17	1138.19	0.08	250.08	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	1143.44	0.08	286.17	0.14	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	1152.89	0.08	372.67	0.18	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	1175.52	0.08	459.17	0.22	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	1198.16	0.08	545.67	0.26	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2046	61.38	0.00	0.00	0.00	0.00	0.00	61.38	1220.80	0.08	606.96	0.29	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4567	137.00	0.00	0.00	0.00	0.00	0.00	137.00	1236.83	0.09	743.87	0.36	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4987	149.60	0.00	0.00	0.00	0.00	0.00	149.60	1272.66	0.09	893.38	0.43	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3726	111.79	0.00	0.00	0.00	0.00	0.00	111.79	1311.79	0.09	1005.08	0.49	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4987	149.60	0.00	0.00	0.00	0.00	0.00	149.60	1341.02	0.09	1154.59	0.56	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7507	225.22	0.00	0.00	0.00	0.00	0.00	225.22	1380.14	0.10	1379.71	0.67	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6667	200.01	0.00	0.00	0.00	0.00	0.00	200.01	1439.05	0.10	1579.62	0.77	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5827	174.81	0.00	0.00	0.00	0.00	0.00	174.81	1491.37	0.10	1754.33	0.85	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6247	187.41	0.00	0.00	0.00	0.00	0.00	187.41	1537.08	0.11	1941.63	0.94	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6667	200.01	0.00	0.00	0.00	0.00	0.00	200.01	1586.10	0.11	2141.53	1.04	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1288	338.65	0.00	0.00	0.00	0.00	0.00	338.65	1638.41	0.11	2480.07	1.20	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.4649	439.48	0.00	0.00	0.00	0.00	0.00	439.48	1727.00	0.12	2919.42	1.42	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8348	250.43	0.00	0.00	0.00	0.00	0.00	250.43	1841.97	0.13	3169.72	1.54	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.2211	666.34	0.00	0.00	0.00	0.00	0.00	666.34	1907.47	0.13	3835.93	1.86	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.4312	729.35	0.00	0.00	0.00	0.00	0.00	729.35	2081.81	0.14	4565.14	2.22	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.8093	842.78	0.00	0.00	0.00	0.00	0.00	842.78	2272.63	0.16	5407.76	2.63	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.8430	552.91	0.00	0.00	0.00	0.00	0.00	552.91	2493.14	0.17	5960.50	2.89	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2046	61.38	0.00	0.00	0.00	0.00	0.00	61.38	2637.78	0.18	6021.69	2.92	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	2653.79	0.18	6057.67	2.94	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	2663.21	0.18	6093.66	2.96	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0252	7.56	0.00	0.00	0.00	0.00	0.00	7.56	2672.63	0.19	6101.03	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.56	0.19	6100.85	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.51	0.19	6100.66	2.96	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.46	0.19	6100.48	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.41	0.19	6100.29	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.36	0.19	6100.10	2.96	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.31	0.19	6099.92	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.27	0.19	6099.73	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.22	0.19	6099.55	2.96	0.00	0.00
					Total volume (cf)		6104.87								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0257	7.70	0.00	0.00	0.00	0.00	0.00	7.70	1078.00	0.07	7.63	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	1080.00	0.07	16.80	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	1082.40	0.08	25.97	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	1084.80	0.08	35.14	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	1087.20	0.08	44.31	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1089.60	0.08	55.02	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1092.40	0.08	65.73	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1095.20	0.08	76.44	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1098.00	0.08	87.15	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1100.81	0.08	97.86	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1103.61	0.08	108.57	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1106.41	0.08	120.82	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1109.62	0.08	133.07	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1112.82	0.08	145.32	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1116.03	0.08	157.57	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1119.23	0.08	169.82	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1122.44	0.08	182.07	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1125.64	0.08	194.31	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1128.85	0.08	206.56	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1132.05	0.08	218.81	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1135.26	0.08	231.06	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1138.47	0.08	243.31	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1141.67	0.08	255.55	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1144.88	0.08	269.34	0.13	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1148.48	0.08	281.59	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1151.69	0.08	295.38	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1155.30	0.08	309.17	0.15	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1158.90	0.08	322.95	0.16	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1162.51	0.08	336.74	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1166.12	0.08	350.53	0.17	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1169.73	0.08	364.31	0.18	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1173.34	0.08	378.10	0.18	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1176.94	0.08	393.43	0.19	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1180.95	0.08	408.75	0.20	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1184.97	0.08	424.08	0.21	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1188.98	0.08	439.41	0.21	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1192.99	0.08	454.73	0.22	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0565	16.95	0.00	0.00	0.00	0.00	0.00	16.95	1197.00	0.08	471.60	0.23	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0565	16.95	0.00	0.00	0.00	0.00	0.00	16.95	1201.41	0.08	488.46	0.24	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0565	16.95	0.00	0.00	0.00	0.00	0.00	16.95	1205.82	0.08	505.33	0.25	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0616	18.49	0.00	0.00	0.00	0.00	0.00	18.49	1210.24	0.08	523.74	0.25	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0668	20.03	0.00	0.00	0.00	0.00	0.00	20.03	1215.05	0.08	543.68	0.26	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0834	25.03	0.00	0.00	0.00	0.00	0.00	25.03	1220.27	0.08	568.63	0.28	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0834	25.03	0.00	0.00	0.00	0.00	0.00	25.03	1226.80	0.09	593.57	0.29	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1348	40.44	0.00	0.00	0.00	0.00	0.00	40.44	1233.33	0.09	633.92	0.31	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1348	40.44	0.00	0.00	0.00	0.00	0.00	40.44	1243.89	0.09	674.27	0.33	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1862	55.85	0.00	0.00	0.00	0.00	0.00	55.85	1254.45	0.09	730.03	0.35	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1862	55.85	0.00	0.00	0.00	0.00	0.00	55.85	1269.04	0.09	785.79	0.38	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2375	71.26	0.00	0.00	0.00	0.00	0.00	71.26	1283.63	0.09	856.96	0.42	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2889	86.66	0.00	0.00	0.00	0.00	0.00	86.66	1302.25	0.09	943.53	0.46	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3402	102.07	0.00	0.00	0.00	0.00	0.00	102.07	1324.91	0.09	1045.51	0.51	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3916	117.48	0.00	0.00	0.00	0.00	0.00	117.48	1351.60	0.09	1162.90	0.56	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4430	132.89	0.00	0.00	0.00	0.00	0.00	132.89	1382.31	0.10	1295.69	0.63	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4430	132.89	0.00	0.00	0.00	0.00	0.00	132.89	1417.07	0.10	1428.48	0.69	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4943	148.30	0.00	0.00	0.00	0.00	0.00	148.30	1451.81	0.10	1576.68	0.77	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5457	163.71	0.00	0.00	0.00	0.00	0.00	163.71	1490.60	0.10	1740.28	0.84	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5971	179.12	0.00	0.00	0.00	0.00	0.00	179.12	1533.41	0.11	1919.29	0.93	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5971	179.12	0.00	0.00	0.00	0.00	0.00	179.12	1580.25	0.11	2098.30	1.02	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6484	194.52	0.00	0.00	0.00	0.00	0.00	194.52	1627.10	0.11	2292.71	1.11	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6998	209.93	0.00	0.00	0.00	0.00	0.00	209.93	1677.97	0.12	2502.53	1.21	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9566	286.98	0.00	0.00	0.00	0.00	0.00	286.98	1732.88	0.12	2789.38	1.35	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2134	364.02	0.00	0.00	0.00	0.00	0.00	364.02	1807.94	0.13	3153.27	1.53	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3675	410.24	0.00	0.00	0.00	0.00	0.00	410.24	1903.17	0.13	3563.39	1.73	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.5216	456.47	0.00	0.00	0.00	0.00	0.00	456.47	2010.49	0.14	4019.72	1.95	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.7784	533.51	0.00	0.00	0.00	0.00	0.00	533.51	2129.91	0.15	4553.08	2.21	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.2406	672.19	0.00	0.00	0.00	0.00	0.00	672.19	2269.48	0.16	5225.12	2.54	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3402	102.07	0.00	0.00	0.00	0.00	0.00	102.07	2445.34	0.17	5327.02	2.59	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	2472.01	0.17	5340.72	2.59	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	2475.59	0.17	5349.79	2.60	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0257	7.70	0.00	0.00	0.00	0.00	0.00	7.70	2477.97	0.17	5357.32	2.60	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0154	4.62	0.00	0.00	0.00	0.00	0.00	4.62	2479.94	0.17	5361.77	2.60	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0103	3.08	0.00	0.00	0.00	0.00	0.00	3.08	2481.10	0.17	5364.68	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.86	0.17	5364.51	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.82	0.17	5364.34	2.60	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.77	0.17	5364.16	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.73	0.17	5363.99	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.68	0.17	5363.82	2.60	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.64	0.17	5363.65	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.59	0.17	5363.48	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.55	0.17	5363.30	2.60	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.50	0.17	5363.13	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.46	0.17	5362.96	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.41	0.17	5362.79	2.60	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.37	0.17	5362.61	2.60	0.00	0.00
					Total volume (cf)			5371.59								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1078.00	0.22	3.88	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1079.02	0.22	9.82	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1080.57	0.23	15.75	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1082.12	0.23	23.74	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1084.21	0.23	29.67	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1085.76	0.23	35.60	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1087.32	0.23	41.54	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1088.87	0.23	49.52	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1090.96	0.23	57.51	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1093.05	0.23	65.49	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1095.14	0.23	75.53	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1097.77	0.23	85.57	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1100.39	0.23	95.60	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1103.02	0.23	105.64	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1105.64	0.23	115.67	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0137	12.32	0.00	0.00	0.00	0.00	0.00	12.32	1108.27	0.23	127.76	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0137	12.32	0.00	0.00	0.00	0.00	0.00	12.32	1111.43	0.23	139.85	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0160	14.37	0.00	0.00	0.00	0.00	0.00	14.37	1114.60	0.23	153.99	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0160	14.37	0.00	0.00	0.00	0.00	0.00	14.37	1118.30	0.23	168.13	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0183	16.43	0.00	0.00	0.00	0.00	0.00	16.43	1122.00	0.23	184.32	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0137	12.32	0.00	0.00	0.00	0.00	0.00	12.32	1126.23	0.23	196.40	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0160	14.37	0.00	0.00	0.00	0.00	0.00	14.37	1129.40	0.24	210.54	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0183	16.43	0.00	0.00	0.00	0.00	0.00	16.43	1133.10	0.24	226.73	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0183	16.43	0.00	0.00	0.00	0.00	0.00	16.43	1137.33	0.24	242.92	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0205	18.48	0.00	0.00	0.00	0.00	0.00	18.48	1141.57	0.24	261.16	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0205	18.48	0.00	0.00	0.00	0.00	0.00	18.48	1146.34	0.24	279.40	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0228	20.53	0.00	0.00	0.00	0.00	0.00	20.53	1151.11	0.24	299.69	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0228	20.53	0.00	0.00	0.00	0.00	0.00	20.53	1156.42	0.24	319.98	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0228	20.53	0.00	0.00	0.00	0.00	0.00	20.53	1161.73	0.24	340.27	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0251	22.58	0.00	0.00	0.00	0.00	0.00	22.58	1167.04	0.24	362.61	0.18	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0274	24.64	0.00	0.00	0.00	0.00	0.00	24.64	1172.89	0.24	387.00	0.19	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0297	26.69	0.00	0.00	0.00	0.00	0.00	26.69	1179.27	0.25	413.45	0.20	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0342	30.80	0.00	0.00	0.00	0.00	0.00	30.80	1186.19	0.25	444.00	0.22	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0342	30.80	0.00	0.00	0.00	0.00	0.00	30.80	1194.19	0.25	474.55	0.23	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0365	32.85	0.00	0.00	0.00	0.00	0.00	32.85	1202.18	0.25	507.15	0.25	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0388	34.90	0.00	0.00	0.00	0.00	0.00	34.90	1210.71	0.25	541.80	0.26	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1219.78	0.25	580.55	0.28	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0456	41.06	0.00	0.00	0.00	0.00	0.00	41.06	1229.92	0.26	621.36	0.30	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0479	43.12	0.00	0.00	0.00	0.00	0.00	43.12	1240.60	0.26	664.22	0.32	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0502	45.17	0.00	0.00	0.00	0.00	0.00	45.17	1251.82	0.26	709.12	0.34	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0342	30.80	0.00	0.00	0.00	0.00	0.00	30.80	1263.57	0.26	739.66	0.36	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0342	30.80	0.00	0.00	0.00	0.00	0.00	30.80	1271.56	0.26	770.19	0.37	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0456	41.06	0.00	0.00	0.00	0.00	0.00	41.06	1279.55	0.27	810.98	0.39	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0456	41.06	0.00	0.00	0.00	0.00	0.00	41.06	1290.22	0.27	851.78	0.41	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1300.90	0.27	890.52	0.43	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1311.04	0.27	929.25	0.45	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0388	34.90	0.00	0.00	0.00	0.00	0.00	34.90	1321.17	0.28	963.88	0.47	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0411	36.96	0.00	0.00	0.00	0.00	0.00	36.96	1330.23	0.28	1000.56	0.49	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0570	51.33	0.00	0.00	0.00	0.00	0.00	51.33	1339.83	0.28	1051.61	0.51	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0593	53.38	0.00	0.00	0.00	0.00	0.00	53.38	1353.19	0.28	1104.71	0.54	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0703	63.25	0.00	0.00	0.00	0.00	0.00	63.25	1367.09	0.28	1167.67	0.57	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1017	91.50	0.00	0.00	0.00	0.00	0.00	91.50	1383.56	0.29	1258.89	0.61	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2242	201.79	0.00	0.00	0.00	0.00	0.00	201.79	1407.43	0.29	1460.39	0.71	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2326	209.32	0.00	0.00	0.00	0.00	0.00	209.32	1460.16	0.30	1669.40	0.81	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0525	47.22	0.00	0.00	0.00	0.00	0.00	47.22	1514.86	0.32	1716.31	0.83	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0525	47.22	0.00	0.00	0.00	0.00	0.00	47.22	1527.13	0.32	1763.21	0.86	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.0973	87.60	0.00	0.00	0.00	0.00	0.00	87.60	1539.41	0.32	1850.48	0.90	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0824	74.20	0.00	0.00	0.00	0.00	0.00	74.20	1562.25	0.33	1924.35	0.93	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0902	81.22	0.00	0.00	0.00	0.00	0.00	81.22	1581.58	0.33	2005.25	0.97	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0751	67.62	0.00	0.00	0.00	0.00	0.00	67.62	1602.75	0.33	2072.53	1.01	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0599	53.91	0.00	0.00	0.00	0.00	0.00	53.91	1620.35	0.34	2126.10	1.03	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0525	47.22	0.00	0.00	0.00	0.00	0.00	47.22	1634.37	0.34	2172.98	1.05	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1646.64	0.34	2211.65	1.07	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1656.76	0.35	2250.32	1.09	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1666.88	0.35	2258.18	1.10	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1668.94	0.35	2266.05	1.10	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1670.99	0.35	2271.86	1.10	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1672.51	0.35	2277.67	1.11	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1674.03	0.35	2287.58	1.11	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1676.63	0.35	2297.50	1.12	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1679.22	0.35	2307.42	1.12	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1681.82	0.35	2315.28	1.12	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1683.88	0.35	2323.14	1.13	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1685.93	0.35	2331.00	1.13	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1687.99	0.35	2336.81	1.13	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1689.51	0.35	2340.56	1.14	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1690.49	0.35	2346.37	1.14	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1692.01	0.35	2354.23	1.14	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1694.07	0.35	2360.04	1.15	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1695.59	0.35	2363.79	1.15	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1696.57	0.35	2369.60	1.15	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1698.09	0.35	2375.40	1.15	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1699.61	0.35	2381.21	1.16	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1701.13	0.35	2384.96	1.16	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1702.11	0.35	2390.76	1.16	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1703.63	0.35	2394.52	1.16	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1704.61	0.36	2400.32	1.17	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1706.13	0.36	2404.07	1.17	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1707.11	0.36	2409.87	1.17	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1708.63	0.36	2413.62	1.17	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1709.61	0.36	2417.37	1.17	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1710.59	0.36	2421.12	1.18	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1711.58	0.36	2424.87	1.18	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1712.56	0.36	2428.62	1.18	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1713.54	0.36	2432.37	1.18	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1714.52	0.36	2436.12	1.18	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1715.50	0.36	2435.76	1.18	0.00	0.00
						Total volume (cf)	2464.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.02ac+0.09ac typ street frontage=1.11ac

5/7/2024 LOT 16

Drainage Area (ac.)	1.1100	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5677	170.30	0.00	0.00	0.00	0.00	0.00	170.30	1078.00	0.07	170.23	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9237	277.12	0.00	0.00	0.00	0.00	0.00	277.12	1122.55	0.08	447.27	0.22	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0208	306.25	0.00	0.00	0.00	0.00	0.00	306.25	1195.04	0.08	753.44	0.37	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9561	286.83	0.00	0.00	0.00	0.00	0.00	286.83	1275.17	0.09	1040.18	0.51	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.5064	451.91	0.00	0.00	0.00	0.00	0.00	451.91	1350.20	0.09	1492.00	0.72	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.7330	519.89	0.00	0.00	0.00	0.00	0.00	519.89	1468.44	0.10	2011.78	0.98	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.0890	626.70	0.00	0.00	0.00	0.00	0.00	626.70	1604.46	0.11	2638.38	1.28	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.2832	684.97	0.00	0.00	0.00	0.00	0.00	684.97	1768.43	0.12	3323.22	1.61	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.3514	1005.42	0.00	0.00	0.00	0.00	0.00	1005.42	1947.64	0.14	4328.50	2.10	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.0669	1520.08	0.00	0.00	0.00	0.00	0.00	1520.08	2210.71	0.15	5848.43	2.84	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.5814	1374.42	0.00	0.00	0.00	0.00	0.00	1374.42	2608.45	0.18	7222.66	3.51	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7295	218.86	0.00	0.00	0.00	0.00	0.00	218.86	2968.07	0.21	7441.32	3.61	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3025.29	0.21	7441.11	3.61	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3025.24	0.21	7440.90	3.61	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3025.18	0.21	7440.69	3.61	0.00	0.00	
					Total volume (cf)			7442.75								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0541	16.24	0.00	0.00	0.00	0.00	0.00	16.24	1078.00	0.07	16.16	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0541	16.24	0.00	0.00	0.00	0.00	0.00	16.24	1082.23	0.08	32.33	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1086.46	0.08	45.99	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0625	18.74	0.00	0.00	0.00	0.00	0.00	18.74	1090.04	0.08	64.65	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0625	18.74	0.00	0.00	0.00	0.00	0.00	18.74	1094.92	0.08	83.31	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	1099.80	0.08	119.08	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0625	18.74	0.00	0.00	0.00	0.00	0.00	18.74	1109.16	0.08	137.74	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	1114.04	0.08	173.51	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	1123.40	0.08	209.28	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0625	18.74	0.00	0.00	0.00	0.00	0.00	18.74	1132.76	0.08	227.93	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0666	19.99	0.00	0.00	0.00	0.00	0.00	19.99	1137.65	0.08	247.84	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	1142.86	0.08	283.61	0.14	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2860	85.81	0.00	0.00	0.00	0.00	0.00	85.81	1152.22	0.08	369.34	0.18	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2860	85.81	0.00	0.00	0.00	0.00	0.00	85.81	1174.65	0.08	455.06	0.22	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2860	85.81	0.00	0.00	0.00	0.00	0.00	85.81	1197.08	0.08	540.79	0.26	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2028	60.83	0.00	0.00	0.00	0.00	0.00	60.83	1219.52	0.08	601.53	0.29	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4526	135.77	0.00	0.00	0.00	0.00	0.00	135.77	1235.41	0.09	737.22	0.36	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4942	148.26	0.00	0.00	0.00	0.00	0.00	148.26	1270.92	0.09	885.40	0.43	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3693	110.79	0.00	0.00	0.00	0.00	0.00	110.79	1309.70	0.09	996.10	0.48	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4942	148.26	0.00	0.00	0.00	0.00	0.00	148.26	1338.66	0.09	1144.27	0.56	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7440	223.21	0.00	0.00	0.00	0.00	0.00	223.21	1377.44	0.10	1367.38	0.66	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6608	198.23	0.00	0.00	0.00	0.00	0.00	198.23	1435.82	0.10	1565.51	0.76	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5775	173.25	0.00	0.00	0.00	0.00	0.00	173.25	1487.67	0.10	1738.65	0.84	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6191	185.74	0.00	0.00	0.00	0.00	0.00	185.74	1532.98	0.11	1924.28	0.93	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6608	198.23	0.00	0.00	0.00	0.00	0.00	198.23	1581.56	0.11	2122.39	1.03	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1188	335.63	0.00	0.00	0.00	0.00	0.00	335.63	1633.40	0.11	2457.91	1.19	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.4518	435.55	0.00	0.00	0.00	0.00	0.00	435.55	1721.20	0.12	2893.34	1.40	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8273	248.19	0.00	0.00	0.00	0.00	0.00	248.19	1835.15	0.13	3141.40	1.53	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.2013	660.39	0.00	0.00	0.00	0.00	0.00	660.39	1900.06	0.13	3801.66	1.85	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.4095	722.84	0.00	0.00	0.00	0.00	0.00	722.84	2072.84	0.14	4524.36	2.20	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.7842	835.26	0.00	0.00	0.00	0.00	0.00	835.26	2261.96	0.16	5359.46	2.60	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.8266	547.97	0.00	0.00	0.00	0.00	0.00	547.97	2480.50	0.17	5907.26	2.87	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2028	60.83	0.00	0.00	0.00	0.00	0.00	60.83	2623.85	0.18	5967.90	2.90	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	2639.72	0.18	6003.56	2.91	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	2649.05	0.18	6039.23	2.93	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0250	7.49	0.00	0.00	0.00	0.00	0.00	7.49	2658.38	0.18	6046.54	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.30	0.18	6046.35	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.25	0.18	6046.17	2.94	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.20	0.18	6045.98	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.15	0.18	6045.80	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.10	0.18	6045.61	2.94	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.05	0.18	6045.43	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.01	0.18	6045.24	2.93	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2659.96	0.18	6045.06	2.93	0.00	0.00
					Total volume (cf)		6050.36								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0255	7.64	0.00	0.00	0.00	0.00	0.00	7.64	1078.00	0.07	7.56	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	1079.98	0.07	16.65	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	1082.36	0.08	25.74	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	1084.73	0.08	34.82	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	1087.11	0.08	43.91	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1089.49	0.08	54.52	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1092.27	0.08	65.14	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1095.05	0.08	75.75	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1097.82	0.08	86.37	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1100.60	0.08	96.98	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1103.38	0.08	107.59	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1106.16	0.08	119.73	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1109.33	0.08	131.87	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1112.51	0.08	144.01	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1115.69	0.08	156.15	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1118.86	0.08	168.29	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1122.04	0.08	180.43	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1125.22	0.08	192.57	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1128.39	0.08	204.71	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1131.57	0.08	216.84	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1134.75	0.08	228.98	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1137.92	0.08	241.12	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1141.10	0.08	253.26	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1144.27	0.08	266.92	0.13	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1147.85	0.08	279.06	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1151.03	0.08	292.72	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1154.60	0.08	306.39	0.15	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1158.18	0.08	320.05	0.16	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1161.75	0.08	333.71	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1165.33	0.08	347.38	0.17	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1168.90	0.08	361.04	0.18	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1172.48	0.08	374.70	0.18	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1176.05	0.08	389.89	0.19	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1180.03	0.08	405.08	0.20	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1184.00	0.08	420.27	0.20	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1187.98	0.08	435.46	0.21	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1191.95	0.08	450.65	0.22	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0560	16.80	0.00	0.00	0.00	0.00	0.00	16.80	1195.93	0.08	467.36	0.23	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0560	16.80	0.00	0.00	0.00	0.00	0.00	16.80	1200.30	0.08	484.08	0.24	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0560	16.80	0.00	0.00	0.00	0.00	0.00	16.80	1204.68	0.08	500.79	0.24	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0611	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1209.05	0.08	519.03	0.25	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0662	19.85	0.00	0.00	0.00	0.00	0.00	19.85	1213.82	0.08	538.80	0.26	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0827	24.81	0.00	0.00	0.00	0.00	0.00	24.81	1219.00	0.08	563.52	0.27	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0827	24.81	0.00	0.00	0.00	0.00	0.00	24.81	1225.47	0.09	588.24	0.29	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1336	40.08	0.00	0.00	0.00	0.00	0.00	40.08	1231.93	0.09	628.23	0.31	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1336	40.08	0.00	0.00	0.00	0.00	0.00	40.08	1242.40	0.09	668.22	0.32	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1845	55.35	0.00	0.00	0.00	0.00	0.00	55.35	1252.86	0.09	723.48	0.35	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1845	55.35	0.00	0.00	0.00	0.00	0.00	55.35	1267.33	0.09	778.74	0.38	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2354	70.62	0.00	0.00	0.00	0.00	0.00	70.62	1281.79	0.09	849.27	0.41	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2863	85.89	0.00	0.00	0.00	0.00	0.00	85.89	1300.24	0.09	935.07	0.45	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3372	101.16	0.00	0.00	0.00	0.00	0.00	101.16	1322.70	0.09	1036.14	0.50	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3881	116.43	0.00	0.00	0.00	0.00	0.00	116.43	1349.14	0.09	1152.48	0.56	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4390	131.70	0.00	0.00	0.00	0.00	0.00	131.70	1379.59	0.10	1284.09	0.62	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4390	131.70	0.00	0.00	0.00	0.00	0.00	131.70	1414.03	0.10	1415.69	0.69	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4899	146.97	0.00	0.00	0.00	0.00	0.00	146.97	1448.47	0.10	1562.57	0.76	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5408	162.25	0.00	0.00	0.00	0.00	0.00	162.25	1486.90	0.10	1724.71	0.84	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5917	177.52	0.00	0.00	0.00	0.00	0.00	177.52	1529.33	0.11	1902.12	0.92	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5917	177.52	0.00	0.00	0.00	0.00	0.00	177.52	1575.76	0.11	2079.52	1.01	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6426	192.79	0.00	0.00	0.00	0.00	0.00	192.79	1622.18	0.11	2272.20	1.10	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6935	208.06	0.00	0.00	0.00	0.00	0.00	208.06	1672.60	0.12	2480.14	1.20	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9480	284.41	0.00	0.00	0.00	0.00	0.00	284.41	1727.02	0.12	2764.44	1.34	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2026	360.77	0.00	0.00	0.00	0.00	0.00	360.77	1801.42	0.13	3125.08	1.52	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3553	406.58	0.00	0.00	0.00	0.00	0.00	406.58	1895.79	0.13	3531.53	1.71	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.5080	452.40	0.00	0.00	0.00	0.00	0.00	452.40	2002.15	0.14	3983.78	1.93	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.7625	528.75	0.00	0.00	0.00	0.00	0.00	528.75	2120.50	0.15	4512.39	2.19	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.2206	666.19	0.00	0.00	0.00	0.00	0.00	666.19	2258.83	0.16	5178.42	2.51	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3372	101.16	0.00	0.00	0.00	0.00	0.00	101.16	2433.12	0.17	5279.41	2.56	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	2459.55	0.17	5292.99	2.57	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	2463.10	0.17	5301.98	2.57	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0255	7.64	0.00	0.00	0.00	0.00	0.00	7.64	2465.46	0.17	5309.44	2.58	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0153	4.58	0.00	0.00	0.00	0.00	0.00	4.58	2467.41	0.17	5313.85	2.58	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0102	3.05	0.00	0.00	0.00	0.00	0.00	3.05	2468.56	0.17	5316.73	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.32	0.17	5316.56	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.27	0.17	5316.39	2.58	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.23	0.17	5316.22	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.18	0.17	5316.05	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.14	0.17	5315.88	2.58	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.09	0.17	5315.71	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.05	0.17	5315.53	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.00	0.17	5315.36	2.58	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2468.96	0.17	5315.19	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2468.91	0.17	5315.02	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2468.87	0.17	5314.85	2.58	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2468.82	0.17	5314.68	2.58	0.00	0.00
					Total volume (cf)			5323.63								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1078.00	0.22	3.85	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1079.01	0.22	9.72	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1080.54	0.23	15.60	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1082.08	0.23	23.52	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1084.15	0.23	29.40	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1085.69	0.23	35.27	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1087.23	0.23	41.15	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1088.77	0.23	49.06	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1090.84	0.23	56.98	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1092.91	0.23	64.89	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1094.98	0.23	74.83	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1097.58	0.23	84.78	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1100.19	0.23	94.72	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1102.79	0.23	104.67	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1105.39	0.23	114.61	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0136	12.21	0.00	0.00	0.00	0.00	0.00	12.21	1107.99	0.23	126.59	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0136	12.21	0.00	0.00	0.00	0.00	0.00	12.21	1111.13	0.23	138.57	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0158	14.24	0.00	0.00	0.00	0.00	0.00	14.24	1114.26	0.23	152.58	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0158	14.24	0.00	0.00	0.00	0.00	0.00	14.24	1117.93	0.23	166.59	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0181	16.28	0.00	0.00	0.00	0.00	0.00	16.28	1121.59	0.23	182.63	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0136	12.21	0.00	0.00	0.00	0.00	0.00	12.21	1125.79	0.23	194.61	0.09	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0158	14.24	0.00	0.00	0.00	0.00	0.00	14.24	1128.93	0.24	208.62	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0181	16.28	0.00	0.00	0.00	0.00	0.00	16.28	1132.59	0.24	224.66	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0181	16.28	0.00	0.00	0.00	0.00	0.00	16.28	1136.79	0.24	240.70	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0203	18.31	0.00	0.00	0.00	0.00	0.00	18.31	1140.99	0.24	258.78	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0203	18.31	0.00	0.00	0.00	0.00	0.00	18.31	1145.72	0.24	276.85	0.13	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0226	20.35	0.00	0.00	0.00	0.00	0.00	20.35	1150.45	0.24	296.96	0.14	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0226	20.35	0.00	0.00	0.00	0.00	0.00	20.35	1155.71	0.24	317.07	0.15	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0226	20.35	0.00	0.00	0.00	0.00	0.00	20.35	1160.97	0.24	337.17	0.16	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0249	22.38	0.00	0.00	0.00	0.00	0.00	22.38	1166.23	0.24	359.31	0.17	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0271	24.42	0.00	0.00	0.00	0.00	0.00	24.42	1172.03	0.24	383.49	0.19	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0294	26.45	0.00	0.00	0.00	0.00	0.00	26.45	1178.35	0.25	409.69	0.20	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0339	30.52	0.00	0.00	0.00	0.00	0.00	30.52	1185.21	0.25	439.97	0.21	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0339	30.52	0.00	0.00	0.00	0.00	0.00	30.52	1193.13	0.25	470.24	0.23	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0362	32.56	0.00	0.00	0.00	0.00	0.00	32.56	1201.06	0.25	502.55	0.24	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0384	34.59	0.00	0.00	0.00	0.00	0.00	34.59	1209.51	0.25	536.89	0.26	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1218.50	0.25	575.29	0.28	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0452	40.70	0.00	0.00	0.00	0.00	0.00	40.70	1228.55	0.26	615.73	0.30	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0475	42.73	0.00	0.00	0.00	0.00	0.00	42.73	1239.13	0.26	658.21	0.32	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0497	44.77	0.00	0.00	0.00	0.00	0.00	44.77	1250.24	0.26	702.71	0.34	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0339	30.52	0.00	0.00	0.00	0.00	0.00	30.52	1261.89	0.26	732.97	0.36	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0339	30.52	0.00	0.00	0.00	0.00	0.00	30.52	1269.81	0.26	763.23	0.37	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0452	40.70	0.00	0.00	0.00	0.00	0.00	40.70	1277.73	0.27	803.66	0.39	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0452	40.70	0.00	0.00	0.00	0.00	0.00	40.70	1288.31	0.27	844.09	0.41	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1298.89	0.27	882.48	0.43	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1308.93	0.27	920.86	0.45	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0384	34.59	0.00	0.00	0.00	0.00	0.00	34.59	1318.98	0.27	955.18	0.46	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0407	36.63	0.00	0.00	0.00	0.00	0.00	36.63	1327.96	0.28	991.53	0.48	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0565	50.87	0.00	0.00	0.00	0.00	0.00	50.87	1337.47	0.28	1042.12	0.51	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0588	52.90	0.00	0.00	0.00	0.00	0.00	52.90	1350.71	0.28	1094.75	0.53	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0697	62.69	0.00	0.00	0.00	0.00	0.00	62.69	1364.48	0.28	1157.15	0.56	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.1008	90.69	0.00	0.00	0.00	0.00	0.00	90.69	1380.81	0.29	1247.55	0.61	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2222	199.99	0.00	0.00	0.00	0.00	0.00	199.99	1404.47	0.29	1447.24	0.70	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2305	207.45	0.00	0.00	0.00	0.00	0.00	207.45	1456.72	0.30	1654.39	0.80	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0520	46.80	0.00	0.00	0.00	0.00	0.00	46.80	1510.93	0.31	1700.87	0.83	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0520	46.80	0.00	0.00	0.00	0.00	0.00	46.80	1523.09	0.32	1747.35	0.85	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0965	86.81	0.00	0.00	0.00	0.00	0.00	86.81	1535.26	0.32	1833.85	0.89	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0817	73.53	0.00	0.00	0.00	0.00	0.00	73.53	1557.89	0.32	1907.06	0.93	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0894	80.50	0.00	0.00	0.00	0.00	0.00	80.50	1577.05	0.33	1987.23	0.96	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0745	67.01	0.00	0.00	0.00	0.00	0.00	67.01	1598.03	0.33	2053.91	1.00	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0594	53.43	0.00	0.00	0.00	0.00	0.00	53.43	1615.48	0.34	2107.00	1.02	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0520	46.80	0.00	0.00	0.00	0.00	0.00	46.80	1629.37	0.34	2153.46	1.05	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1641.53	0.34	2191.78	1.06	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1651.56	0.34	2230.10	1.08	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1661.59	0.35	2237.89	1.09	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1663.62	0.35	2245.68	1.09	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1665.66	0.35	2251.44	1.09	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1667.17	0.35	2257.20	1.10	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1668.68	0.35	2267.02	1.10	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1671.25	0.35	2276.85	1.11	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1673.82	0.35	2286.67	1.11	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1676.39	0.35	2294.46	1.11	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1678.43	0.35	2302.25	1.12	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1680.47	0.35	2310.04	1.12	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1682.51	0.35	2315.79	1.12	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1684.01	0.35	2319.51	1.13	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1684.99	0.35	2325.27	1.13	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1686.49	0.35	2333.05	1.13	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1688.53	0.35	2338.81	1.14	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1690.03	0.35	2342.52	1.14	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1691.01	0.35	2348.28	1.14	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1692.51	0.35	2354.03	1.14	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1694.02	0.35	2359.78	1.15	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1695.52	0.35	2363.50	1.15	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1696.50	0.35	2369.25	1.15	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1698.00	0.35	2372.96	1.15	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1698.97	0.35	2378.71	1.15	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1700.48	0.35	2382.43	1.16	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1701.45	0.35	2388.18	1.16	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1702.95	0.35	2391.89	1.16	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1703.93	0.35	2395.61	1.16	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1704.90	0.36	2399.32	1.16	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1705.87	0.36	2403.04	1.17	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1706.84	0.36	2406.75	1.17	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1707.81	0.36	2410.47	1.17	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1708.79	0.36	2414.18	1.17	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1709.76	0.36	2413.82	1.17	0.00	0.00
						Total volume (cf)		2442.09									Total Overflow (cf)		0.00	

EXHIBITS

PRELIMINARY HYDROLOGY PLAN
TENTATIVE TRACT MAP NO. 38971

A PORTION OF THE NW QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

LEGEND:

- - - - LOT WATERSHEDS

NORTH

0 50' 100' 150' 200'

SCALE 1"=50'

PRELIMINARY

DATE: 07/09/2024

DIGALERT — DIAL BEFORE YOU DIG — TOLL FREE 1-800-227-2600 — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — PHILLIP K. FOMOTOR — No. 47284 — CIVIL — STATE OF CALIFORNIA

FOR REVIEW PURPOSES ONLY DATE: _____

PHILLIP K. FOMOTOR PE., PLS.
R.C.E. NO. 47284

PRELIMINARY HYDROLOGY PLAN FOR TENTATIVE TRACT MAP NO. 38971

PREPARED BY:
FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1842 FAX (760) 323-1742

Project Specific
Preliminary Water Quality Management Plan

For: **Tentative Tract Map 38971**

Located on: Peterson Road, Rancho Mirage, CA 92270

DEVELOPMENT NO. APNs: 689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022
DESIGN REVIEW NO. **XX-XXX**

Prepared for:
Horti Caesaris LLC
9401 Wilshire Blvd., 12th Floor
Beverly Hills, CA 90212-2928
Telephone: 30(210)812-8242

Prepared by:
Phillip Fomotor, PE
Fomotor Engineering
225 S. Civic Drive, Suite 1-5
Palm Springs, CA 92262
Telephone: 760-323-1842

Original Date Prepared: July 9, 2024

Revision Date(s): N/A

OWNER'S CERTIFICATION

This project-specific Water Quality Management Plan (WQMP) has been prepared for:

Horti Caesaris LLC
for the project known as: Tentative Tract Map 38971, located on Peterson Road, in the City of Rancho Mirage, County of Riverside, California.

This WQMP is intended to comply with the requirements of The **City of Rancho Mirage** for the proposed development of an approximately 20.05 acre residential development at: APNs: 689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022, on Peterson Road, in the **City of Rancho Mirage**, which includes the requirement for the preparation and implementation of a project-specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity.

The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under **City of Rancho Mirage** Water Quality Ordinance (Municipal Code Section 7.03.110).

If the undersigned transfers its interest in the subject property/project, the undersigned shall notify the successor in interest of its responsibility to implement this WQMP.

"I, the undersigned, certify under penalty of law that I am the owner of the property that is the subject of this WQMP, and that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

_____
Owner's Signature

_____
Owner's Printed Name

_____
Owner's Title/Position

_____
Date

Peterson Road,
Rancho Mirage, CA 92270
30(210)-812-8242

ATTEST

_____
Notary Signature

_____
Printed Name

_____
Title/Position

_____
Date

THIS FORM SHALL BE NOTARIZED BEFORE ACCEPTANCE OF THE FINAL PROJECT SPECIFIC WQMP

July 9, 2024

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I. PROJECT-SPECIFIC WQMP SUMMARY DATA FORM

I. Project Description

Project Owner:
Horti Caesaris LLC
9401 Wilshire Blvd., 12th Floor
Beverly Hills, CA 90212-2928
Telephone: 30(210)-812-8242

WQMP Preparer: Phillip Fomotor, PE / Fomotor Engineering

225 S. Civic Drive, Suite 1-5

Palm Springs, CA 92262

760-323-1842

Project Site Address: Peterson Road
Rancho Mirage, CA 92270

Planning Area/
Community Name/
Development Name: **Tentative Tract Map 38971**

APN Number(s): 689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022

Latitude & Longitude: **33.765845, -116.438374**

Receiving Water: **Project Watershed: Whitewater River**

Sub-Watershed: N/A

Project Site Size: **20.05 acres**

Standard Industrial Classification (SIC) Code: **6513**

Formation of Home Owners' Association (HOA)
or Property Owners Association (POA): Y ☒ N ☐

Additional Permits/Approvals required for the Project:

AGENCY	Permit required
State Department of Fish and Wildlife, Fish and Game Code §1602 Streambed Alteration Agreement	Y ☐ N☒
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Certification	Y ☐ N☒
US Army Corps of Engineers, CWA Section 404 permit	Y ☐ N☒
US Fish and Wildlife, Endangered Species Act Section 7 biological opinion	Y ☐ N☒
Statewide Construction General Permit Coverage	Y ☐ N☒
Statewide Industrial General Permit Coverage	Y ☐ N☒
Other *(please list in the space below as required)*	
City of Rancho Mirage Grading & Building Permits	Y ☒ N☐
CVWD Permits	Y ☒ N☐

PROJECT DESCRIPTION

The proposed project consists of a 20.05 acre proposed residential development, which is located on: Peterson Road, in the City of Rancho Mirage, CA. The 20.05 acre project area (APNs: 689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022) on: Peterson Road, in the City of Rancho Mirage, CA is currently vacant.

The now vacant lots (APNs: 689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022) are proposed to have new houses with access driveways, individual surface retention basins, and landscaping.

Construction equipment and materials will consist of typical striping, asphalt and concrete construction materials, and associated equipment for installation. All construction equipment and materials will be stored on APNs: 689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022. No hazardous materials will be allowed to be stored on the property.

Appendix A of this project-specific WQMP includes a complete copy of the final Conditions of Approval. Appendix B of this project-specific WQMP includes:

a. A Vicinity Map identifying the project site and surrounding planning areas in sufficient detail; and

b. A Site Plan for the project. The Site Plan included as part of Appendix B depicts the following project features:

- Location and identification of all structural BMPs, including Source Control, LID/Site Design and Treatment Control BMPs.
- Landscaped areas.
- Paved areas and intended uses (i.e., parking, outdoor work area, outdoor material storage area, sidewalks, patios, tennis courts, etc.).
- Number and type of structures and intended uses (i.e., buildings, tenant spaces, dwelling units, community facilities such as pools, recreation facilities, tot lots, etc.).
- Infrastructure (i.e., streets, storm drains, etc.) that will revert to public agency ownership and operation.
- Location of existing and proposed public and private storm drainage facilities (i.e., storm drains, channels, basins, etc.), including catch basins and other inlets/outlet structures. Existing and proposed drainage facilities should be clearly differentiated.
- Location(s) of Receiving Waters to which the project directly or indirectly discharges.
- Location of points where onsite (or tributary offsite) flows exit the property/project site.
- Delineation of proposed drainage area boundaries, including tributary offsite areas, for each location where flows exit the project site and existing site (where existing site flows are required to be addressed). Each tributary area should be clearly denoted.

- Pre- and post-project topography.

Appendix I is a one page form that summarizes pertinent information relative to this project-specific WQMP.

II. Site Characterization

Land Use Designation or Zoning:	Existing R-E Proposed R-E
Current Property Use:	**The parcels are currently vacant.**
Proposed Property Use:	**A new housing development, new access driveways, individual surface retention basins, and landscaping.**
Availability of Soils Report:	Y ☒ N ☐ *Note: A soils report is required if infiltration BMPs are utilized. Attach report in Appendix E.*
Phase 1 Site Assessment:	Y ☐ N ☒ *Note: If prepared, attached remediation summary and use restrictions in Appendix H.*

Receiving Waters for Urban Runoff from Site

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use Designated Receiving Waters
Whitewater River	None Listed	MUN, AGR, GWR, REC I, REC II, WARM, COLD, POW	N/A
Coachella Valley Storm Water Channel	Pathogens, Toxaphene	FRSH, REC I, REC II, WARM, WILD, RARE	11 Miles
Salton Sea	Salinity, Selenium	MUN, AGR	31 Miles

III. Pollutants of Concern

Table 1. Pollutant of Concern Summary

Pollutant Category	Potential for Project and/or Existing Site	Causing Receiving Water Impairment
Bacteria/Virus	Yes	Yes
Heavy Metals	No	No
Nutrients	No	No
Pesticides	Yes	No
Toxic Organic Compounds	Yes	No
Sediment/Turbidity	No	No
Trash & Debris	Yes	No
Oxygen Demanding Substances	No	No
Oil & Grease	Yes	No
Toxaphene	No	No
PCBs	No	No
Dieltrin	No	No
DDT	No	No

IV. Hydrologic Conditions of Concern

Local Jurisdiction Requires On-Site Retention of Urban Runoff:

Yes ☒ The project will be required to retain urban runoff onsite in conformance with local ordinance (See Table 6 of the WQMP Guidance document, "Local Land use Authorities Requiring Onsite Retention of Stormwater"). This section does not need to be completed; however, retention facility design details and sizing calculations must be included in Appendix F.

No ☐ This section must be completed.

This Project meets the following condition:

☐ **Condition A**: 1) Runoff from the Project is discharged directly to a publicly-owned, operated and maintained MS4 or engineered and maintained channel, 2) the discharge is in full compliance with local land use authority requirements for connections and discharges to the MS4 (including both quality and quantity requirements), 3) the discharge would not significantly impact stream habitat in proximate Receiving Waters, **and** 4) the discharge is authorized by the local land use authority.

☐ **Condition B**: The project disturbs less than 1 acre and is not part of a larger common plan of development that exceeds 1 acre of disturbance. The disturbed area calculation must include all disturbances associated with larger plans of development.

☐ **Condition C**: The project's runoff flow rate, volume, velocity and duration for the post-development condition do not exceed the pre-development condition for the 2-year, 24-hour and 10-year 24-hour rainfall events. This condition can be achieved by, where applicable, complying with the local land use authority's on-site retention ordinance, or minimizing impervious area on a site and incorporating other Site-Design BMP concepts and LID/Site Design BMPs that assure non-exceedance of pre-development conditions. This condition must be substantiated by hydrologic modeling methods acceptable to the local land use authority.

☐ **None:** Refer to Section 3.4 of the Whitewater River Region WQMP Guidance document for additional requirements.

Supporting engineering studies, calculations, and reports are included in Appendix C.

	2 year – 24 hour		10 year – 24 hour	
	Precondition	**Post-condition**	**Precondition**	**Post-condition**
Discharge (cfs)				
Velocity (fps)				
Volume (cubic feet)				
Duration (minutes)				

V. Best Management Practices

This project implements Best Management Practices (BMPs) to address the Pollutants of Concern that may potentially be generated from the use of the project site. These BMPs have been selected and implemented to comply with Section 3.5 of the WQMP Guidance document, and consist of Site Design BMP concepts, Source Control, LID/Site Design and, if/where necessary, Treatment Control BMPs as described herein.

V.1 Site Design BMP Concepts, LID/Site Design and Treatment Control BMPs

Local Jurisdiction Requires On-Site Retention of Urban Runoff:

Yes ☒ The project will be required to retain Urban Runoff onsite in conformance with local ordinance (See Table 6 of the WQMP Guidance document, "Local Land use Authorities Requiring Onsite Retention of Stormwater). **The LID/Site Design measurable goal has thus been met (100%), and Sections V.1.A and V.1.B do not need to be completed**; however, retention facility design details and sizing calculations must be included in Appendix F, and '100%' should be entered into Column 3 of Table 6 below.

No ☐ Section V.1 must be completed.

This section of the Project-Specific WQMP documents the LID/Site Design BMPs and, if/where necessary, the Treatment Control BMPs that will be implemented on the project to meet the requirements detailed within Section 3.5.1 of the WQMP Guidance document. Section 3.5.1 includes requirements to implement Site Design Concepts and BMPs, and includes requirements to address Pollutants of Concern with BMPs. Further, sub-section 3.5.1.1 specifically requires that Pollutants of Concern be addressed with LID/Site Design BMPs to the extent feasible.

LID/Site Design BMPs are those BMPs listed within Table 2 below which promote retention and/or feature a natural treatment mechanism; off-site and regionally-based BMPs are also LID/Site Design BMPs, and therefore count towards the measurable goal, if they fit these criteria. This project incorporates LID/Site Design BMPs to fully address the Treatment Control BMP requirement where and to the extent feasible. If and where it has been acceptably demonstrated to the local land use authority that it is infeasible to fully meet this requirement with LID/Site Design BMPs, Section V.1.B (below) includes a description of the conventional Treatment Control BMPs that will be substituted to meet the same requirements.

In addressing Pollutants of Concern, BMPs are selected using Table 2 below.

Table 2. BMP Selection Matrix Based Upon Pollutant of Concern Removal Efficiency [1]

(Sources: Riverside County Flood Control & Water Conservation District Design Handbook for Low Impact Development Best Management Practices, dated September 2011, the Orange County Technical Guidance Document for Water Quality Management Plans, dated May 19, 2011, and the Caltrans Treatment BMP Technology Report, dated April 2010 and April 2008)

Pollutant of Concern	Landscape Swale[2, 3]	Landscape Strip[2, 3]	Biofiltration (with underdrain)[2, 3]	Extended Detention Basin[2]	Sand Filter Basin[2]	Infiltration Basin[2]	Infiltration Trench[2]	Permeable Pavement[2]	Bioretention (w/o underdrain)[2, 3]	Other BMPs Including Proprietary BMPs[4, 6]
Sediment & Turbidity	M	M	H	M	H	H	H	H	H	Varies by Product[5]
Nutrients	L/M	L/M	M	L/M	L/M	H	H	H	H	
Toxic Organic Compounds	M/H	M/H	M/H	L	L/M	H	H	H	H	
Trash & Debris	L	L	H	H	H	H	H	L	H	
Bacteria & Viruses (also: Pathogens)	L	M	H	L	M	H	H	H	H	
Oil & Grease	M	M	H	M	H	H	H	H	H	
Heavy Metals	M	M/H	M/H	L/M	M	H	H	H	H	

Abbreviations:

L: Low removal efficiency M: Medium removal efficiency H: High removal efficiency

Notes:

(1) Periodic performance assessment and updating of the guidance provided by this table may be necessary.

(2) Expected performance when designed in accordance with the most current edition of the document, "Riverside County, Whitewater River Region Stormwater Quality Best Management Practice Design Handbook".

(3) Performance dependent upon design which includes implementation of thick vegetative cover. Local water conservation and/or landscaping requirements should be considered; approval is based on the discretion of the local land use authority.

(4) Includes proprietary stormwater treatment devices as listed in the CASQA Stormwater Best Management Practices Handbooks, other stormwater treatment BMPs not specifically listed in this WQMP (including proprietary filters, hydrodynamic separators, inserts, etc.), or newly developed/emerging stormwater treatment technologies.

(5) Expected performance should be based on evaluation of unit processes provided by BMP and available testing data. Approval is based on the discretion of the local land use authority.

(6) When used for primary treatment as opposed to pre-treatment, requires site-specific approval by the local land use authority.

V.1.A SITE DESIGN BMP CONCEPTS AND LID/SITE DESIGN BMPS

This section documents the Site Design BMP concepts and LID/Site Design BMPs that will be implemented on this project to comply with the requirements detailed in Section 3.5.1 of the WQMP Guidance document.

- Table 3 herein documents the implementation of the Site Design BMP Concepts described in sub-sections 3.5.1.3 and 3.5.1.4.
- Table 4 herein documents the extent to which this project has implemented the LID/Site Design goals described in sub-section 3.5.1.1.

Table 3. Implementation of Site Design BMP Concepts

Design Concept	Technique	Specific BMP	Included			Brief Reason for BMPs Indicated as No or N/A
			Yes	No	N/A	
Site Design BMP Concept 1	**Minimize Urban Runoff, Minimize Impervious Footprint, and Conserve Natural Areas (See WQMP Section 3.5.1.3)**	Conserve natural areas by concentrating or clustering development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition.	☐	☐	☐	
		Conserve natural areas by incorporating the goals of the Multi-Species Habitat Conservation Plan or other natural resource plans.	☐	☐	☐	
		Preserve natural drainage features and natural depressional storage areas on the site.	☐	☐	☐	
		Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.	☐	☐	☐	
		Use natural drainage systems.	☐	☐	☐	
		Where applicable, incorporate Self-Treating Areas	☐	☐	☐	
		Where applicable, incorporate Self-Retaining Areas	☐	☐	☐	
		Increase the building floor to area ratio (i.e., number of stories above or below ground).	☐	☐	☐	
		Construct streets, sidewalks and parking lot aisles to minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.	☐	☐	☐	
		Reduce widths of streets where off-street parking is available.	☐	☐	☐	
		Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.	☐	☐	☐	
		Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept).	☐	☐	☐	

Table 3. Site Design BMP Concepts (continued)

Design Concept	Technique	Specific BMP	Included			Brief Reason for Each BMP Indicated as No or N/A
			Yes	No	N/A	
Site Design BMP Concept 2	**Minimize Directly Connected Impervious Area (See WQMP Section 3.5.1.4)**	Design residential and commercial sites to contain and infiltrate roof runoff, or direct roof runoff to landscaped swales or buffer areas.	☐	☐	☐	
		Drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping.	☐	☐	☐	
		Incorporate landscaped buffer areas between sidewalks and streets.	☐	☐	☐	
		Use natural or landscaped drainage swales in lieu of underground piping or imperviously lined swales.	☐	☐	☐	
		Where soil conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration.	☐	☐	☐	
		Maximize the permeable area by constructing walkways, trails, patios, overflow parking, alleys, driveways, low-traffic streets, and other low-traffic areas with open-jointed paving materials or permeable surfaces such as pervious concrete, porous asphalt, unit pavers, and granular materials.	☐	☐	☐	
		Use one or more of the following:				
		Rural swale system: street sheet flows to landscaped swale or gravel shoulder, curbs used at street corners, and culverts used under driveways and street crossings.	☐	☐	☐	
		Urban curb/swale system: street slopes to curb; periodic swale inlets drain to landscaped swale or biofilter.	☐	☐	☐	
		Dual drainage system: first flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder; high flows connect directly to MS4s.	☐	☐	☐	
		Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept).	☐	☐	☐	
		Use one or more of the following for design of driveways and private residential parking areas:				
		Design driveways with shared access, flared (single lane at street), or wheel strips (paving only under the tires).	☐	☐	☐	
		Uncovered temporary or guest parking on residential lots paved with a permeable surface, or designed to drain into landscaping.	☐	☐	☐	

Table 3. Site Design BMP Concepts (continued)

Design Concept	Technique	Specific BMP	Included: Yes	Included: No	Included: N/A	Brief Reason for Each BMP Indicated as No or N/A
Site Design BMP Concept 2 (cont'd)	**Minimize Directly Connected Impervious Area (See WQMP Section 3.5.1.4)**	Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept).	☐	☐	☐	
		Use one or more of the following for design of parking areas:				
		Where landscaping is proposed in parking areas, incorporate parking area landscaping into the drainage design.	☐	☐	☐	
		Overflow parking (parking stalls provided in excess of the Permittee's minimum parking requirements) may be constructed with permeable pavement.	☐	☐	☐	
		Other comparable and equally effective Site Design BMP (or BMPs) as approved by the local land use authority (Note: Additional narrative required describing BMP and how it addresses site design concept).	☐	☐	☐	

Project Site Design BMP Concepts:

n/a

Alternative Project Site Design BMP Concepts:

n/a

Table 4. LID/Site Design BMPs Meeting the LID/Site Design Measurable Goal

(1) DRAINAGE SUB-AREA ID OR NO.	(2) LID/SITE DESIGN BMP TYPE* (See Table 2)	(3) POTENTIAL POLLUTANTS OF CONCERN WITHIN DRAINAGE SUB-AREA (Refer to Table 1)	(4) POTENTIAL POLLUTANTS WITHIN SUB-AREA CAUSING RECEIVING WATER IMPAIRMENTS (Refer to Table 1)	(5) EFFECTIVENESS OF LID/SITE DESIGN BMP AT ADDRESSING IDENTIFIED POTENTIAL POLLUTANTS (U, L, M, H/M, H; see Table 2)	(6) BMP MEETS WHICH DESIGN CRITERIA? (Identify as V_{BMP} OR Q_{BMP})	(7) TOTAL AREA WITHIN DRAINAGE SUB-AREA (Nearest 0.1 acre)
TOTAL PROJECT AREA TREATED WITH LID/SITE DESIGN BMPs (NEAREST 0.1 ACRE)						20.1

*** LID/Site Design BMPs listed in this table are those that completely address the 'Treatment Control BMP requirement' for their drainage sub-area.**

Justification of infeasibility for sub-areas not addressed with LID/Site Design BMPs

n/a

V.1.B TREATMENT CONTROL BMPS

Conventional Treatment Control BMPs shall be implemented to address the project's Pollutants of Concern as required in WQMP Section 3.5.1 where, and to the extent that, Section V.1.A has demonstrated that it is infeasible to meet these requirements through implementation of LID/Site Design BMPs.

☒ The LID/Site Design BMPs described in Section V.1.A of this project-specific WQMP completely address the 'Treatment Control BMP requirement' for the entire project site (and where applicable, entire existing site) as required in Section 3.5.1.1 of the WQMP Guidance document. Supporting documentation for the sizing of these LID/Site Design BMPs is included in Appendix F. ***Section V.1.B does not need to be completed**.

☐ The LID/Site Design BMPs described in Section V.1.A of this project-specific WQMP do **NOT** completely address the 'Treatment Control BMP requirement' for the entire project site (or where applicable, entire existing site) as required in Section 3.5.1.1 of the WQMP. ***Section V.1.B must be completed.**

The Treatment Control BMPs identified in this section are selected, sized and implemented to treat the design criteria of V_{BMP} and/or Q_{BMP} for all project (and if required, existing site) drainage sub-areas which were not fully addressed using LID/Site Design BMPs. Supporting documentation for the sizing of these Treatment Control BMPs is included in Appendix F.

Table 5: Treatment Control BMP Summary

(1) DRAINAGE SUB-AREA ID OR NO.	(2) TREATMENT CONTROL BMP TYPE* (See Table 2)	(3) POTENTIAL POLLUTANTS OF CONCERN WITHIN DRAINAGE SUB-AREA (Refer to Table 1)	(4) POTENTIAL POLLUTANTS WITHIN SUB-AREA CAUSING RECEIVING WATER IMPAIRMENTS (Refer to Table 1)	(5) EFFECTIVENESS OF TREATMENT CONTROL BMP AT ADDRESSING IDENTIFIED POTENTIAL POLLUTANTS (U, L, M, H/M, H; see Table 2)	(6) BMP MEETS WHICH DESIGN CRITERIA? (Identify as V_{BMP} OR Q_{BMP})	(7) TOTAL AREA WITHIN DRAINAGE SUB-AREA (Nearest 0.1 acre)
	TOTAL PROJECT AREA TREATED WITH TREATMENT CONTROL BMPs (NEAREST 0.1 ACRE)					20.1

V.1.C MEASURABLE GOAL SUMMARY

This section documents the extent to which this project has met the measurable goal described in WQMP Section 3.5.1.1 of addressing 100% of the project's 'Treatment Control BMP requirement' with LID/Site Design BMPs. Projects required to retain Urban Runoff onsite in conformance with local ordinance are considered to have met the measurable goal; for these instances, '100%' is entered into Column 3 of the Table.

Table 6: Measurable Goal Summary

(1) **Total Area Treated with <u>LID/Site Design</u> BMPs** **(Last row of Table 4)**	(2) **Total Area Treated with <u>Treatment Control</u> BMPs** **(Last row of Table 5)**	(3) **% of Treatment Control BMP Requirement addressed with LID/Site Design BMPs**
20.05AC	0	100%

V.2 SOURCE CONTROL BMPS

This section identifies and describes the Source Control BMPs applicable and implemented on this project.

Table 7. Source Control BMPs

BMP Name	Check One		If not applicable, state brief reason
	Included	Not Applicable	
Non-Structural Source Control BMPs			
Education for Property Owners, Operators, Tenants, Occupants, or Employees	☒	☐	
Activity Restrictions	☒	☐	
Irrigation System and Landscape Maintenance	☒	☐	
Common Area Litter Control	☐	☒	N/A
Street Sweeping Private Streets and Parking Lots	☒	☐	
Drainage Facility Inspection and Maintenance	☒	☐	
Structural Source Control BMPs			
Storm Drain Inlet Stenciling and Signage	☒	☐	
Landscape and Irrigation System Design	☒	☐	
Protect Slopes and Channels	☐	☒	N/A
Provide Community Car Wash Racks	☐	☒	N/A
Properly Design*:			
Fueling Areas	☐	☒	N/A
Air/Water Supply Area Drainage	☐	☒	N/A
Trash Storage Areas	☐	☒	N/A
Loading Docks	☐	☒	N/A
Maintenance Bays	☐	☒	N/A
Vehicle and Equipment Wash Areas	☐	☒	N/A
Outdoor Material Storage Areas	☐	☒	N/A
Outdoor Work Areas or Processing Areas	☐	☒	N/A
Provide Wash Water Controls for Food Preparation Areas	☐	☒	N/A

*Details demonstrating proper design must be included in Appendix F.

Non-Structural Source Control BMPs

Education for Property Owners, Operators, or Employees

Practical informational materials to promote the prevention of Urban Runoff pollution is to be provided by the project proponent to the site occupants/tenants. These materials shall include general housekeeping practices that contribute to the protection of Urban Runoff quality and BMP's that eliminate or reduce pollution during subsequent property improvements. These materials can be obtained from the Permittee or at www.floodcontrol.co.riverside.ca.us/stormwater/

For employees and contractors maintaining the landscape and drainage facilities, BMP training and education programs must be provided by the HOA to all new employees within 6 months of hire date and annually thereafter. Employee training materials may be derived from educational materials available through the Permittee or from resources such as "Stormwater Best Management Practices Handbook for Industrial and Commerical" (CASQA, 2003). The most recent editions of the CASQA handbooks can be downloaded at www.cabmphandbooks.com.

Activity Restrictions

The HOA shall implement the following restrictions for the purpose of receiving water quality protection. The restrictions to be included therein shall include:

- Prohibiting the blowing, sweeping, or hosing of debris into streets, storm drain inlets or other conveyances.
- Require trash can and dumpster lids be closed at all times.
- Prohibit vehicle washing, maintenance, or repair within the project.

Irrigation System and Landscape Maintenance

- Maintenance of irrigation systems and landscaping shall be consistent with the Permittee's water conservation ordinance.
- Fertilizer and pesticide usage shall be consistent with the instructions contained on product labels and with regulations administered by California's Department of Pesticide Regulation.
- Provide regular landscape maintenance, including replacement of dead vegetation, repair of erosion rills, proper disposal of green waste.
- Provide regular irrigation system maintenance, including periodic testing and observation of the irrigation system to detect overspray, broken sprinkler heads, and other system failures.
- Provide weekly irrigation system and landscape area maintenance.
- Responsible party is the HOA for all areas.

Parking Lot Sweeping

- Private parking areas shall be swept at least quarterly, including just prior to the start of the rainy season (October 1st). The HOA is responsible for conducting the periodic sweeping.

Drainage Facility Inspection and Maintenance

- Routine maintenance of the privately owned on-site drainage facilities, including parking lot catch basins, storm drains, and retention systems, at a minimum shall take place in the late summer or early fall prior to the rainy season (October 1st). The drainage facilities must be cleaned if accumulated sediment/debris fills 25% or more of the sediment/debris storage capacity. Drainage facilities shall be inspected annually by the HOA and cleaning frequency shall be assessed.

Structural Source Control BMPs

Storm Drain Inlet Stenciling and Signage

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language (such as "NO DUMPING ONLY RAIN IN THE DRAIN") and/or graphical icons to discourage illegal dumping.
- The HOA is responsible for maintaining legibility of stencils and signs.

Landscape and Irrigation System Design

Final Project Landscape and Irrigation System Design plans are to employ rain shutoff devices to prevent irrigation during and after precipitation events.

Irrigation system to be designed for each landscape area's specific water requirements.

Use flow reducers or shutoff valves triggered by a pressure drop to control water loss due to broken sprinkler heads or lines.

The timing and application methods of irrigation water shall be designed to minimize the runoff of excess irrigation water into streets and storm drain catch basins.

Comply with Coachella Valley Water Agency and City of Rancho Mirage water conservation ordinances.

Final Landscape plans to:

- Utilize plants with similar water requirements, group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface infiltration.
- Use mulches in planter areas without ground cover to minimize sediment in runoff.
- Install appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant material where possible.
- Choose plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth.

Source-Control BMPS Not Required

There are no slopes or channels that will require protection. Community Car Wash Racks will not be necessary for this facility.

Appendix D includes copies of the educational materials (described in Section 3.5.2.1 of the WQMP Guidance document) that will be used in implementing this project-specific WQMP.

V.3 EQUIVALENT TREATMENT CONTROL BMP ALTERNATIVES

N/A

V.4 REGIONALLY-BASED BMPS

N/A

VI. Operation and Maintenance Responsibility for BMPs

Appendix G of this project-specific WQMP includes copies of CC&Rs, Covenant and Agreements, BMP Maintenance Agreement and/or other mechanisms used to ensure the ongoing operation, maintenance, funding, transfer and implementation of the project-specific WQMP requirements.

BMP	Operation and Maintenance Activities	BMP Start Date	Frequency	Parties Responsible	Records
Education for HOA, and Employees	Educational materials are included in this WQMP	At the completion of project	To HOA and Employees at the time of occupancy. To all new employees and contractors within 6 months of hire date and annually thereafter	HOA	Records of distribution and implementation of education materials shall be kept by the HOA.
Activity Restrictions	As outlined in this WQMP	For HOA and employees	Ongoing	HOA	N/A
Irrigation System and Landscape Maintenance	Inspect landscaping and irrigation systems and repair/replace if needed	At the completion of project	The landscaping and irrigation systems shall be monitored monthly	HOA	Records of Irrigation System and Landscape Maintenance shall be kept by the HOA.
Sweeping Parking Lots	Sweep onsite parking lot areas	At the completion of project	At least quarterly, including just prior to the start of the rainy season (October 1st).	HOA	N/A
Drainage Facility	Routine maintenance, including parking	At the completion of project	Maintenance annually as a minimum, just	HOA	Records of Drainage Facility

Inspection and Maintenance	lot catch basins, storm drains, and retention systems, cleaned if accumulated sediment/debris fills 25% or more of the sediment/debris storage capacity in the upper chamber		prior to the rainy season (October 1st). Inspect annually and cleaning frequency to be assessed. Inspect after a rain event		Inspection and Maintenance shall be kept by the HOA.
Storm Drain Inlet Stenciling and Signage	maintain legibility of stencils and signs	At the completion of project	Inspect annually	HOA	N/A
Landscape and Irrigation System Design	Maintain Landscape and Irrigation system in accordance with the original design	At the completion of project	Inspect and maintain weekly	HOA	N/A

VII. Funding

The HOA is responsible for funding the operation and maintenance of the BMP's outlined in this report

Appendix A

Conditions of Approval

To be added when available.

Appendix B

WQMP Site Plan, and Receiving Waters Map

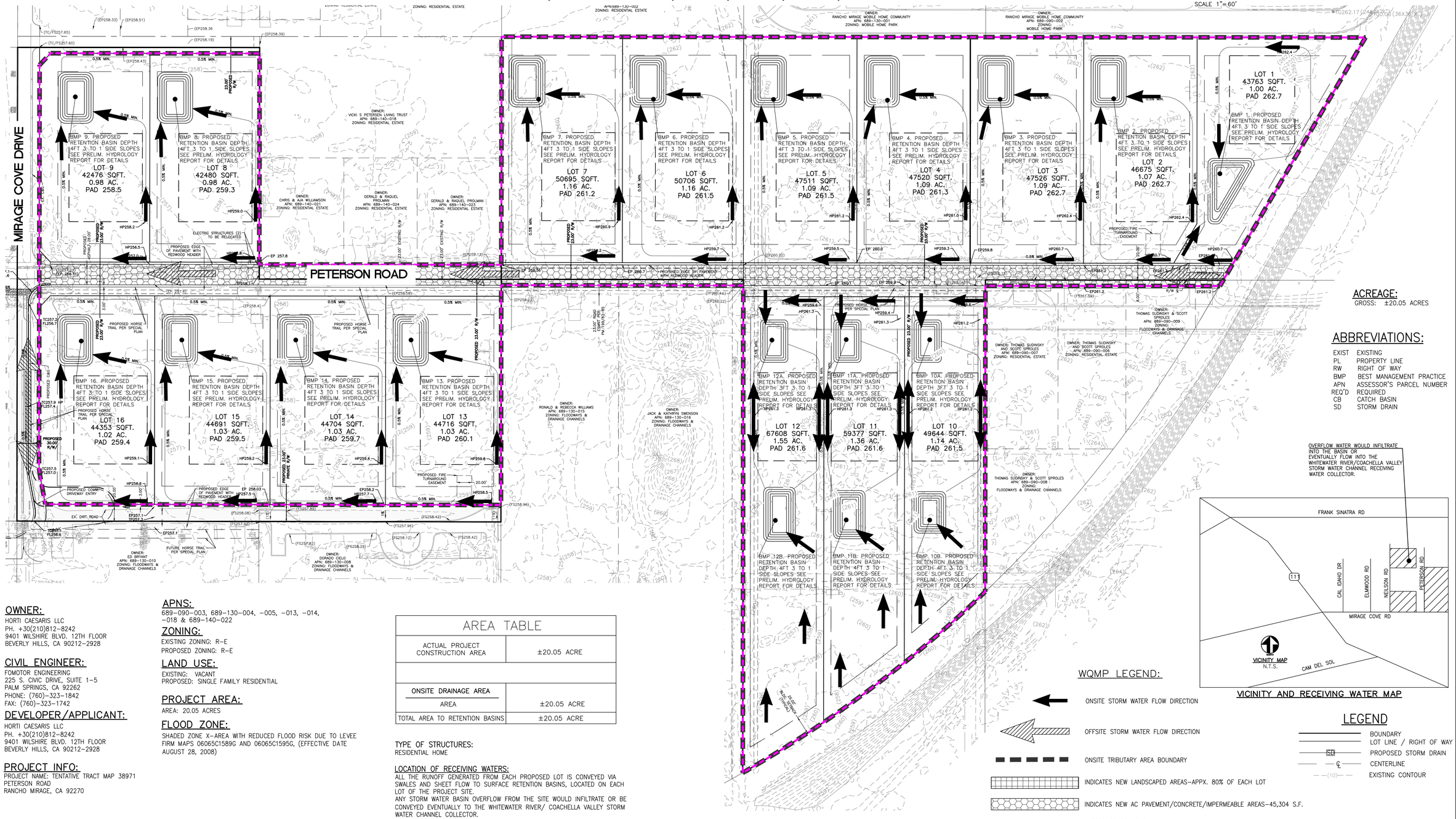
IN THE CITY OF RANCHO MIRAGE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

PRELIMINARY WQMP SITE PLAN

FOR

TENTATIVE TRACT MAP NO. 38971

APNS: 689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022



ACREAGE:

GROSS: ±20.05 ACRES

ABBREVIATIONS:

EXIST	EXISTING
PL	PROPERTY LINE
RW	RIGHT OF WAY
BMP	BEST MANAGEMENT PRACTICE
APN	ASSESSOR'S PARCEL NUMBER
REQ'D	REQUIRED
CB	CATCH BASIN
SD	STORM DRAIN

OVERFLOW WATER WOULD INFILTRATE INTO THE BASIN OR EVENTUALLY FLOW INTO THE WHITEWATER RIVER/COACHELLA VALLEY STORM WATER CHANNEL RECEIVING WATER COLLECTOR.

VICINITY AND RECEIVING WATER MAP

WQMP LEGEND:

- ONSITE STORM WATER FLOW DIRECTION
- OFFSITE STORM WATER FLOW DIRECTION
- ONSITE TRIBUTARY AREA BOUNDARY
- INDICATES NEW LANDSCAPED AREAS-APPX. 80% OF EACH LOT
- INDICATES NEW AC PAVEMENT/CONCRETE/IMPERMEABLE AREAS-45,304 S.F.
- WATERSHED BOUNDARY

LEGEND

- BOUNDARY
- LOT LINE / RIGHT OF WAY
- PROPOSED STORM DRAIN
- CENTERLINE
- EXISTING CONTOUR

OWNER:

HORTI CAESARIS LLC
PH. +30(210)812-8242
9401 WILSHIRE BLVD. 12TH FLOOR
BEVERLY HILLS, CA 90212-2928

CIVIL ENGINEER:

FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA 92262
PHONE: (760)-323-1842
FAX: (760)-323-1742

DEVELOPER/APPLICANT:

HORTI CAESARIS LLC
PH. +30(210)812-8242
9401 WILSHIRE BLVD. 12TH FLOOR
BEVERLY HILLS, CA 90212-2928

PROJECT INFO:

PROJECT NAME: TENTATIVE TRACT MAP 38971
PETERSON ROAD
RANCHO MIRAGE, CA 92270

APNS:

689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022

ZONING:

EXISTING ZONING: R-E
PROPOSED ZONING: R-E

LAND USE:

EXISTING: VACANT
PROPOSED: SINGLE FAMILY RESIDENTIAL

PROJECT AREA:

AREA: 20.05 ACRES

FLOOD ZONE:

SHADED ZONE X-AREA WITH REDUCED FLOOD RISK DUE TO LEVEE FIRM MAPS 06065C1589G AND 06065C1595G, (EFFECTIVE DATE AUGUST 28, 2008)

AREA TABLE	
ACTUAL PROJECT CONSTRUCTION AREA	±20.05 ACRE
ONSITE DRAINAGE AREA	
AREA	±20.05 ACRE
TOTAL AREA TO RETENTION BASINS	±20.05 ACRE

TYPE OF STRUCTURES:
RESIDENTIAL HOME

LOCATION OF RECEIVING WATERS:
ALL THE RUNOFF GENERATED FROM EACH PROPOSED LOT IS CONVEYED VIA SWALES AND SHEET FLOW TO SURFACE RETENTION BASINS, LOCATED ON EACH LOT OF THE PROJECT SITE.
ANY STORM WATER BASIN OVERFLOW FROM THE SITE WOULD INFILTRATE OR BE CONVEYED EVENTUALLY TO THE WHITEWATER RIVER/ COACHELLA VALLEY STORM WATER CHANNEL COLLECTOR.

PREPARED 07-09-2024

IMPORTANT NOTICE
CALL BEFORE YOU DIG
SECTION 4216 OF THE GOVERNMENT CODE REQUIRES AN INQUIRY IDENTIFICATION NUMBER BE ISSUED BEFORE A PERMIT TO EXCAVATE WILL BE VALID. FOR YOUR PRE-EXCAVATION I.D. NUMBER CALL:
UNDERGROUND SERVICE ALERT
TOLL FREE 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

ENGINEER: **FOMOTOR ENGINEERING**
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1842 FAX (760) 323-1742

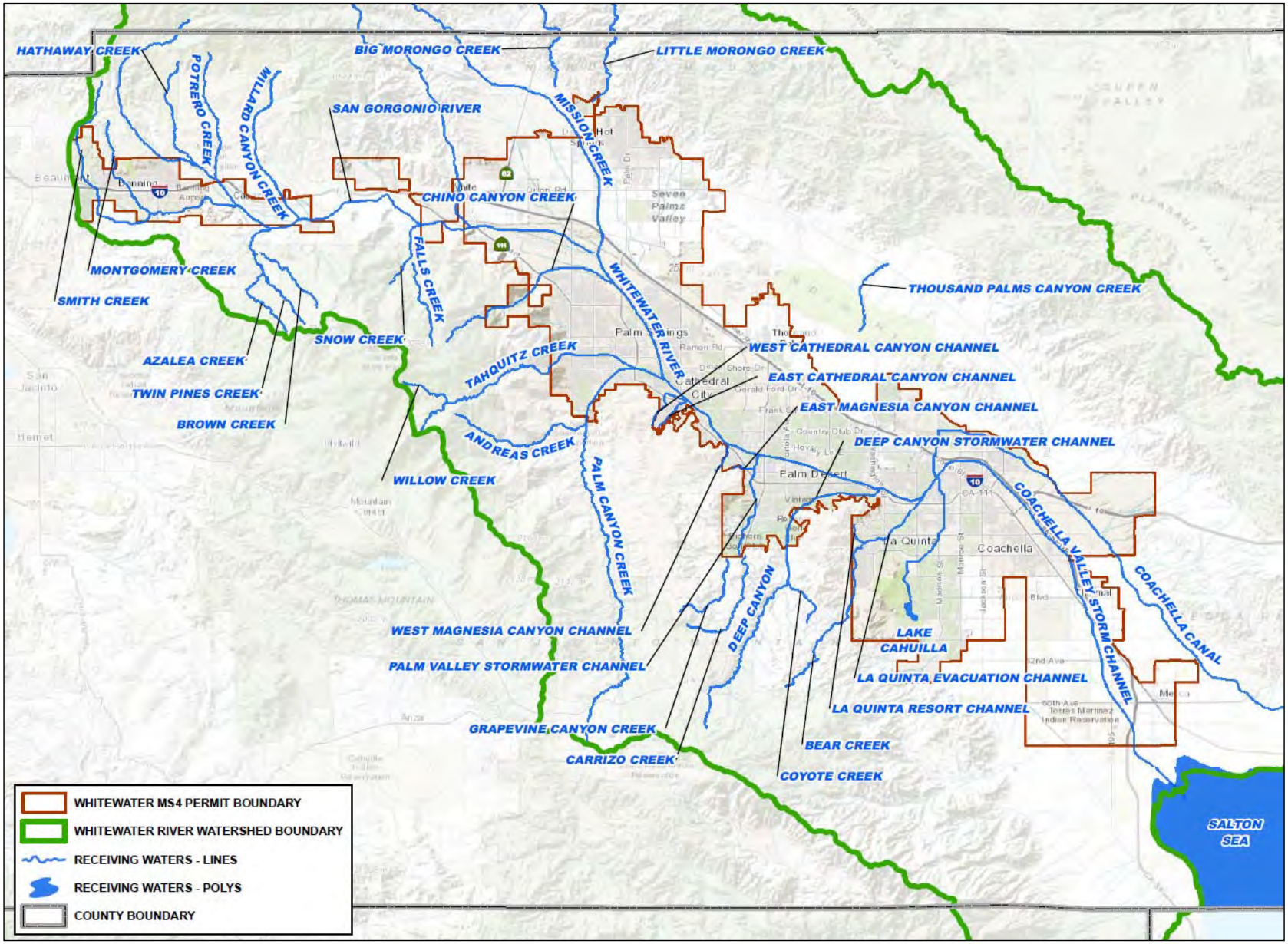
PREPARED UNDER THE DIRECT SUPERVISION OF:
PHILLIP K FOMOTOR, P.E. PLS. R.C.E. 47284 EXP. ____ DATE ____

CITY OF CATHEDRAL CITY

PROJECT DESCRIPTION
PRELIMINARY WQMP SITE PLAN
FOR
TENTATIVE TRACT MAP NO. 38971

SHEET 1
OF 1
PRIVATE REFERENCE #
CITY REFERENCE #

Figure 2. Whitewater River Region Receiving Waters Map



Appendix C

Supporting Detail Related to Hydrologic Conditions of Concern

See App. “F” For Hydrology Study and BMP sizing calculations

NOT APPLICABLE

Appendix D

Educational Materials

Helpful telephone numbers and links:

WATER AGENCY LIST in Riverside County

City of Banning	(951) 922-3130
City of Beaumont	(951) 769-8520
City of Blythe	(760) 922-6161
City of Coachella	(760) 398-3502
Coachella Valley Water District	(760) 398-2651
City of Corona	(951) 736-2259
Desert Center, CSA #51	(760) 227-3203
Eastern Municipal Water District	(951) 928-3777
Elsinore Valley MWD	(951) 674-3146
Farm Mutual Water Company	(951) 244-4198
City of Hemet	(951) 765-3712
Idyllwild Water District	(951) 659-2143
Jurupa Community Services District	(951) 360-8795
Lake Hemet MWD	(951) 658-3241
Lee Lake Water District	(951) 277-1414
March Air Force Base	(951) 656-7000
Mission Springs Water District	(760) 329-6448
City of Palm Springs	(760) 323-8253
Rancho Caballero	(951) 780-9272
Rancho California Water District	(951) 296-6900
Ripley, CSA #62	(760) 922-4951
City of Riverside	(951) 351-6170
Rubidoux Services District	(951) 684-7580
Silent Valley Club, Inc	(951) 849-4501
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(951) 789-5000
Yucaipa Valley Water District	(909) 797-5117

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555 or online at
www.rcflood.org

Online resources include:

- Riverside County Flood Control and Water Conservation District **www.rcflood.org**
- California Storm Water Quality Association **www.casqa.org**
- State Water Resources Control Board **www.swrcb.ca.gov/**
- Power Washers of North America **www.thepwna.org**

StormWater Pollution

What you should know for...

OUTDOOR CLEANING ACTIVITIES AND PROFESSIONAL MOBILE SERVICE PROVIDERS

Storm drain pollution prevention information for:

- Car Washing / Mobile Detailers
- Window and Carpet Cleaners
- Power Washers
- Waterproofers / Street Sweepers
- Equipment cleaners or degreasers and all mobile service providers

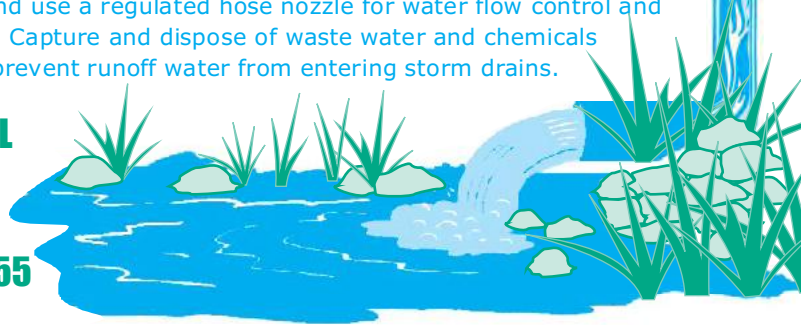
Do you know where street flows actually go?

Storm Drains are NOT connected to sanitary sewer systems and treatment plants!

The primary purpose of storm drains is to carry rain water away from developed areas to prevent flooding. Pollutants discharged to storm drains are transported directly into rivers, lakes and streams. Soaps, degreasers, automotive fluids, litter and a host of materials are washed off buildings, sidewalks, plazas and parking areas. Vehicles and equipment must be properly managed to prevent the pollution of local waterways.

Unintentional spills by mobile service operators can flow into storm drains and pollute our waterways. **Avoid mishaps.** *Always* have a **Spill Response Kit** on hand to clean up unintentional spills**.** Only emergency **Mechanical** repairs should be done in City streets and use drip pans for spills. **Plumbing** should be done on private property. Always store chemicals in a leak-proof container and keep covered when not in use. **Window/Power Washing** waste water shouldn't be released into the streets, but should be disposed of in a sanitary sewer, landscaped area or in the soil. Soiled **Carpet Cleaning** wash water should be filtered before being discharged into the sanitary sewer. Dispose of all filter debris properly. **Car Washing/Detailing** operators should wash cars on private property and use a regulated hose nozzle for water flow control and runoff prevention. Capture and dispose of waste water and chemicals properly. Always prevent runoff water from entering storm drains.

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555



Help Protect Our Waterways!

Use These Guidelines For Outdoor Cleaning Activities and Wash Water Disposal

Did you know that disposing of pollutants into the street, gutter, storm drain or nearest body of water is ***PROHIBITED*** by law and can bring about stiff penalties.

Best Management Practices

Waste wash water from Mechanics, Plumbers, Window/Power Washers, Carpet Cleaners, Car Washing and Mobile Detailing activities may contain significant quantities of motor oil, grease, chemicals, dirt, detergents, brake pad dust, litter and other materials.

Best Management Practices, or BMPs as they are known, are guides to prevent pollutants from entering the storm drains. *Each of us* can do our part to keep storm water clean by using the suggested BMPs below:

Simple solutions for both light and heavy duty jobs:

Do...consider dry cleaning methods first such as a mop, broom, rag or wire brush. Always keep a spill response kit on site.

Do...prepare the work area before power cleaning by using sand bags, rubber mats, vacuum booms, containment pads or temporary berms to keep wash water away from the gutters and storm drains.

Do...use vacuums or other machines to remove and collect loose debris or litter before applying water.

Do...obtain the property owner's permission to dispose *small amounts* of power washing waste water to landscaped, gravel or unpaved surfaces.

Do...check with your local sanitary sewer agency's policies on wash water disposal regulations. (See list on reverse side).

Do...be aware that if discharging to landscape areas, soapy wash water may damage landscaping. Residual wash water may remain on paved surfaces to evaporate. Sweep up solid residuals and dispose of properly. Vacuum booms are another option for capturing and collecting wash water.

Do not let...wash or waste water from sidewalk, plaza or building cleaning go into a street or storm drain.

Report illegal storm drain disposal, Call Toll Free

1-800-506-2555

Using Cleaning Agents

Try using biodegradable/phosphate-free products. They are easier on the environment, but don't confuse them for being toxic free. Soapy water entering the storm drain system can impact the delicate aquatic environment.

When cleaning surfaces with a *high-pressure washer* or *steam cleaner*, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning can loosen additional material that can contaminate local waterways.

Think Water Conservation

Minimize water use by using high pressure, low volume nozzles. Be sure to check all hoses for leaks.

Screening Wash Water

A thorough dry cleanup before washing exterior surfaces, such as buildings and decks *without loose paint*, sidewalks, or plaza areas should be sufficient to protect receiving waters. Keep debris from entering the storm drain after cleaning by first passing the wash water first through a "20 mesh" or finer screen to catch the solid materials, then disposing the mesh in a refuse container.

Drain Inlet Protection & Collection of Wash Water

- Prior to any washing, block all storm drains with an impervious barrier such as sandbags or berms, or seal the storm drain with plugs or rubber mats.
- Create a containment area with berms and traps or take advantage of a low spot to keep wash water contained.
- Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground.
- Pump or vacuum up all wash water in the contained area.

Equipment and Supplies

For special materials, equipment and supplies:

- New Pig — (800) 468-4647
- Lab Safety Supply — (800) 356-0783
- C&H — (800) 558-90966
- W.W. Grainger — (800) 994-9174
- Cleaning Equipment Trade Association — (800) 441-0111

Adopt a pet from your local animal shelter or adoption centers at pet stores. A variety of animals, from purebred to mixed breed are waiting for loving arms and good homes. Consider volunteering at your local animal shelters. Volunteers, donations, food, newspapers, old towels and linens are needed to help the animals.

RIVERSIDE COUNTY ANIMAL SHELTER LOCATIONS:

BLYTHE
16450 West Hobson Way
Blythe, CA 92225
760-921-7857

HEMET
800 South Sanderson
Hemet, CA 92545
909 925-8025

INDIO
45-355 Van Buren
Indio, CA 92201
760-347-2319

RIVERSIDE
5950 Wilderness Avenue
Riverside, CA 92504
909-358-7387

FOR ALL OTHER AREAS
CALL 1-888-636-7387

Riverside County gratefully acknowledges the City of Los Angeles Stormwater Program for the design concept of this brochure.

What's the Scoop?

TIPS FOR A HEALTHY PET AND A HEALTHIER ENVIRONMENT

CREATE A HEALTHY ENVIRONMENT in and around your home by following these simple pet practices. Your pet, family and neighbors will appreciate their clean comfortable surroundings.

HOUSEHOLD PETS

We all love our pets, but pet waste is a subject everyone likes to avoid. Pet waste left on trails, sidewalks, streets, and grassy areas is immediately flushed into the nearest waterway when it rains. Even if you can't see water near you, the rain or waste water WASHES all that PET WASTE and BACTERIA INTO THE STORMDRAIN, where it travels to your neighborhood creek or lake untreated. These animal droppings also contain nutrients that can promote the growth of algae, if they enter our streams and lakes. The risk of STORMWATER CONTAMINATION INCREASES, if pet wastes is allowed to accumulate in animal pen areas or left on sidewalks, streets, or driveways where runoff can carry them to storm sewers.

Some of the DISEASES THAT CAN SPREAD from pet waste are:
Campylobacteriosis — a bacterial infection that causes diarrhea in humans.
Salmonellosis — the most common bacterial infection transmitted to humans from animals.
Toxocarisis — roundworms transmitted from animals to humans.

Flies and other pest insects can also increase when pet waste is disposed of improperly, becoming a nuisance and adding yet another vector for disease transmission.

WHAT CAN YOU DO?

- SCOOP up pet waste and flush it down the toilet.
- NEVER DUMP pet waste into a storm drain or catch basin.
- USE the complimentary BAGS or mutt mitts offered in dispensers at local parks.
- CARRY EXTRA BAGS when walking your dog and make them available to other pet owners who are without.
- TEACH CHILDREN how to properly clean up after a pet.
- TELL FRIENDS AND NEIGHBORS about the ill effects of animal waste on the environment. Encourage them to clean up after pets.

Did You Know ...
that Californians illegally dump about 80 million gallons of motor oil each year?

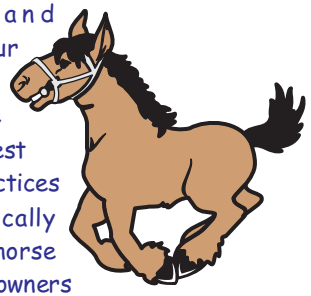
Many communities have "Scoop the Poop" laws that govern pet waste cleanup. Some of these laws specifically require anyone who walks an animal off of their property to carry a bag, shovel, or scooper. Any waste left by the animal must be cleaned up immediately. CALL YOUR LOCAL CODE ENFORCEMENT OFFICER to find out more about pet waste regulations.

Pets are only one of the many fixtures of suburban America that add to water pollution. Lawn fertilizers, rinse water from driveways and motor oil commonly end up in streams and lakes. **CALL 1-800-506-2555 FOR HOUSEHOLD HAZARDOUS WASTE COLLECTION LOCATION AND DATES.** Maintain your automobile to avoid leaks. Dispose of used vehicle fluids properly. Your pets can be poisoned if they ingest gas, oil or antifreeze that drips onto the pavement or is stored in open containers.

NEVER HOSE VEHICLE FLUIDS into the street or gutter. USE ABSORBENT MATERIALS such as cat litter to clean-up spills. SWEEP UP used absorbent materials and place in the trash.

HORSES AND LIVESTOCK

Fortunate enough to own a horse or livestock? You, too, can play a part in protecting and cleaning up our water resources. The following are a few simple Best Management Practices (BMPs) specifically designed for horse owners and landowners with horses.



- STORE your manure properly. Do not store unprotected piles of manure in places where runoff may enter streams, or flood waters may wash the manure away. Place a cover or tarp over the pile to keep rainwater out.
- CHECK with your local conservation district to design manure storage facilities to protect water quality. These structures usually consist of a concrete pad to protect ground water and a short wall on one or two sides to make manure handling easier.
- TRY composting – A vegetative cover placed around buildings or on steeper slopes can help minimize erosion and absorb nutrients while improving the appearance of your property. In addition, avoid costlier erosion controls, vegetative covers will provide animals with better traction during wet or icy conditions.

- KEEP animals out of steams – Designed stream crossings provide a safe, easy way for horses and livestock to ford streams. Fencing encourages the use of the crossing instead of the streambed to navigate streams. This will allow vegetation to stabilize stream banks and reduce sediment pollution.
- MOW pastures to proper height, six inches is typically recommended.
- Material STORAGE SAFETY TIPS – Many of the chemicals found in barns require careful handling and proper disposal. When using these chemicals, be certain to follow these common sense guidelines:
  - Buy only what you need.
  - Treat spills of hoof oils like fuel spill. Use kitty litter to soak up the oil and dispose in a tightly sealed plastic bag.
  - Store pesticides in a locked, dry, well-ventilated area.
  - Protect stored fertilizer and pesticides from rain and surface water.

Call 1-800-506-2555 to locate your local conservation district to find out what to do with your current backyard manure pile, how to re-establish a healthy pasture, what to do about weeds, and what grasses grow best in your soils.

Thank you for doing your part to protect your watershed, the environment, and the equestrian way of life in your community!

Helpful telephone numbers and links:

RIVERSIDE COUNTY WATER AGENCIES:

City of Banning	(951) 922-3130
City of Beaumont	(951) 769-8520
City of Blythe	(760) 922-6161
City of Coachella	(760) 398-3502
Coachella Valley Water District	(760) 398-2651
City of Corona	(951) 736-2259
Desert Center, CSA #51	(760) 227-3203
Eastern Municipal Water District	(951) 928-3777
Elsinore Valley MWD	(951) 674-3146
Farm Mutual Water Company	(951) 244-4196
City of Hemet	(951) 765-3712
Idyllwild Water District	(951) 659-2143
Jurupa Community Services District	(951) 360-8795
Lake Hemet MWD	(951) 658-3241
Lee Lake Water District	(951) 277-1414
March Air Force Base	(951) 656-7000
Mission Springs Water District	(760) 329-6448
City of Palm Springs	(760) 323-8253
Rancho Cahallero	(951) 780-9272
Rancho California Water District	(951) 296-6900
Ripley, CSA #62	(760) 922-4951
City of Riverside	(951) 351-6170
Ruhidoux Community Services District	(951) 684-7580
Silent Valley Club, Inc	(951) 849-4501
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(951) 789-5000
Yucaipa Valley Water District	(909) 797-5117

CALL 1-800-506-2555 to:

- Report clogged storm drains or illegal storm drain disposal from residential, industrial, construction and commercial sites into public streets, storm drains and/or water bodies.
- Find out about our various storm drain pollution prevention materials.
- Locate the dates and times of Household Hazardous Waste (HHW) Collection Event.
- Request adult, neighborhood, or classroom presentations.
- Locate other County environmental services.
- Receive grasscycling information and composting workshop information.

Or visit our (Riverside County Flood Control District website at:
www.floodcontrol.co.riverside.ca.us

Other links to additional storm drain pollution information:

- County of Riverside Environmental Health:
  www.rivcoeh.org
- California State Water Resource Conservation Board:
  www.swrcb.ca.gov/stormwtr/links.html
- California Water Quality Task Force:
  www.cabmphandbooks.com/
- United State Environmental Protection Agency (EPA):
  www.epa.gov/opptintr/p2home/programs/busprc.htm
  (compliance assistance information)

Riverside County Only Rain in the Storm Drain Pollution Protection Program gratefully acknowledges the Bay Area Stormwater Management Agencies Association and the Cleaning Equipment Trade Association for information provided in this brochure.

StormWater Pollution

What you should know for...

Swimming Pool, Jacuzzi and Fountain Maintenance

Do you know . . . where the water actually goes?

Storm Drains are not connected to sanitary sewer systems and treatment plants!

The primary purpose of storm drains is to carry rain water away from developed areas to prevent flooding. Untreated storm water and the pollutants it carries flow directly into rivers, lakes, and streams. Wastewater from residential swimming pools, jacuzzis, fishponds, and fountains often contain chemicals used for sanitizing or cleansing purposes. Toxic chemicals (such as chlorine or copper-based algaecides) can damage the environment when wastewater is allowed to flow into our local rivers, lakes, and streams by way of the storm drain system. Each of us can do our part to help clean our water, and that adds up to a pollution solution.

The Cities and County of Riverside have adopted ordinances for storm drain pollution management to maintain discharge control and prevent illegal storm drain discharge. In accordance with state and federal law, these local storm water ordinances prohibit the discharge of pollutants into the storm drain system or local surface waters. The Only Rain in the Storm Drain Pollution Program informs residents and businesses of storm drain pollution prevention activities such as those described in this brochure.

PLEASE NOTE: The discharge of pollutants into the street, gutters, storm drain system, or waterways – without a Regional Water Quality Control board permit or waiver – is strictly prohibited by local ordinances and state and federal law.

Do Your Part to Protect Our Waterways!

Use These Guidelines For Proper Draining of Your Swimming Pool, Jacuzzi and Fountain Water

Discharge Regulations

Requirements for pool draining may differ from city to city. Check with your water agency to see if disposal to the sanitary sewer line is allowed for pool discharges (see reverse side for Riverside County water purveyors).

If sewer discharge is allowed, a hose can be run from your swimming pool pump to the washing machine drain or a sink or bathtub. If sewer discharge is not allowed, or if your house is served by a septic tank, review the options presented below.

Discharge Options

If your local sewer agency will not accept pool water into their system, or if you are on a septic tank system, follow these guidelines:

1. Reduce or eliminate solids (e.g., debris, leaves or dirt) in the pool water.
2. Allow the chemicals in the pool water to dissipate. This could take up to seven (7) days depending on the time of year. Create a co-op; let your neighbor share your pool while theirs is being prepared for draining, then use their pool while yours is being drained. Chlorinated water should not be discharged into the storm drain or surface waters. This includes large pools such as community swimming pools or spas.
3. When the pool water is free of all chemicals (verify by a home pool water test kit) drain pool water to landscaped areas, lawns, yards, or any areas that will absorb the water.
4. You may have to drain the pool water over a period of a few days to allow the landscape areas to absorb most of the water.
5. Control the flow of the draining pool water to prevent soil erosion. Do not allow sediment to enter the street, gutter or storm drain.
6. Avoid discharging pool water into the street and storm drain system. Water runoff that enters the street can pick up motor oil, pet waste, trash and other pollutants, eventually carrying them into the storm drain system and local surface waters.

Refinishing Pool Surfaces

If you are resurfacing your pool, or resurfacing the pool patio area, be sure to hose down mixers, tools and trailers in a dirt area where rinse water won't flow into the street, gutter or storm drain. Local storm water ordinances strictly prohibit the discharge of pollutants into the storm drain system.

Residues from acid washing and similar activities require special handling. Never discharge low or high pH wastewater into the street, gutter or storm drain.

Cleaning Filters

Discharge of pool filter rinse water and backflush to a stream, ditch, or storm drain is prohibited. Backflush from pool filters must be discharged to the sanitary sewer, on-site septic tank and drainfield system (if properly designed and adequately sized), or a seepage pit. Alternatively, pool filter rinse water and backwash may be diverted to dirt or landscaped areas. Filter media and other solids should be picked up and disposed of in the trash.

Algaecides

Avoid using copper-based algaecides unless absolutely necessary. Control algae with chlorine, organic polymers or other alternatives to copper-based pool chemicals. Copper is a heavy metal that can be toxic to aquatic life.

Chemical Storage and Handling

- Use only the amount indicated on product labels.
- Store chlorine and other chemicals in a covered area to prevent runoff. Keep out of reach of children and pets.
- Chlorine kits, available at retail swimming pool equipment and supply stores, should be used to monitor the chlorine and pH levels.
- Chlorine and other pool chemicals should never be allowed to flow into the gutter or the storm drain system.

Proper Disposal of Pool Chemicals

If you need to dispose of unwanted pool chemicals, first try giving them to a neighbor with a pool. If that doesn't work, bring unwanted pool chemicals to a Household Hazardous Waste (HHW) Collection Event. There's no cost for bringing HHW items to collection events - it's FREE! Call **1-800-506-2555** for a schedule of HHW events in your community.

NEVER put unused chemicals into the trash, onto the ground or down a storm drain.

Site Design & Landscape Planning SD-10

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- ☑ Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Each project site possesses unique topographic, hydrologic, and vegetative features, some of which are more suitable for development than others. Integrating and incorporating appropriate landscape planning methodologies into the project design is the most effective action that can be done to minimize surface and groundwater contamination from stormwater.

Approach

Landscape planning should couple consideration of land suitability for urban uses with consideration of community goals and projected growth. Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for site design and landscapes planning should conform to applicable standards and specifications of agencies with jurisdiction and be consistent with applicable General Plan and Local Area Plan policies.

Designing New Installations

Begin the development of a plan for the landscape unit with attention to the following general principles:

- Formulate the plan on the basis of clearly articulated community goals. Carefully identify conflicts and choices between retaining and protecting desired resources and community growth.

- Map and assess land suitability for urban uses. Include the following landscape features in the assessment: wooded land, open unwooded land, steep slopes, erosion-prone soils, foundation suitability, soil suitability for waste disposal, aquifers, aquifer recharge areas, wetlands, floodplains, surface waters, agricultural lands, and various categories of urban land use. When appropriate, the assessment can highlight outstanding local or regional resources that the community determines should be protected (e.g., a scenic area, recreational area, threatened species habitat, farmland, fish run). Mapping and assessment should recognize not only these resources but also additional areas needed for their sustenance.

Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Conserve Natural Areas during Landscape Planning

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Cluster development on least-sensitive portions of a site while leaving the remaining land in a natural undisturbed condition.

- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.

- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.

- Promote natural vegetation by using parking lot islands and other landscaped areas.

- Preserve riparian areas and wetlands.

Maximize Natural Water Storage and Infiltration Opportunities Within the Landscape Unit

- Promote the conservation of forest cover. Building on land that is already deforested affects basin hydrology to a lesser extent than converting forested land. Loss of forest cover reduces interception storage, detention in the organic forest floor layer, and water losses by evapotranspiration, resulting in large peak runoff increases and either their negative effects or the expense of countering them with structural solutions.

- Maintain natural storage reservoirs and drainage corridors, including depressions, areas of permeable soils, swales, and intermittent streams. Develop and implement policies and

regulations to discourage the clearing, filling, and channelization of these features. Utilize them in drainage networks in preference to pipes, culverts, and engineered ditches.

- Evaluating infiltration opportunities by referring to the stormwater management manual for the jurisdiction and pay particular attention to the selection criteria for avoiding groundwater contamination, poor soils, and hydrogeological conditions that cause these facilities to fail. If necessary, locate developments with large amounts of impervious surfaces or a potential to produce relatively contaminated runoff away from groundwater recharge areas.

Protection of Slopes and Channels during Landscape Design

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes.
- Avoid disturbing natural channels.
- Stabilize disturbed slopes as quickly as possible.
- Vegetate slopes with native or drought tolerant vegetation.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Stabilize temporary and permanent channel crossings as quickly as possible, and ensure that increases in run-off velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Line on-site conveyance channels where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are high enough to erode grass or other vegetative linings, riprap, concrete, soil cement, or geo-grid stabilization are other alternatives.
- Consider other design principles that are comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Redevelopment may present significant opportunity to add features which had not previously been implemented. Examples include incorporation of depressions, areas of permeable soils, and swales in newly redeveloped areas. While some site constraints may exist due to the status of already existing infrastructure, opportunities should not be missed to maximize infiltration, slow runoff, reduce impervious areas, disconnect directly connected impervious areas.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

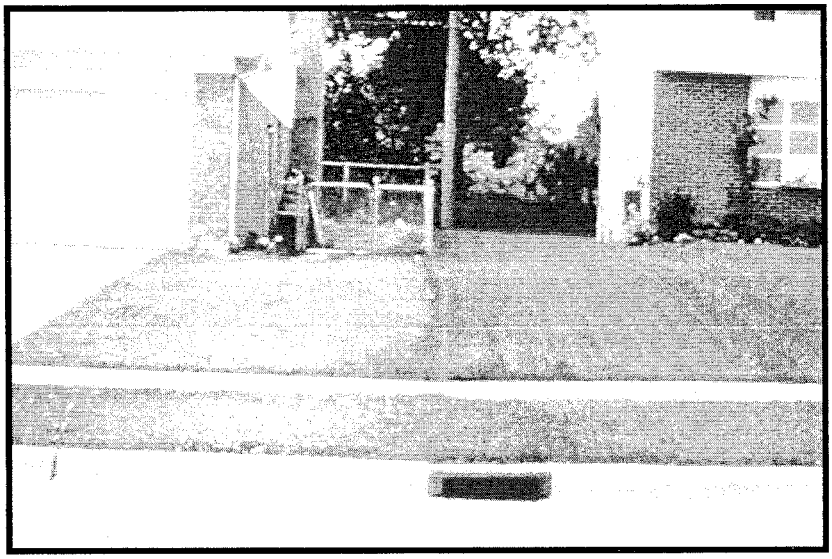
Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2001.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Efficient Irrigation SD-12



Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Other Resources

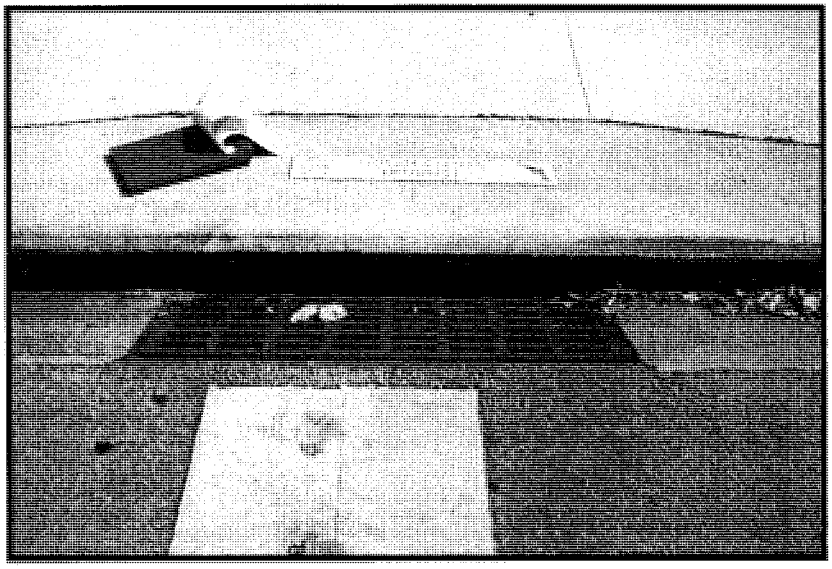
A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Storm Drain Signage SD-13



Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

Designing New Installations

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include "NO DUMPING

– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

Additional Information

Maintenance Considerations

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

Placement

- Signage on top of curbs tends to weather and fade.

- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

Supplemental Information

Examples

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Trash Storage Areas SD-32

Description

Trash storage areas are areas where a trash receptacle (s) are located for use as a repository for solid wastes. Stormwater runoff from areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or creeks. Waste handling operations that may be sources of stormwater pollution include dumpsters, litter control, and waste piles.

Approach

This fact sheet contains details on the specific measures required to prevent or reduce pollutants in stormwater runoff associated with trash storage and handling. Preventative measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Design requirements for waste handling areas are governed by Building and Fire Codes, and by current local agency ordinances and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements. Hazardous waste should be handled in accordance with legal requirements established in Title 22, California Code of Regulation.

Wastes from commercial and industrial sites are typically hauled by either public or commercial carriers that may have design or access requirements for waste storage areas. The design criteria in this fact sheet are recommendations and are not intended to be in conflict with requirements established by the waste hauler. The waste hauler should be contacted prior to the design of your site trash collection areas. Conflicts or issues should be discussed with the local agency.

Designing New Installations

Trash storage areas should be designed to consider the following structural or treatment control BMPs:

- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash.

- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Pave trash storage areas with an impervious surface to mitigate spills.
- Do not locate storm drains in immediate vicinity of the trash storage area.
- Post signs on all dumpsters informing users that hazardous materials are not to be disposed of therein.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Maintenance Considerations

The integrity of structural elements that are subject to damage (i.e., screens, covers, and signs) must be maintained by the owner/operator. Maintenance agreements between the local agency and the owner/operator may be required. Some agencies will require maintenance deed restrictions to be recorded of the property title. If required by the local agency, maintenance agreements or deed restrictions must be executed by the owner/operator before improvement plans are approved.

Other Resources

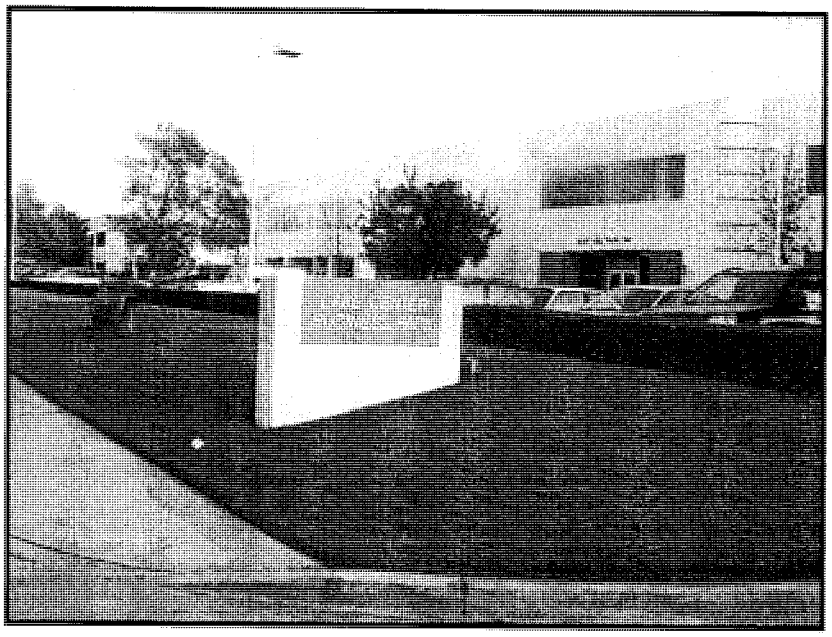
A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Building & Grounds Maintenance SC-41



Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	
Organics	

Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, abnormal pH, and oils and greases. Utilizing the protocols in this fact sheet will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

Pollution Prevention

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.

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- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

Suggested Protocols

Pressure Washing of Buildings, Rooftops, and Other Large Objects

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement.

Landscaping Activities

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.

Building Repair, Remodeling, and Construction

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. This is particularly necessary on rainy days. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. If directed off-site, you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

Mowing, Trimming, and Planting

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water: do not put it in the storm drain; pour over landscaped areas.
- Use hand weeding where practical.

Fertilizer and Pesticide Management

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Use less toxic pesticides that will do the job when applicable. Avoid use of copper-based pesticides if possible.
- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.

- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering and repair leaks in the irrigation system as soon as they are observed.

Training

- Educate and train employees on pesticide use and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the nature of the staff.

Spill Response and Prevention

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- Have employees trained in spill containment and cleanup present during the loading/unloading of dangerous wastes, liquid chemicals, or other materials.
- Familiarize employees with the Spill Prevention Control and Countermeasure Plan.
- Clean up spills immediately.

Other Considerations

Alternative pest/weed controls may not be available, suitable, or effective in many cases.

Requirements

Costs

- Cost will vary depending on the type and size of facility.
- Overall costs should be low in comparison to other BMPs.

Maintenance

Sweep paved areas regularly to collect loose particles. Wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.

Supplemental Information

Further Detail of the BMP

Fire Sprinkler Line Flushing

Building fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water, though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping, but it is subject to rusting and results in lower quality water. Initially, the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time (typically a year) and between flushes may accumulate iron, manganese, lead, copper, nickel, and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

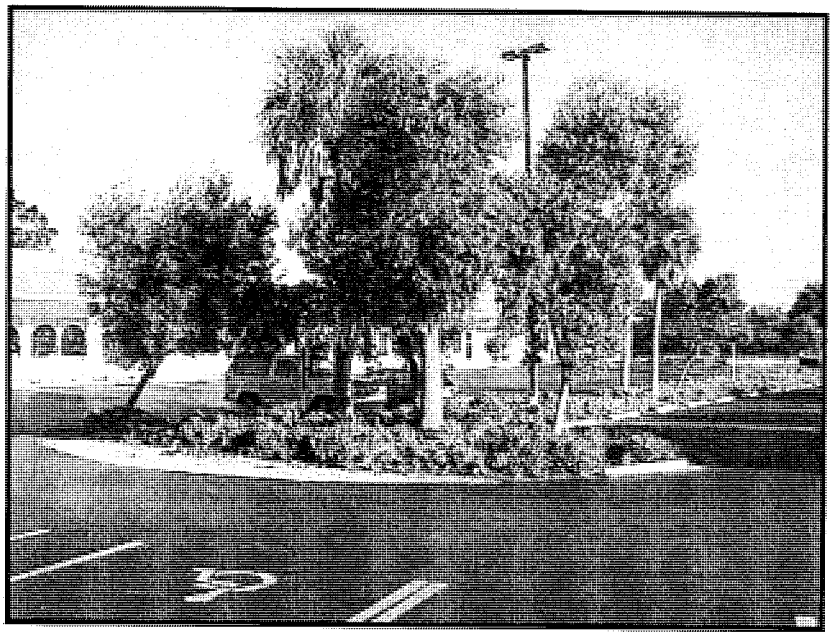
Mobile Cleaners Pilot Program: Final Report. 1997. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

Parking/Storage Area Maintenance SC-43



Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	✓
Nutrients	
Trash	✓
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Description

Parking lots and storage areas can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges. The protocols in this fact sheet are intended to prevent or reduce the discharge of pollutants from parking/storage areas and include using good housekeeping practices, following appropriate cleaning BMPs, and training employees.

Approach

The goal of this program is to ensure stormwater pollution prevention practices are considered when conducting activities on or around parking areas and storage areas to reduce potential for pollutant discharge to receiving waters. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

Pollution Prevention

- Encourage alternative designs and maintenance strategies for impervious parking lots. (See New Development and Redevelopment BMP Handbook)

- Keep accurate maintenance logs to evaluate BMP implementation.

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SC-43 Parking/Storage Area Maintenance

Suggested Protocols

General

- Keep the parking and storage areas clean and orderly. Remove debris in a timely fashion.
- Allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices.
- Utilize sand filters or oleophilic collectors for oily waste in low quantities.
- Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- Design lot to include semi-permeable hardscape.
- Discharge soapy water remaining in mop or wash buckets to the sanitary sewer through a sink, toilet, clean-out, or wash area with drain.

Controlling Litter

- Post "No Littering" signs and enforce anti-litter laws.
- Provide an adequate number of litter receptacles.
- Clean out and cover litter receptacles frequently to prevent spillage.
- Provide trash receptacles in parking lots to discourage litter.
- Routinely sweep, shovel, and dispose of litter in the trash.

Surface Cleaning

- Use dry cleaning methods (e.g., sweeping, vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system if possible.
- Establish frequency of public parking lot sweeping based on usage and field observations of waste accumulation.
- Sweep all parking lots at least once before the onset of the wet season.
- Follow the procedures below if water is used to clean surfaces:
  - Block the storm drain or contain runoff.
  - Collect and pump wash water to the sanitary sewer or discharge to a pervious surface. Do not allow wash water to enter storm drains.
  - Dispose of parking lot sweeping debris and dirt at a landfill.
- Follow the procedures below when cleaning heavy oily deposits:
  - Clean oily spots with absorbent materials.
  - Use a screen or filter fabric over inlet, then wash surfaces.

- Do not allow discharges to the storm drain.
- Vacuum/pump discharges to a tank or discharge to sanitary sewer.
- Appropriately dispose of spilled materials and absorbents.

Surface Repair

- Preheat, transfer or load hot bituminous material away from storm drain inlets.
- Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff.
- Cover and seal nearby storm drain inlets where applicable (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal.
- Use only as much water as necessary for dust control, to avoid runoff.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

Inspection

- Have designated personnel conduct inspections of parking facilities and stormwater conveyance systems associated with parking facilities on a regular basis.
- Inspect cleaning equipment/sweepers for leaks on a regular basis.

Training

- Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.
- Train employees and contractors in proper techniques for spill containment and cleanup.

Spill Response and Prevention

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- Clean up fluid spills immediately with absorbent rags or material.
- Dispose of spilled material and absorbents properly.

Other Considerations

Limitations related to sweeping activities at large parking facilities may include high equipment costs, the need for sweeper operator training, and the inability of current sweeper technology to remove oil and grease.

SC-43 Parking/Storage Area Maintenance

Requirements

Costs

Cleaning/sweeping costs can be quite large. Construction and maintenance of stormwater structural controls can be quite expensive as well.

Maintenance

- Sweep parking lot regularly to minimize cleaning with water.
- Clean out oil/water/sand separators regularly, especially after heavy storms.
- Clean parking facilities regularly to prevent accumulated wastes and pollutants from being discharged into conveyance systems during rainy conditions.

Supplemental Information

Further Detail of the BMP

Surface Repair

Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff. Where applicable, cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal. Only use only as much water as is necessary for dust control to avoid runoff.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
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King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

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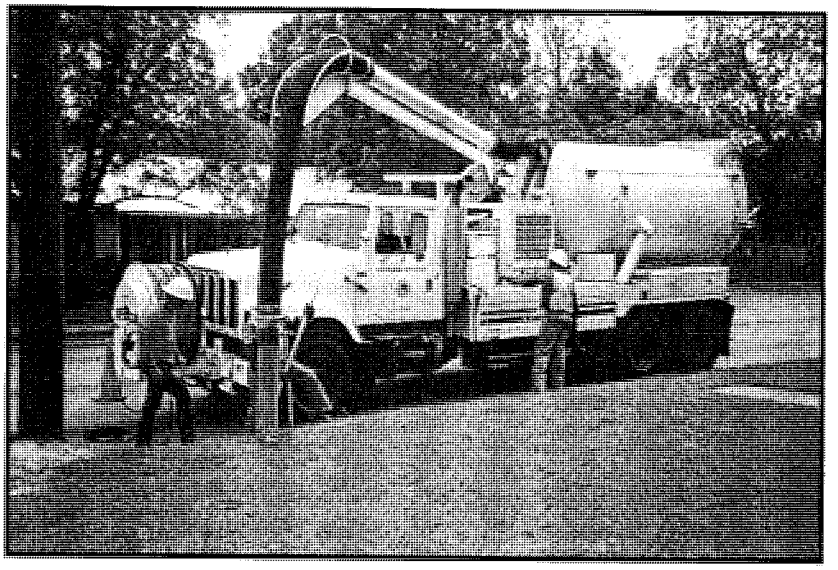
Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

Drainage System Maintenance SC-44



Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

Description

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff and stormwater that may contain certain pollutants. The protocols in this fact sheet are intended to reduce pollutants reaching receiving waters through proper conveyance system operation and maintenance.

Targeted Constituents

Sediment	✓
Nutrients	
Trash	✓
Metals	
Bacteria	✓
Oil and Grease	
Organics	

Approach

Pollution Prevention

Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

Suggested Protocols

Catch Basins/Inlet Structures

- Staff should regularly inspect facilities to ensure compliance with the following:
  - Immediate repair of any deterioration threatening structural integrity.
  - Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.
  - Stenciling of catch basins and inlets (see SC34 Waste Handling and Disposal).

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- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

Storm Drain Conveyance System

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

Pump Stations

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- Conduct routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

Open Channel

- Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural (emphasis added) state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Game. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Federal Corps of Engineers and USFWS.

Illicit Connections and Discharges

- Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:
  - Is there evidence of spills such as paints, discoloring, etc?

- Are there any odors associated with the drainage system?
- Record locations of apparent illegal discharges/illicit connections?
- Track flows back to potential dischargers and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- Eliminate the discharge once the origin of flow is established.

- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

Illegal Dumping

- Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots
  - Types and quantities (in some cases) of wastes
  - Patterns in time of occurrence (time of day/night, month, or year)
  - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
  - Responsible parties
- Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

Training

- Train crews in proper maintenance activities, including record keeping and disposal.
- Allow only properly trained individuals to handle hazardous materials/wastes.
- Have staff involved in detection and removal of illicit connections trained in the following:
  - OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).

- OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).

- Procedural training (field screening, sampling, smoke/dye testing, TV inspection).

Spill Response and Prevention

- Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.
- Refer to fact sheet SC-11 Spill Prevention, Control, and Cleanup.

Other Considerations (Limitations and Regulations)

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.
- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, liquid/sediment disposal, and prohibition against disposal of flushed effluent to sanitary sewer in some areas.
- Regulations may include adoption of substantial penalties for illegal dumping and disposal.
- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the storm drain system.

Requirements

Costs

- An aggressive catch basin cleaning program could require a significant capital and O&M budget.
- The elimination of illegal dumping is dependent on the availability, convenience, and cost of alternative means of disposal. The primary cost is for staff time. Cost depends on how aggressively a program is implemented. Other cost considerations for an illegal dumping program include:

  - Purchase and installation of signs.
  - Rental of vehicle(s) to haul illegally-disposed items and material to landfills.
  - Rental of heavy equipment to remove larger items (e.g., car bodies) from channels.
  - Purchase of landfill space to dispose of illegally-dumped items and material.

- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

Maintenance

- Two-person teams may be required to clean catch basins with vactor trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.

Supplemental Information

Further Detail of the BMP

Storm Drain Flushing

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing resuspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used or that fire hydrant line flushing coincide with storm sewer flushing.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

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http://www.co.clark.wa.us/pubworks/bmpman.pdf

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Non-Stormwater Discharges SC-10

Description

Non-stormwater discharges (NSWDs) are flows that do not consist entirely of stormwater. Some non-stormwater discharges do not include pollutants and may be discharged to the storm drain if local regulations allow. These include uncontaminated groundwater and natural springs. There are also some non-stormwater discharges that typically do not contain pollutants and may be discharged to the storm drain with conditions. These include: potable water sources, fire hydrant flushing, air conditioner condensate, landscape irrigation drainage and landscape watering, emergency firefighting, etc. as discussed in Section 2.

However there are certain non-stormwater discharges that pose an environmental concern. These discharges may originate from illegal dumping of industrial material or wastes and illegal connections such as internal floor drains, appliances, industrial processes, sinks, and toilets that are illegally connected to the nearby storm drainage system through on-site drainage and piping. These unauthorized discharges (examples of which may include: process waste waters, cooling waters, wash waters, and sanitary wastewater) can carry substances such as paint, oil, fuel and other automotive fluids, chemicals and other pollutants into storm drains.

Non-stormwater discharges will need to be addressed through a combination of detection and elimination. The ultimate goal is to effectively eliminate unauthorized non-stormwater discharges to the stormwater drainage system through implementation of measures to detect, correct, and enforce against illicit connections and illegal discharges of

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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pollutants on streets and into the storm drain system and downstream water bodies.

Approach

Initially the Discharger must make an assessment of non-stormwater discharges to determine which types must be eliminated or addressed through BMPs. The focus of the following approach is the elimination of unauthorized non-stormwater discharges. See other BMP Fact Sheets for activity-specific pollution prevention procedures.

General Pollution Prevention Protocols

- Implement waste management controls described in SC-34 Waste Handling and Disposal.

- Develop clear protocols and lines of communication for effectively prohibiting non-stormwater discharges, especially those that are not classified as hazardous. These are often not responded to as effectively as they need to be.

- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" or similar stenciled or demarcated next to them to warn against ignorant or unintentional dumping of pollutants into the storm drainage system.

- Manage and control sources of water such as hose bibs, faucets, wash racks, irrigation heads, etc. Identify hoses and faucets in the SWPPP, and post signage for appropriate use.

Non-Stormwater Discharge Investigation Protocols

Identifying the sources of non-stormwater discharges requires the Discharger to conduct an investigation of the facility at regular intervals. There are several categories of non-stormwater discharges:

- Visible, easily identifiable discharges, typically generated as surface runoff, such as uncontained surface runoff from vehicle or equipment washing; and

- Non-visible, (e.g., subsurface) discharges into the site drainage system through a variety of pathways that are not obvious.

The approach to detecting and eliminating non-stormwater discharges will vary considerably, as discussed below:

Visible and identifiable discharges

- Conduct routine inspections of the facilities and of each major activity area and identify visible evidence of unauthorized non-stormwater discharges. This may include:

  - ✓ Visual observations of actual discharges occurring;

- ✓ Evidence of surface staining, discoloring etc. that indicates that discharges have occurred;
- ✓ Pools of water in low lying areas when a rain event has not occurred; and
- ✓ Discussions with operations personnel to understand practices that may lead to unauthorized discharges.

- ☐ If evidence of non-stormwater discharges is discovered:
  - ✓ Document the location and circumstances using Worksheets 5 and 6 (Section 2 of the manual), including digital photos;
  - ✓ Identify and implement any quick remedy or corrective action (e.g., moving uncovered containers inside or to a proper location); and
  - ✓ Develop a plan to eliminate the discharge. Consult the appropriate activity-specific BMP Fact Sheet for alternative approaches to manage and eliminate the discharge.
- ☐ Consult the appropriate activity-specific BMP Fact Sheet for alternative approaches to manage and eliminate the discharge. Make sure the facility SWPPP is up-to-date and includes applicable BMPs to address the non-stormwater discharge.

Other Illegal Discharges (Non visible)

Illicit Connections

- ☐ Locate discharges from the industrial storm drainage system to the municipal storm drain system through review of "as-built" piping schematics.
- ☐ Isolate problem areas and plug illicit discharge points.
- ☐ Locate and evaluate discharges to the storm drain system.
- ☐ Visual Inspection and Inventory:
  - ✓ Inventory and inspect each discharge point during dry weather.
  - ✓ Keep in mind that drainage from a storm event can continue for a day or two following the end of a storm and groundwater may infiltrate the underground stormwater collection system.
  - ✓ Non-stormwater discharges are often intermittent and may require periodic inspections.

Review Infield Piping

- ☐ A review of the "as-built" piping schematic is a way to determine if there are any connections to the stormwater collection system.

- Inspect the path of loading/unloading area drain inlets and floor drains in older buildings.

- Never assume storm drains are connected to the sanitary sewer system.

Monitoring for investigation/detection of illegal discharges

- If a suspected illegal or unknown discharge is detected, monitoring of the discharge may help identify the content and/or suggest the source. This may be done with a field screening analysis, flow meter measurements, or by collecting a sample for laboratory analysis. Section 5 and Appendix D describe the necessary field equipment and procedures for field investigations.

- Investigative monitoring may be conducted over time. For example if, a discharge is intermittent, then monitoring might be conducted to determine the timing of the discharge to determine the source.

- Investigative monitoring may be conducted over a spatial area. For example, if a discharge is observed in a pipe, then monitoring might be conducted at accessible upstream locations in order to pinpoint the source of the discharge.

- Generally, investigative monitoring requiring collection of samples and submittal for lab analysis requires proper planning and specially trained staff.

Smoke Testing

Smoke testing of wastewater and stormwater collection systems is used to detect connections between the two piping systems. Smoke testing is generally performed at a downstream location and the smoke is forced upstream using blowers to create positive pressure. The advantage to smoke testing is that it can potentially identify multiple potential discharge sources at once.

- Smoke testing uses a harmless, non-toxic smoke cartridges developed specifically for this purpose.

- Smoke testing requires specialized equipment (e.g., cartridges, blowers) and is generally only appropriate for specially trained staff.

- A Standard Operating Procedure (SOP) for smoke testing is highly desirable. The SOP should address the following elements:

  - ✓ Proper planning and notification of nearby residents and emergency services is necessary since introducing smoke into the system may result in false alarms;

  - ✓ During dry weather, the stormwater collection system is filled with smoke and then traced back to sources;

- ✓ Temporary isolation of segments of pipe using sand bags is often needed to force the smoke into leaking pipes; and
- ✓ The appearance of smoke in a waste vent pipe, at a sewer manhole, or even the base of a toilet indicates that there may be a connection between the sanitary and storm water systems.

- Most municipal wastewater agencies will have necessary staff and equipment to conduct smoke testing and they should be contacted if cross connections with the sanitary sewer are suspected. See SC-44 Drainage System Maintenance for more information.

Dye Testing

- Dye testing is typically performed when there is a suspected specific pollutant source and location (i.e., leaking sanitary sewer) and there is evidence of dry weather flows in the stormwater collection system.
- Dye is released at a probable upstream source location, either the facility's sanitary or process wastewater system. The dye must be released with a sufficient volume of water to flush the system.
- Operators then visually examine the downstream discharge points from the stormwater collection system for the presence of the dye.
- Dye testing can be performed informally using commercially available products in order to conduct an initial investigation for fairly obvious cross-connections.
- More detailed dye testing should be performed by properly trained staff and follow SOPs. Specialized equipment such as fluorometers may be necessary to detect low concentrations of dye.
- Most municipal wastewater agencies will have necessary staff and equipment to conduct dye testing and they should be contacted if cross connections with the sanitary sewer are suspected.

TV Inspection of Drainage System

- Closed Circuit Television (CCTV) can be employed to visually identify illicit connections to the industrial storm drainage system. Two types of CCTV systems are available: (1) a small specially designed camera that can be manually pushed on a stiff cable through storm drains to observe the interior of the piping, or (2) a larger remote operated video camera on treads or wheels that can be guided through storm drains to view the interior of the pipe.
- CCTV systems often include a high-pressure water jet and camera on a flexible cable. The water jet cleans debris and biofilm off the inside of pipes so the camera can take video images of the pipe condition.

- CCTV units can detect large cracks and other defects such as offsets in pipe ends caused by root intrusions or shifting substrate.
- CCTV can also be used to detect dye introduced into the sanitary sewer.
- CCTV inspections require specialized equipment and properly trained staff and are generally best left to specialized contractors or municipal public works staff.

Illegal Dumping

- Substances illegally dumped on streets and into the storm drain systems and creeks may include paints, used oil and other automotive fluids, construction debris, chemicals, fresh concrete, leaves, grass clippings, and pet wastes. These wastes can cause stormwater and receiving water quality problems as well as clog the storm drain system itself.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Illegal dumping hot spots;
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills);
  - ✓ An anonymous tip/reporting mechanism; and
  - ✓ Evidence of responsible parties (e.g., tagging, encampments, etc.).
- One of the keys to success of reducing or eliminating illegal dumping is increasing the number of people at the facility who are aware of the problem and who have the tools to at least identify the incident, if not correct it. Therefore, train field staff to recognize and report the incidents.

Once a site has been cleaned:

- Post "No Dumping" signs with a phone number for reporting dumping and disposal.
- Landscaping and beautification efforts of hot spots may also discourage future dumping, as well as provide open space and increase property values.
- Lighting or barriers may also be needed to discourage future dumping.
- See fact sheet SC-11 Spill Prevention, Control, and Cleanup.

Inspection

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- Conduct field investigations of the industrial storm drain system for potential sources of non-stormwater discharges.
- Pro-actively conduct investigations of high priority areas. Based on historical data, prioritize specific geographic areas and/or incident type for pro-active investigations.

Spill and Leak Prevention and Response

- On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.
- See SC-11 Spill Prevention Control and Cleanup.

Employee Training Program

- Training of technical staff in identifying and documenting illegal dumping incidents is required. The frequency of training must be presented in the SWPPP, and depends on site-specific industrial materials and activities.
- Consider posting a quick reference table near storm drains to reinforce training.
- Train employees to identify non-stormwater discharges and report discharges to the appropriate departments.
- Educate employees about spill prevention and cleanup.
- Well-trained employees can reduce human errors that lead to accidental releases or spills. The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur. Employees should be familiar with the Spill Prevention Control and Countermeasure Plan. Employees should be able to identify work/jobs with high potential for spills and suggest methods to reduce possibility.
- Determine and implement appropriate outreach efforts to reduce non-permissible non-stormwater discharges.

- Conduct spill response drills annually (if no events occurred) in order to evaluate the effectiveness of the plan.
- When a responsible party is identified, educate the party on the impacts of his or her actions.

Quality Assurance and Record Keeping

Performance Evaluation

- Annually review internal investigation results; assess whether goals were met and what changes or improvements are necessary.
- Obtain feedback from personnel assigned to respond to, or inspect for, illicit connections and illegal dumping incidents.
- Develop document and data management procedures.
- A database is useful for defining and tracking the magnitude and location of the problem.
- Report prohibited non-stormwater discharges observed during the course of normal daily activities so they can be investigated, contained, and cleaned up or eliminated.
- Document that non-stormwater discharges have been eliminated by recording tests performed, methods used, dates of testing, and any on-site drainage points observed.
- Annually document and report the results of the program.
- Maintain documentation of illicit connection and illegal dumping incidents, including significant conditionally exempt discharges that are not properly managed.
- Document training activities.

Potential Limitations and Work-Arounds

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended "work-arounds."

- Many facilities do not have accurate, up-to-date 'as-built' plans or drawings which may be necessary in order to conduct non-stormwater discharge assessments.
  - ✓ Online tools such as Google Earth™ can provide an aerial view of the facility and may be useful in understanding drainage patterns and potential sources of non-stormwater discharges
  - ✓ Local municipal jurisdictions may have useful drainage systems maps.

- Video surveillance cameras are commonly used to secure the perimeter of industrial facilities against break-ins and theft. These surveillance systems may also be useful for capturing illegal dumping activities. Minor, temporary adjustments to the field of view of existing surveillance camera systems to target known or suspected problem areas may be a cost-effective way of capturing illegal dumping activities and identifying the perpetrators.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital facility cost requirements may be minimal unless cross-connections to storm drains are detected.
- Indoor floor drains may require re-plumbing if cross-connections are detected.
- Leaky sanitary sewers will require repair or replacement which can have significant costs depending on the size and industrial activity at the facility.

Maintenance (including administrative and staffing)

- The primary effort is for staff time and depends on how aggressively a program is implemented.
- Costs for containment, and disposal of any leak or discharge is borne by the Discharger.
- Illicit connections can be difficult to locate especially if there is groundwater infiltration.
- Illegal dumping and illicit connection violations requires technical staff to detect and investigate them.

Supplemental Information

Permit Requirements

The IGP authorizes certain Non-Storm Water Discharges (NSWDs) provided BMPs are included in the SWPPP and implemented to:

- Reduce or prevent the contact of authorized NSWDs with materials or equipment that are potential sources of pollutants;
- Reduce, to the extent practicable, the flow or volume of authorized NSWDs;
- Ensure that authorized NSWDs do not contain quantities of pollutants that cause or contribute to an exceedance of a water quality standards (WQS); and,

- Reduce or prevent discharges of pollutants in authorized NSWDs in a manner that reflects best industry practice considering technological availability and economic practicability and achievability."

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The Storm Water Managers Resource Center, http://www.stormwatercenter.net/.

US EPA. National Pollutant Discharge Elimination System. Available online at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=111.

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Spill Prevention, Control & Cleanup SC-11

Description

Many activities that occur at an industrial or commercial site have the potential to cause accidental spills. Preparation for accidental spills, with proper training and reporting systems implemented, can minimize the discharge of pollutants to the environment.

Spills and leaks are one of the largest contributors of stormwater pollutants. Spill prevention and control plans are applicable to any site at which hazardous materials are stored or used. An effective plan should have spill prevention and response procedures that identify hazardous material storage areas, specify material handling procedures, describe spill response procedures, and provide locations of spill clean-up equipment and materials. The plan should take steps to identify and characterize potential spills, eliminate and reduce spill potential, respond to spills when they occur in an effort to prevent pollutants from entering the stormwater drainage system, and train personnel to prevent and control future spills. An adequate supply of spill clean-up materials must be maintained onsite.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	
Nutrients	
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	
Preventative Maintenance	
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

Approach

General Pollution Prevention Protocols

- ☐ Develop procedures to prevent/mitigate spills to storm drain systems.
- ☐ Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- ☐ Establish procedures and/or controls to minimize spills and leaks. The procedures should address:
  - ✓ Description of the facility, owner and address, activities, chemicals, and quantities present;

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- ✓ Facility map of the locations of industrial materials;
- ✓ Notification and evacuation procedures;
- ✓ Cleanup instructions;
- ✓ Identification of responsible departments; and
- ✓ Identify key spill response personnel.

- ☐ Recycle, reclaim, or reuse materials whenever possible. This will reduce the amount of process materials that are brought into the facility.

Spill and Leak Prevention and Response

Spill Prevention

- ☐ Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.

- ☐ If illegal dumping is observed at the facility:

  - ✓ Post "No Dumping" signs with a phone number for reporting illegal dumping and disposal. Signs should also indicate fines and penalties applicable for illegal dumping.
  - ✓ Landscaping and beautification efforts may also discourage illegal dumping.
  - ✓ Bright lighting and/or entrance barriers may also be needed to discourage illegal dumping.

- ☐ Store and contain liquid materials in such a manner that if the container is ruptured, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters, or groundwater.

- ☐ If the liquid is oil, gas, or other material that separates from and floats on water, install a spill control device (such as a tee section) in the catch basins that collects runoff from the storage tank area.

Preventative Maintenance

- ☐ Place drip pans or absorbent materials beneath all mounted taps, and at all potential drip and spill locations during filling and unloading of tanks. Any collected liquids or soiled absorbent materials must be reused/recycled or properly disposed.

- ☐ Store and maintain appropriate spill cleanup materials in a location known to all near the tank storage area; and ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.

- ☐ Sweep and clean the storage area monthly if it is paved, *do not hose down the area to a storm drain.*

- ☐ Check tanks (and any containment sumps) daily for leaks and spills. Replace tanks that are leaking, corroded, or otherwise deteriorating with tanks in good condition. Collect all spilled liquids and properly dispose of them.

- ☐ Label all containers according to their contents (e.g., solvent, gasoline).

- ☐ Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous).

- ☐ Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations).

- ☐ Identify key spill response personnel.

Spill Response

- ☐ Clean up leaks and spills immediately.

- ☐ Place a stockpile of spill cleanup materials where it will be readily accessible (e.g., near storage and maintenance areas).

- ☐ On paved surfaces, clean up spills with as little water as possible.

  - ✓ Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills.

  - ✓ If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.

  - ✓ If possible use physical methods for the cleanup of dry chemicals (e.g., brooms, shovels, sweepers, or vacuums).

- ☐ Never hose down or bury dry material spills. Sweep up the material and dispose of properly.

- ☐ Chemical cleanups of material can be achieved with the use of adsorbents, gels, and foams. Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.

- ☐ For larger spills, a private spill cleanup company or Hazmat team may be necessary.

Reporting

- Report spills that pose an immediate threat to human health or the environment to the Regional Water Quality Control Board or local authority as location regulations dictate.
- Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).
- Report spills to 911 for dispatch and clean-up assistance when needed. Do not contact fire agencies directly.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills);
  - ✓ Clean-up procedures; and
  - ✓ Responsible parties.

Employee Training Program

- Educate employees about spill prevention and cleanup.
- Well-trained employees can reduce human errors that lead to accidental releases or spills:
  - ✓ The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur; and
  - ✓ Employees should be familiar with the Spill Prevention Control and Countermeasure Plan.
- Employees should be educated about aboveground storage tank requirements. Employees responsible for aboveground storage tanks and liquid transfers should be thoroughly familiar with the Spill Prevention Control and Countermeasure Plan and the plan should be readily available.
- Train employees to recognize and report illegal dumping incidents.

Other Considerations (Limitations and Regulations)

- State regulations exist for facilities with a storage capacity of 10,000 gallons or more of petroleum to prepare a Spill Prevention Control and Countermeasure (SPCC) Plan (Health & Safety Code Chapter 6.67).
- State regulations also exist for storage of hazardous materials (Health & Safety Code Chapter 6.95), including the preparation of area and business plans for emergency response to the releases or threatened releases.
- Consider requiring smaller secondary containment areas (less than 200 sq. ft.) to be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

Requirements

Costs (including capital and operation & maintenance)

- Will vary depending on the size of the facility and the necessary controls.
- Prevention of leaks and spills is inexpensive. Treatment and/or disposal of contaminated soil or water can be quite expensive.

Maintenance (including administrative and staffing)

- Develop spill prevention and control plan, provide and document training, conduct inspections of material storage areas, and supply spill kits.
- Extra time is needed to properly handle and dispose of spills, which results in increased labor costs.

Supplemental Information

Further Detail of the BMP

Reporting

Record keeping and internal reporting represent good operating practices because they can increase the efficiency of the facility and the effectiveness of BMPs. A good record keeping system helps the facility minimize incident recurrence, correctly respond with appropriate cleanup activities, and comply with legal requirements. A record keeping and reporting system should be set up for documenting spills, leaks, and other discharges, including discharges of hazardous substances in reportable quantities. Incident records describe the quality and quantity of non-stormwater discharges to the storm sewer. These records should contain the following information:

- Date and time of the incident;
- Weather conditions;
- Duration of the spill/leak/discharge;

- Cause of the spill/leak/discharge;
- Response procedures implemented;
- Persons notified; and
- Environmental problems associated with the spill/leak/discharge.

Separate record keeping systems should be established to document housekeeping and preventive maintenance inspections, and training activities. All housekeeping and preventive maintenance inspections should be documented. Inspection documentation should contain the following information:

- Date and time the inspection was performed;
- Name of the inspector;
- Items inspected;
- Problems noted;
- Corrective action required; and
- Date corrective action was taken.

Other means to document and record inspection results are field notes, timed and dated photographs, videotapes, and drawings and maps.

Aboveground Tank Leak and Spill Control

Accidental releases of materials from aboveground liquid storage tanks present the potential for contaminating stormwater with many different pollutants. Materials spilled, leaked, or lost from tanks may accumulate in soils or on impervious surfaces and be carried away by stormwater runoff.

The most common causes of unintentional releases are:

- Installation problems;
- Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves);
- External corrosion and structural failure;
- Spills and overfills due to operator error; and
- Leaks during pumping of liquids or gases from truck or rail car to a storage tank or vice versa.

Storage of reactive, ignitable, or flammable liquids should comply with the Uniform Fire Code and the National Electric Code. Practices listed below should be employed to enhance the code requirements:

- Tanks should be placed in a designated area.
- Tanks located in areas where firearms are discharged should be encapsulated in concrete or the equivalent.
- Designated areas should be impervious and paved with Portland cement concrete, free of cracks and gaps, in order to contain leaks and spills.
- Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10 percent of the volume of all of the containers or 110 percent of the volume of the largest container, whichever is greater. The area inside the curb should slope to a drain.
- For used oil or dangerous waste, a dead-end sump should be installed in the drain.
- All other liquids should be drained to the sanitary sewer if available. The drain must have a positive control such as a lock, valve, or plug to prevent release of contaminated liquids.
- Accumulated stormwater in petroleum storage areas should be passed through an oil/water separator.

Maintenance is critical to preventing leaks and spills. Conduct routine inspections and:

- Check for external corrosion and structural failure.
- Check for spills and overfills due to operator error.
- Check for failure of piping system (pipes, pumps, flanges, coupling, hoses, and valves).
- Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.
- Visually inspect new tank or container installation for loose fittings, poor welding, and improper or poorly fitted gaskets.
- Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- Frequently relocate accumulated stormwater during the wet season.

- Periodically conduct integrity testing by a qualified professional.

Vehicle Leak and Spill Control

Major spills on roadways and other public areas are generally handled by highly trained Hazmat teams from local fire departments or environmental health departments. The measures listed below pertain to leaks and smaller spills at vehicle maintenance shops.

In addition to implementing the spill prevention, control, and clean up practices above, use the following measures related to specific activities:

Vehicle and Equipment Maintenance

- Perform all vehicle fluid removal or changing inside or under cover to prevent the run-on of stormwater and the runoff of spills.
- Regularly inspect vehicles and equipment for leaks, and repair immediately.
- Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Immediately drain all fluids from wrecked vehicles.
- Store wrecked vehicles or damaged equipment under cover.
- Place drip pans or absorbent materials under heavy equipment when not in use.
- Use absorbent materials on small spills rather than hosing down the spill.
- Remove the adsorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- Oil filters disposed of in trashcans or dumpsters can leak oil and contaminate stormwater. Place the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

- Design the fueling area to prevent the run-on of stormwater and the runoff of spills:

  Cover fueling area if possible.

  Use a perimeter drain or slope pavement inward with drainage to a sump.

  Pave fueling area with concrete rather than asphalt.

- If dead-end sump is not used to collect spills, install an oil/water separator.
- Install vapor recovery nozzles to help control drips as well as air pollution.
- Discourage "topping-off' of fuel tanks.
- Use secondary containment when transferring fuel from the tank truck to the fuel tank.
- Use absorbent materials on small spills and general cleaning rather than hosing down the area. Remove the absorbent materials promptly.
- Carry out all Federal and State requirements regarding underground storage tanks, or install above ground tanks.
- Do not use mobile fueling of mobile industrial equipment around the facility; rather, transport the equipment to designated fueling areas.
- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Train employees in proper fueling and cleanup procedures.

Industrial Spill Prevention Response

For the purposes of developing a spill prevention and response program to meet the stormwater regulations, facility managers should use information provided in this fact sheet and the spill prevention/response portions of the fact sheets in this handbook, for specific activities.

The program should:

- Integrate with existing emergency response/hazardous materials programs (e.g., Fire Department).
- Develop procedures to prevent/mitigate spills to storm drain systems.
- Identify responsible departments.

- Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- Address spills at municipal facilities, as well as public areas.
- Provide training concerning spill prevention, response and cleanup to all appropriate personnel.

References and Resources

California's Nonpoint Source Program Plan. http://www.swrcb.ca.gov/nps/index.html.

Clark County Storm Water Pollution Control Manual. Available online at: http://www.co.clark.wa.us/pubworks/bmpman.pdf.

King County Storm Water Pollution Control Manual. Available online at: http://dnr.metrokc.gov/wlr/dss/spcm.htm.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities

Santa Clara Valley Urban Runoff Pollution Prevention Program. http://www.scvurppp.org.

The Stormwater Managers Resource Center. http://www.stormwatercenter.net/.

Waste Handling & Disposal SC-34

Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, reuse, and recycling; and preventing run-on and runoff.

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Accomplish reduction in the amount of waste generated using the following source controls:
  - ✓ Production planning and sequencing;
  - ✓ Process or equipment modification;
  - ✓ Raw material substitution or elimination;
  - ✓ Loss prevention and housekeeping;
  - ✓ Waste segregation and separation; and
  - ✓ Close loop recycling.
- ☐ Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.
- ☐ Recycle materials whenever possible.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	
Nutrients	
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	✓
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	✓
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- Use the entire product before disposing of the container.
- To the extent possible, store wastes under cover or indoors after ensuring all safety concerns such as fire hazard and ventilation are addressed.
- Provide containers for each waste stream at each work station. Allow time after shift to clean area.

Good Housekeeping

- Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater run-on and runoff with a berm. The waste containers or piles must be covered except when in use.
- Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain. Clean in a designated wash area that drains to a clarifier.
- Transfer waste from damaged containers into safe containers.
- Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.
- Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Stencil or demarcate storm drains on the facility's property with prohibitive message regarding waste disposal.
- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- If possible, move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.

Preventative Maintenance

- Prevent stormwater run-on from entering the waste management area by enclosing the area or building a berm around the area.
- Prevent waste materials from directly contacting rain.

- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- Cover the area with a permanent roof if feasible.
- Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, vacuuming, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Repair leaking equipment including valves, lines, seals, or pumps promptly.

Spill Response and Prevention Procedures

- Keep your spill prevention and plan up-to-date.
- Have an emergency plan, equipment and trained personnel ready at all times to deal immediately with major spills.
- Collect all spilled liquids and properly dispose of them.
- Store and maintain appropriate spill cleanup materials in a location known to all near the designated wash area.
- Ensure that vehicles transporting waste have spill prevention equipment that can prevent spills during transport. Spill prevention equipment includes:
  - ✓ Vehicles equipped with baffles for liquid waste; and
  - ✓ Trucks with sealed gates and spill guards for solid waste.

Material Handling and Waste Management

Litter Control

- Post “No Littering” signs and enforce anti-litter laws.
- Provide a sufficient number of litter receptacles for the facility.
- Clean out and cover litter receptacles frequently to prevent spillage.

Waste Collection

- Keep waste collection areas clean.

- Inspect solid waste containers for structural damage regularly. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc., may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).
- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal. Affix labels to all waste containers.

Chemical/Hazardous Wastes

- Select designated hazardous waste collection areas on-site.
- Store hazardous materials and wastes in covered containers and protect them from vandalism.
- Place hazardous waste containers in secondary containment.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.
- Hazardous waste cannot be reused or recycled; it must be disposed of by a licensed hazardous waste hauler.

Employee Training Program

- Educate employees about pollution prevention measures and goals.
- Train employees how to properly handle and dispose of waste using the source control BMPs described above.
- Train employees and subcontractors in proper hazardous waste management.
- Use a training log or similar method to document training.
- Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.

Quality Assurance and Record Keeping

- Keep accurate maintenance logs that document minimum BMP activities performed for waste handling and disposal, types and quantities of waste disposed of, and any improvement actions.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.

- Establish procedures to complete logs and file them in the central office.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital costs will vary substantially depending on the size of the facility and the types of waste handled. Significant capital costs may be associated with reducing wastes by modifying processes or implementing closed-loop recycling.
- Many facilities will already have indoor covered areas where waste materials will be stored and will require no additional capital expenditures for providing cover.
- If outdoor storage of wastes is required, construction of berms or other means to prevent stormwater run-on and runoff may require appropriate constructed systems for containment.
- Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

Maintenance

- Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Repair leaking equipment including valves, lines, seals, or pumps promptly.

References and Resources

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook*. Available online at: http://www.pca.state.mn.us/index.php/view-document.html?gid=10557.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315,* Revised. Available online at: http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf.

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Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 26 Fueling and Liquid Loading/Unloading Operations*. Available online at: http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf.

Sacramento County Environmental Management Stormwater Program: Best Management Practices. Available online at: http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html.

Santa Clara Valley Urban Runoff Pollution Prevention Program. http://www.scvurppp-w2k.com/

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA's Multi Sector General Permit. Available online at: http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm.

Appendix E

Soils Report

Sladden Engineering

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www.Sladdenengineering.com

December 7, 2022

Project No. 544-22493
22-12-717

Evangelos Pistiolis
40-315 Cholla Lane
Rancho Mirage, California 92270

Project: Proposed Residential Subdivision
APN's 689-130-005, 014,017,018
APN's 689-090-003 & 689-140-022
Peterson Road
Rancho Mirage, California

Subject: Geotechnical Update

Ref: Geotechnical Investigation report prepared by Sladden Engineering dated October 19, 2010; Project No. 544-10159, Report No. 10-10-237

In accordance with your request, we have reviewed the above referenced Geotechnical Investigation report as it relates to the design and construction of the residential subdivision proposed for the approximately 20-acre site (identified as APN's 689-130-005, 014,017,018, 689-090-003 & 689-140-022) located on Peterson Road in the City of Rancho Mirage, California. It is our understanding that the proposed residential structures will be of relatively lightweight wood-frame or light gauge steel-frame construction and will be supported by conventional shallow spread footings and concrete slabs on grade.

The referenced report includes recommendations pertaining to the construction of residential structure foundations. Based upon our review of the referenced report, our previous experience of the project site and our understanding of the proposed construction, it is our opinion that the structural values and remedial grading recommendations included in this report remain applicable for the design and construction of the residential subdivision development.

The proposed residential buildings may be supported upon conventional shallow spread footings. Conventional shallow spread footings should be bottomed into properly compacted engineered fill material a minimum of 12 inches below lowest adjacent grade. Continuous footings should be at least 12 inches wide and isolated pad footings should be at least 2 feet wide. Continuous footings and isolated pad footings should be designed utilizing allowable bearing pressures of 1800 psf and 2000 psf, respectively. Allowable increases of 250 psf for each additional 1 foot of width and 250 psf for each additional 6 inches of depth may be utilized, if desired. The maximum allowable bearing pressure should be 2500 psf. The recommended allowable bearing pressures may be increased by one-third for wind and seismic loading.

Static settlement resulting from the anticipated foundation loads should be tolerable provided that the recommendations included in this report are considered in foundation design and construction. The ultimate static settlement is expected to be less than 1.0 inch when using the recommended allowable foundation bearing pressures. As a practical matter, differential static settlement between footings can be assumed as one-half of the total static settlement.

Lateral forces may be resisted by friction along the base of the foundations and passive resistance along the sides of the footings. A friction coefficient of 0.45 times the normal dead load forces is recommended for use in design. Passive resistance may be estimated using an equivalent fluid weight of 300 pcf. If used in combination with the passive resistance, the frictional resistance should be reduced by one third.

The bearing soil is non-expansive and falls within the "very low" expansion category in accordance with 2019 California Building Code (CBC) classification criteria. Slab thickness and reinforcement should be determined by the structural engineer. We recommend a minimum floor slab thickness of 4.0 inches and minimum reinforcement of #3 bars at 24 inches on center in both directions. All slab reinforcement should be supported on concrete chairs to ensure that reinforcement is placed at slab mid-height.

Slabs with moisture sensitive surfaces should be underlain with a moisture vapor retarder consisting of a polyvinyl chloride membrane such as 10-mil Visqueen, or equivalent. All laps within the membrane should be sealed and at least 2 inches of clean sand should be placed over the membrane to promote uniform curing of the concrete. To reduce the potential for punctures, the membrane should be placed on a pad surface that has been graded smooth without any sharp protrusions. If a smooth surface cannot be achieved by grading, consideration should be given to placing a 1-inch thick leveling course of sand across the pad surface prior to placement of the membrane.

Minor retaining walls may be necessary to accomplish the proposed construction. Lateral pressures for use in retaining wall design may be estimated using an equivalent fluid weight of 35 pcf for level drained native backfill conditions. For walls that are to be restrained at the top, the equivalent fluid weight should be increased to 55 pcf for level drained native backfill conditions. Back drains should be provided for the full height of the walls. Seismic pressures should be incorporated into any retaining walls greater than 6 feet in height. Seismic deign pressures may be provided once specific wall heights and locations are known.

The seismic design category for a structure may be determined in accordance with Section 1613 of the 2019 CBC or ASCE7-16. According to the 2019 CBC, Site Class D may be used to estimate design seismic loading for the proposed structures. The 2019 CBC Site Specific Seismic Hazard Analyses are attached. The project Structural Engineer should verify that all design parameters provided are applicable for the subject project.

In order to provide for firm and uniform foundation bearing conditions, the primary foundation bearing soil should be over-excavated and recompacted. Over-excavation should extend to a minimum depth of 5 feet below existing grade or 5 feet below the bottom of the footings, whichever is deeper. Once adequate removals have been verified, the exposed native soil should be moisture conditioned to near optimum moisture content and compacted to at least 90 percent relative compaction. The previously removed material may then be placed in thin lifts at near optimum moisture content and compacted to at least 90 percent relative compaction compacted engineered fill. Removals should extend at least 5 feet laterally beyond the footing limits.

We appreciate the opportunity to provide service to you on this project. If you have any questions regarding this letter or the referenced report, please contact the undersigned.

Respectfully submitted,
SLADDEN ENGINEERING

Brett L. Anderson
Principal Engineer

SER/cg

Matthew J. Cohrt
Principal Geologist

Copies: pdf/ Addressee

Project: Peterson Road, Rancho Mirage
Project Number: 544-22493
Client: Evangelos Pistiolis
Site Lat/Long: 33.7690/-116.4391
Controlling Seismic Source: San Andreas

REFERENCE	NOTATION	VALUE
Site Class	C, D, D default, or E	D measured
Site Class D - Table 11.4-1	F_a	1.0
Site Class D - 21.3(ii)	F_v	2.5
$0.2*(S_{D1}/S_{DS})$	T_0	0.140
S_{D1}/S_{DS}	T_S	0.698
Fundamental Period (12.8.2)	T	Period
Seismic Design Maps or Fig 22-14	T_L	8
Equation 11.4-4 - $2/3*S_{M1}$	S_{D1}	0.7095*
Equation 11.4-2 - F_v*S_1	S_{M1}	1.0642*

REFERENCE	NOTATION	VALUE
Fv (Table 11.4-2)[Used for General Spectrum]	F_v	1.7
Design Maps	S_s	1.524
Design Maps	S_1	0.626
Equation 11.4-1 - F_A*S_S	S_{MS}	1.524*
Equation 11.4-3 - $2/3*S_{MS}$	S_{DS}	1.016*
Design Maps	PGA	0.668
Table 11.8-1	F_{PGA}	1.1
Equation 11.8-1 - $F_{PGA}*PGA$	PGA_M	0.735*
Section 21.5.3	80% of PGA_M	0.588
Design Maps	C_{RS}	0.913
Design Maps	C_{R1}	0.894

RISK COEFFICIENT

Cr - At Perods <=0.2, Cr=C_{RS}	C_{RS}	0.913
Cr - At Periods >=1.0, Cr=C_{R1}	C_{R1}	0.894

Cr - At Periods between 0.2 and 1.0 use trendline formula to complete

Period	Cr
0.200	0.913
0.300	0.911
0.400	0.908
0.500	0.906
0.600	0.904
0.680	0.902
1.000	0.894

* **Code based design value.** See accompanying data for Site Specific Design values.

Mapped values from https://seismicmaps.org/

Sladden Engineering

PROBABILISTIC SPECTRA[1]
2% in 50 year Exceedence

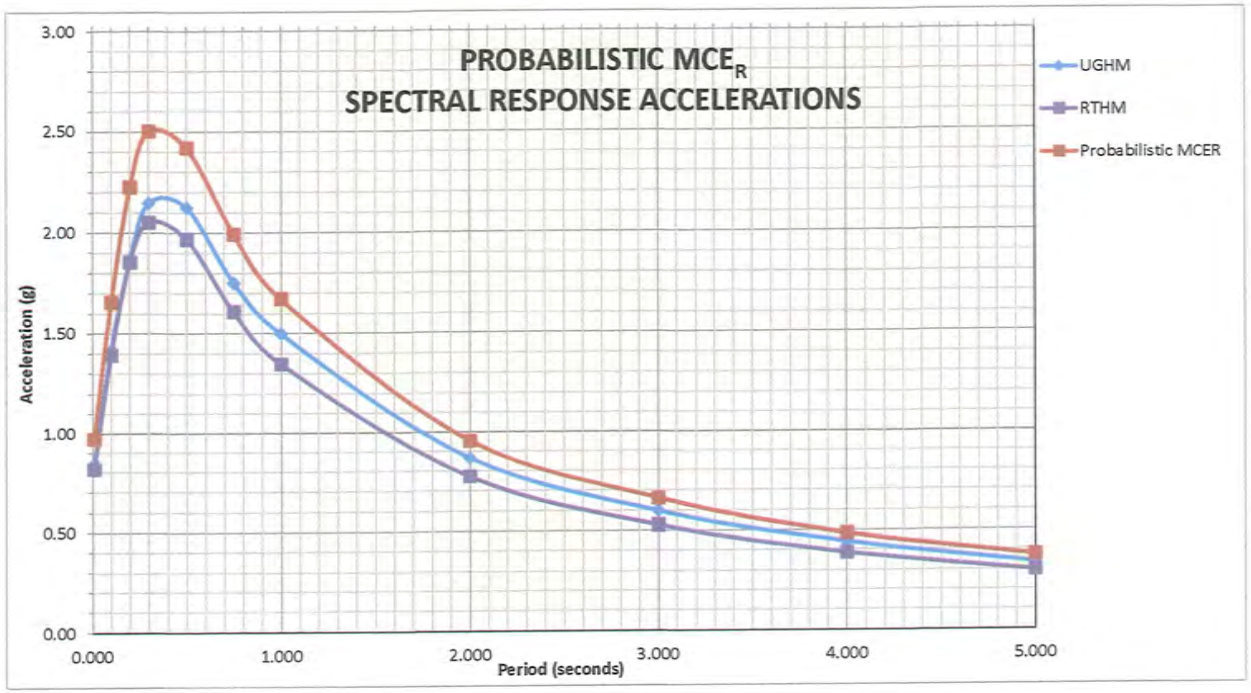
Project No: 544-22493

Period	UGHM	RTHM	Max Directional Scale Factor[2]	Probabilistic MCE
0.010	0.844	0.816	1.19	0.971
0.100	1.418	1.392	1.19	1.656
0.200	1.868	1.853	1.20	2.224
0.300	2.145	2.050	1.22	2.501
0.500	2.123	1.967	1.23	2.419
0.750	1.750	1.606	1.24	1.991
1.000	1.497	1.346	1.24	1.669
2.000	0.867	0.770	1.24	0.955
3.000	0.597	0.527	1.25	0.659
4.000	0.441	0.386	1.25	0.483
5.000	0.337	0.297	1.26	0.374

Probabilistic PGA: 0.844
Is Probabilistic $Sa_{(max)}$<1.2F_a? NO

[1] Data Sources:
https://earthquake.usgs.gov/hazards/interactive/
https://earthquake.usgs.gov/designmaps/rtgm/

[2] Shahi-Baker RotD100/RotD50 Factors (2014)



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DETERMINISTIC SPECTRUM

Largest Amplitudes of Ground Motions Considering All Sources Calculated using Weighted Mean of Attenuation Equations[1]

Controlling Source: San Andreas

Is Probabilistic $Sa_{(max)}$<1.2Fa? NO

Project No: 544-22493

Period	Deterministic PSa Median + 1.σ for 5% Damping	Max Directional Scale Factor[2]	Deterministic MCE	Section 21.2.2 Scaling Factor Applied
0.010	0.649	1.19	0.772	0.772
0.020	0.650	1.19	0.773	0.773
0.030	0.660	1.19	0.785	0.785
0.050	0.704	1.19	0.837	0.837
0.075	0.846	1.19	1.007	1.007
0.100	1.006	1.19	1.197	1.197
0.150	1.241	1.20	1.490	1.490
0.200	1.391	1.20	1.669	1.669
0.250	1.491	1.21	1.804	1.804
0.300	1.543	1.22	1.882	1.882
0.400	1.550	1.23	1.907	1.907
0.500	1.496	1.23	1.840	1.840
0.750	1.206	1.24	1.495	1.495
1.000	1.010	1.24	1.252	1.252
1.500	0.727	1.24	0.901	0.901
2.000	0.555	1.24	0.688	0.688
3.000	0.381	1.25	0.476	0.476
4.000	0.270	1.25	0.337	0.337
5.000	0.201	1.26	0.253	0.253

Is Determinstic $Sa_{(max)}$<1.5*Fa? NO

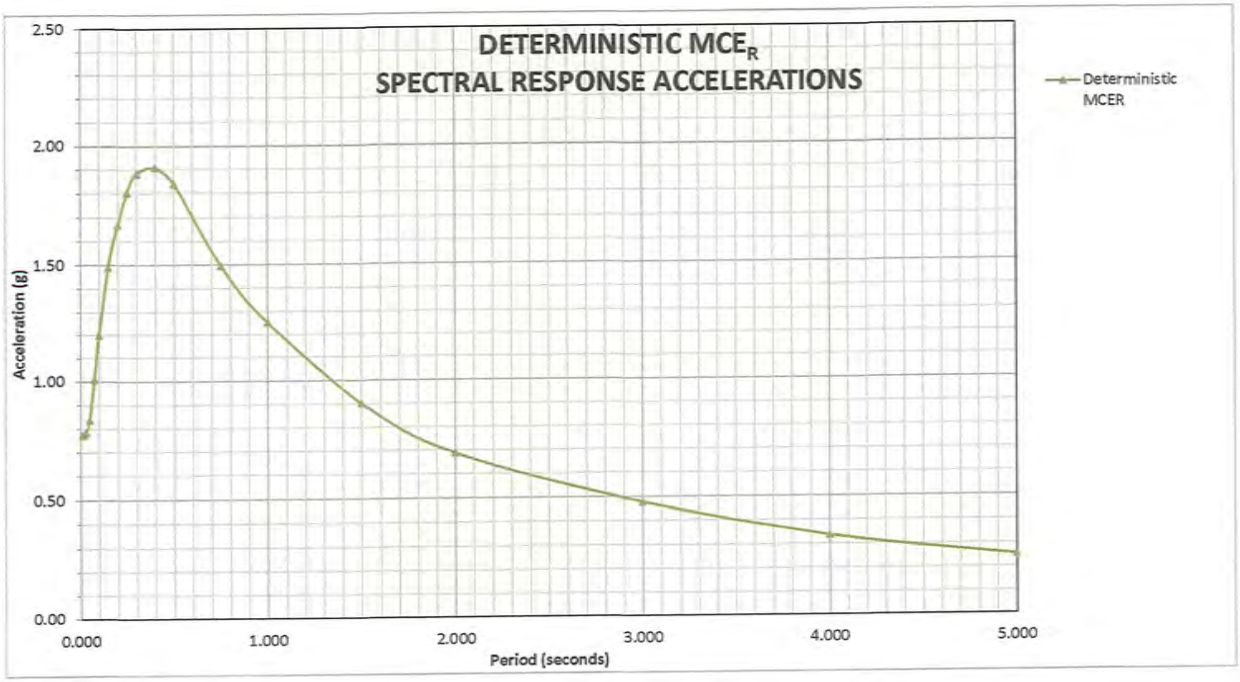
Section 21.2.2 Scaling Factor: N/A

Deterministic PGA: 0.649

Is Deterministic PGA >=F_{PGA}*0.5? YES

[1] NGAWest 2 GMPE worksheet and Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3) - Time Dependent Model

[2] Shahi-Baker RotD100/RotD50 Factors (2014)



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SITE SPECIFIC SPECTRA

Period	Probabilistic MCE	Deterministic MCE	Site-Specific MCE	Design Response Spectrum (Sa)
0.010	0.971	0.772	0.772	0.515
0.100	1.656	1.197	1.197	0.798
0.200	2.224	1.669	1.669	1.113
0.300	2.501	1.882	1.882	1.255
0.500	2.419	1.840	1.840	1.226
0.750	1.991	1.495	1.495	0.997
1.000	1.669	1.252	1.252	0.835
2.000	0.955	0.688	0.688	0.459
3.000	0.659	0.476	0.476	0.317
4.000	0.483	0.337	0.337	0.225
5.000	0.374	0.253	0.253	0.169

ASCE 7-16: Section 21.4

Site Specific

	Calculated Value	Design Value
SDS:	1.129	1.129
SD1:	0.952	0.952
SMS:	1.694	1.694
SM1:	1.429	1.429
Site Specific PGAm:	0.649	0.649
Site Class:	D measured	

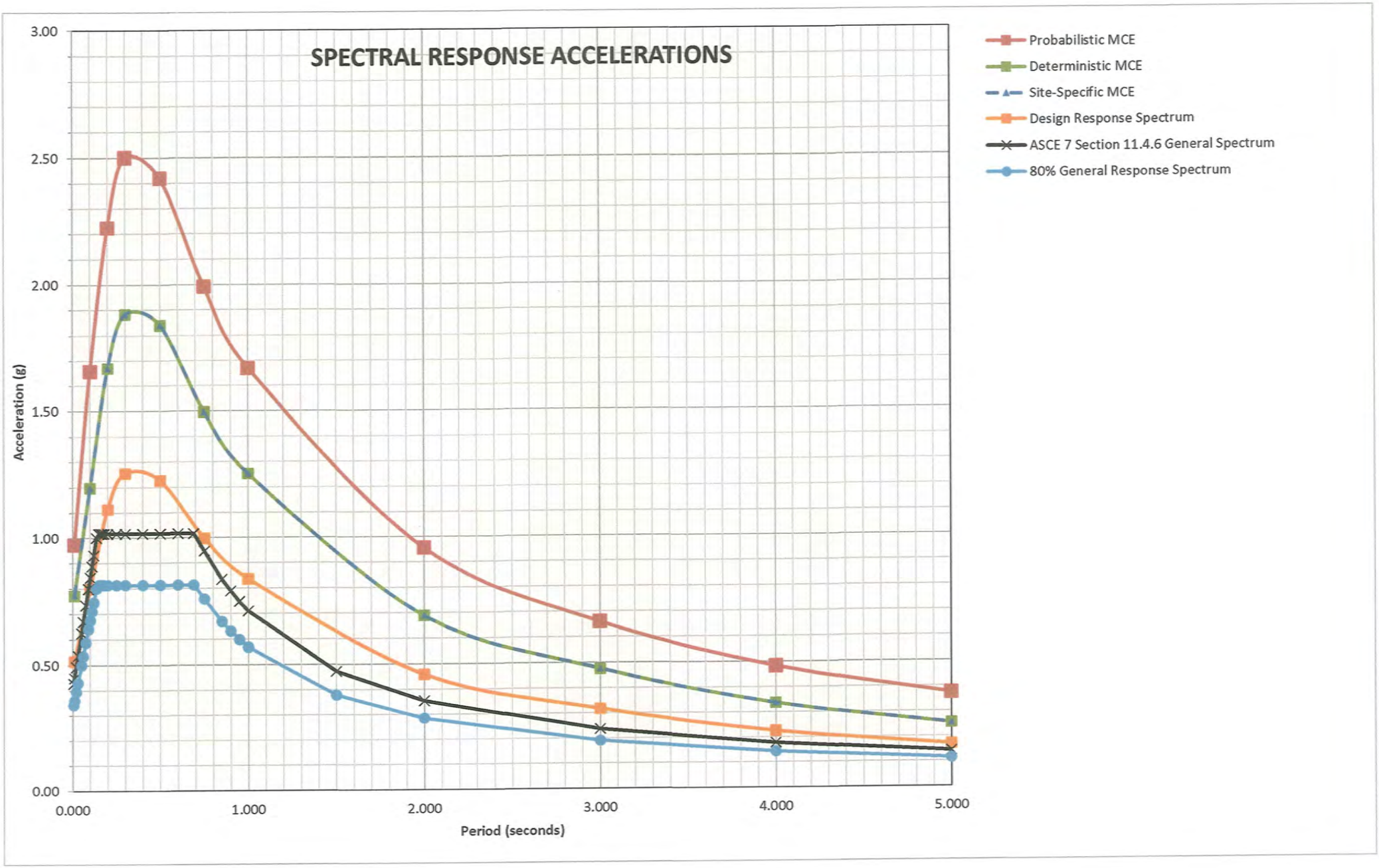
Seismic Design Category - Short* D

Seismic Design Category - 1s* D

* Risk Categories I, II, or III

Period	ASCE 7 SECTION 11.4.6 General Spectrum	80% General Response Spectrum
0.005	0.428	0.343
0.010	0.450	0.360
0.020	0.494	0.395
0.030	0.537	0.430
0.050	0.625	0.500
0.060	0.668	0.535
0.075	0.734	0.587
0.090	0.799	0.639
0.100	0.843	0.674
0.110	0.887	0.709
0.120	0.930	0.744
0.136	1.000	0.800
0.150	1.016	0.813
0.160	1.016	0.813
0.170	1.016	0.813
0.180	1.016	0.813
0.200	1.016	0.813
0.250	1.016	0.813
0.300	1.016	0.813
0.400	1.016	0.813
0.500	1.016	0.813
0.600	1.016	0.813
0.690	1.016	0.813
0.750	0.946	0.757
0.850	0.835	0.668
0.900	0.788	0.631
0.950	0.747	0.597
1.000	0.709	0.568
1.500	0.473	0.378
2.000	0.355	0.284
3.000	0.236	0.189
4.000	0.177	0.142
5.000	0.142	0.114

Project No: 544-22493


SPECTRAL RESPONSE ACCELERATIONS
Probabilistic MCE
Deterministic MCE
Site-Specific MCE
Design Response Spectrum
ASCE 7 Section 11.4.6 General Spectrum
80% General Response Spectrum
Acceleration (g)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0.000
1.000
2.000
3.000
4.000
5.000
Period (seconds)

Appendix F

Hydrology Report, Structural BMP and/or Retention Facility Sizing Calculations and Design Details

PRELIMINARY HYDROLOGY STUDY
for
TENTATIVE TRACT MAP 38971
RANCHO MIRAGE, CALIFORNIA

Prepared for:
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Prepared by:

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July 9, 2024

Table of Contents

I. Report

II. Reference Material

a. Vicinity Map
b. Flood Insurance Rate Map (U.S. Department of Homeland Security Federal Emergency Management Act Map Service Center)
c. Hydrologic Soils Group Maps (From US Department of Agriculture Soil Conservation Service)
d. Point Precipitation Frequency (National Oceanic and Atmospheric Administration's Precipitation Frequency Data Server)
e. City of Rancho Mirage Retention Basin Standard Detail 310.
f. Impervious Cover for Developed Areas – Plate D-5.6 (RCFC&WCD Hydrology Manual).
g. Runoff Index– Plate D-5.5-Pg 1 (RCFC&WCD Hydrology Manual).
h. Pervious Area Loss Rate – Plate E-6.2 (RCFC&WCD Hydrology Manual).
i. SUH Shortcut Method Basin and Runoff Calculation Spreadsheet

VI. Exhibit

i. Preliminary Hydrology Exhibit

PRELIMINARY HYDROLOGY STUDY FOR TENTATIVE TRACT MAP 38971

PROJECT SITE LOCATION

The 20.05-acre 16 lot proposed Tentative Tract Map site is located on Peterson Road, west of Mirage Cove Drive, in the City of Rancho Mirage, County of Riverside, California. The proposed development site lies in Section 2, T5S, R5E, and SBBM, with APNs: 689-090-003, 689-130-004, -005, -013, -014, -017, -018 and 689-140-022.

PROJECT SITE DESCRIPTION

The project site is presently vacant. Existing elevations vary from 264 down to 257 with a slight slope. The site is entirely composed of Hydrologic Soil Type "A". A Tentative Tract Map is proposed on this site. The project site area is in shaded Zone X, which is described as: "2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile". (See Riverside County Flood Insurance Rate Map numbers 06065C1589G and 06065C1595G, Effective August 28, 2008, in Reference Materials).

PURPOSE

Each proposed lot within the project site was separately analyzed for proposed condition basin capacity using Synthetic Unit Hydrograph Shortcut Method for the 1, 3, 6, and 24-hour duration 100-year storm event to determine the worst-case contributing runoff volume. This computed runoff volume was used to size a proposed retention basin for each lot as per City of Rancho Mirage Standard Detail 310 for Retention Basins. The runoff from each proposed onsite area would be directed via swale system to the proposed retention basin. Adjacent half street frontage was added to the runoff area of each lot.

METHODOLOGY

The materials included with this study are presented to satisfy the criteria set forth in the Riverside County Flood Control & Water Conservation District (RCFC & WCD) Hydrology Manual. The onsite/offsite post-developed condition design runoff volume was determined using the worst of the 1, 3, 6, and 24-hour duration storm for the 100-year event. Peak discharges of the 100-year storm event will be determined with the Rational Formula. Synthetic Unit Hydrograph (SUH) calculations were performed in accordance with RCFC & WCD criteria. The Hydrologic Soil Group area was determined with the Natural Resources Conservation Service's National Cooperative Soil Survey (See Reference Material). Point precipitation frequency data was obtained with the National Oceanic and Atmospheric Administration's (NOAA) Precipitation Frequency Data Server from Atlas 14 (See Reference Material.). The NOAA point precipitation data of the 100-year event will be plotted on a log-log plot to obtain the slope of intensity duration curve which will be used in the Rational Method analysis. Any necessary storm drains will be modeled with the computer modeling software, Hydraflow Storm Sewers Extensions for AutoCAD Civil3D 2024, by Autodesk, Inc. Any necessary storm drain inlets will be sized as per AutoCAD Hydraflow Express Extension, Version 12.

RESULT OF SYNTHETIC UNIT HYDROGRAPH ANALYSIS

Summary of results of the Synthetic Unit Hydrograph (SUH) analysis are as follows:
Please refer to the attached Hydrology Plan, and SUH Calculation Spreadsheets in the Reference Materials

Proposed Onsite and Offsite Area Runoff to Basins

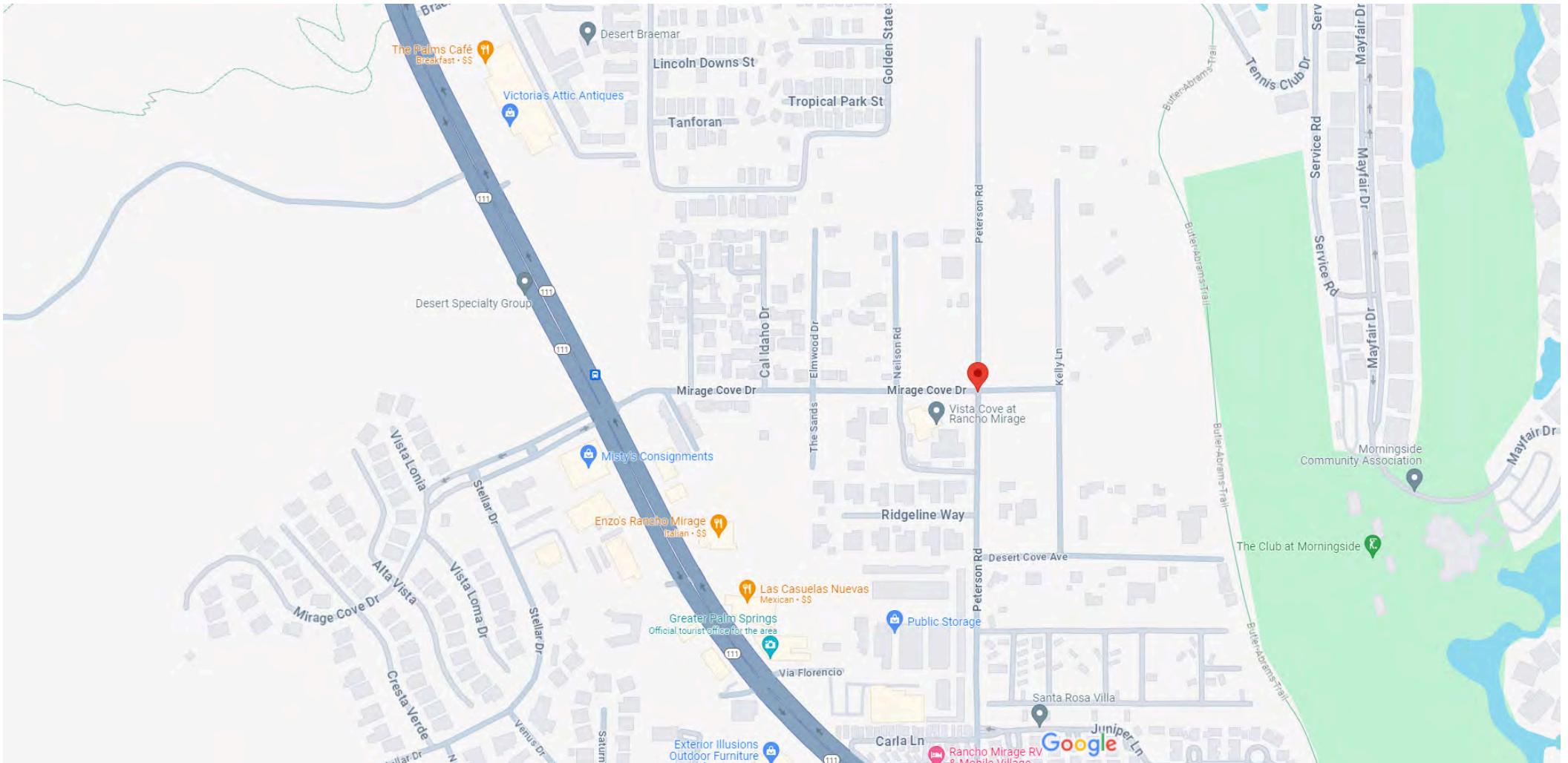
BASIN ID	*CONTRIBUTING AREA (ACRES) (STREET OFFSITE FRONTAGE 0.09AC)*	*STORM FREQUENCY (YEAR)*	*DURATION (HOUR)*	*PEAK RUNOFF STORAGE VOLUME VS INFILTRATION (CU-FT) -POST DEV*	*BASIN CAPACITY (CU-FT)*	*BASIN DEPTH (FT)*	*PEAK BASIN WATER DEPTH (FT)*
LOT 1	***1.09(1.00+0.09)***	***100***	***1***	***7,307***	***8,996***	***4***	***3.25***
LOT 2	***1.16(1.07+0.09)***	***100***	***1***	***7,777***	***8,239***	***4***	***3.78***
LOT 3	***1.18(1.09+0.09)***	***100***	***1***	***7,911***	***8,239***	***4***	***3.84***
LOT 4	***1.18(1.09+0.09)***	***100***	***1***	***7,911***	***8,239***	***4***	***3.84***
LOT 5	***1.18(1.09+0.09)***	***100***	***1***	***7,911***	***8,239***	***4***	***3.84***
LOT 6	***1.25(1.16+0.09)***	***100***	***1***	***8,380***	***8,471***	***4***	***3.96***
LOT 7	***1.25(1.16+0.09)***	***100***	***1***	***8,380***	***8,471***	***4***	***3.96***
LOT 8	***1.07(0.98+0.09)***	***100***	***1***	***7,173***	***8,239***	***4***	***3.48***
LOT 9	***1.07(0.98+0.09)***	***100***	***1***	***7,173***	***8,239***	***4***	***3.48***
LOT 10	***1.23(1.14+0.09)***	***100***	***1***	***8,246***	***8,331***	***5***	***4.95***
LOT 11	***1.45(1.36+0.09)***	***100***	***1***	***9,721***	***9,830***	***5***	***4.94***
LOT 12	***1.64(1.55+0.09)***	***100***	***1***	***10,995***	***11,159***	***5***	***4.93***
LOT 13	***1.12(1.03+0.09)***	***100***	***1***	***7,508***	***8,239***	***4***	***3.65***
LOT 14	***1.12(1.03+0.09)***	***100***	***1***	***7,508***	***8,239***	***4***	***3.65***
LOT 15	***1.12(1.03+0.09)***	***100***	***1***	***7,508***	***8,239***	***4***	***3.65***
LOT 16	***1.11(1.02+0.09)***	***100***	***1***	***7,441***	***8,239***	***4***	***3.61***

DISCUSSION

Basin infiltration was not used to size the retention basins. A percolation test will be performed in the future. The 1-hour storm was determined to be the worst case of the 1, 3, 6, and 24-hour duration 100-year storm events for the Synthetic Unit Hydrograph analysis. In general, each lot will have an independent retention basin sized to contain the 100-year 1-hour runoff from each respective lot as well as the adjacent half-street frontage. Each basin will be four to five feet deep with 3 to 1 side slopes and receive runoff from swale flow (See SUH Shortcut Calculations and Preliminary Hydrology Plan in the Reference Materials). The impermeable area used for calculations was based on a 1-acre residential lot from Plate D-5.6 of the RCFC&WCD Hydrology Manual and the adjacent half-street frontage was added. The Runoff Index was selected from Plate D-5.5 (1 of 2) of the RCFC&WCD Hydrology Manual.

REFERENCE MATERIAL

Google Maps Peterson Rd & Mirage Cove Dr

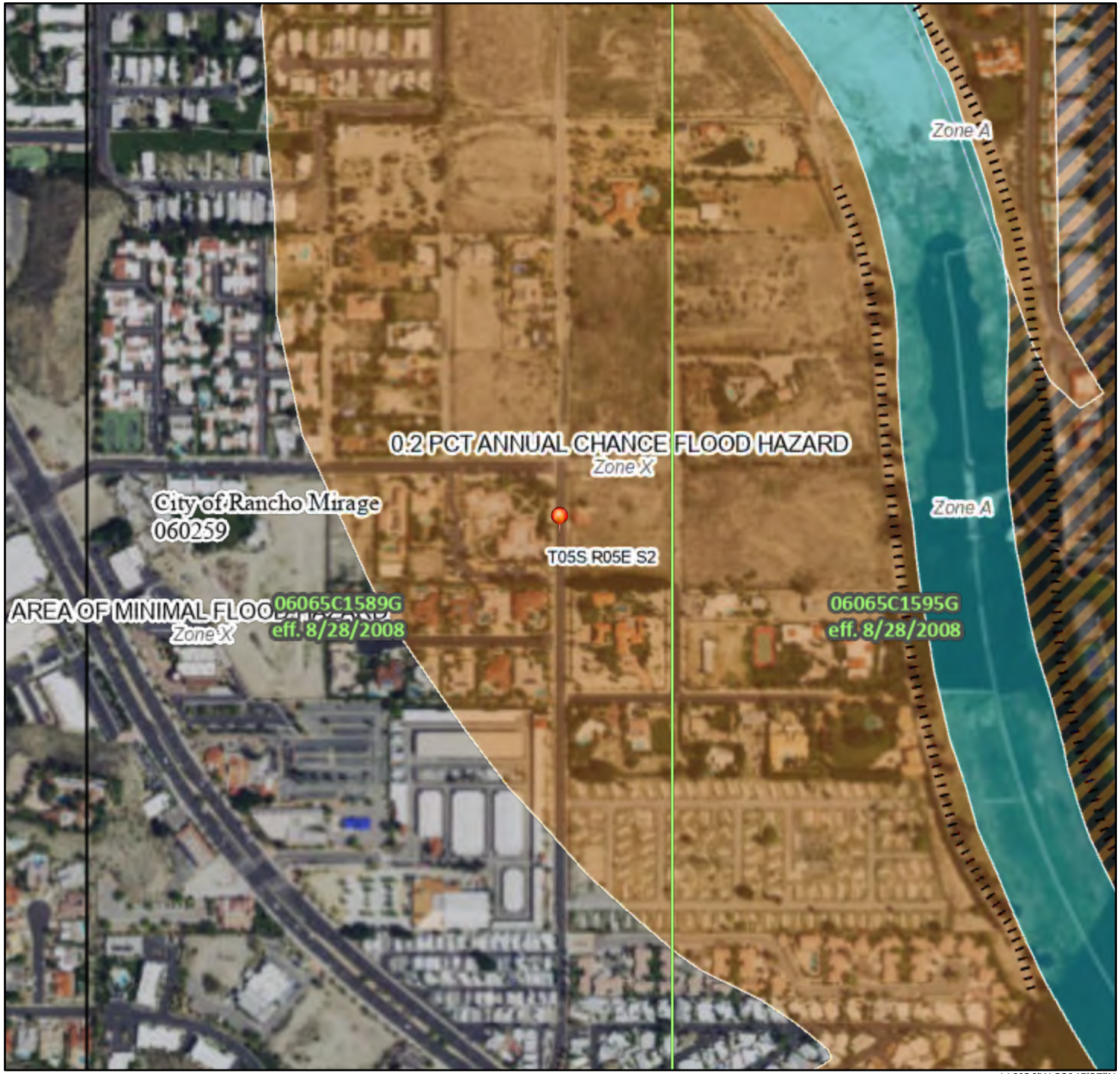


Map data ©2024 Google 200 ft

National Flood Hazard Layer FIRMette

FEMA

116°26'38"W 33°46'7"N



116°26'W 33°45'37"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/11/2024 at 4:17 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Hydrologic Soil Group—Riverside County, Coachella Valley Area, California
(North Area)

Map Scale: 1:2,470 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Riverside County, Coachella Valley Area, California
Survey Area Data: Version 15, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 15, 2022—May 28, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CpA	Coachella fine sand, 0 to 2 percent slopes	A	13.0	100.0%
Totals for Area of Interest			**13.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

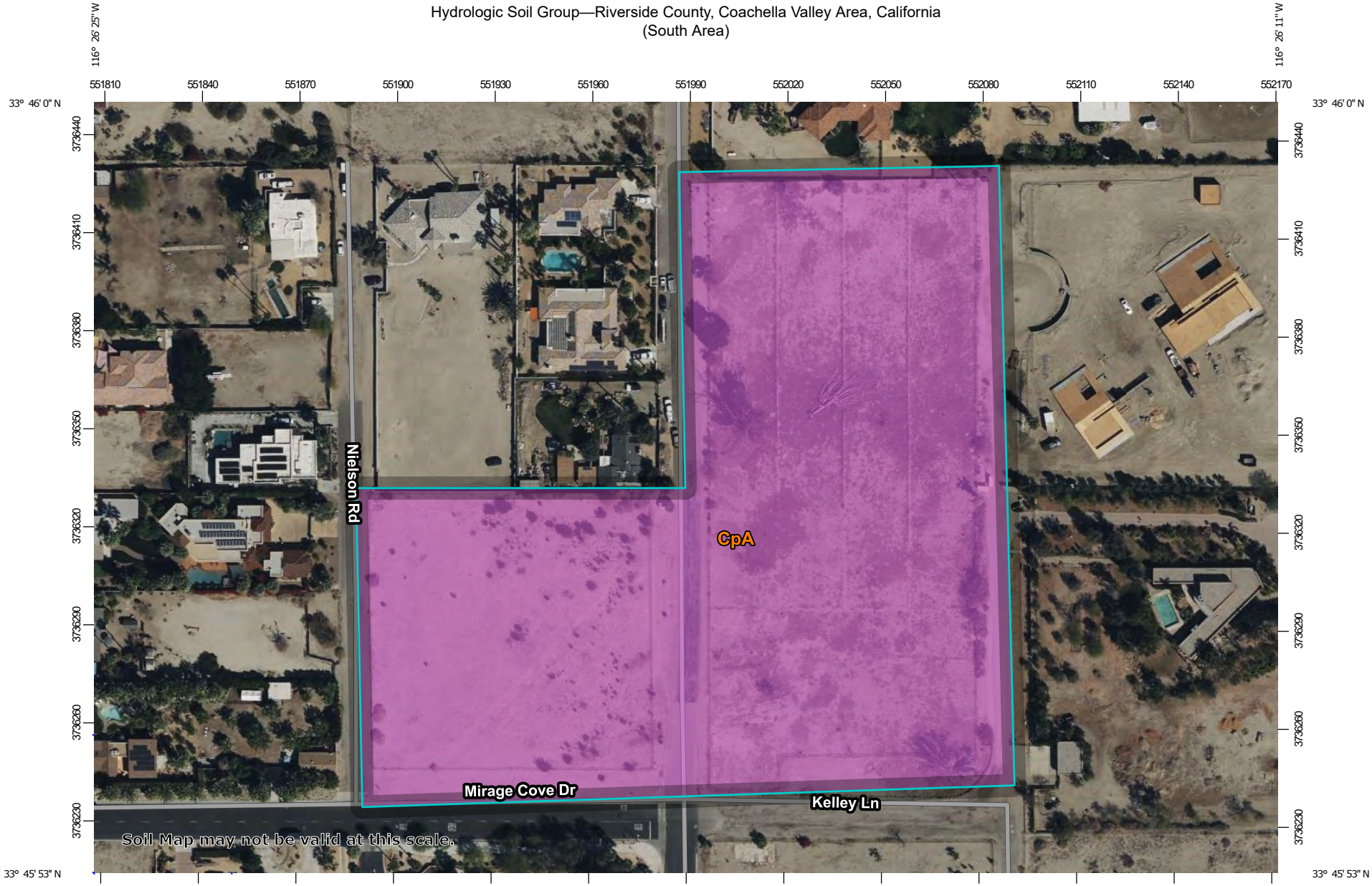
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Hydrologic Soil Group—Riverside County, Coachella Valley Area, California
(South Area)



Map Scale: 1:1,660 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Riverside County, Coachella Valley Area, California
Survey Area Data: Version 15, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 15, 2022—May 28, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CpA	Coachella fine sand, 0 to 2 percent slopes	A	7.1	100.0%
Totals for Area of Interest			**7.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

NOAA Atlas 14, Volume 6, Version 2
Location name: Rancho Mirage, California, USA*
Latitude: 33.767°, Longitude: -116.4389°
Elevation: 260 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.072** (0.060-0.087)	**0.117** (0.097-0.142)	**0.190** (0.157-0.231)	**0.260** (0.214-0.319)	**0.378** (0.301-0.479)	**0.488** (0.380-0.632)	**0.620** (0.471-0.824)	**0.800** (0.590-1.09)	**1.27** (0.901-1.82)	**1.81** (1.24-2.68)
10-min	**0.103** (0.086-0.124)	**0.168** (0.140-0.203)	**0.272** (0.226-0.330)	**0.373** (0.307-0.458)	**0.541** (0.431-0.687)	**0.699** (0.544-0.906)	**0.888** (0.675-1.18)	**1.15** (0.846-1.57)	**1.83** (1.29-2.61)	**2.60** (1.78-3.84)
15-min	**0.124** (0.104-0.150)	**0.203** (0.169-0.246)	**0.329** (0.273-0.400)	**0.451** (0.372-0.553)	**0.655** (0.521-0.831)	**0.845** (0.658-1.10)	**1.07** (0.816-1.43)	**1.39** (1.02-1.90)	**2.21** (1.56-3.15)	**3.14** (2.15-4.65)
30-min	**0.202** (0.169-0.245)	**0.330** (0.275-0.400)	**0.535** (0.444-0.650)	**0.734** (0.605-0.900)	**1.06** (0.848-1.35)	**1.38** (1.07-1.78)	**1.75** (1.33-2.32)	**2.26** (1.66-3.09)	**3.59** (2.54-5.13)	**5.12** (3.49-7.56)
60-min	**0.279** (0.233-0.338)	**0.455** (0.379-0.552)	**0.738** (0.613-0.898)	**1.01** (0.835-1.24)	**1.47** (1.17-1.87)	**1.90** (1.48-2.46)	**2.41** (1.83-3.21)	**3.12** (2.30-4.26)	**4.96** (3.51-7.08)	**7.06** (4.83-10.4)
2-hr	**0.374** (0.312-0.453)	**0.611** (0.509-0.741)	**0.969** (0.805-1.18)	**1.30** (1.07-1.60)	**1.82** (1.45-2.31)	**2.28** (1.77-2.95)	**2.80** (2.13-3.72)	**3.40** (2.51-4.66)	**5.01** (3.55-7.15)	**7.14** (4.87-10.6)
3-hr	**0.443** (0.369-0.536)	**0.721** (0.601-0.875)	**1.13** (0.940-1.38)	**1.50** (1.24-1.84)	**2.07** (1.65-2.62)	**2.56** (1.99-3.31)	**3.10** (2.36-4.12)	**3.72** (2.75-5.09)	**5.06** (3.58-7.22)	**7.21** (4.92-10.7)
6-hr	**0.593** (0.494-0.718)	**0.953** (0.794-1.16)	**1.47** (1.22-1.79)	**1.93** (1.59-2.36)	**2.60** (2.07-3.30)	**3.17** (2.47-4.11)	**3.79** (2.88-5.04)	**4.48** (3.31-6.14)	**5.51** (3.90-7.86)	**7.28** (4.97-10.8)
12-hr	**0.733** (0.611-0.888)	**1.16** (0.969-1.41)	**1.77** (1.47-2.15)	**2.30** (1.90-2.82)	**3.08** (2.45-3.91)	**3.72** (2.90-4.83)	**4.42** (3.36-5.88)	**5.19** (3.83-7.10)	**6.31** (4.46-9.00)	**7.35** (5.02-10.9)
24-hr	**0.867** (0.768-1.00)	**1.36** (1.20-1.57)	**2.06** (1.81-2.38)	**2.66** (2.33-3.10)	**3.54** (3.00-4.26)	**4.27** (3.54-5.24)	**5.05** (4.10-6.36)	**5.91** (4.66-7.64)	**7.16** (5.43-9.63)	**8.20** (6.02-11.4)
2-day	**0.996** (0.882-1.15)	**1.54** (1.36-1.78)	**2.32** (2.04-2.68)	**2.99** (2.62-3.49)	**3.98** (3.37-4.80)	**4.80** (3.99-5.90)	**5.69** (4.62-7.16)	**6.67** (5.26-8.62)	**8.09** (6.14-10.9)	**9.28** (6.81-12.9)
3-day	**1.06** (0.937-1.22)	**1.63** (1.44-1.88)	**2.44** (2.15-2.83)	**3.16** (2.76-3.68)	**4.21** (3.57-5.07)	**5.09** (4.23-6.26)	**6.05** (4.91-7.62)	**7.11** (5.62-9.20)	**8.67** (6.58-11.7)	**9.99** (7.33-13.9)
4-day	**1.09** (0.966-1.26)	**1.67** (1.48-1.93)	**2.51** (2.21-2.90)	**3.24** (2.84-3.78)	**4.33** (3.67-5.22)	**5.24** (4.35-6.44)	**6.24** (5.06-7.85)	**7.34** (5.80-9.49)	**8.97** (6.80-12.1)	**10.4** (7.59-14.4)
7-day	**1.19** (1.05-1.37)	**1.82** (1.61-2.10)	**2.73** (2.40-3.16)	**3.52** (3.08-4.11)	**4.71** (3.99-5.67)	**5.70** (4.73-7.00)	**6.78** (5.50-8.54)	**7.98** (6.30-10.3)	**9.76** (7.40-13.1)	**11.3** (8.25-15.7)
10-day	**1.26** (1.11-1.45)	**1.93** (1.70-2.22)	**2.89** (2.55-3.34)	**3.74** (3.27-4.36)	**5.00** (4.24-6.02)	**6.06** (5.03-7.44)	**7.21** (5.84-9.07)	**8.48** (6.70-11.0)	**10.4** (7.86-14.0)	**12.0** (8.77-16.6)
20-day	**1.38** (1.22-1.60)	**2.14** (1.89-2.47)	**3.23** (2.85-3.74)	**4.20** (3.67-4.90)	**5.65** (4.78-6.80)	**6.86** (5.70-8.44)	**8.20** (6.65-10.3)	**9.68** (7.64-12.5)	**11.9** (9.00-16.0)	**13.7** (10.1-19.1)
30-day	**1.55** (1.37-1.79)	**2.42** (2.14-2.79)	**3.68** (3.24-4.26)	**4.80** (4.20-5.61)	**6.49** (5.50-7.82)	**7.92** (6.57-9.73)	**9.48** (7.69-11.9)	**11.2** (8.86-14.5)	**13.8** (10.5-18.6)	**16.0** (11.7-22.3)
45-day	**1.70** (1.51-1.97)	**2.69** (2.38-3.10)	**4.12** (3.64-4.77)	**5.41** (4.73-6.32)	**7.36** (6.24-8.86)	**9.02** (7.48-11.1)	**10.8** (8.79-13.6)	**12.9** (10.2-16.7)	**15.9** (12.1-21.4)	**18.5** (13.6-25.8)
60-day	**1.83** (1.62-2.11)	**2.91** (2.58-3.36)	**4.50** (3.97-5.22)	**5.94** (5.20-6.93)	**8.12** (6.88-9.77)	**9.98** (8.28-12.3)	**12.0** (9.76-15.1)	**14.3** (11.3-18.5)	**17.8** (13.5-24.0)	**20.8** (15.2-28.9)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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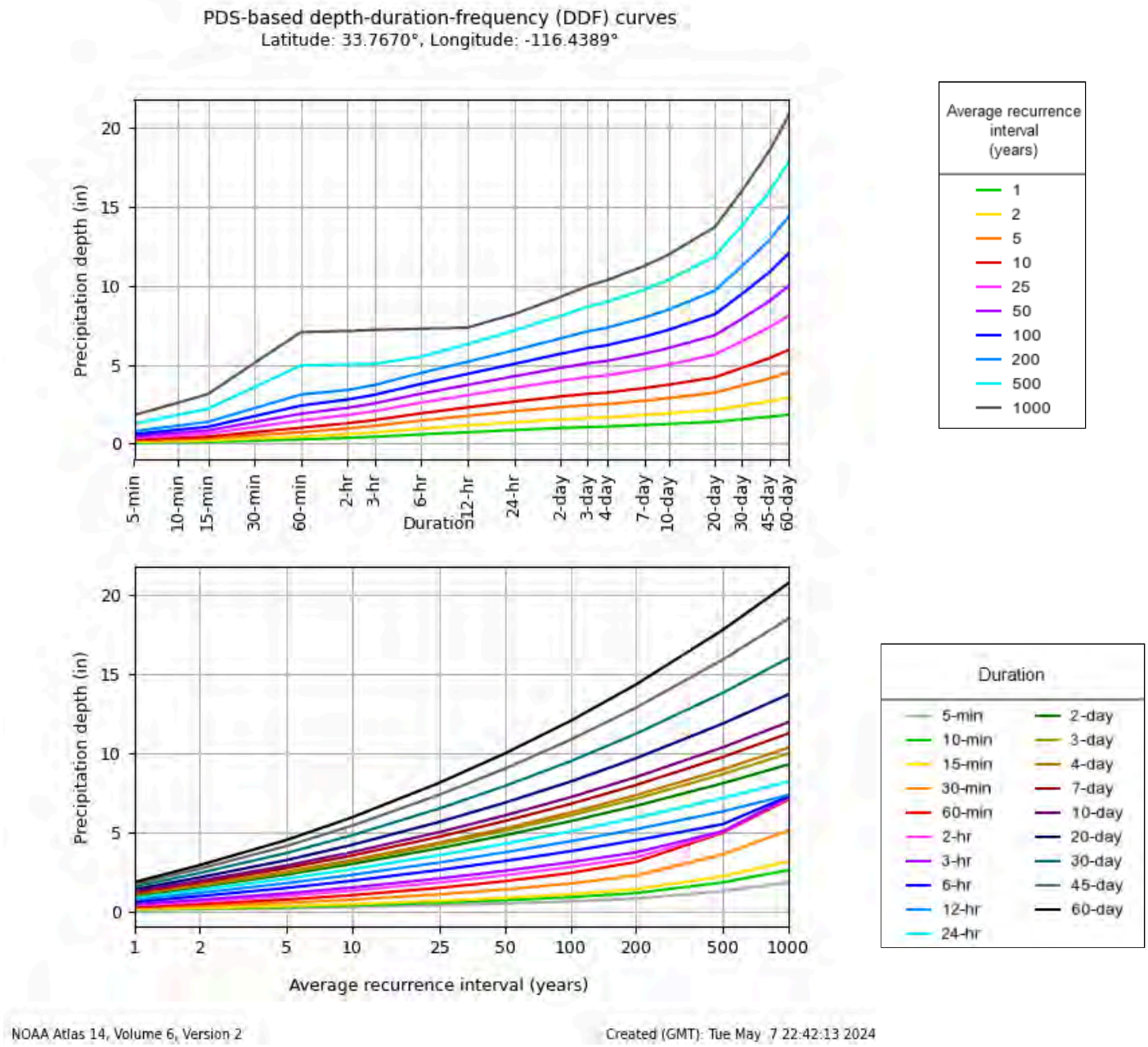
PF graphical



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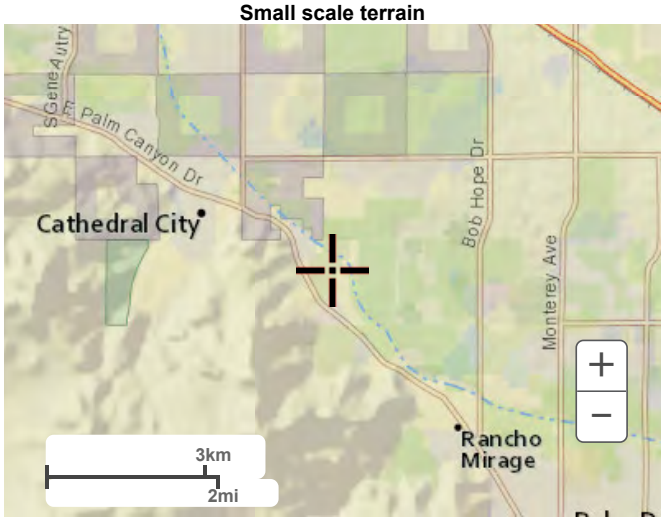
Maps & aerials

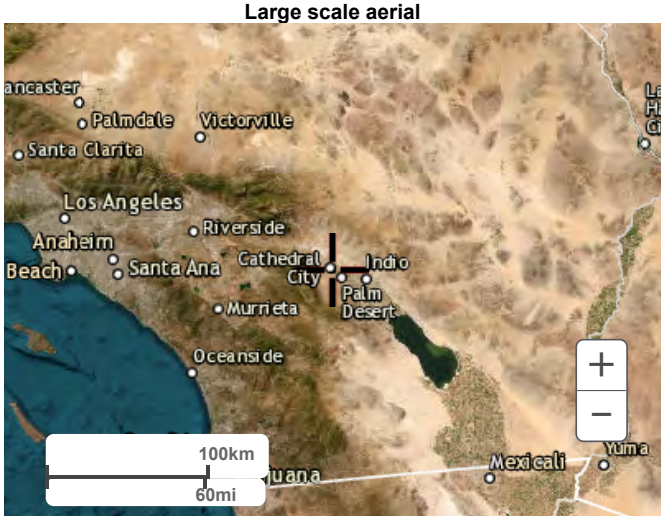
Small scale terrain



Large scale terrain

Large scale map

Large scale aerial



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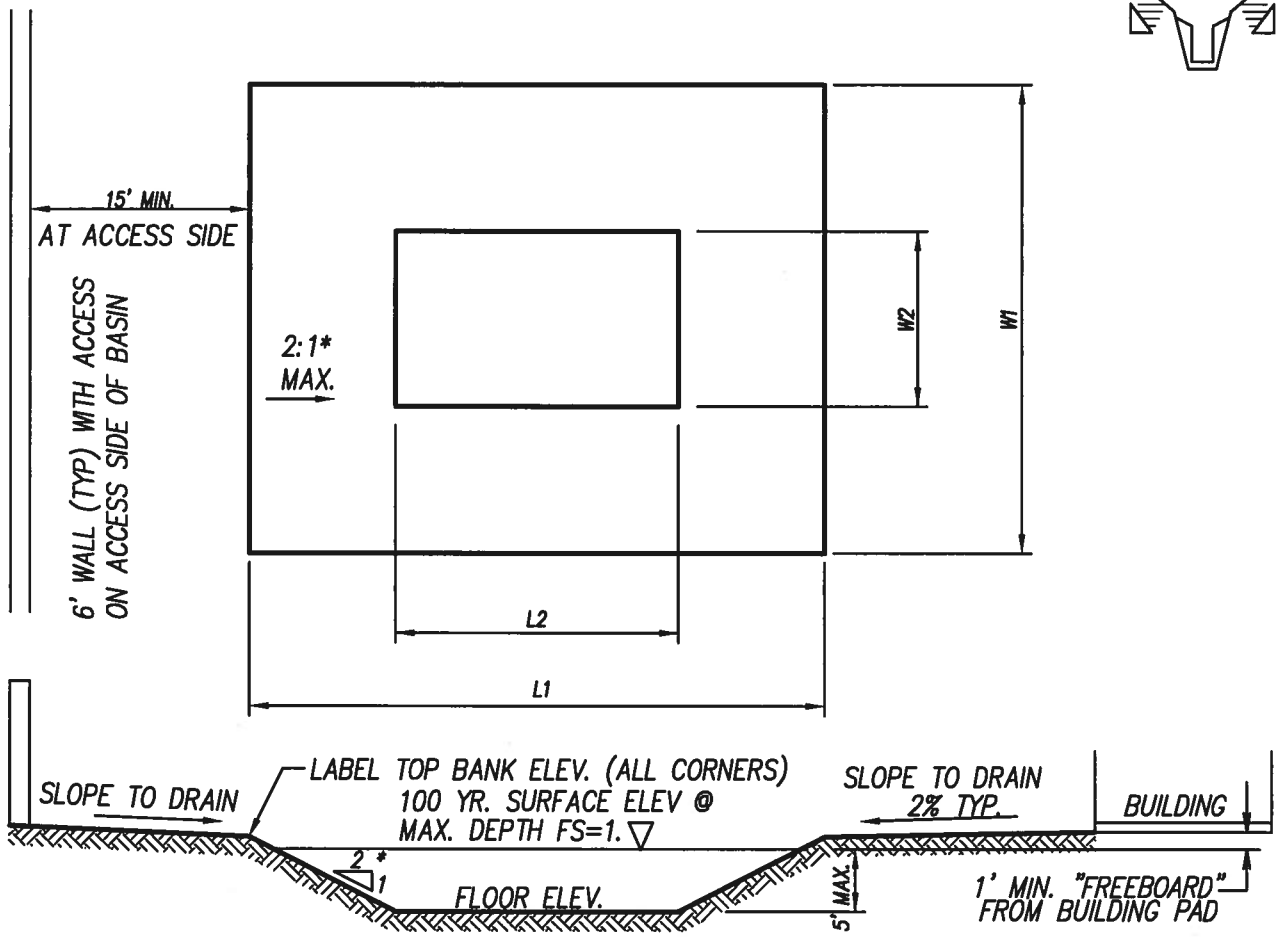
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

CITY OF RANCHO MIRAGE



DESIGN CRITERIA

MAX. PERCOLATION RATE = 1"/HR.
MAX. DEPTH AT PEAK STORAGE = 5'
FACTOR OF SAFETY F.S. = 1.0 MINIMUM
ONE FOOT MINIMUM "FREEBOARD" BELOW LOWEST BUILDING PAD TO MAXIMIUM WATER LEVEL
THE BASIN SHALL BE DESIGNED TO RETAIN THE RUNOFF FROM THE WORST CASE OF THE 1 HR., 3 HR. 6 HR., OR 24 HR. DURATION, 100 YEAR FREQUENCY STORM.
SEE SHT. 2 OF 2 FOR MINIMUM PLAN REQUIREMENTS

* SLOPES STEEPER THAN 5:1 WILL REQUIRE EROSION CONTROL APPROVED BY THE CITY ENGINEER. (TYPICAL EROSION CONTROL CONSISTS OF CONTINUOUS GROUND COVER LIKE GRASS, OR WASHED ROCK WITH A DIAMETER OF 1" OR LARGER, PLACED TO A DEPTH OF 3" OVER WEED BARRIER CLOTH.)

CITY OF RANCHO MIRAGE		STANDARD
REVISIONS	RETENTION BASIN	DETAIL
* 7/5/2012		310
	7/12/12	
	APPROVED BY: CITY ENGINEER DATE	SHT. 1 OF 2

CITY OF RANCHO MIRAGE

AT A MINIMUM, PLANS SHALL INCLUDE THE FOLLOWING INFORMATION:

1. BOUNDARY (LOT LINES) INCLUDING BEARING AND DISTANCES
2. SLOPE SYMBOLS, OR FINISH CONTOURS, WITH SLOPE RATIOS OR PERCENTAGES
* 3. ELEVATION LABELS FOR: BOTTOM, WATER SURFACE AT VOL. MAX. FOR 100YR. STORM, AND TOP (HYDROLOGY CALCULATIONS SHALL BE SUBMITTED VERIFYING BASIN AREA, DEPTH, AND VOLUME.)
4. DIMENSIONS (LENGTH, WIDTH AND DEPTH) OR SCALED DRAWING.
5. FINISHED SURFACE ELEVATIONS FOR IDENTIFYING THE FLOW PATHS
6. RIP-RAP OR APPROPRIATE EROSION CONTROL IF SLOPES EXCEED 20% (5:1)
7. ANY STRUCTURES, PIPES, HEADWALLS, RIP-RAP, DRYWELLS, ETC. SHOWN WITH REFERENCE TO STREET PLANS, STORM DRAIN PLANS, OR GRADING PLANS (A DRYWELL IS RECOMMENDED FOR LARGER RETENTION BASINS AS A WAY OF INTERCEPTING "NUISANCE WATER' THAT MIGHT CAUSE A CONSTANT SWAMPY AREA TO DEVELOP IN THE RETENTION BASIN. FLOWS TO CVWD CHANNELS OR TO LAKES TYPICALLY REQUIRE A DRYWELL TO INTERCEPT STREET RUNOFF. MAINTENANCE IS EASIEST IF THE DRYWELL IS NEAR THE STREET SO VACUUM TRUCKS CAN ACCESS THEM. SEE STANDARD DRAWINGS 306 AND 311.)

CITY OF RANCHO MIRAGE		STANDARD
REVISIONS * 7/5/2012	RETENTION BASIN NOTES	DETAIL 310
	APPROVED BY: CITY ENGINEER 7/12/12 DATE	SHT. 2 OF 2

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent(2)
Natural or Agriculture	0 - 10	0
Single Family Residential: (3)		
40,000 S. F. (1 Acre) Lots	10 - 25	20
20,000 S. F. (½ Acre) Lots	30 - 45	40
7,200 - 10,000 S. F. Lots	45 - 55	50
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 -100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.

2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.

3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

RCFC & WCD
HYDROLOGY MANUAL

IMPERVIOUS COVER FOR DEVELOPED AREAS

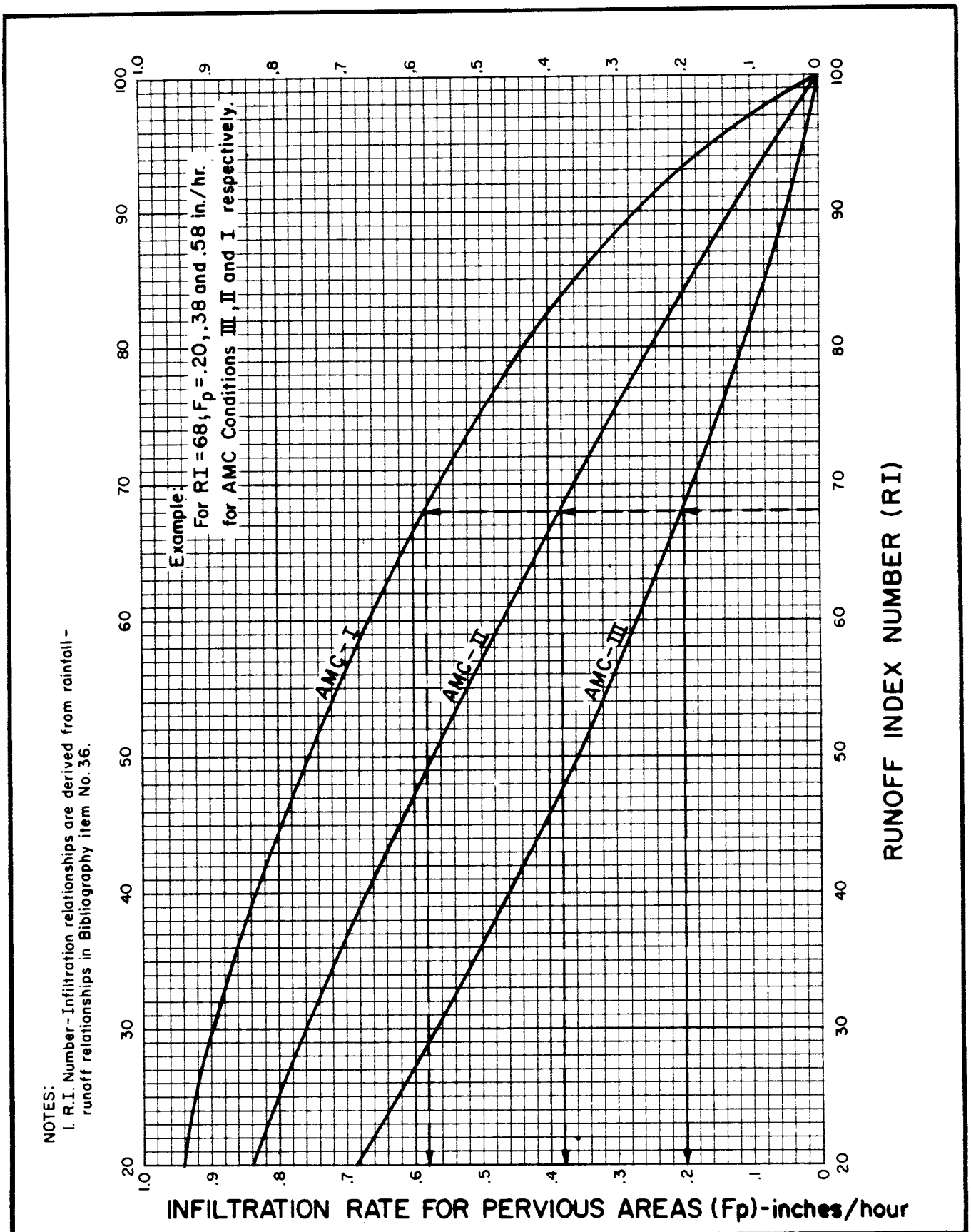
PLATE D-5.6

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	72	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	28	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

RCFC & WCD
HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREA



NOTES:
1. R.I. Number-Infiltration relationships are derived from rainfall-runoff relationships in Bibliography item No. 36.

RCFC & WCD

HYDROLOGY MANUAL

INFILTRATION RATE FOR PERVIOUS AREAS VERSUS RUNOFF INDEX NUMBERS

PLATE E-6.2

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2

Area=1.00ac+0.09ac typ street frontage=1.09ac
5/7/2024 LOT 1

Drainage Area (ac.)	1.0900		JOB NUMBER 22106		
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3702 s.f. Bot. = 1062 s.f. Max. Depth (d)= 4 Max. storage= 8995.74 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5575	167.24	0.00	0.00	0.00	0.00	0.00	167.24	1062.00	0.07	167.16	0.07	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9071	272.13	0.00	0.00	0.00	0.00	0.00	272.13	1111.06	0.08	439.21	0.20	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0024	300.73	0.00	0.00	0.00	0.00	0.00	300.73	1190.90	0.08	739.86	0.33	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9389	281.66	0.00	0.00	0.00	0.00	0.00	281.66	1279.13	0.09	1021.44	0.45	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.4792	443.77	0.00	0.00	0.00	0.00	0.00	443.77	1361.76	0.09	1465.11	0.65	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.7017	510.52	0.00	0.00	0.00	0.00	0.00	510.52	1491.97	0.10	1975.53	0.88	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.0514	615.41	0.00	0.00	0.00	0.00	0.00	615.41	1641.76	0.11	2590.82	1.15	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.2421	672.62	0.00	0.00	0.00	0.00	0.00	672.62	1822.33	0.13	3263.32	1.45	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.2910	987.30	0.00	0.00	0.00	0.00	0.00	987.30	2019.69	0.14	4250.48	1.89	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	4.9756	1492.69	0.00	0.00	0.00	0.00	0.00	1492.69	2309.40	0.16	5743.01	2.55	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.4989	1349.66	0.00	0.00	0.00	0.00	0.00	1349.66	2747.41	0.19	7092.48	3.15	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7164	214.91	0.00	0.00	0.00	0.00	0.00	214.91	3143.44	0.22	7307.17	3.25	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3206.45	0.22	7306.95	3.25	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3206.39	0.22	7306.73	3.25	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3206.32	0.22	7306.50	3.25	0.00	0.00	
					Total volume (cf)			7308.64								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0532	15.95	0.00	0.00	0.00	0.00	0.00	15.95	1062.00	0.07	15.87	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0532	15.95	0.00	0.00	0.00	0.00	0.00	15.95	1066.66	0.07	31.74	0.01	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0450	13.49	0.00	0.00	0.00	0.00	0.00	13.49	1071.32	0.07	45.16	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0613	18.40	0.00	0.00	0.00	0.00	0.00	18.40	1075.25	0.07	63.49	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0613	18.40	0.00	0.00	0.00	0.00	0.00	18.40	1080.63	0.08	81.81	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	1086.01	0.08	116.93	0.05	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0613	18.40	0.00	0.00	0.00	0.00	0.00	18.40	1096.32	0.08	135.26	0.06	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	1101.69	0.08	170.38	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	1112.00	0.08	205.50	0.09	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0613	18.40	0.00	0.00	0.00	0.00	0.00	18.40	1122.31	0.08	223.82	0.10	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0654	19.63	0.00	0.00	0.00	0.00	0.00	19.63	1127.69	0.08	243.37	0.11	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	1133.42	0.08	278.49	0.12	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2809	84.26	0.00	0.00	0.00	0.00	0.00	84.26	1143.73	0.08	362.68	0.16	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2809	84.26	0.00	0.00	0.00	0.00	0.00	84.26	1168.44	0.08	446.86	0.20	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2809	84.26	0.00	0.00	0.00	0.00	0.00	84.26	1193.14	0.08	531.04	0.24	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1991	59.73	0.00	0.00	0.00	0.00	0.00	59.73	1217.84	0.08	590.68	0.26	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4444	133.33	0.00	0.00	0.00	0.00	0.00	133.33	1235.35	0.09	723.93	0.32	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4853	145.59	0.00	0.00	0.00	0.00	0.00	145.59	1274.45	0.09	869.43	0.39	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3626	108.79	0.00	0.00	0.00	0.00	0.00	108.79	1317.15	0.09	978.13	0.43	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4853	145.59	0.00	0.00	0.00	0.00	0.00	145.59	1349.05	0.09	1123.63	0.50	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7306	219.19	0.00	0.00	0.00	0.00	0.00	219.19	1391.75	0.10	1342.72	0.60	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6489	194.66	0.00	0.00	0.00	0.00	0.00	194.66	1456.05	0.10	1537.27	0.68	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5671	170.12	0.00	0.00	0.00	0.00	0.00	170.12	1513.15	0.11	1707.29	0.76	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6080	182.39	0.00	0.00	0.00	0.00	0.00	182.39	1563.04	0.11	1889.57	0.84	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6489	194.66	0.00	0.00	0.00	0.00	0.00	194.66	1616.54	0.11	2084.12	0.93	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.0986	329.58	0.00	0.00	0.00	0.00	0.00	329.58	1673.63	0.12	2413.58	1.07	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.4257	427.70	0.00	0.00	0.00	0.00	0.00	427.70	1770.32	0.12	2841.16	1.26	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8124	243.72	0.00	0.00	0.00	0.00	0.00	243.72	1895.80	0.13	3084.75	1.37	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.1616	648.49	0.00	0.00	0.00	0.00	0.00	648.49	1967.29	0.14	3733.10	1.66	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.3661	709.82	0.00	0.00	0.00	0.00	0.00	709.82	2157.56	0.15	4442.77	1.98	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.7340	820.21	0.00	0.00	0.00	0.00	0.00	820.21	2365.83	0.16	5262.81	2.34	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.7937	538.10	0.00	0.00	0.00	0.00	0.00	538.10	2606.49	0.18	5800.73	2.58	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1991	59.73	0.00	0.00	0.00	0.00	0.00	59.73	2764.35	0.19	5860.27	2.61	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	2781.83	0.19	5895.27	2.62	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1173	35.20	0.00	0.00	0.00	0.00	0.00	35.20	2792.10	0.19	5930.28	2.64	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	2802.37	0.19	5937.45	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.47	0.19	5937.25	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.42	0.19	5937.06	2.64	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.36	0.19	5936.86	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.30	0.19	5936.67	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.25	0.19	5936.47	2.64	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.19	0.19	5936.28	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.13	0.19	5936.08	2.64	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2804.07	0.19	5935.89	2.64	0.00	0.00
					Total volume (cf)		5941.35								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0250	7.50	0.00	0.00	0.00	0.00	0.00	7.50	1062.00	0.07	7.42	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	1064.18	0.07	16.35	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	1066.80	0.07	25.27	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	1069.42	0.07	34.19	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	1072.04	0.07	43.12	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1074.65	0.07	53.54	0.02	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1077.71	0.07	63.96	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1080.77	0.08	74.38	0.03	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1083.83	0.08	84.81	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1086.89	0.08	95.23	0.04	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0350	10.50	0.00	0.00	0.00	0.00	0.00	10.50	1089.95	0.08	105.65	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1093.01	0.08	117.57	0.05	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1096.50	0.08	129.49	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1100.00	0.08	141.41	0.06	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1103.50	0.08	153.33	0.07	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1107.00	0.08	165.25	0.07	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1110.50	0.08	177.17	0.08	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1113.99	0.08	189.09	0.08	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1117.49	0.08	201.01	0.09	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1120.99	0.08	212.93	0.09	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1124.49	0.08	224.85	0.10	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1127.99	0.08	236.76	0.11	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1131.48	0.08	248.68	0.11	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1134.98	0.08	262.10	0.12	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0400	12.00	0.00	0.00	0.00	0.00	0.00	12.00	1138.92	0.08	274.02	0.12	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1142.42	0.08	287.44	0.13	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1146.35	0.08	300.85	0.13	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1150.29	0.08	314.27	0.14	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1154.23	0.08	327.68	0.15	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1158.17	0.08	341.10	0.15	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1162.10	0.08	354.52	0.16	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	1166.04	0.08	367.93	0.16	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1169.98	0.08	382.85	0.17	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1174.35	0.08	397.76	0.18	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1178.73	0.08	412.67	0.18	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1183.11	0.08	427.59	0.19	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0500	15.00	0.00	0.00	0.00	0.00	0.00	15.00	1187.49	0.08	442.50	0.20	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0550	16.50	0.00	0.00	0.00	0.00	0.00	16.50	1191.86	0.08	458.91	0.20	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0550	16.50	0.00	0.00	0.00	0.00	0.00	16.50	1196.68	0.08	475.33	0.21	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0550	16.50	0.00	0.00	0.00	0.00	0.00	16.50	1201.50	0.08	491.74	0.22	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0600	18.00	0.00	0.00	0.00	0.00	0.00	18.00	1206.31	0.08	509.65	0.23	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0650	19.49	0.00	0.00	0.00	0.00	0.00	19.49	1211.57	0.08	529.06	0.24	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0812	24.36	0.00	0.00	0.00	0.00	0.00	24.36	1217.26	0.08	553.33	0.25	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0812	24.36	0.00	0.00	0.00	0.00	0.00	24.36	1224.39	0.09	577.61	0.26	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1312	39.35	0.00	0.00	0.00	0.00	0.00	39.35	1231.51	0.09	616.88	0.27	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1312	39.35	0.00	0.00	0.00	0.00	0.00	39.35	1243.04	0.09	656.15	0.29	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1812	54.35	0.00	0.00	0.00	0.00	0.00	54.35	1254.56	0.09	710.41	0.32	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1812	54.35	0.00	0.00	0.00	0.00	0.00	54.35	1270.49	0.09	764.67	0.34	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2312	69.35	0.00	0.00	0.00	0.00	0.00	69.35	1286.41	0.09	833.93	0.37	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2811	84.34	0.00	0.00	0.00	0.00	0.00	84.34	1306.73	0.09	918.18	0.41	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3311	99.34	0.00	0.00	0.00	0.00	0.00	99.34	1331.46	0.09	1017.43	0.45	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3811	114.33	0.00	0.00	0.00	0.00	0.00	114.33	1360.59	0.09	1131.67	0.50	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4311	129.33	0.00	0.00	0.00	0.00	0.00	129.33	1394.11	0.10	1260.90	0.56	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4311	129.33	0.00	0.00	0.00	0.00	0.00	129.33	1432.04	0.10	1390.13	0.62	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4811	144.33	0.00	0.00	0.00	0.00	0.00	144.33	1469.96	0.10	1534.35	0.68	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5311	159.32	0.00	0.00	0.00	0.00	0.00	159.32	1512.29	0.11	1693.57	0.75	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5811	174.32	0.00	0.00	0.00	0.00	0.00	174.32	1559.02	0.11	1867.78	0.83	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5811	174.32	0.00	0.00	0.00	0.00	0.00	174.32	1610.14	0.11	2041.99	0.91	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6310	189.31	0.00	0.00	0.00	0.00	0.00	189.31	1661.27	0.12	2231.18	0.99	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6810	204.31	0.00	0.00	0.00	0.00	0.00	204.31	1716.79	0.12	2435.37	1.08	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9310	279.29	0.00	0.00	0.00	0.00	0.00	279.29	1776.71	0.12	2714.54	1.21	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.1809	354.27	0.00	0.00	0.00	0.00	0.00	354.27	1858.64	0.13	3068.68	1.36	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3309	399.26	0.00	0.00	0.00	0.00	0.00	399.26	1962.57	0.14	3467.80	1.54	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.4808	444.24	0.00	0.00	0.00	0.00	0.00	444.24	2079.70	0.14	3911.90	1.74	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.7307	519.22	0.00	0.00	0.00	0.00	0.00	519.22	2210.03	0.15	4430.97	1.97	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.1806	654.19	0.00	0.00	0.00	0.00	0.00	654.19	2362.37	0.16	5084.99	2.26	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3311	99.34	0.00	0.00	0.00	0.00	0.00	99.34	2554.30	0.18	5184.15	2.31	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0450	13.50	0.00	0.00	0.00	0.00	0.00	13.50	2583.40	0.18	5197.47	2.31	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	2587.31	0.18	5206.29	2.31	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0250	7.50	0.00	0.00	0.00	0.00	0.00	7.50	2589.90	0.18	5213.60	2.32	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0150	4.50	0.00	0.00	0.00	0.00	0.00	4.50	2592.05	0.18	5217.92	2.32	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0100	3.00	0.00	0.00	0.00	0.00	0.00	3.00	2593.31	0.18	5220.74	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2594.14	0.18	5220.56	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2594.09	0.18	5220.38	2.32	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2594.04	0.18	5220.20	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.98	0.18	5220.02	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.93	0.18	5219.84	2.32	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.88	0.18	5219.66	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.83	0.18	5219.48	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.77	0.18	5219.30	2.32	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.72	0.18	5219.12	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.67	0.18	5218.94	2.32	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.61	0.18	5218.76	2.32	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2593.56	0.18	5218.58	2.32	0.00	0.00
					Total volume (cf)			5227.70								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1062.00	0.22	3.78	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1063.11	0.22	9.55	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1064.80	0.22	15.32	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1066.50	0.22	23.09	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1068.78	0.22	28.86	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1070.47	0.22	34.63	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1072.16	0.22	40.41	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1073.86	0.22	48.17	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1076.14	0.22	55.94	0.02	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1078.42	0.22	63.71	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1080.70	0.23	73.48	0.03	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1083.56	0.23	83.24	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1086.43	0.23	93.00	0.04	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1089.29	0.23	102.77	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1092.16	0.23	112.53	0.05	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0133	11.99	0.00	0.00	0.00	0.00	0.00	11.99	1095.02	0.23	124.29	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0133	11.99	0.00	0.00	0.00	0.00	0.00	11.99	1098.48	0.23	136.05	0.06	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0155	13.99	0.00	0.00	0.00	0.00	0.00	13.99	1101.93	0.23	149.81	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0155	13.99	0.00	0.00	0.00	0.00	0.00	13.99	1105.96	0.23	163.57	0.07	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0178	15.99	0.00	0.00	0.00	0.00	0.00	15.99	1110.00	0.23	179.32	0.08	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0133	11.99	0.00	0.00	0.00	0.00	0.00	11.99	1114.63	0.23	191.08	0.08	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0155	13.99	0.00	0.00	0.00	0.00	0.00	13.99	1118.08	0.23	204.83	0.09	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0178	15.99	0.00	0.00	0.00	0.00	0.00	15.99	1122.11	0.23	220.58	0.10	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0178	15.99	0.00	0.00	0.00	0.00	0.00	15.99	1126.73	0.23	236.33	0.11	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0200	17.98	0.00	0.00	0.00	0.00	0.00	17.98	1131.36	0.24	254.08	0.11	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0200	17.98	0.00	0.00	0.00	0.00	0.00	17.98	1136.57	0.24	271.83	0.12	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0222	19.98	0.00	0.00	0.00	0.00	0.00	19.98	1141.77	0.24	291.57	0.13	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0222	19.98	0.00	0.00	0.00	0.00	0.00	19.98	1147.57	0.24	311.31	0.14	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0222	19.98	0.00	0.00	0.00	0.00	0.00	19.98	1153.36	0.24	331.05	0.15	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0244	21.98	0.00	0.00	0.00	0.00	0.00	21.98	1159.15	0.24	352.79	0.16	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0266	23.98	0.00	0.00	0.00	0.00	0.00	23.98	1165.53	0.24	376.53	0.17	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0289	25.98	0.00	0.00	0.00	0.00	0.00	25.98	1172.50	0.24	402.26	0.18	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0333	29.97	0.00	0.00	0.00	0.00	0.00	29.97	1180.05	0.25	431.98	0.19	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0333	29.97	0.00	0.00	0.00	0.00	0.00	29.97	1188.78	0.25	461.71	0.21	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0355	31.97	0.00	0.00	0.00	0.00	0.00	31.97	1197.50	0.25	493.43	0.22	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0377	33.97	0.00	0.00	0.00	0.00	0.00	33.97	1206.81	0.25	527.15	0.23	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1216.70	0.25	564.86	0.25	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0444	39.96	0.00	0.00	0.00	0.00	0.00	39.96	1227.77	0.26	604.56	0.27	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0466	41.96	0.00	0.00	0.00	0.00	0.00	41.96	1239.42	0.26	646.27	0.29	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0488	43.96	0.00	0.00	0.00	0.00	0.00	43.96	1251.66	0.26	689.96	0.31	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0333	29.97	0.00	0.00	0.00	0.00	0.00	29.97	1264.49	0.26	719.67	0.32	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0333	29.97	0.00	0.00	0.00	0.00	0.00	29.97	1273.20	0.27	749.38	0.33	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0444	39.96	0.00	0.00	0.00	0.00	0.00	39.96	1281.92	0.27	789.07	0.35	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0444	39.96	0.00	0.00	0.00	0.00	0.00	39.96	1293.57	0.27	828.77	0.37	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1305.22	0.27	866.46	0.39	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1316.28	0.27	904.15	0.40	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0377	33.97	0.00	0.00	0.00	0.00	0.00	33.97	1327.34	0.28	937.84	0.42	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0400	35.97	0.00	0.00	0.00	0.00	0.00	35.97	1337.23	0.28	973.53	0.43	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0555	49.95	0.00	0.00	0.00	0.00	0.00	49.95	1347.70	0.28	1023.20	0.45	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0577	51.95	0.00	0.00	0.00	0.00	0.00	51.95	1362.28	0.28	1074.87	0.48	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0684	61.56	0.00	0.00	0.00	0.00	0.00	61.56	1377.44	0.29	1136.14	0.51	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.0989	89.05	0.00	0.00	0.00	0.00	0.00	89.05	1395.43	0.29	1224.90	0.54	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2182	196.38	0.00	0.00	0.00	0.00	0.00	196.38	1421.48	0.30	1420.99	0.63	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2263	203.71	0.00	0.00	0.00	0.00	0.00	203.71	1479.02	0.31	1624.39	0.72	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0511	45.96	0.00	0.00	0.00	0.00	0.00	45.96	1538.71	0.32	1670.03	0.74	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0511	45.96	0.00	0.00	0.00	0.00	0.00	45.96	1552.11	0.32	1715.66	0.76	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.0947	85.25	0.00	0.00	0.00	0.00	0.00	85.25	1565.50	0.33	1800.59	0.80	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0802	72.21	0.00	0.00	0.00	0.00	0.00	72.21	1590.42	0.33	1872.46	0.83	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0878	79.05	0.00	0.00	0.00	0.00	0.00	79.05	1611.52	0.34	1951.18	0.87	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0731	65.81	0.00	0.00	0.00	0.00	0.00	65.81	1634.62	0.34	2016.64	0.90	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0583	52.46	0.00	0.00	0.00	0.00	0.00	52.46	1653.83	0.34	2068.76	0.92	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0511	45.96	0.00	0.00	0.00	0.00	0.00	45.96	1669.12	0.35	2114.37	0.94	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1682.51	0.35	2151.98	0.96	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0422	37.96	0.00	0.00	0.00	0.00	0.00	37.96	1693.55	0.35	2189.60	0.97	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1704.59	0.36	2197.23	0.98	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1706.83	0.36	2204.87	0.98	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1709.07	0.36	2210.51	0.98	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1710.72	0.36	2216.15	0.99	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1712.38	0.36	2225.78	0.99	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1715.20	0.36	2235.41	0.99	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0111	9.99	0.00	0.00	0.00	0.00	0.00	9.99	1718.03	0.36	2245.05	1.00	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1720.86	0.36	2252.68	1.00	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1723.10	0.36	2260.31	1.01	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1725.34	0.36	2267.95	1.01	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1727.58	0.36	2273.58	1.01	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1729.23	0.36	2277.22	1.01	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1730.30	0.36	2282.85	1.02	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0089	7.99	0.00	0.00	0.00	0.00	0.00	7.99	1731.95	0.36	2290.48	1.02	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1734.19	0.36	2296.12	1.02	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1735.85	0.36	2299.75	1.02	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1736.91	0.36	2305.38	1.03	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1738.57	0.36	2311.02	1.03	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1740.22	0.36	2316.65	1.03	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1741.87	0.36	2320.28	1.03	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1742.94	0.36	2325.91	1.03	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1744.59	0.36	2329.55	1.04	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1745.66	0.36	2335.18	1.04	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1747.31	0.36	2338.81	1.04	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0067	5.99	0.00	0.00	0.00	0.00	0.00	5.99	1748.38	0.36	2344.44	1.04	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1750.03	0.36	2348.07	1.04	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1751.09	0.36	2351.70	1.05	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1752.16	0.37	2355.33	1.05	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1753.22	0.37	2358.96	1.05	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1754.29	0.37	2362.59	1.05	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1755.36	0.37	2366.23	1.05	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0044	4.00	0.00	0.00	0.00	0.00	0.00	4.00	1756.42	0.37	2369.86	1.05	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1757.49	0.37	2369.49	1.05	0.00	0.00
					Total volume (cf)		2398.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.07ac+0.09ac typ street frontage=1.16ac

5/7/2024 LOT 2

Drainage Area (ac.)	1.1600	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5933	177.98	0.00	0.00	0.00	0.00	0.00	177.98	1078.00	0.07	177.90	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9653	289.60	0.00	0.00	0.00	0.00	0.00	289.60	1124.55	0.08	467.43	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0668	320.05	0.00	0.00	0.00	0.00	0.00	320.05	1200.32	0.08	787.39	0.38	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9992	299.75	0.00	0.00	0.00	0.00	0.00	299.75	1284.05	0.09	1087.05	0.53	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.5742	472.27	0.00	0.00	0.00	0.00	0.00	472.27	1362.47	0.09	1559.23	0.76	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.8110	543.30	0.00	0.00	0.00	0.00	0.00	543.30	1486.03	0.10	2102.43	1.02	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.1831	654.93	0.00	0.00	0.00	0.00	0.00	654.93	1628.18	0.11	2757.25	1.34	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.3861	715.82	0.00	0.00	0.00	0.00	0.00	715.82	1799.53	0.12	3472.94	1.69	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.5024	1050.71	0.00	0.00	0.00	0.00	0.00	1050.71	1986.82	0.14	4523.51	2.20	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.2952	1588.55	0.00	0.00	0.00	0.00	0.00	1588.55	2261.74	0.16	6111.90	2.97	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.7878	1436.33	0.00	0.00	0.00	0.00	0.00	1436.33	2677.40	0.19	7548.05	3.66	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7624	228.72	0.00	0.00	0.00	0.00	0.00	228.72	3053.22	0.21	7776.55	3.78	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3113.02	0.22	7776.33	3.78	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3112.96	0.22	7776.12	3.78	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3112.90	0.22	7775.90	3.78	0.00	0.00	
					Total volume (cf)			7778.00								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0566	16.97	0.00	0.00	0.00	0.00	0.00	16.97	1078.00	0.07	16.89	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0566	16.97	0.00	0.00	0.00	0.00	0.00	16.97	1082.42	0.08	33.79	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1086.84	0.08	48.07	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0653	19.58	0.00	0.00	0.00	0.00	0.00	19.58	1090.58	0.08	67.58	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0653	19.58	0.00	0.00	0.00	0.00	0.00	19.58	1095.68	0.08	87.08	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	1100.79	0.08	124.47	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0653	19.58	0.00	0.00	0.00	0.00	0.00	19.58	1110.57	0.08	143.97	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	1115.67	0.08	181.35	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	1125.46	0.08	218.73	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0653	19.58	0.00	0.00	0.00	0.00	0.00	19.58	1135.24	0.08	238.24	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0696	20.89	0.00	0.00	0.00	0.00	0.00	20.89	1140.34	0.08	259.04	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	1145.79	0.08	296.42	0.14	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2989	89.67	0.00	0.00	0.00	0.00	0.00	89.67	1155.57	0.08	386.02	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2989	89.67	0.00	0.00	0.00	0.00	0.00	89.67	1179.02	0.08	475.61	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2989	89.67	0.00	0.00	0.00	0.00	0.00	89.67	1202.46	0.08	565.20	0.27	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2119	63.57	0.00	0.00	0.00	0.00	0.00	63.57	1225.91	0.09	628.68	0.31	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4730	141.89	0.00	0.00	0.00	0.00	0.00	141.89	1242.52	0.09	770.49	0.37	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5165	154.94	0.00	0.00	0.00	0.00	0.00	154.94	1279.63	0.09	925.34	0.45	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3859	115.78	0.00	0.00	0.00	0.00	0.00	115.78	1320.15	0.09	1041.03	0.51	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5165	154.94	0.00	0.00	0.00	0.00	0.00	154.94	1350.42	0.09	1195.88	0.58	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7775	233.26	0.00	0.00	0.00	0.00	0.00	233.26	1390.94	0.10	1429.04	0.69	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6905	207.16	0.00	0.00	0.00	0.00	0.00	207.16	1451.96	0.10	1636.10	0.79	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6035	181.05	0.00	0.00	0.00	0.00	0.00	181.05	1506.14	0.10	1817.04	0.88	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6470	194.10	0.00	0.00	0.00	0.00	0.00	194.10	1553.50	0.11	2011.04	0.98	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6905	207.16	0.00	0.00	0.00	0.00	0.00	207.16	1604.26	0.11	2218.08	1.08	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1691	350.74	0.00	0.00	0.00	0.00	0.00	350.74	1658.44	0.12	2568.71	1.25	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.5172	455.17	0.00	0.00	0.00	0.00	0.00	455.17	1750.20	0.12	3023.76	1.47	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8646	259.37	0.00	0.00	0.00	0.00	0.00	259.37	1869.28	0.13	3283.00	1.59	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.3004	690.13	0.00	0.00	0.00	0.00	0.00	690.13	1937.12	0.13	3973.00	1.93	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.5180	755.40	0.00	0.00	0.00	0.00	0.00	755.40	2117.68	0.15	4728.26	2.30	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.9096	872.88	0.00	0.00	0.00	0.00	0.00	872.88	2315.32	0.16	5600.98	2.72	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.9088	572.65	0.00	0.00	0.00	0.00	0.00	572.65	2543.70	0.18	6173.46	3.00	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2119	63.57	0.00	0.00	0.00	0.00	0.00	63.57	2693.51	0.19	6236.84	3.03	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	2710.10	0.19	6274.11	3.05	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1249	37.46	0.00	0.00	0.00	0.00	0.00	37.46	2719.85	0.19	6311.38	3.06	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0261	7.83	0.00	0.00	0.00	0.00	0.00	7.83	2729.60	0.19	6319.02	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.60	0.19	6318.83	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.55	0.19	6318.64	3.07	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.50	0.19	6318.45	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.45	0.19	6318.26	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.40	0.19	6318.07	3.07	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.35	0.19	6317.89	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.30	0.19	6317.70	3.07	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2731.26	0.19	6317.51	3.07	0.00	0.00
					Total volume (cf)		6322.90								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0266	7.98	0.00	0.00	0.00	0.00	0.00	7.98	1078.00	0.07	7.90	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	1080.07	0.08	17.40	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	1082.55	0.08	26.91	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	1085.04	0.08	36.41	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	1087.53	0.08	45.90	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1090.01	0.08	57.00	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1092.92	0.08	68.10	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1095.82	0.08	79.19	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1098.72	0.08	90.29	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1101.63	0.08	101.38	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	1104.53	0.08	112.48	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1107.43	0.08	125.17	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1110.75	0.08	137.86	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1114.07	0.08	150.55	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1117.40	0.08	163.23	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1120.72	0.08	175.92	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1124.04	0.08	188.61	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1127.36	0.08	201.30	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1130.68	0.08	213.99	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1134.00	0.08	226.68	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1137.32	0.08	239.37	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1140.64	0.08	252.06	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1143.96	0.08	264.74	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1147.28	0.08	279.03	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0426	12.77	0.00	0.00	0.00	0.00	0.00	12.77	1151.02	0.08	291.71	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1154.34	0.08	306.00	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1158.08	0.08	320.28	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1161.81	0.08	334.56	0.16	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1165.55	0.08	348.84	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1169.29	0.08	363.13	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1173.02	0.08	377.41	0.18	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	1176.76	0.08	391.69	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1180.50	0.08	407.57	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1184.65	0.08	423.44	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1188.81	0.08	439.32	0.21	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1192.96	0.08	455.19	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0532	15.96	0.00	0.00	0.00	0.00	0.00	15.96	1197.12	0.08	471.07	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0585	17.55	0.00	0.00	0.00	0.00	0.00	17.55	1201.27	0.08	488.54	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0585	17.55	0.00	0.00	0.00	0.00	0.00	17.55	1205.84	0.08	506.01	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0585	17.55	0.00	0.00	0.00	0.00	0.00	17.55	1210.42	0.08	523.48	0.25	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0638	19.15	0.00	0.00	0.00	0.00	0.00	19.15	1214.99	0.08	542.55	0.26	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0692	20.75	0.00	0.00	0.00	0.00	0.00	20.75	1219.98	0.08	563.21	0.27	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0864	25.92	0.00	0.00	0.00	0.00	0.00	25.92	1225.38	0.09	589.05	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0864	25.92	0.00	0.00	0.00	0.00	0.00	25.92	1232.15	0.09	614.89	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1396	41.88	0.00	0.00	0.00	0.00	0.00	41.88	1238.91	0.09	656.68	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1396	41.88	0.00	0.00	0.00	0.00	0.00	41.88	1249.85	0.09	698.48	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1928	57.84	0.00	0.00	0.00	0.00	0.00	57.84	1260.78	0.09	756.23	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1928	57.84	0.00	0.00	0.00	0.00	0.00	57.84	1275.90	0.09	813.98	0.40	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2460	73.80	0.00	0.00	0.00	0.00	0.00	73.80	1291.01	0.09	887.69	0.43	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2992	89.76	0.00	0.00	0.00	0.00	0.00	89.76	1310.30	0.09	977.36	0.47	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3524	105.72	0.00	0.00	0.00	0.00	0.00	105.72	1333.76	0.09	1082.99	0.53	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.4056	121.68	0.00	0.00	0.00	0.00	0.00	121.68	1361.40	0.09	1204.57	0.58	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4588	137.64	0.00	0.00	0.00	0.00	0.00	137.64	1393.22	0.10	1342.11	0.65	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4588	137.64	0.00	0.00	0.00	0.00	0.00	137.64	1429.21	0.10	1479.64	0.72	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5120	153.59	0.00	0.00	0.00	0.00	0.00	153.59	1465.20	0.10	1633.14	0.79	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5652	169.55	0.00	0.00	0.00	0.00	0.00	169.55	1505.37	0.10	1802.59	0.88	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6184	185.51	0.00	0.00	0.00	0.00	0.00	185.51	1549.71	0.11	1987.99	0.97	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6184	185.51	0.00	0.00	0.00	0.00	0.00	185.51	1598.23	0.11	2173.39	1.06	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6716	201.47	0.00	0.00	0.00	0.00	0.00	201.47	1646.75	0.11	2374.75	1.15	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7248	217.43	0.00	0.00	0.00	0.00	0.00	217.43	1699.44	0.12	2592.06	1.26	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9907	297.22	0.00	0.00	0.00	0.00	0.00	297.22	1756.31	0.12	2889.16	1.40	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2567	377.02	0.00	0.00	0.00	0.00	0.00	377.02	1834.06	0.13	3266.06	1.59	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.4163	424.90	0.00	0.00	0.00	0.00	0.00	424.90	1932.68	0.13	3690.82	1.79	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.5759	472.77	0.00	0.00	0.00	0.00	0.00	472.77	2043.84	0.14	4163.45	2.02	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8419	552.57	0.00	0.00	0.00	0.00	0.00	552.57	2167.52	0.15	4715.87	2.29	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.3207	696.20	0.00	0.00	0.00	0.00	0.00	696.20	2312.08	0.16	5411.91	2.63	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3524	105.72	0.00	0.00	0.00	0.00	0.00	105.72	2494.22	0.17	5517.45	2.68	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0479	14.36	0.00	0.00	0.00	0.00	0.00	14.36	2521.84	0.18	5531.64	2.69	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0319	9.58	0.00	0.00	0.00	0.00	0.00	9.58	2525.55	0.18	5541.04	2.69	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0266	7.98	0.00	0.00	0.00	0.00	0.00	7.98	2528.01	0.18	5548.84	2.69	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0160	4.79	0.00	0.00	0.00	0.00	0.00	4.79	2530.06	0.18	5553.45	2.70	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0106	3.19	0.00	0.00	0.00	0.00	0.00	3.19	2531.26	0.18	5556.47	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2532.05	0.18	5556.29	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2532.01	0.18	5556.12	2.70	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.96	0.18	5555.94	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.91	0.18	5555.77	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.87	0.18	5555.59	2.70	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.82	0.18	5555.41	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.78	0.18	5555.24	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.73	0.18	5555.06	2.70	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.68	0.18	5554.89	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.64	0.18	5554.71	2.70	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.59	0.18	5554.54	2.70	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2531.55	0.18	5554.36	2.70	0.00	0.00
					Total volume (cf)			5563.43								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1078.00	0.22	4.03	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1079.05	0.22	10.18	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1080.66	0.23	16.34	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1082.28	0.23	24.62	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1084.44	0.23	30.77	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1086.05	0.23	36.92	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1087.66	0.23	43.08	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1089.27	0.23	51.36	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1091.44	0.23	59.63	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1093.61	0.23	67.91	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1095.77	0.23	78.32	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1098.49	0.23	88.72	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1101.22	0.23	99.12	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1103.94	0.23	109.52	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1106.66	0.23	119.93	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0142	12.76	0.00	0.00	0.00	0.00	0.00	12.76	1109.38	0.23	132.45	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0142	12.76	0.00	0.00	0.00	0.00	0.00	12.76	1112.66	0.23	144.98	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0165	14.89	0.00	0.00	0.00	0.00	0.00	14.89	1115.94	0.23	159.63	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0165	14.89	0.00	0.00	0.00	0.00	0.00	14.89	1119.77	0.23	174.29	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0189	17.01	0.00	0.00	0.00	0.00	0.00	17.01	1123.61	0.23	191.06	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0142	12.76	0.00	0.00	0.00	0.00	0.00	12.76	1128.00	0.23	203.59	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0165	14.89	0.00	0.00	0.00	0.00	0.00	14.89	1131.28	0.24	218.24	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0189	17.01	0.00	0.00	0.00	0.00	0.00	17.01	1135.11	0.24	235.01	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0189	17.01	0.00	0.00	0.00	0.00	0.00	17.01	1139.50	0.24	251.79	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0213	19.14	0.00	0.00	0.00	0.00	0.00	19.14	1143.89	0.24	270.69	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0213	19.14	0.00	0.00	0.00	0.00	0.00	19.14	1148.83	0.24	289.58	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0236	21.26	0.00	0.00	0.00	0.00	0.00	21.26	1153.78	0.24	310.61	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0236	21.26	0.00	0.00	0.00	0.00	0.00	21.26	1159.28	0.24	331.63	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0236	21.26	0.00	0.00	0.00	0.00	0.00	21.26	1164.78	0.24	352.65	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0260	23.39	0.00	0.00	0.00	0.00	0.00	23.39	1170.28	0.24	375.80	0.18	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0284	25.52	0.00	0.00	0.00	0.00	0.00	25.52	1176.34	0.25	401.07	0.19	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0307	27.64	0.00	0.00	0.00	0.00	0.00	27.64	1182.96	0.25	428.47	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0354	31.90	0.00	0.00	0.00	0.00	0.00	31.90	1190.12	0.25	460.12	0.22	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0354	31.90	0.00	0.00	0.00	0.00	0.00	31.90	1198.41	0.25	491.77	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0378	34.02	0.00	0.00	0.00	0.00	0.00	34.02	1206.69	0.25	525.54	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0402	36.15	0.00	0.00	0.00	0.00	0.00	36.15	1215.53	0.25	561.43	0.27	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1224.92	0.26	601.58	0.29	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0473	42.53	0.00	0.00	0.00	0.00	0.00	42.53	1235.43	0.26	643.85	0.31	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0496	44.66	0.00	0.00	0.00	0.00	0.00	44.66	1246.49	0.26	688.25	0.33	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0520	46.78	0.00	0.00	0.00	0.00	0.00	46.78	1258.11	0.26	734.77	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0354	31.90	0.00	0.00	0.00	0.00	0.00	31.90	1270.28	0.26	766.40	0.37	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0354	31.90	0.00	0.00	0.00	0.00	0.00	31.90	1278.56	0.27	798.03	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0473	42.53	0.00	0.00	0.00	0.00	0.00	42.53	1286.83	0.27	840.29	0.41	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0473	42.53	0.00	0.00	0.00	0.00	0.00	42.53	1297.89	0.27	882.55	0.43	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1308.95	0.27	922.68	0.45	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1319.45	0.27	962.81	0.47	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0402	36.15	0.00	0.00	0.00	0.00	0.00	36.15	1329.95	0.28	998.68	0.48	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0425	38.28	0.00	0.00	0.00	0.00	0.00	38.28	1339.34	0.28	1036.68	0.50	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0591	53.16	0.00	0.00	0.00	0.00	0.00	53.16	1349.28	0.28	1089.56	0.53	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0614	55.29	0.00	0.00	0.00	0.00	0.00	55.29	1363.12	0.28	1144.56	0.56	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0728	65.51	0.00	0.00	0.00	0.00	0.00	65.51	1377.52	0.29	1209.79	0.59	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.1053	94.77	0.00	0.00	0.00	0.00	0.00	94.77	1394.58	0.29	1304.27	0.63	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2322	208.99	0.00	0.00	0.00	0.00	0.00	208.99	1419.31	0.30	1512.97	0.73	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2409	216.79	0.00	0.00	0.00	0.00	0.00	216.79	1473.92	0.31	1729.45	0.84	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0543	48.91	0.00	0.00	0.00	0.00	0.00	48.91	1530.57	0.32	1778.04	0.86	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0543	48.91	0.00	0.00	0.00	0.00	0.00	48.91	1543.29	0.32	1826.63	0.89	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.1008	90.72	0.00	0.00	0.00	0.00	0.00	90.72	1556.00	0.32	1917.03	0.93	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0854	76.85	0.00	0.00	0.00	0.00	0.00	76.85	1579.66	0.33	1993.55	0.97	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0935	84.13	0.00	0.00	0.00	0.00	0.00	84.13	1599.68	0.33	2077.34	1.01	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0778	70.03	0.00	0.00	0.00	0.00	0.00	70.03	1621.61	0.34	2147.03	1.04	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0620	55.83	0.00	0.00	0.00	0.00	0.00	55.83	1639.85	0.34	2202.52	1.07	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0543	48.91	0.00	0.00	0.00	0.00	0.00	48.91	1654.37	0.34	2251.09	1.09	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1667.08	0.35	2291.14	1.11	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0449	40.40	0.00	0.00	0.00	0.00	0.00	40.40	1677.56	0.35	2331.20	1.13	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1688.04	0.35	2339.35	1.14	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1690.18	0.35	2347.50	1.14	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1692.31	0.35	2353.53	1.14	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1693.89	0.35	2359.56	1.15	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1695.46	0.35	2369.84	1.15	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1698.15	0.35	2380.11	1.16	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0118	10.63	0.00	0.00	0.00	0.00	0.00	10.63	1700.84	0.35	2390.39	1.16	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1703.53	0.35	2398.54	1.16	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1705.67	0.36	2406.69	1.17	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1707.80	0.36	2414.84	1.17	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1709.93	0.36	2420.87	1.18	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1711.51	0.36	2424.76	1.18	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1712.53	0.36	2430.79	1.18	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0095	8.51	0.00	0.00	0.00	0.00	0.00	8.51	1714.10	0.36	2438.93	1.18	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1716.24	0.36	2444.96	1.19	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1717.81	0.36	2448.85	1.19	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1718.83	0.36	2454.87	1.19	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1720.41	0.36	2460.89	1.19	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1721.98	0.36	2466.91	1.20	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1723.56	0.36	2470.81	1.20	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1724.58	0.36	2476.83	1.20	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1726.15	0.36	2480.72	1.20	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1727.17	0.36	2486.74	1.21	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1728.75	0.36	2490.63	1.21	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0071	6.38	0.00	0.00	0.00	0.00	0.00	6.38	1729.77	0.36	2496.65	1.21	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1731.34	0.36	2500.55	1.21	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1732.36	0.36	2504.44	1.22	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1733.38	0.36	2508.33	1.22	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1734.40	0.36	2512.22	1.22	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1735.41	0.36	2516.11	1.22	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1736.43	0.36	2520.00	1.22	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0047	4.25	0.00	0.00	0.00	0.00	0.00	4.25	1737.45	0.36	2523.89	1.23	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1738.47	0.36	2523.53	1.23	0.00	0.00
						Total volume (cf)		2552.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.09ac+0.09ac typ street frontage=1.18ac

5/7/2024 LOT 3

Drainage Area (ac.)	1.1800	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6035	181.04	0.00	0.00	0.00	0.00	0.00	181.04	1078.00	0.07	180.97	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9820	294.60	0.00	0.00	0.00	0.00	0.00	294.60	1125.36	0.08	475.49	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0852	325.57	0.00	0.00	0.00	0.00	0.00	325.57	1202.43	0.08	800.97	0.39	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0164	304.92	0.00	0.00	0.00	0.00	0.00	304.92	1287.60	0.09	1105.80	0.54	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6014	480.41	0.00	0.00	0.00	0.00	0.00	480.41	1367.37	0.09	1586.11	0.77	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.8422	552.67	0.00	0.00	0.00	0.00	0.00	552.67	1493.06	0.10	2138.68	1.04	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.2207	666.22	0.00	0.00	0.00	0.00	0.00	666.22	1637.66	0.11	2804.79	1.36	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.4272	728.16	0.00	0.00	0.00	0.00	0.00	728.16	1811.98	0.13	3532.83	1.72	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.5627	1068.82	0.00	0.00	0.00	0.00	0.00	1068.82	2002.49	0.14	4601.51	2.23	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.3865	1615.94	0.00	0.00	0.00	0.00	0.00	1615.94	2282.15	0.16	6217.29	3.02	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.8703	1461.09	0.00	0.00	0.00	0.00	0.00	1461.09	2704.98	0.19	7678.20	3.73	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7755	232.66	0.00	0.00	0.00	0.00	0.00	232.66	3087.28	0.21	7910.64	3.84	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.11	0.22	7910.43	3.84	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.05	0.22	7910.21	3.84	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3147.99	0.22	7909.99	3.84	0.00	0.00	
					Total volume (cf)			7912.11								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1078.00	0.07	17.19	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1082.50	0.08	34.37	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1087.00	0.08	48.91	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1090.80	0.08	68.75	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1095.99	0.08	88.59	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1101.18	0.08	126.62	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1111.13	0.08	146.46	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1116.33	0.08	184.49	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1126.28	0.08	222.52	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1136.23	0.08	242.36	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0708	21.25	0.00	0.00	0.00	0.00	0.00	21.25	1141.42	0.08	263.52	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1146.96	0.08	301.55	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1156.91	0.08	392.69	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1180.76	0.08	483.83	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1204.61	0.08	574.97	0.28	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	1228.46	0.09	639.54	0.31	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4811	144.33	0.00	0.00	0.00	0.00	0.00	144.33	1245.36	0.09	783.79	0.38	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1283.11	0.09	941.32	0.46	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3926	117.78	0.00	0.00	0.00	0.00	0.00	117.78	1324.33	0.09	1059.00	0.51	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1355.13	0.09	1216.52	0.59	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7909	237.28	0.00	0.00	0.00	0.00	0.00	237.28	1396.35	0.10	1453.71	0.71	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1458.42	0.10	1664.34	0.81	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6139	184.17	0.00	0.00	0.00	0.00	0.00	184.17	1513.53	0.11	1848.40	0.90	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6582	197.45	0.00	0.00	0.00	0.00	0.00	197.45	1561.70	0.11	2045.74	0.99	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1613.34	0.11	2256.36	1.10	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1893	356.79	0.00	0.00	0.00	0.00	0.00	356.79	1668.46	0.12	2613.03	1.27	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.5434	463.02	0.00	0.00	0.00	0.00	0.00	463.02	1761.80	0.12	3075.93	1.49	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8795	263.84	0.00	0.00	0.00	0.00	0.00	263.84	1882.93	0.13	3339.64	1.62	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.3401	702.03	0.00	0.00	0.00	0.00	0.00	702.03	1951.94	0.14	4041.54	1.96	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.5614	768.43	0.00	0.00	0.00	0.00	0.00	768.43	2135.62	0.15	4809.82	2.34	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.9598	887.93	0.00	0.00	0.00	0.00	0.00	887.93	2336.66	0.16	5697.59	2.77	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.9418	582.53	0.00	0.00	0.00	0.00	0.00	582.53	2568.98	0.18	6279.94	3.05	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	2721.37	0.19	6344.41	3.08	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2738.25	0.19	6382.33	3.10	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2748.17	0.19	6420.24	3.12	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0266	7.97	0.00	0.00	0.00	0.00	0.00	7.97	2758.09	0.19	6428.02	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.13	0.19	6427.83	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.08	0.19	6427.64	3.12	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.02	0.19	6427.44	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.97	0.19	6427.25	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.92	0.19	6427.06	3.12	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.87	0.19	6426.87	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.82	0.19	6426.68	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.77	0.19	6426.49	3.12	0.00	0.00
					Total volume (cf)		6431.91								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	1078.00	0.07	8.04	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1080.10	0.08	17.71	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1082.63	0.08	27.37	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1085.16	0.08	37.04	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1087.69	0.08	46.70	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1090.22	0.08	57.99	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1093.18	0.08	69.28	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1096.13	0.08	80.57	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1099.08	0.08	91.85	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1102.04	0.08	103.14	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1104.99	0.08	114.43	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1107.94	0.08	127.34	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1111.32	0.08	140.25	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1114.70	0.08	153.16	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1118.08	0.08	166.07	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1121.46	0.08	178.98	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1124.84	0.08	191.89	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1128.21	0.08	204.80	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1131.59	0.08	217.70	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1134.97	0.08	230.61	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1138.35	0.08	243.52	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1141.73	0.08	256.43	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1145.10	0.08	269.34	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1148.48	0.08	283.87	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1152.28	0.08	296.78	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1155.66	0.08	311.31	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1159.46	0.08	325.84	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1163.27	0.08	340.37	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1167.07	0.08	354.90	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1170.87	0.08	369.42	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1174.67	0.08	383.95	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1178.48	0.08	398.48	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1182.28	0.08	414.63	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1186.50	0.08	430.79	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1190.73	0.08	446.94	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1194.96	0.08	463.09	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1199.18	0.08	479.24	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1203.41	0.08	497.01	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1208.06	0.08	514.79	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1212.71	0.08	532.56	0.26	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0649	19.48	0.00	0.00	0.00	0.00	0.00	19.48	1217.36	0.08	551.96	0.27	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1222.44	0.08	572.98	0.28	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1227.94	0.09	599.26	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1234.82	0.09	625.55	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1241.70	0.09	668.06	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1252.82	0.09	710.58	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1263.95	0.09	769.33	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1279.32	0.09	828.08	0.40	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2502	75.07	0.00	0.00	0.00	0.00	0.00	75.07	1294.70	0.09	903.06	0.44	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3044	91.31	0.00	0.00	0.00	0.00	0.00	91.31	1314.32	0.09	994.28	0.48	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	1338.19	0.09	1101.73	0.53	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.4126	123.77	0.00	0.00	0.00	0.00	0.00	123.77	1366.31	0.09	1225.40	0.59	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1398.67	0.10	1365.32	0.66	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1435.28	0.10	1505.23	0.73	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5208	156.24	0.00	0.00	0.00	0.00	0.00	156.24	1471.90	0.10	1661.37	0.81	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5749	172.48	0.00	0.00	0.00	0.00	0.00	172.48	1512.76	0.11	1833.74	0.89	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1557.86	0.11	2022.34	0.98	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1607.22	0.11	2210.94	1.07	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6831	204.94	0.00	0.00	0.00	0.00	0.00	204.94	1656.57	0.12	2415.77	1.17	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7373	221.18	0.00	0.00	0.00	0.00	0.00	221.18	1710.17	0.12	2636.83	1.28	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	1.0078	302.35	0.00	0.00	0.00	0.00	0.00	302.35	1768.02	0.12	2939.06	1.43	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2784	383.52	0.00	0.00	0.00	0.00	0.00	383.52	1847.11	0.13	3322.45	1.61	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.4407	432.22	0.00	0.00	0.00	0.00	0.00	432.22	1947.44	0.14	3754.54	1.82	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.6031	480.92	0.00	0.00	0.00	0.00	0.00	480.92	2060.51	0.14	4235.32	2.06	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8736	562.09	0.00	0.00	0.00	0.00	0.00	562.09	2186.32	0.15	4797.26	2.33	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.3607	708.20	0.00	0.00	0.00	0.00	0.00	708.20	2333.38	0.16	5505.30	2.67	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	2518.66	0.17	5612.66	2.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	2546.76	0.18	5627.10	2.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	2550.54	0.18	5636.66	2.74	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	2553.04	0.18	5644.60	2.74	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0162	4.87	0.00	0.00	0.00	0.00	0.00	4.87	2555.12	0.18	5649.29	2.74	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0108	3.25	0.00	0.00	0.00	0.00	0.00	3.25	2556.34	0.18	5652.36	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.15	0.18	5652.19	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.10	0.18	5652.01	2.74	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.05	0.18	5651.83	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.01	0.18	5651.65	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.96	0.18	5651.48	2.74	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.91	0.18	5651.30	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.87	0.18	5651.12	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.82	0.18	5650.94	2.74	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.78	0.18	5650.77	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.73	0.18	5650.59	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.68	0.18	5650.41	2.74	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.64	0.18	5650.23	2.74	0.00	0.00
					Total volume (cf)			5659.35								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1078.00	0.22	4.10	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1079.07	0.22	10.37	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1080.71	0.23	16.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1082.35	0.23	25.06	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1084.56	0.23	31.32	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1086.20	0.23	37.58	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1087.84	0.23	43.85	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1089.47	0.23	52.27	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1091.68	0.23	60.70	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1093.88	0.23	69.12	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1096.09	0.23	79.71	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1098.86	0.23	90.30	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1101.63	0.23	100.88	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1104.40	0.23	111.47	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1107.17	0.23	122.05	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1109.94	0.23	134.80	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1113.28	0.23	147.55	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1116.61	0.23	162.46	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1120.51	0.23	177.36	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1124.41	0.23	194.43	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1128.88	0.24	207.18	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1132.22	0.24	222.08	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1136.12	0.24	239.15	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1140.58	0.24	256.22	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1145.05	0.24	275.45	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1150.08	0.24	294.68	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1155.11	0.24	316.07	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1160.71	0.24	337.46	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1166.31	0.24	358.85	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0264	23.79	0.00	0.00	0.00	0.00	0.00	23.79	1171.91	0.24	382.40	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0288	25.96	0.00	0.00	0.00	0.00	0.00	25.96	1178.07	0.25	408.11	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0312	28.12	0.00	0.00	0.00	0.00	0.00	28.12	1184.80	0.25	435.98	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1192.09	0.25	468.18	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1200.52	0.25	500.38	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0385	34.61	0.00	0.00	0.00	0.00	0.00	34.61	1208.94	0.25	534.73	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1217.93	0.25	571.25	0.28	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1227.49	0.26	612.10	0.30	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1238.18	0.26	655.10	0.32	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0505	45.43	0.00	0.00	0.00	0.00	0.00	45.43	1249.43	0.26	700.27	0.34	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0529	47.59	0.00	0.00	0.00	0.00	0.00	47.59	1261.25	0.26	747.59	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1273.63	0.27	779.77	0.38	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1282.06	0.27	811.95	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1290.48	0.27	854.95	0.42	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1301.73	0.27	897.94	0.44	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1312.98	0.27	938.76	0.46	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1323.66	0.28	979.59	0.48	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1334.34	0.28	1016.08	0.49	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0433	38.94	0.00	0.00	0.00	0.00	0.00	38.94	1343.89	0.28	1054.74	0.51	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0601	54.08	0.00	0.00	0.00	0.00	0.00	54.08	1354.01	0.28	1108.53	0.54	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0625	56.24	0.00	0.00	0.00	0.00	0.00	56.24	1368.09	0.29	1164.49	0.57	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0740	66.64	0.00	0.00	0.00	0.00	0.00	66.64	1382.73	0.29	1230.84	0.60	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1071	96.41	0.00	0.00	0.00	0.00	0.00	96.41	1400.09	0.29	1326.96	0.64	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2362	212.60	0.00	0.00	0.00	0.00	0.00	212.60	1425.25	0.30	1539.26	0.75	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2450	220.53	0.00	0.00	0.00	0.00	0.00	220.53	1480.80	0.31	1759.48	0.85	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1538.43	0.32	1808.91	0.88	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1551.37	0.32	1858.34	0.90	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1025	92.29	0.00	0.00	0.00	0.00	0.00	92.29	1564.30	0.33	1950.30	0.95	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0869	78.17	0.00	0.00	0.00	0.00	0.00	78.17	1588.37	0.33	2028.14	0.98	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0951	85.58	0.00	0.00	0.00	0.00	0.00	85.58	1608.74	0.34	2113.38	1.03	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0792	71.24	0.00	0.00	0.00	0.00	0.00	71.24	1631.04	0.34	2184.28	1.06	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0631	56.79	0.00	0.00	0.00	0.00	0.00	56.79	1649.60	0.34	2240.73	1.09	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1664.37	0.35	2290.14	1.11	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1677.30	0.35	2330.89	1.13	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1687.96	0.35	2371.64	1.15	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1698.63	0.35	2379.94	1.16	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1700.80	0.35	2388.23	1.16	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1702.97	0.35	2394.37	1.16	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1704.57	0.36	2400.50	1.17	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1706.18	0.36	2410.96	1.17	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1708.92	0.36	2421.42	1.18	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1711.65	0.36	2431.88	1.18	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1714.39	0.36	2440.18	1.18	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1716.56	0.36	2448.47	1.19	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1718.73	0.36	2456.77	1.19	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1720.90	0.36	2462.90	1.20	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1722.51	0.36	2466.86	1.20	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1723.54	0.36	2472.99	1.20	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1725.15	0.36	2481.29	1.20	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1727.32	0.36	2487.42	1.21	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1728.92	0.36	2491.38	1.21	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1729.96	0.36	2497.51	1.21	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1731.56	0.36	2503.64	1.22	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1733.17	0.36	2509.77	1.22	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1734.77	0.36	2513.73	1.22	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1735.81	0.36	2519.86	1.22	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1737.41	0.36	2523.83	1.23	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1738.45	0.36	2529.95	1.23	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1740.05	0.36	2533.92	1.23	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1741.09	0.36	2540.04	1.23	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1742.69	0.36	2544.01	1.24	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1743.73	0.36	2547.97	1.24	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1744.77	0.36	2551.93	1.24	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1745.81	0.36	2555.89	1.24	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1746.84	0.36	2559.86	1.24	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1747.88	0.36	2563.82	1.24	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1748.92	0.36	2567.78	1.25	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1749.95	0.36	2567.42	1.25	0.00	0.00
					Total volume (cf)		2596.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.09ac+0.09ac typ street frontage=1.18ac

5/7/2024 LOT 4

Drainage Area (ac.)	1.1800	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6035	181.04	0.00	0.00	0.00	0.00	0.00	181.04	1078.00	0.07	180.97	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9820	294.60	0.00	0.00	0.00	0.00	0.00	294.60	1125.36	0.08	475.49	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0852	325.57	0.00	0.00	0.00	0.00	0.00	325.57	1202.43	0.08	800.97	0.39	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0164	304.92	0.00	0.00	0.00	0.00	0.00	304.92	1287.60	0.09	1105.80	0.54	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6014	480.41	0.00	0.00	0.00	0.00	0.00	480.41	1367.37	0.09	1586.11	0.77	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.8422	552.67	0.00	0.00	0.00	0.00	0.00	552.67	1493.06	0.10	2138.68	1.04	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.2207	666.22	0.00	0.00	0.00	0.00	0.00	666.22	1637.66	0.11	2804.79	1.36	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.4272	728.16	0.00	0.00	0.00	0.00	0.00	728.16	1811.98	0.13	3532.83	1.72	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.5627	1068.82	0.00	0.00	0.00	0.00	0.00	1068.82	2002.49	0.14	4601.51	2.23	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.3865	1615.94	0.00	0.00	0.00	0.00	0.00	1615.94	2282.15	0.16	6217.29	3.02	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.8703	1461.09	0.00	0.00	0.00	0.00	0.00	1461.09	2704.98	0.19	7678.20	3.73	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7755	232.66	0.00	0.00	0.00	0.00	0.00	232.66	3087.28	0.21	7910.64	3.84	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.11	0.22	7910.43	3.84	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.05	0.22	7910.21	3.84	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3147.99	0.22	7909.99	3.84	0.00	0.00	
					Total volume (cf)			7912.11								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1078.00	0.07	17.19	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1082.50	0.08	34.37	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1087.00	0.08	48.91	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1090.80	0.08	68.75	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1095.99	0.08	88.59	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1101.18	0.08	126.62	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1111.13	0.08	146.46	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1116.33	0.08	184.49	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1126.28	0.08	222.52	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1136.23	0.08	242.36	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0708	21.25	0.00	0.00	0.00	0.00	0.00	21.25	1141.42	0.08	263.52	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1146.96	0.08	301.55	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1156.91	0.08	392.69	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1180.76	0.08	483.83	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1204.61	0.08	574.97	0.28	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	1228.46	0.09	639.54	0.31	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4811	144.33	0.00	0.00	0.00	0.00	0.00	144.33	1245.36	0.09	783.79	0.38	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1283.11	0.09	941.32	0.46	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3926	117.78	0.00	0.00	0.00	0.00	0.00	117.78	1324.33	0.09	1059.00	0.51	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1355.13	0.09	1216.52	0.59	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7909	237.28	0.00	0.00	0.00	0.00	0.00	237.28	1396.35	0.10	1453.71	0.71	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1458.42	0.10	1664.34	0.81	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6139	184.17	0.00	0.00	0.00	0.00	0.00	184.17	1513.53	0.11	1848.40	0.90	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6582	197.45	0.00	0.00	0.00	0.00	0.00	197.45	1561.70	0.11	2045.74	0.99	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1613.34	0.11	2256.36	1.10	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1893	356.79	0.00	0.00	0.00	0.00	0.00	356.79	1668.46	0.12	2613.03	1.27	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.5434	463.02	0.00	0.00	0.00	0.00	0.00	463.02	1761.80	0.12	3075.93	1.49	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8795	263.84	0.00	0.00	0.00	0.00	0.00	263.84	1882.93	0.13	3339.64	1.62	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.3401	702.03	0.00	0.00	0.00	0.00	0.00	702.03	1951.94	0.14	4041.54	1.96	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.5614	768.43	0.00	0.00	0.00	0.00	0.00	768.43	2135.62	0.15	4809.82	2.34	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.9598	887.93	0.00	0.00	0.00	0.00	0.00	887.93	2336.66	0.16	5697.59	2.77	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.9418	582.53	0.00	0.00	0.00	0.00	0.00	582.53	2568.98	0.18	6279.94	3.05	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	2721.37	0.19	6344.41	3.08	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2738.25	0.19	6382.33	3.10	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2748.17	0.19	6420.24	3.12	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0266	7.97	0.00	0.00	0.00	0.00	0.00	7.97	2758.09	0.19	6428.02	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.13	0.19	6427.83	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.08	0.19	6427.64	3.12	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.02	0.19	6427.44	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.97	0.19	6427.25	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.92	0.19	6427.06	3.12	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.87	0.19	6426.87	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.82	0.19	6426.68	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.77	0.19	6426.49	3.12	0.00	0.00
					Total volume (cf)		6431.91								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	1078.00	0.07	8.04	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1080.10	0.08	17.71	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1082.63	0.08	27.37	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1085.16	0.08	37.04	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1087.69	0.08	46.70	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1090.22	0.08	57.99	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1093.18	0.08	69.28	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1096.13	0.08	80.57	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1099.08	0.08	91.85	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1102.04	0.08	103.14	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1104.99	0.08	114.43	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1107.94	0.08	127.34	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1111.32	0.08	140.25	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1114.70	0.08	153.16	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1118.08	0.08	166.07	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1121.46	0.08	178.98	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1124.84	0.08	191.89	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1128.21	0.08	204.80	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1131.59	0.08	217.70	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1134.97	0.08	230.61	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1138.35	0.08	243.52	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1141.73	0.08	256.43	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1145.10	0.08	269.34	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1148.48	0.08	283.87	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1152.28	0.08	296.78	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1155.66	0.08	311.31	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1159.46	0.08	325.84	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1163.27	0.08	340.37	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1167.07	0.08	354.90	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1170.87	0.08	369.42	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1174.67	0.08	383.95	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1178.48	0.08	398.48	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1182.28	0.08	414.63	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1186.50	0.08	430.79	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1190.73	0.08	446.94	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1194.96	0.08	463.09	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1199.18	0.08	479.24	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1203.41	0.08	497.01	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1208.06	0.08	514.79	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1212.71	0.08	532.56	0.26	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0649	19.48	0.00	0.00	0.00	0.00	0.00	19.48	1217.36	0.08	551.96	0.27	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1222.44	0.08	572.98	0.28	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1227.94	0.09	599.26	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1234.82	0.09	625.55	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1241.70	0.09	668.06	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1252.82	0.09	710.58	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1263.95	0.09	769.33	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1279.32	0.09	828.08	0.40	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2502	75.07	0.00	0.00	0.00	0.00	0.00	75.07	1294.70	0.09	903.06	0.44	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3044	91.31	0.00	0.00	0.00	0.00	0.00	91.31	1314.32	0.09	994.28	0.48	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	1338.19	0.09	1101.73	0.53	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.4126	123.77	0.00	0.00	0.00	0.00	0.00	123.77	1366.31	0.09	1225.40	0.59	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1398.67	0.10	1365.32	0.66	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1435.28	0.10	1505.23	0.73	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5208	156.24	0.00	0.00	0.00	0.00	0.00	156.24	1471.90	0.10	1661.37	0.81	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5749	172.48	0.00	0.00	0.00	0.00	0.00	172.48	1512.76	0.11	1833.74	0.89	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1557.86	0.11	2022.34	0.98	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1607.22	0.11	2210.94	1.07	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6831	204.94	0.00	0.00	0.00	0.00	0.00	204.94	1656.57	0.12	2415.77	1.17	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7373	221.18	0.00	0.00	0.00	0.00	0.00	221.18	1710.17	0.12	2636.83	1.28	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	1.0078	302.35	0.00	0.00	0.00	0.00	0.00	302.35	1768.02	0.12	2939.06	1.43	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2784	383.52	0.00	0.00	0.00	0.00	0.00	383.52	1847.11	0.13	3322.45	1.61	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.4407	432.22	0.00	0.00	0.00	0.00	0.00	432.22	1947.44	0.14	3754.54	1.82	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.6031	480.92	0.00	0.00	0.00	0.00	0.00	480.92	2060.51	0.14	4235.32	2.06	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8736	562.09	0.00	0.00	0.00	0.00	0.00	562.09	2186.32	0.15	4797.26	2.33	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.3607	708.20	0.00	0.00	0.00	0.00	0.00	708.20	2333.38	0.16	5505.30	2.67	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	2518.66	0.17	5612.66	2.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	2546.76	0.18	5627.10	2.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	2550.54	0.18	5636.66	2.74	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	2553.04	0.18	5644.60	2.74	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0162	4.87	0.00	0.00	0.00	0.00	0.00	4.87	2555.12	0.18	5649.29	2.74	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0108	3.25	0.00	0.00	0.00	0.00	0.00	3.25	2556.34	0.18	5652.36	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.15	0.18	5652.19	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.10	0.18	5652.01	2.74	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.05	0.18	5651.83	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.01	0.18	5651.65	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.96	0.18	5651.48	2.74	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.91	0.18	5651.30	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.87	0.18	5651.12	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.82	0.18	5650.94	2.74	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.78	0.18	5650.77	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.73	0.18	5650.59	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.68	0.18	5650.41	2.74	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.64	0.18	5650.23	2.74	0.00	0.00
					Total volume (cf)			5659.35								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1078.00	0.22	4.10	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1079.07	0.22	10.37	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1080.71	0.23	16.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1082.35	0.23	25.06	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1084.56	0.23	31.32	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1086.20	0.23	37.58	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1087.84	0.23	43.85	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1089.47	0.23	52.27	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1091.68	0.23	60.70	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1093.88	0.23	69.12	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1096.09	0.23	79.71	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1098.86	0.23	90.30	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1101.63	0.23	100.88	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1104.40	0.23	111.47	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1107.17	0.23	122.05	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1109.94	0.23	134.80	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1113.28	0.23	147.55	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1116.61	0.23	162.46	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1120.51	0.23	177.36	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1124.41	0.23	194.43	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1128.88	0.24	207.18	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1132.22	0.24	222.08	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1136.12	0.24	239.15	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1140.58	0.24	256.22	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1145.05	0.24	275.45	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1150.08	0.24	294.68	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1155.11	0.24	316.07	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1160.71	0.24	337.46	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1166.31	0.24	358.85	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0264	23.79	0.00	0.00	0.00	0.00	0.00	23.79	1171.91	0.24	382.40	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0288	25.96	0.00	0.00	0.00	0.00	0.00	25.96	1178.07	0.25	408.11	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0312	28.12	0.00	0.00	0.00	0.00	0.00	28.12	1184.80	0.25	435.98	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1192.09	0.25	468.18	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1200.52	0.25	500.38	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0385	34.61	0.00	0.00	0.00	0.00	0.00	34.61	1208.94	0.25	534.73	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1217.93	0.25	571.25	0.28	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1227.49	0.26	612.10	0.30	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1238.18	0.26	655.10	0.32	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0505	45.43	0.00	0.00	0.00	0.00	0.00	45.43	1249.43	0.26	700.27	0.34	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0529	47.59	0.00	0.00	0.00	0.00	0.00	47.59	1261.25	0.26	747.59	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1273.63	0.27	779.77	0.38	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1282.06	0.27	811.95	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1290.48	0.27	854.95	0.42	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1301.73	0.27	897.94	0.44	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1312.98	0.27	938.76	0.46	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1323.66	0.28	979.59	0.48	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1334.34	0.28	1016.08	0.49	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0433	38.94	0.00	0.00	0.00	0.00	0.00	38.94	1343.89	0.28	1054.74	0.51	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0601	54.08	0.00	0.00	0.00	0.00	0.00	54.08	1354.01	0.28	1108.53	0.54	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0625	56.24	0.00	0.00	0.00	0.00	0.00	56.24	1368.09	0.29	1164.49	0.57	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0740	66.64	0.00	0.00	0.00	0.00	0.00	66.64	1382.73	0.29	1230.84	0.60	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1071	96.41	0.00	0.00	0.00	0.00	0.00	96.41	1400.09	0.29	1326.96	0.64	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2362	212.60	0.00	0.00	0.00	0.00	0.00	212.60	1425.25	0.30	1539.26	0.75	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2450	220.53	0.00	0.00	0.00	0.00	0.00	220.53	1480.80	0.31	1759.48	0.85	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1538.43	0.32	1808.91	0.88	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1551.37	0.32	1858.34	0.90	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1025	92.29	0.00	0.00	0.00	0.00	0.00	92.29	1564.30	0.33	1950.30	0.95	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0869	78.17	0.00	0.00	0.00	0.00	0.00	78.17	1588.37	0.33	2028.14	0.98	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0951	85.58	0.00	0.00	0.00	0.00	0.00	85.58	1608.74	0.34	2113.38	1.03	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0792	71.24	0.00	0.00	0.00	0.00	0.00	71.24	1631.04	0.34	2184.28	1.06	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0631	56.79	0.00	0.00	0.00	0.00	0.00	56.79	1649.60	0.34	2240.73	1.09	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1664.37	0.35	2290.14	1.11	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1677.30	0.35	2330.89	1.13	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1687.96	0.35	2371.64	1.15	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1698.63	0.35	2379.94	1.16	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1700.80	0.35	2388.23	1.16	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1702.97	0.35	2394.37	1.16	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1704.57	0.36	2400.50	1.17	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1706.18	0.36	2410.96	1.17	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1708.92	0.36	2421.42	1.18	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1711.65	0.36	2431.88	1.18	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1714.39	0.36	2440.18	1.18	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1716.56	0.36	2448.47	1.19	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1718.73	0.36	2456.77	1.19	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1720.90	0.36	2462.90	1.20	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1722.51	0.36	2466.86	1.20	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1723.54	0.36	2472.99	1.20	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1725.15	0.36	2481.29	1.20	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1727.32	0.36	2487.42	1.21	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1728.92	0.36	2491.38	1.21	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1729.96	0.36	2497.51	1.21	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1731.56	0.36	2503.64	1.22	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1733.17	0.36	2509.77	1.22	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1734.77	0.36	2513.73	1.22	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1735.81	0.36	2519.86	1.22	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1737.41	0.36	2523.83	1.23	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1738.45	0.36	2529.95	1.23	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1740.05	0.36	2533.92	1.23	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1741.09	0.36	2540.04	1.23	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1742.69	0.36	2544.01	1.24	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1743.73	0.36	2547.97	1.24	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1744.77	0.36	2551.93	1.24	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1745.81	0.36	2555.89	1.24	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1746.84	0.36	2559.86	1.24	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1747.88	0.36	2563.82	1.24	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1748.92	0.36	2567.78	1.25	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1749.95	0.36	2567.42	1.25	0.00	0.00
					Total volume (cf)		2596.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.09ac+0.09ac typ street frontage=1.18ac

5/7/2024 LOT 5

Drainage Area (ac.)	1.1800	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6035	181.04	0.00	0.00	0.00	0.00	0.00	181.04	1078.00	0.07	180.97	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9820	294.60	0.00	0.00	0.00	0.00	0.00	294.60	1125.36	0.08	475.49	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0852	325.57	0.00	0.00	0.00	0.00	0.00	325.57	1202.43	0.08	800.97	0.39	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0164	304.92	0.00	0.00	0.00	0.00	0.00	304.92	1287.60	0.09	1105.80	0.54	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6014	480.41	0.00	0.00	0.00	0.00	0.00	480.41	1367.37	0.09	1586.11	0.77	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.8422	552.67	0.00	0.00	0.00	0.00	0.00	552.67	1493.06	0.10	2138.68	1.04	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.2207	666.22	0.00	0.00	0.00	0.00	0.00	666.22	1637.66	0.11	2804.79	1.36	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.4272	728.16	0.00	0.00	0.00	0.00	0.00	728.16	1811.98	0.13	3532.83	1.72	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.5627	1068.82	0.00	0.00	0.00	0.00	0.00	1068.82	2002.49	0.14	4601.51	2.23	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.3865	1615.94	0.00	0.00	0.00	0.00	0.00	1615.94	2282.15	0.16	6217.29	3.02	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.8703	1461.09	0.00	0.00	0.00	0.00	0.00	1461.09	2704.98	0.19	7678.20	3.73	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7755	232.66	0.00	0.00	0.00	0.00	0.00	232.66	3087.28	0.21	7910.64	3.84	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.11	0.22	7910.43	3.84	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3148.05	0.22	7910.21	3.84	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3147.99	0.22	7909.99	3.84	0.00	0.00	
					Total volume (cf)			7912.11								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1078.00	0.07	17.19	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0575	17.26	0.00	0.00	0.00	0.00	0.00	17.26	1082.50	0.08	34.37	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1087.00	0.08	48.91	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1090.80	0.08	68.75	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1095.99	0.08	88.59	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1101.18	0.08	126.62	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1111.13	0.08	146.46	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1116.33	0.08	184.49	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1126.28	0.08	222.52	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0664	19.92	0.00	0.00	0.00	0.00	0.00	19.92	1136.23	0.08	242.36	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0708	21.25	0.00	0.00	0.00	0.00	0.00	21.25	1141.42	0.08	263.52	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	1146.96	0.08	301.55	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1156.91	0.08	392.69	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1180.76	0.08	483.83	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3041	91.22	0.00	0.00	0.00	0.00	0.00	91.22	1204.61	0.08	574.97	0.28	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	1228.46	0.09	639.54	0.31	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4811	144.33	0.00	0.00	0.00	0.00	0.00	144.33	1245.36	0.09	783.79	0.38	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1283.11	0.09	941.32	0.46	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3926	117.78	0.00	0.00	0.00	0.00	0.00	117.78	1324.33	0.09	1059.00	0.51	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5254	157.61	0.00	0.00	0.00	0.00	0.00	157.61	1355.13	0.09	1216.52	0.59	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7909	237.28	0.00	0.00	0.00	0.00	0.00	237.28	1396.35	0.10	1453.71	0.71	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1458.42	0.10	1664.34	0.81	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6139	184.17	0.00	0.00	0.00	0.00	0.00	184.17	1513.53	0.11	1848.40	0.90	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6582	197.45	0.00	0.00	0.00	0.00	0.00	197.45	1561.70	0.11	2045.74	0.99	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7024	210.73	0.00	0.00	0.00	0.00	0.00	210.73	1613.34	0.11	2256.36	1.10	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1893	356.79	0.00	0.00	0.00	0.00	0.00	356.79	1668.46	0.12	2613.03	1.27	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.5434	463.02	0.00	0.00	0.00	0.00	0.00	463.02	1761.80	0.12	3075.93	1.49	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8795	263.84	0.00	0.00	0.00	0.00	0.00	263.84	1882.93	0.13	3339.64	1.62	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.3401	702.03	0.00	0.00	0.00	0.00	0.00	702.03	1951.94	0.14	4041.54	1.96	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.5614	768.43	0.00	0.00	0.00	0.00	0.00	768.43	2135.62	0.15	4809.82	2.34	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.9598	887.93	0.00	0.00	0.00	0.00	0.00	887.93	2336.66	0.16	5697.59	2.77	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.9418	582.53	0.00	0.00	0.00	0.00	0.00	582.53	2568.98	0.18	6279.94	3.05	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2155	64.66	0.00	0.00	0.00	0.00	0.00	64.66	2721.37	0.19	6344.41	3.08	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2738.25	0.19	6382.33	3.10	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1270	38.11	0.00	0.00	0.00	0.00	0.00	38.11	2748.17	0.19	6420.24	3.12	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0266	7.97	0.00	0.00	0.00	0.00	0.00	7.97	2758.09	0.19	6428.02	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.13	0.19	6427.83	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.08	0.19	6427.64	3.12	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2760.02	0.19	6427.44	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.97	0.19	6427.25	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.92	0.19	6427.06	3.12	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.87	0.19	6426.87	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.82	0.19	6426.68	3.12	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2759.77	0.19	6426.49	3.12	0.00	0.00
					Total volume (cf)		6431.91								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	1078.00	0.07	8.04	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1080.10	0.08	17.71	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1082.63	0.08	27.37	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1085.16	0.08	37.04	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	1087.69	0.08	46.70	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1090.22	0.08	57.99	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1093.18	0.08	69.28	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1096.13	0.08	80.57	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1099.08	0.08	91.85	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1102.04	0.08	103.14	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0379	11.36	0.00	0.00	0.00	0.00	0.00	11.36	1104.99	0.08	114.43	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1107.94	0.08	127.34	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1111.32	0.08	140.25	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1114.70	0.08	153.16	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1118.08	0.08	166.07	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1121.46	0.08	178.98	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1124.84	0.08	191.89	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1128.21	0.08	204.80	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1131.59	0.08	217.70	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1134.97	0.08	230.61	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1138.35	0.08	243.52	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1141.73	0.08	256.43	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1145.10	0.08	269.34	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1148.48	0.08	283.87	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0433	12.99	0.00	0.00	0.00	0.00	0.00	12.99	1152.28	0.08	296.78	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1155.66	0.08	311.31	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1159.46	0.08	325.84	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1163.27	0.08	340.37	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1167.07	0.08	354.90	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1170.87	0.08	369.42	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1174.67	0.08	383.95	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	1178.48	0.08	398.48	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1182.28	0.08	414.63	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1186.50	0.08	430.79	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1190.73	0.08	446.94	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1194.96	0.08	463.09	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0541	16.23	0.00	0.00	0.00	0.00	0.00	16.23	1199.18	0.08	479.24	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1203.41	0.08	497.01	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1208.06	0.08	514.79	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0595	17.86	0.00	0.00	0.00	0.00	0.00	17.86	1212.71	0.08	532.56	0.26	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0649	19.48	0.00	0.00	0.00	0.00	0.00	19.48	1217.36	0.08	551.96	0.27	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1222.44	0.08	572.98	0.28	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1227.94	0.09	599.26	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0879	26.37	0.00	0.00	0.00	0.00	0.00	26.37	1234.82	0.09	625.55	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1241.70	0.09	668.06	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1420	42.60	0.00	0.00	0.00	0.00	0.00	42.60	1252.82	0.09	710.58	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1263.95	0.09	769.33	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1961	58.84	0.00	0.00	0.00	0.00	0.00	58.84	1279.32	0.09	828.08	0.40	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2502	75.07	0.00	0.00	0.00	0.00	0.00	75.07	1294.70	0.09	903.06	0.44	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3044	91.31	0.00	0.00	0.00	0.00	0.00	91.31	1314.32	0.09	994.28	0.48	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	1338.19	0.09	1101.73	0.53	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.4126	123.77	0.00	0.00	0.00	0.00	0.00	123.77	1366.31	0.09	1225.40	0.59	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1398.67	0.10	1365.32	0.66	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4667	140.01	0.00	0.00	0.00	0.00	0.00	140.01	1435.28	0.10	1505.23	0.73	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5208	156.24	0.00	0.00	0.00	0.00	0.00	156.24	1471.90	0.10	1661.37	0.81	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5749	172.48	0.00	0.00	0.00	0.00	0.00	172.48	1512.76	0.11	1833.74	0.89	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1557.86	0.11	2022.34	0.98	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6290	188.71	0.00	0.00	0.00	0.00	0.00	188.71	1607.22	0.11	2210.94	1.07	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6831	204.94	0.00	0.00	0.00	0.00	0.00	204.94	1656.57	0.12	2415.77	1.17	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7373	221.18	0.00	0.00	0.00	0.00	0.00	221.18	1710.17	0.12	2636.83	1.28	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	1.0078	302.35	0.00	0.00	0.00	0.00	0.00	302.35	1768.02	0.12	2939.06	1.43	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2784	383.52	0.00	0.00	0.00	0.00	0.00	383.52	1847.11	0.13	3322.45	1.61	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.4407	432.22	0.00	0.00	0.00	0.00	0.00	432.22	1947.44	0.14	3754.54	1.82	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.6031	480.92	0.00	0.00	0.00	0.00	0.00	480.92	2060.51	0.14	4235.32	2.06	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8736	562.09	0.00	0.00	0.00	0.00	0.00	562.09	2186.32	0.15	4797.26	2.33	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.3607	708.20	0.00	0.00	0.00	0.00	0.00	708.20	2333.38	0.16	5505.30	2.67	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3585	107.54	0.00	0.00	0.00	0.00	0.00	107.54	2518.66	0.17	5612.66	2.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0487	14.61	0.00	0.00	0.00	0.00	0.00	14.61	2546.76	0.18	5627.10	2.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0325	9.74	0.00	0.00	0.00	0.00	0.00	9.74	2550.54	0.18	5636.66	2.74	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0271	8.12	0.00	0.00	0.00	0.00	0.00	8.12	2553.04	0.18	5644.60	2.74	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0162	4.87	0.00	0.00	0.00	0.00	0.00	4.87	2555.12	0.18	5649.29	2.74	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0108	3.25	0.00	0.00	0.00	0.00	0.00	3.25	2556.34	0.18	5652.36	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.15	0.18	5652.19	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.10	0.18	5652.01	2.74	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.05	0.18	5651.83	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2557.01	0.18	5651.65	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.96	0.18	5651.48	2.74	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.91	0.18	5651.30	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.87	0.18	5651.12	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.82	0.18	5650.94	2.74	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.78	0.18	5650.77	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.73	0.18	5650.59	2.74	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.68	0.18	5650.41	2.74	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2556.64	0.18	5650.23	2.74	0.00	0.00
					Total volume (cf)			5659.35								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1078.00	0.22	4.10	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1079.07	0.22	10.37	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1080.71	0.23	16.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1082.35	0.23	25.06	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1084.56	0.23	31.32	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1086.20	0.23	37.58	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1087.84	0.23	43.85	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1089.47	0.23	52.27	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1091.68	0.23	60.70	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1093.88	0.23	69.12	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1096.09	0.23	79.71	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1098.86	0.23	90.30	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1101.63	0.23	100.88	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1104.40	0.23	111.47	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1107.17	0.23	122.05	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1109.94	0.23	134.80	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1113.28	0.23	147.55	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1116.61	0.23	162.46	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1120.51	0.23	177.36	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1124.41	0.23	194.43	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0144	12.98	0.00	0.00	0.00	0.00	0.00	12.98	1128.88	0.24	207.18	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0168	15.14	0.00	0.00	0.00	0.00	0.00	15.14	1132.22	0.24	222.08	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1136.12	0.24	239.15	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0192	17.30	0.00	0.00	0.00	0.00	0.00	17.30	1140.58	0.24	256.22	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1145.05	0.24	275.45	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0216	19.47	0.00	0.00	0.00	0.00	0.00	19.47	1150.08	0.24	294.68	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1155.11	0.24	316.07	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1160.71	0.24	337.46	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0240	21.63	0.00	0.00	0.00	0.00	0.00	21.63	1166.31	0.24	358.85	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0264	23.79	0.00	0.00	0.00	0.00	0.00	23.79	1171.91	0.24	382.40	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0288	25.96	0.00	0.00	0.00	0.00	0.00	25.96	1178.07	0.25	408.11	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0312	28.12	0.00	0.00	0.00	0.00	0.00	28.12	1184.80	0.25	435.98	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1192.09	0.25	468.18	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1200.52	0.25	500.38	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0385	34.61	0.00	0.00	0.00	0.00	0.00	34.61	1208.94	0.25	534.73	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1217.93	0.25	571.25	0.28	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1227.49	0.26	612.10	0.30	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1238.18	0.26	655.10	0.32	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0505	45.43	0.00	0.00	0.00	0.00	0.00	45.43	1249.43	0.26	700.27	0.34	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0529	47.59	0.00	0.00	0.00	0.00	0.00	47.59	1261.25	0.26	747.59	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1273.63	0.27	779.77	0.38	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0361	32.45	0.00	0.00	0.00	0.00	0.00	32.45	1282.06	0.27	811.95	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1290.48	0.27	854.95	0.42	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0481	43.26	0.00	0.00	0.00	0.00	0.00	43.26	1301.73	0.27	897.94	0.44	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1312.98	0.27	938.76	0.46	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1323.66	0.28	979.59	0.48	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0409	36.77	0.00	0.00	0.00	0.00	0.00	36.77	1334.34	0.28	1016.08	0.49	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0433	38.94	0.00	0.00	0.00	0.00	0.00	38.94	1343.89	0.28	1054.74	0.51	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0601	54.08	0.00	0.00	0.00	0.00	0.00	54.08	1354.01	0.28	1108.53	0.54	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0625	56.24	0.00	0.00	0.00	0.00	0.00	56.24	1368.09	0.29	1164.49	0.57	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0740	66.64	0.00	0.00	0.00	0.00	0.00	66.64	1382.73	0.29	1230.84	0.60	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1071	96.41	0.00	0.00	0.00	0.00	0.00	96.41	1400.09	0.29	1326.96	0.64	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2362	212.60	0.00	0.00	0.00	0.00	0.00	212.60	1425.25	0.30	1539.26	0.75	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2450	220.53	0.00	0.00	0.00	0.00	0.00	220.53	1480.80	0.31	1759.48	0.85	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1538.43	0.32	1808.91	0.88	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1551.37	0.32	1858.34	0.90	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1025	92.29	0.00	0.00	0.00	0.00	0.00	92.29	1564.30	0.33	1950.30	0.95	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0869	78.17	0.00	0.00	0.00	0.00	0.00	78.17	1588.37	0.33	2028.14	0.98	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0951	85.58	0.00	0.00	0.00	0.00	0.00	85.58	1608.74	0.34	2113.38	1.03	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0792	71.24	0.00	0.00	0.00	0.00	0.00	71.24	1631.04	0.34	2184.28	1.06	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0631	56.79	0.00	0.00	0.00	0.00	0.00	56.79	1649.60	0.34	2240.73	1.09	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0553	49.75	0.00	0.00	0.00	0.00	0.00	49.75	1664.37	0.35	2290.14	1.11	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1677.30	0.35	2330.89	1.13	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0457	41.10	0.00	0.00	0.00	0.00	0.00	41.10	1687.96	0.35	2371.64	1.15	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1698.63	0.35	2379.94	1.16	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1700.80	0.35	2388.23	1.16	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1702.97	0.35	2394.37	1.16	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1704.57	0.36	2400.50	1.17	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1706.18	0.36	2410.96	1.17	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1708.92	0.36	2421.42	1.18	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0120	10.82	0.00	0.00	0.00	0.00	0.00	10.82	1711.65	0.36	2431.88	1.18	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1714.39	0.36	2440.18	1.18	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1716.56	0.36	2448.47	1.19	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1718.73	0.36	2456.77	1.19	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1720.90	0.36	2462.90	1.20	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1722.51	0.36	2466.86	1.20	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1723.54	0.36	2472.99	1.20	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0096	8.65	0.00	0.00	0.00	0.00	0.00	8.65	1725.15	0.36	2481.29	1.20	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1727.32	0.36	2487.42	1.21	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1728.92	0.36	2491.38	1.21	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1729.96	0.36	2497.51	1.21	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1731.56	0.36	2503.64	1.22	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1733.17	0.36	2509.77	1.22	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1734.77	0.36	2513.73	1.22	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1735.81	0.36	2519.86	1.22	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1737.41	0.36	2523.83	1.23	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1738.45	0.36	2529.95	1.23	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1740.05	0.36	2533.92	1.23	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0072	6.49	0.00	0.00	0.00	0.00	0.00	6.49	1741.09	0.36	2540.04	1.23	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1742.69	0.36	2544.01	1.24	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1743.73	0.36	2547.97	1.24	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1744.77	0.36	2551.93	1.24	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1745.81	0.36	2555.89	1.24	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1746.84	0.36	2559.86	1.24	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1747.88	0.36	2563.82	1.24	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0048	4.33	0.00	0.00	0.00	0.00	0.00	4.33	1748.92	0.36	2567.78	1.25	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1749.95	0.36	2567.42	1.25	0.00	0.00
					Total volume (cf)		2596.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.16ac+0.09ac typ street frontage=1.25ac

			5/7/2024	LOT 6	
Drainage Area (ac.)	1.2500		JOB NUMBER 22106		
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3304 s.f. Bot. = 1123 s.f. Max. Depth (d)= 4 Max. storage= 8470.98 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6393	191.78	0.00	0.00	0.00	0.00	0.00	191.78	1123.00	0.08	191.71	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	1.0402	312.07	0.00	0.00	0.00	0.00	0.00	312.07	1172.36	0.08	503.70	0.24	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.1496	344.88	0.00	0.00	0.00	0.00	0.00	344.88	1252.69	0.09	848.49	0.40	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0767	323.01	0.00	0.00	0.00	0.00	0.00	323.01	1341.46	0.09	1171.40	0.55	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6964	508.91	0.00	0.00	0.00	0.00	0.00	508.91	1424.60	0.10	1680.21	0.79	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.9515	585.46	0.00	0.00	0.00	0.00	0.00	585.46	1555.60	0.11	2265.56	1.07	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.3525	705.75	0.00	0.00	0.00	0.00	0.00	705.75	1706.31	0.12	2971.19	1.40	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.5712	771.36	0.00	0.00	0.00	0.00	0.00	771.36	1887.98	0.13	3742.42	1.77	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.7741	1132.23	0.00	0.00	0.00	0.00	0.00	1132.23	2086.55	0.14	4874.50	2.30	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.7060	1711.80	0.00	0.00	0.00	0.00	0.00	1711.80	2378.02	0.17	6586.13	3.11	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	5.1592	1547.77	0.00	0.00	0.00	0.00	0.00	1547.77	2818.71	0.20	8133.71	3.84	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.8215	246.46	0.00	0.00	0.00	0.00	0.00	246.46	3217.16	0.22	8379.95	3.96	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.56	0.23	8379.72	3.96	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.50	0.23	8379.49	3.96	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.44	0.23	8379.26	3.96	0.00	0.00	
					Total volume (cf)			8381.47								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0610	18.29	0.00	0.00	0.00	0.00	0.00	18.29	1123.00	0.08	18.21	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0610	18.29	0.00	0.00	0.00	0.00	0.00	18.29	1127.69	0.08	36.42	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0516	15.47	0.00	0.00	0.00	0.00	0.00	15.47	1132.38	0.08	51.81	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1136.34	0.08	72.83	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1141.75	0.08	93.85	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1147.16	0.08	134.14	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1157.54	0.08	155.16	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1162.95	0.08	195.44	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1173.32	0.08	235.73	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1183.69	0.08	256.75	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0750	22.51	0.00	0.00	0.00	0.00	0.00	22.51	1189.10	0.08	279.17	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1194.88	0.08	319.45	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1205.25	0.08	416.00	0.20	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1230.11	0.09	512.55	0.24	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1254.96	0.09	609.09	0.29	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2283	68.50	0.00	0.00	0.00	0.00	0.00	68.50	1279.82	0.09	677.50	0.32	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.5097	152.90	0.00	0.00	0.00	0.00	0.00	152.90	1297.44	0.09	830.31	0.39	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5565	166.96	0.00	0.00	0.00	0.00	0.00	166.96	1336.78	0.09	997.18	0.47	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.4159	124.76	0.00	0.00	0.00	0.00	0.00	124.76	1379.74	0.10	1121.85	0.53	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5565	166.96	0.00	0.00	0.00	0.00	0.00	166.96	1411.84	0.10	1288.72	0.61	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.8379	251.36	0.00	0.00	0.00	0.00	0.00	251.36	1454.80	0.10	1539.98	0.73	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7441	223.23	0.00	0.00	0.00	0.00	0.00	223.23	1519.49	0.11	1763.10	0.83	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6503	195.10	0.00	0.00	0.00	0.00	0.00	195.10	1576.94	0.11	1958.09	0.92	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6972	209.16	0.00	0.00	0.00	0.00	0.00	209.16	1627.14	0.11	2167.13	1.02	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7441	223.23	0.00	0.00	0.00	0.00	0.00	223.23	1680.97	0.12	2390.25	1.13	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.2599	377.96	0.00	0.00	0.00	0.00	0.00	377.96	1738.41	0.12	2768.08	1.31	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.6350	490.49	0.00	0.00	0.00	0.00	0.00	490.49	1835.69	0.13	3258.44	1.54	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.9316	279.49	0.00	0.00	0.00	0.00	0.00	279.49	1961.94	0.14	3537.80	1.67	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.4789	743.68	0.00	0.00	0.00	0.00	0.00	743.68	2033.87	0.14	4281.34	2.02	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.7134	814.01	0.00	0.00	0.00	0.00	0.00	814.01	2225.30	0.15	5095.19	2.41	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	3.1354	940.61	0.00	0.00	0.00	0.00	0.00	940.61	2434.85	0.17	6035.63	2.85	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	2.0569	617.08	0.00	0.00	0.00	0.00	0.00	617.08	2676.98	0.19	6652.53	3.14	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2283	68.50	0.00	0.00	0.00	0.00	0.00	68.50	2835.81	0.20	6720.83	3.17	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	2853.39	0.20	6761.00	3.19	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	2863.74	0.20	6801.17	3.21	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	2874.08	0.20	6809.41	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.20	0.20	6809.21	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.15	0.20	6809.01	3.22	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.10	0.20	6808.81	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.04	0.20	6808.61	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.99	0.20	6808.41	3.21	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.94	0.20	6808.21	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.89	0.20	6808.01	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.84	0.20	6807.81	3.21	0.00	0.00
					Total volume (cf)		6813.47								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0287	8.60	0.00	0.00	0.00	0.00	0.00	8.60	1123.00	0.08	8.52	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1125.19	0.08	18.76	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1127.83	0.08	29.00	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1130.47	0.08	39.24	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1133.10	0.08	49.48	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1135.74	0.08	61.44	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1138.82	0.08	73.40	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1141.90	0.08	85.36	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1144.98	0.08	97.32	0.05	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1148.06	0.08	109.27	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1151.13	0.08	121.23	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1154.21	0.08	134.91	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1157.73	0.08	148.59	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1161.26	0.08	162.26	0.08	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1164.78	0.08	175.94	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1168.30	0.08	189.62	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1171.82	0.08	203.29	0.10	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1175.34	0.08	216.97	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1178.86	0.08	230.65	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1182.38	0.08	244.32	0.12	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1185.90	0.08	258.00	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1189.43	0.08	271.67	0.13	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1192.95	0.08	285.35	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1196.47	0.08	300.74	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1200.43	0.08	314.41	0.15	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1203.95	0.08	329.81	0.16	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1207.91	0.08	345.20	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1211.88	0.08	360.60	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1215.84	0.08	375.99	0.18	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1219.80	0.08	391.38	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1223.77	0.08	406.77	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1227.73	0.09	422.17	0.20	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1231.69	0.09	439.28	0.21	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1236.10	0.09	456.39	0.22	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1240.50	0.09	473.50	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1244.91	0.09	490.61	0.23	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1249.32	0.09	507.72	0.24	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1253.72	0.09	526.55	0.25	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1258.57	0.09	545.38	0.26	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1263.42	0.09	564.21	0.27	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0688	20.64	0.00	0.00	0.00	0.00	0.00	20.64	1268.27	0.09	584.76	0.28	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0745	22.36	0.00	0.00	0.00	0.00	0.00	22.36	1273.56	0.09	607.02	0.29	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0931	27.93	0.00	0.00	0.00	0.00	0.00	27.93	1279.29	0.09	634.87	0.30	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0931	27.93	0.00	0.00	0.00	0.00	0.00	27.93	1286.46	0.09	662.72	0.31	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1504	45.13	0.00	0.00	0.00	0.00	0.00	45.13	1293.63	0.09	707.76	0.33	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1504	45.13	0.00	0.00	0.00	0.00	0.00	45.13	1305.22	0.09	752.80	0.36	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.2078	62.33	0.00	0.00	0.00	0.00	0.00	62.33	1316.82	0.09	815.04	0.38	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.2078	62.33	0.00	0.00	0.00	0.00	0.00	62.33	1332.84	0.09	877.27	0.41	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2651	79.53	0.00	0.00	0.00	0.00	0.00	79.53	1348.87	0.09	956.70	0.45	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3224	96.72	0.00	0.00	0.00	0.00	0.00	96.72	1369.32	0.10	1053.33	0.50	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3797	113.92	0.00	0.00	0.00	0.00	0.00	113.92	1394.20	0.10	1167.15	0.55	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.4371	131.12	0.00	0.00	0.00	0.00	0.00	131.12	1423.50	0.10	1298.17	0.61	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.4944	148.31	0.00	0.00	0.00	0.00	0.00	148.31	1457.24	0.10	1446.39	0.68	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.4944	148.31	0.00	0.00	0.00	0.00	0.00	148.31	1495.40	0.10	1594.60	0.75	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.5517	165.51	0.00	0.00	0.00	0.00	0.00	165.51	1533.56	0.11	1760.00	0.83	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.6090	182.71	0.00	0.00	0.00	0.00	0.00	182.71	1576.14	0.11	1942.60	0.92	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.6664	199.91	0.00	0.00	0.00	0.00	0.00	199.91	1623.16	0.11	2142.39	1.01	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.6664	199.91	0.00	0.00	0.00	0.00	0.00	199.91	1674.60	0.12	2342.18	1.11	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.7237	217.10	0.00	0.00	0.00	0.00	0.00	217.10	1726.03	0.12	2559.16	1.21	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.7810	234.30	0.00	0.00	0.00	0.00	0.00	234.30	1781.90	0.12	2793.34	1.32	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	1.0676	320.29	0.00	0.00	0.00	0.00	0.00	320.29	1842.19	0.13	3113.50	1.47	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	1.3542	406.27	0.00	0.00	0.00	0.00	0.00	406.27	1924.62	0.13	3519.64	1.66	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	1.5262	457.86	0.00	0.00	0.00	0.00	0.00	457.86	2029.19	0.14	3977.36	1.88	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	1.6982	509.45	0.00	0.00	0.00	0.00	0.00	509.45	2147.04	0.15	4486.66	2.12	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	1.9848	595.44	0.00	0.00	0.00	0.00	0.00	595.44	2278.17	0.16	5081.94	2.40	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	2.5007	750.21	0.00	0.00	0.00	0.00	0.00	750.21	2431.43	0.17	5831.99	2.75	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.3797	113.92	0.00	0.00	0.00	0.00	0.00	113.92	2624.55	0.18	5945.73	2.81	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	2653.83	0.18	5961.02	2.81	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	2657.77	0.18	5971.15	2.82	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0287	8.60	0.00	0.00	0.00	0.00	0.00	8.60	2660.38	0.18	5979.57	2.82	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0172	5.16	0.00	0.00	0.00	0.00	0.00	5.16	2662.54	0.18	5984.54	2.83	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	2663.82	0.18	5987.80	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.66	0.19	5987.61	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.61	0.19	5987.43	2.83	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.57	0.19	5987.24	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.52	0.19	5987.06	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.47	0.19	5986.87	2.83	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.42	0.19	5986.69	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.37	0.19	5986.50	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.33	0.19	5986.32	2.83	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.28	0.19	5986.13	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.23	0.19	5985.95	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.18	0.19	5985.76	2.83	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.14	0.19	5985.58	2.83	0.00	0.00
					Total volume (cf)		5995.07									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1123.00	0.23	4.35	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1124.12	0.23	10.99	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1125.83	0.23	17.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1127.54	0.23	26.56	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1129.84	0.24	33.20	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1131.55	0.24	39.84	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1133.26	0.24	46.48	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1134.97	0.24	55.40	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1137.26	0.24	64.33	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1139.56	0.24	73.26	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1141.86	0.24	84.48	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1144.75	0.24	95.70	0.05	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1147.64	0.24	106.92	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1150.53	0.24	118.14	0.06	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1153.42	0.24	129.35	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1156.30	0.24	142.86	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1159.78	0.24	156.37	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1163.26	0.24	172.16	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1167.33	0.24	187.96	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1171.39	0.24	206.05	0.10	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1176.05	0.25	219.55	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1179.53	0.25	235.35	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1183.59	0.25	253.43	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1188.25	0.25	271.52	0.13	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0229	20.62	0.00	0.00	0.00	0.00	0.00	20.62	1192.91	0.25	291.89	0.14	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0229	20.62	0.00	0.00	0.00	0.00	0.00	20.62	1198.15	0.25	312.26	0.15	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1203.40	0.25	334.93	0.16	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1209.23	0.25	357.59	0.17	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1215.07	0.25	380.25	0.18	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0280	25.21	0.00	0.00	0.00	0.00	0.00	25.21	1220.90	0.25	405.20	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0306	27.50	0.00	0.00	0.00	0.00	0.00	27.50	1227.33	0.26	432.44	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0331	29.79	0.00	0.00	0.00	0.00	0.00	29.79	1234.34	0.26	461.98	0.22	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1241.94	0.26	496.09	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1250.73	0.26	530.20	0.25	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0407	36.66	0.00	0.00	0.00	0.00	0.00	36.66	1259.51	0.26	566.60	0.27	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0433	38.95	0.00	0.00	0.00	0.00	0.00	38.95	1268.88	0.26	605.29	0.29	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1278.84	0.27	648.56	0.31	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1289.98	0.27	694.12	0.33	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0535	48.12	0.00	0.00	0.00	0.00	0.00	48.12	1301.71	0.27	741.97	0.35	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0560	50.41	0.00	0.00	0.00	0.00	0.00	50.41	1314.03	0.27	792.11	0.37	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1326.94	0.28	826.20	0.39	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1335.72	0.28	860.30	0.41	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1344.50	0.28	905.84	0.43	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1356.23	0.28	951.39	0.45	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1367.95	0.28	994.64	0.47	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1379.09	0.29	1037.89	0.49	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0433	38.95	0.00	0.00	0.00	0.00	0.00	38.95	1390.22	0.29	1076.56	0.51	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0458	41.25	0.00	0.00	0.00	0.00	0.00	41.25	1400.18	0.29	1117.51	0.53	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0637	57.29	0.00	0.00	0.00	0.00	0.00	57.29	1410.72	0.29	1174.50	0.55	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0662	59.58	0.00	0.00	0.00	0.00	0.00	59.58	1425.40	0.30	1233.78	0.58	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0784	70.59	0.00	0.00	0.00	0.00	0.00	70.59	1440.66	0.30	1304.08	0.62	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1135	102.13	0.00	0.00	0.00	0.00	0.00	102.13	1458.76	0.30	1405.90	0.66	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2502	225.21	0.00	0.00	0.00	0.00	0.00	225.21	1484.97	0.31	1630.80	0.77	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2596	233.61	0.00	0.00	0.00	0.00	0.00	233.61	1542.88	0.32	1864.09	0.88	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1602.94	0.33	1916.46	0.90	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1616.43	0.34	1968.83	0.93	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1086	97.76	0.00	0.00	0.00	0.00	0.00	97.76	1629.91	0.34	2066.25	0.98	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0920	82.81	0.00	0.00	0.00	0.00	0.00	82.81	1654.99	0.34	2148.71	1.01	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.1007	90.65	0.00	0.00	0.00	0.00	0.00	90.65	1676.22	0.35	2239.02	1.06	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0839	75.47	0.00	0.00	0.00	0.00	0.00	75.47	1699.47	0.35	2314.13	1.09	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0668	60.16	0.00	0.00	0.00	0.00	0.00	60.16	1718.81	0.36	2373.93	1.12	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1734.21	0.36	2426.28	1.15	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1747.69	0.36	2469.45	1.17	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1758.80	0.37	2512.62	1.19	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1769.92	0.37	2521.42	1.19	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1772.18	0.37	2530.21	1.19	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1774.45	0.37	2536.72	1.20	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1776.12	0.37	2543.22	1.20	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1777.80	0.37	2554.31	1.21	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1780.65	0.37	2565.40	1.21	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1783.51	0.37	2576.48	1.22	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1786.36	0.37	2585.28	1.22	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1788.62	0.37	2594.07	1.22	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1790.89	0.37	2602.86	1.23	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1793.15	0.37	2609.36	1.23	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1794.82	0.37	2613.57	1.23	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1795.91	0.37	2620.07	1.24	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1797.58	0.37	2628.86	1.24	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1799.85	0.37	2635.36	1.24	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1801.52	0.38	2639.57	1.25	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1802.60	0.38	2646.07	1.25	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1804.28	0.38	2652.57	1.25	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1805.95	0.38	2659.06	1.26	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1807.62	0.38	2663.27	1.26	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1808.70	0.38	2669.77	1.26	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1810.38	0.38	2673.97	1.26	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1811.46	0.38	2680.47	1.27	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1813.13	0.38	2684.68	1.27	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1814.22	0.38	2691.17	1.27	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1815.89	0.38	2695.38	1.27	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1816.97	0.38	2699.58	1.27	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1818.05	0.38	2703.79	1.28	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1819.14	0.38	2707.99	1.28	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1820.22	0.38	2712.19	1.28	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1821.30	0.38	2716.40	1.28	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1822.38	0.38	2720.60	1.28	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1823.46	0.38	2720.22	1.28	0.00	0.00
					Total volume (cf)		2750.10									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.16ac+0.09ac typ street frontage=1.25ac

5/7/2024 LOT 7

Drainage Area (ac.)	1.2500	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3304 s.f. Bot. = 1123 s.f. Max. Depth (d)= 4 Max. storage= 8470.98 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.6393	191.78	0.00	0.00	0.00	0.00	0.00	191.78	1123.00	0.08	191.71	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	1.0402	312.07	0.00	0.00	0.00	0.00	0.00	312.07	1172.36	0.08	503.70	0.24	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.1496	344.88	0.00	0.00	0.00	0.00	0.00	344.88	1252.69	0.09	848.49	0.40	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	1.0767	323.01	0.00	0.00	0.00	0.00	0.00	323.01	1341.46	0.09	1171.40	0.55	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.6964	508.91	0.00	0.00	0.00	0.00	0.00	508.91	1424.60	0.10	1680.21	0.79	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.9515	585.46	0.00	0.00	0.00	0.00	0.00	585.46	1555.60	0.11	2265.56	1.07	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.3525	705.75	0.00	0.00	0.00	0.00	0.00	705.75	1706.31	0.12	2971.19	1.40	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.5712	771.36	0.00	0.00	0.00	0.00	0.00	771.36	1887.98	0.13	3742.42	1.77	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.7741	1132.23	0.00	0.00	0.00	0.00	0.00	1132.23	2086.55	0.14	4874.50	2.30	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.7060	1711.80	0.00	0.00	0.00	0.00	0.00	1711.80	2378.02	0.17	6586.13	3.11	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	5.1592	1547.77	0.00	0.00	0.00	0.00	0.00	1547.77	2818.71	0.20	8133.71	3.84	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.8215	246.46	0.00	0.00	0.00	0.00	0.00	246.46	3217.16	0.22	8379.95	3.96	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.56	0.23	8379.72	3.96	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.50	0.23	8379.49	3.96	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3280.44	0.23	8379.26	3.96	0.00	0.00	
					Total volume (cf)			8381.47										Total Overflow (cf)	0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0610	18.29	0.00	0.00	0.00	0.00	0.00	18.29	1123.00	0.08	18.21	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0610	18.29	0.00	0.00	0.00	0.00	0.00	18.29	1127.69	0.08	36.42	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0516	15.47	0.00	0.00	0.00	0.00	0.00	15.47	1132.38	0.08	51.81	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1136.34	0.08	72.83	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1141.75	0.08	93.85	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1147.16	0.08	134.14	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1157.54	0.08	155.16	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1162.95	0.08	195.44	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1173.32	0.08	235.73	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0703	21.10	0.00	0.00	0.00	0.00	0.00	21.10	1183.69	0.08	256.75	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0750	22.51	0.00	0.00	0.00	0.00	0.00	22.51	1189.10	0.08	279.17	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	1194.88	0.08	319.45	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1205.25	0.08	416.00	0.20	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1230.11	0.09	512.55	0.24	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.3221	96.63	0.00	0.00	0.00	0.00	0.00	96.63	1254.96	0.09	609.09	0.29	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2283	68.50	0.00	0.00	0.00	0.00	0.00	68.50	1279.82	0.09	677.50	0.32	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.5097	152.90	0.00	0.00	0.00	0.00	0.00	152.90	1297.44	0.09	830.31	0.39	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5565	166.96	0.00	0.00	0.00	0.00	0.00	166.96	1336.78	0.09	997.18	0.47	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.4159	124.76	0.00	0.00	0.00	0.00	0.00	124.76	1379.74	0.10	1121.85	0.53	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5565	166.96	0.00	0.00	0.00	0.00	0.00	166.96	1411.84	0.10	1288.72	0.61	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.8379	251.36	0.00	0.00	0.00	0.00	0.00	251.36	1454.80	0.10	1539.98	0.73	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.7441	223.23	0.00	0.00	0.00	0.00	0.00	223.23	1519.49	0.11	1763.10	0.83	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.6503	195.10	0.00	0.00	0.00	0.00	0.00	195.10	1576.94	0.11	1958.09	0.92	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6972	209.16	0.00	0.00	0.00	0.00	0.00	209.16	1627.14	0.11	2167.13	1.02	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.7441	223.23	0.00	0.00	0.00	0.00	0.00	223.23	1680.97	0.12	2390.25	1.13	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.2599	377.96	0.00	0.00	0.00	0.00	0.00	377.96	1738.41	0.12	2768.08	1.31	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.6350	490.49	0.00	0.00	0.00	0.00	0.00	490.49	1835.69	0.13	3258.44	1.54	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.9316	279.49	0.00	0.00	0.00	0.00	0.00	279.49	1961.94	0.14	3537.80	1.67	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.4789	743.68	0.00	0.00	0.00	0.00	0.00	743.68	2033.87	0.14	4281.34	2.02	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.7134	814.01	0.00	0.00	0.00	0.00	0.00	814.01	2225.30	0.15	5095.19	2.41	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	3.1354	940.61	0.00	0.00	0.00	0.00	0.00	940.61	2434.85	0.17	6035.63	2.85	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	2.0569	617.08	0.00	0.00	0.00	0.00	0.00	617.08	2676.98	0.19	6652.53	3.14	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2283	68.50	0.00	0.00	0.00	0.00	0.00	68.50	2835.81	0.20	6720.83	3.17	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	2853.39	0.20	6761.00	3.19	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1346	40.37	0.00	0.00	0.00	0.00	0.00	40.37	2863.74	0.20	6801.17	3.21	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	2874.08	0.20	6809.41	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.20	0.20	6809.21	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.15	0.20	6809.01	3.22	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.10	0.20	6808.81	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2876.04	0.20	6808.61	3.22	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.99	0.20	6808.41	3.21	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.94	0.20	6808.21	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.89	0.20	6808.01	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2875.84	0.20	6807.81	3.21	0.00	0.00
					Total volume (cf)		6813.47								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0287	8.60	0.00	0.00	0.00	0.00	0.00	8.60	1123.00	0.08	8.52	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1125.19	0.08	18.76	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1127.83	0.08	29.00	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1130.47	0.08	39.24	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	1133.10	0.08	49.48	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1135.74	0.08	61.44	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1138.82	0.08	73.40	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1141.90	0.08	85.36	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1144.98	0.08	97.32	0.05	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1148.06	0.08	109.27	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0401	12.04	0.00	0.00	0.00	0.00	0.00	12.04	1151.13	0.08	121.23	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1154.21	0.08	134.91	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1157.73	0.08	148.59	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1161.26	0.08	162.26	0.08	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1164.78	0.08	175.94	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1168.30	0.08	189.62	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1171.82	0.08	203.29	0.10	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1175.34	0.08	216.97	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1178.86	0.08	230.65	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1182.38	0.08	244.32	0.12	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1185.90	0.08	258.00	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1189.43	0.08	271.67	0.13	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1192.95	0.08	285.35	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1196.47	0.08	300.74	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0459	13.76	0.00	0.00	0.00	0.00	0.00	13.76	1200.43	0.08	314.41	0.15	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1203.95	0.08	329.81	0.16	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1207.91	0.08	345.20	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1211.88	0.08	360.60	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1215.84	0.08	375.99	0.18	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1219.80	0.08	391.38	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1223.77	0.08	406.77	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	1227.73	0.09	422.17	0.20	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1231.69	0.09	439.28	0.21	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1236.10	0.09	456.39	0.22	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1240.50	0.09	473.50	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1244.91	0.09	490.61	0.23	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0573	17.20	0.00	0.00	0.00	0.00	0.00	17.20	1249.32	0.09	507.72	0.24	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1253.72	0.09	526.55	0.25	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1258.57	0.09	545.38	0.26	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0631	18.92	0.00	0.00	0.00	0.00	0.00	18.92	1263.42	0.09	564.21	0.27	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0688	20.64	0.00	0.00	0.00	0.00	0.00	20.64	1268.27	0.09	584.76	0.28	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0745	22.36	0.00	0.00	0.00	0.00	0.00	22.36	1273.56	0.09	607.02	0.29	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0931	27.93	0.00	0.00	0.00	0.00	0.00	27.93	1279.29	0.09	634.87	0.30	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0931	27.93	0.00	0.00	0.00	0.00	0.00	27.93	1286.46	0.09	662.72	0.31	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1504	45.13	0.00	0.00	0.00	0.00	0.00	45.13	1293.63	0.09	707.76	0.33	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1504	45.13	0.00	0.00	0.00	0.00	0.00	45.13	1305.22	0.09	752.80	0.36	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.2078	62.33	0.00	0.00	0.00	0.00	0.00	62.33	1316.82	0.09	815.04	0.38	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.2078	62.33	0.00	0.00	0.00	0.00	0.00	62.33	1332.84	0.09	877.27	0.41	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2651	79.53	0.00	0.00	0.00	0.00	0.00	79.53	1348.87	0.09	956.70	0.45	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.3224	96.72	0.00	0.00	0.00	0.00	0.00	96.72	1369.32	0.10	1053.33	0.50	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3797	113.92	0.00	0.00	0.00	0.00	0.00	113.92	1394.20	0.10	1167.15	0.55	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.4371	131.12	0.00	0.00	0.00	0.00	0.00	131.12	1423.50	0.10	1298.17	0.61	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.4944	148.31	0.00	0.00	0.00	0.00	0.00	148.31	1457.24	0.10	1446.39	0.68	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.4944	148.31	0.00	0.00	0.00	0.00	0.00	148.31	1495.40	0.10	1594.60	0.75	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.5517	165.51	0.00	0.00	0.00	0.00	0.00	165.51	1533.56	0.11	1760.00	0.83	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.6090	182.71	0.00	0.00	0.00	0.00	0.00	182.71	1576.14	0.11	1942.60	0.92	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.6664	199.91	0.00	0.00	0.00	0.00	0.00	199.91	1623.16	0.11	2142.39	1.01	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.6664	199.91	0.00	0.00	0.00	0.00	0.00	199.91	1674.60	0.12	2342.18	1.11	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.7237	217.10	0.00	0.00	0.00	0.00	0.00	217.10	1726.03	0.12	2559.16	1.21	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.7810	234.30	0.00	0.00	0.00	0.00	0.00	234.30	1781.90	0.12	2793.34	1.32	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	1.0676	320.29	0.00	0.00	0.00	0.00	0.00	320.29	1842.19	0.13	3113.50	1.47	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	1.3542	406.27	0.00	0.00	0.00	0.00	0.00	406.27	1924.62	0.13	3519.64	1.66	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	1.5262	457.86	0.00	0.00	0.00	0.00	0.00	457.86	2029.19	0.14	3977.36	1.88	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	1.6982	509.45	0.00	0.00	0.00	0.00	0.00	509.45	2147.04	0.15	4486.66	2.12	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	1.9848	595.44	0.00	0.00	0.00	0.00	0.00	595.44	2278.17	0.16	5081.94	2.40	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	2.5007	750.21	0.00	0.00	0.00	0.00	0.00	750.21	2431.43	0.17	5831.99	2.75	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.3797	113.92	0.00	0.00	0.00	0.00	0.00	113.92	2624.55	0.18	5945.73	2.81	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0516	15.48	0.00	0.00	0.00	0.00	0.00	15.48	2653.83	0.18	5961.02	2.81	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0344	10.32	0.00	0.00	0.00	0.00	0.00	10.32	2657.77	0.18	5971.15	2.82	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0287	8.60	0.00	0.00	0.00	0.00	0.00	8.60	2660.38	0.18	5979.57	2.82	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0172	5.16	0.00	0.00	0.00	0.00	0.00	5.16	2662.54	0.18	5984.54	2.83	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	2663.82	0.18	5987.80	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.66	0.19	5987.61	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.61	0.19	5987.43	2.83	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.57	0.19	5987.24	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.52	0.19	5987.06	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.47	0.19	5986.87	2.83	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.42	0.19	5986.69	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.37	0.19	5986.50	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.33	0.19	5986.32	2.83	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.28	0.19	5986.13	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.23	0.19	5985.95	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.18	0.19	5985.76	2.83	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2664.14	0.19	5985.58	2.83	0.00	0.00
					Total volume (cf)		5995.07									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1123.00	0.23	4.35	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1124.12	0.23	10.99	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1125.83	0.23	17.63	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1127.54	0.23	26.56	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1129.84	0.24	33.20	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1131.55	0.24	39.84	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1133.26	0.24	46.48	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1134.97	0.24	55.40	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1137.26	0.24	64.33	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1139.56	0.24	73.26	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1141.86	0.24	84.48	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1144.75	0.24	95.70	0.05	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1147.64	0.24	106.92	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1150.53	0.24	118.14	0.06	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1153.42	0.24	129.35	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1156.30	0.24	142.86	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1159.78	0.24	156.37	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1163.26	0.24	172.16	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1167.33	0.24	187.96	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1171.39	0.24	206.05	0.10	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	1176.05	0.25	219.55	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0178	16.04	0.00	0.00	0.00	0.00	0.00	16.04	1179.53	0.25	235.35	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1183.59	0.25	253.43	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1188.25	0.25	271.52	0.13	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0229	20.62	0.00	0.00	0.00	0.00	0.00	20.62	1192.91	0.25	291.89	0.14	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0229	20.62	0.00	0.00	0.00	0.00	0.00	20.62	1198.15	0.25	312.26	0.15	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1203.40	0.25	334.93	0.16	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1209.23	0.25	357.59	0.17	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	1215.07	0.25	380.25	0.18	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0280	25.21	0.00	0.00	0.00	0.00	0.00	25.21	1220.90	0.25	405.20	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0306	27.50	0.00	0.00	0.00	0.00	0.00	27.50	1227.33	0.26	432.44	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0331	29.79	0.00	0.00	0.00	0.00	0.00	29.79	1234.34	0.26	461.98	0.22	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1241.94	0.26	496.09	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1250.73	0.26	530.20	0.25	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0407	36.66	0.00	0.00	0.00	0.00	0.00	36.66	1259.51	0.26	566.60	0.27	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0433	38.95	0.00	0.00	0.00	0.00	0.00	38.95	1268.88	0.26	605.29	0.29	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1278.84	0.27	648.56	0.31	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1289.98	0.27	694.12	0.33	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0535	48.12	0.00	0.00	0.00	0.00	0.00	48.12	1301.71	0.27	741.97	0.35	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0560	50.41	0.00	0.00	0.00	0.00	0.00	50.41	1314.03	0.27	792.11	0.37	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1326.94	0.28	826.20	0.39	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0382	34.37	0.00	0.00	0.00	0.00	0.00	34.37	1335.72	0.28	860.30	0.41	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1344.50	0.28	905.84	0.43	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0509	45.83	0.00	0.00	0.00	0.00	0.00	45.83	1356.23	0.28	951.39	0.45	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1367.95	0.28	994.64	0.47	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1379.09	0.29	1037.89	0.49	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0433	38.95	0.00	0.00	0.00	0.00	0.00	38.95	1390.22	0.29	1076.56	0.51	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0458	41.25	0.00	0.00	0.00	0.00	0.00	41.25	1400.18	0.29	1117.51	0.53	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0637	57.29	0.00	0.00	0.00	0.00	0.00	57.29	1410.72	0.29	1174.50	0.55	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0662	59.58	0.00	0.00	0.00	0.00	0.00	59.58	1425.40	0.30	1233.78	0.58	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0784	70.59	0.00	0.00	0.00	0.00	0.00	70.59	1440.66	0.30	1304.08	0.62	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1135	102.13	0.00	0.00	0.00	0.00	0.00	102.13	1458.76	0.30	1405.90	0.66	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2502	225.21	0.00	0.00	0.00	0.00	0.00	225.21	1484.97	0.31	1630.80	0.77	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2596	233.61	0.00	0.00	0.00	0.00	0.00	233.61	1542.88	0.32	1864.09	0.88	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1602.94	0.33	1916.46	0.90	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1616.43	0.34	1968.83	0.93	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.1086	97.76	0.00	0.00	0.00	0.00	0.00	97.76	1629.91	0.34	2066.25	0.98	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0920	82.81	0.00	0.00	0.00	0.00	0.00	82.81	1654.99	0.34	2148.71	1.01	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.1007	90.65	0.00	0.00	0.00	0.00	0.00	90.65	1676.22	0.35	2239.02	1.06	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0839	75.47	0.00	0.00	0.00	0.00	0.00	75.47	1699.47	0.35	2314.13	1.09	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0668	60.16	0.00	0.00	0.00	0.00	0.00	60.16	1718.81	0.36	2373.93	1.12	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0586	52.70	0.00	0.00	0.00	0.00	0.00	52.70	1734.21	0.36	2426.28	1.15	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1747.69	0.36	2469.45	1.17	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1758.80	0.37	2512.62	1.19	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1769.92	0.37	2521.42	1.19	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1772.18	0.37	2530.21	1.19	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1774.45	0.37	2536.72	1.20	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1776.12	0.37	2543.22	1.20	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1777.80	0.37	2554.31	1.21	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1780.65	0.37	2565.40	1.21	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0127	11.46	0.00	0.00	0.00	0.00	0.00	11.46	1783.51	0.37	2576.48	1.22	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1786.36	0.37	2585.28	1.22	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1788.62	0.37	2594.07	1.22	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1790.89	0.37	2602.86	1.23	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1793.15	0.37	2609.36	1.23	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1794.82	0.37	2613.57	1.23	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1795.91	0.37	2620.07	1.24	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	1797.58	0.37	2628.86	1.24	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1799.85	0.37	2635.36	1.24	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1801.52	0.38	2639.57	1.25	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1802.60	0.38	2646.07	1.25	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1804.28	0.38	2652.57	1.25	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1805.95	0.38	2659.06	1.26	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1807.62	0.38	2663.27	1.26	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1808.70	0.38	2669.77	1.26	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1810.38	0.38	2673.97	1.26	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1811.46	0.38	2680.47	1.27	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1813.13	0.38	2684.68	1.27	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0076	6.87	0.00	0.00	0.00	0.00	0.00	6.87	1814.22	0.38	2691.17	1.27	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1815.89	0.38	2695.38	1.27	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1816.97	0.38	2699.58	1.27	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1818.05	0.38	2703.79	1.28	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1819.14	0.38	2707.99	1.28	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1820.22	0.38	2712.19	1.28	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1821.30	0.38	2716.40	1.28	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1822.38	0.38	2720.60	1.28	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1823.46	0.38	2720.22	1.28	0.00	0.00
					Total volume (cf)		2750.10									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.98ac+0.09ac typ street frontage=1.07ac

5/7/2024 LOT 8

Drainage Area (ac.)	1.0700	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5472	164.17	0.00	0.00	0.00	0.00	0.00	164.17	1078.00	0.07	164.09	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.8904	267.13	0.00	0.00	0.00	0.00	0.00	267.13	1120.94	0.08	431.15	0.21	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.9841	295.22	0.00	0.00	0.00	0.00	0.00	295.22	1190.83	0.08	726.28	0.35	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9216	276.49	0.00	0.00	0.00	0.00	0.00	276.49	1268.06	0.09	1002.69	0.49	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.4521	435.63	0.00	0.00	0.00	0.00	0.00	435.63	1340.39	0.09	1438.22	0.70	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.6705	501.15	0.00	0.00	0.00	0.00	0.00	501.15	1454.36	0.10	1939.27	0.94	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.0137	604.12	0.00	0.00	0.00	0.00	0.00	604.12	1585.48	0.11	2543.28	1.23	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.2009	660.28	0.00	0.00	0.00	0.00	0.00	660.28	1743.54	0.12	3203.44	1.56	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.2306	969.19	0.00	0.00	0.00	0.00	0.00	969.19	1916.30	0.13	4172.49	2.03	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	4.8843	1465.30	0.00	0.00	0.00	0.00	0.00	1465.30	2169.89	0.15	5637.64	2.74	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.4163	1324.89	0.00	0.00	0.00	0.00	0.00	1324.89	2553.30	0.18	6962.36	3.38	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7032	210.97	0.00	0.00	0.00	0.00	0.00	210.97	2899.95	0.20	7173.13	3.48	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.11	0.21	7172.92	3.48	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.06	0.21	7172.72	3.48	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.00	0.21	7172.51	3.48	0.00	0.00	
					Total volume (cf)			7174.54								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0522	15.65	0.00	0.00	0.00	0.00	0.00	15.65	1078.00	0.07	15.58	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0522	15.65	0.00	0.00	0.00	0.00	0.00	15.65	1082.08	0.08	31.16	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0441	13.24	0.00	0.00	0.00	0.00	0.00	13.24	1086.15	0.08	44.33	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1089.60	0.08	62.31	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1094.31	0.08	80.30	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1099.01	0.08	114.77	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1108.03	0.08	132.76	0.06	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1112.74	0.08	167.23	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1121.76	0.08	201.71	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1130.79	0.08	219.69	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0642	19.27	0.00	0.00	0.00	0.00	0.00	19.27	1135.49	0.08	238.88	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1140.51	0.08	273.35	0.13	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1149.53	0.08	355.99	0.17	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1171.16	0.08	438.63	0.21	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1192.78	0.08	521.26	0.25	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1955	58.64	0.00	0.00	0.00	0.00	0.00	58.64	1214.41	0.08	579.81	0.28	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4363	130.88	0.00	0.00	0.00	0.00	0.00	130.88	1229.73	0.09	710.61	0.35	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4764	142.92	0.00	0.00	0.00	0.00	0.00	142.92	1263.96	0.09	853.44	0.41	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3560	106.80	0.00	0.00	0.00	0.00	0.00	106.80	1301.33	0.09	960.15	0.47	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4764	142.92	0.00	0.00	0.00	0.00	0.00	142.92	1329.26	0.09	1102.98	0.54	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7172	215.16	0.00	0.00	0.00	0.00	0.00	215.16	1366.63	0.09	1318.05	0.64	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6369	191.08	0.00	0.00	0.00	0.00	0.00	191.08	1422.92	0.10	1509.03	0.73	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5567	167.00	0.00	0.00	0.00	0.00	0.00	167.00	1472.89	0.10	1675.93	0.81	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.5968	179.04	0.00	0.00	0.00	0.00	0.00	179.04	1516.57	0.11	1854.87	0.90	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6369	191.08	0.00	0.00	0.00	0.00	0.00	191.08	1563.39	0.11	2045.84	0.99	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.0784	323.53	0.00	0.00	0.00	0.00	0.00	323.53	1613.37	0.11	2369.26	1.15	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.3995	419.86	0.00	0.00	0.00	0.00	0.00	419.86	1698.00	0.12	2789.00	1.35	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.7975	239.25	0.00	0.00	0.00	0.00	0.00	239.25	1807.84	0.13	3028.12	1.47	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.1220	636.59	0.00	0.00	0.00	0.00	0.00	636.59	1870.42	0.13	3664.58	1.78	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.3226	696.79	0.00	0.00	0.00	0.00	0.00	696.79	2036.97	0.14	4361.23	2.12	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.6839	805.16	0.00	0.00	0.00	0.00	0.00	805.16	2219.28	0.15	5166.24	2.51	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.7607	528.22	0.00	0.00	0.00	0.00	0.00	528.22	2429.94	0.17	5694.30	2.76	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1955	58.64	0.00	0.00	0.00	0.00	0.00	58.64	2568.12	0.18	5752.75	2.79	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	2583.42	0.18	5787.13	2.81	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	2592.41	0.18	5821.50	2.83	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0241	7.22	0.00	0.00	0.00	0.00	0.00	7.22	2601.41	0.18	5828.55	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.25	0.18	5828.36	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.20	0.18	5828.18	2.83	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.16	0.18	5828.00	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.11	0.18	5827.82	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.06	0.18	5827.64	2.83	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.01	0.18	5827.46	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2602.97	0.18	5827.28	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2602.92	0.18	5827.10	2.83	0.00	0.00
					Total volume (cf)		5832.33								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	1078.00	0.07	7.29	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1079.91	0.07	16.04	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1082.20	0.08	24.80	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1084.49	0.08	33.56	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1086.78	0.08	42.31	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1089.07	0.08	52.54	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1091.75	0.08	62.77	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1094.43	0.08	73.00	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1097.10	0.08	83.23	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1099.78	0.08	93.46	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1102.46	0.08	103.68	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1105.13	0.08	115.38	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1108.19	0.08	127.08	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1111.26	0.08	138.78	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1114.32	0.08	150.48	0.07	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1117.38	0.08	162.18	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1120.44	0.08	173.88	0.08	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1123.50	0.08	185.58	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1126.56	0.08	197.28	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1129.62	0.08	208.98	0.10	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1132.69	0.08	220.67	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1135.75	0.08	232.37	0.11	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1138.81	0.08	244.07	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1141.87	0.08	257.24	0.12	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1145.32	0.08	268.94	0.13	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1148.38	0.08	282.10	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1151.82	0.08	295.27	0.14	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1155.27	0.08	308.44	0.15	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1158.71	0.08	321.61	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1162.16	0.08	334.78	0.16	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1165.61	0.08	347.95	0.17	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1169.05	0.08	361.11	0.18	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1172.50	0.08	375.75	0.18	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1176.33	0.08	390.39	0.19	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1180.16	0.08	405.03	0.20	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1183.99	0.08	419.67	0.20	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1187.82	0.08	434.31	0.21	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1191.65	0.08	450.42	0.22	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1195.87	0.08	466.53	0.23	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1200.08	0.08	482.64	0.23	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0589	17.66	0.00	0.00	0.00	0.00	0.00	17.66	1204.30	0.08	500.22	0.24	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0638	19.14	0.00	0.00	0.00	0.00	0.00	19.14	1208.90	0.08	519.27	0.25	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0797	23.91	0.00	0.00	0.00	0.00	0.00	23.91	1213.89	0.08	543.10	0.26	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0797	23.91	0.00	0.00	0.00	0.00	0.00	23.91	1220.12	0.08	566.92	0.28	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1288	38.63	0.00	0.00	0.00	0.00	0.00	38.63	1226.36	0.09	605.47	0.29	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1288	38.63	0.00	0.00	0.00	0.00	0.00	38.63	1236.44	0.09	644.02	0.31	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1778	53.35	0.00	0.00	0.00	0.00	0.00	53.35	1246.53	0.09	697.29	0.34	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1778	53.35	0.00	0.00	0.00	0.00	0.00	53.35	1260.47	0.09	750.55	0.36	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2269	68.07	0.00	0.00	0.00	0.00	0.00	68.07	1274.41	0.09	818.54	0.40	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2760	82.79	0.00	0.00	0.00	0.00	0.00	82.79	1292.20	0.09	901.24	0.44	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3251	97.52	0.00	0.00	0.00	0.00	0.00	97.52	1313.84	0.09	998.67	0.48	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3741	112.24	0.00	0.00	0.00	0.00	0.00	112.24	1339.34	0.09	1110.81	0.54	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4232	126.96	0.00	0.00	0.00	0.00	0.00	126.96	1368.68	0.10	1237.67	0.60	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4232	126.96	0.00	0.00	0.00	0.00	0.00	126.96	1401.88	0.10	1364.53	0.66	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4723	141.68	0.00	0.00	0.00	0.00	0.00	141.68	1435.08	0.10	1506.11	0.73	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5213	156.40	0.00	0.00	0.00	0.00	0.00	156.40	1472.13	0.10	1662.41	0.81	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5704	171.12	0.00	0.00	0.00	0.00	0.00	171.12	1513.03	0.11	1833.42	0.89	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5704	171.12	0.00	0.00	0.00	0.00	0.00	171.12	1557.78	0.11	2004.43	0.97	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6195	185.84	0.00	0.00	0.00	0.00	0.00	185.84	1602.53	0.11	2190.16	1.06	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6685	200.56	0.00	0.00	0.00	0.00	0.00	200.56	1651.13	0.11	2390.61	1.16	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9139	274.16	0.00	0.00	0.00	0.00	0.00	274.16	1703.59	0.12	2664.65	1.29	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.1592	347.77	0.00	0.00	0.00	0.00	0.00	347.77	1775.30	0.12	3012.30	1.46	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3064	391.93	0.00	0.00	0.00	0.00	0.00	391.93	1866.28	0.13	3404.10	1.65	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.4536	436.09	0.00	0.00	0.00	0.00	0.00	436.09	1968.81	0.14	3840.05	1.86	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.6990	509.70	0.00	0.00	0.00	0.00	0.00	509.70	2082.89	0.14	4349.60	2.11	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.1406	642.18	0.00	0.00	0.00	0.00	0.00	642.18	2216.23	0.15	4991.63	2.42	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3251	97.52	0.00	0.00	0.00	0.00	0.00	97.52	2384.24	0.17	5088.98	2.47	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	2409.72	0.17	5102.06	2.48	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	2413.14	0.17	5110.73	2.48	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	2415.41	0.17	5117.92	2.48	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0147	4.42	0.00	0.00	0.00	0.00	0.00	4.42	2417.29	0.17	5122.17	2.49	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0098	2.94	0.00	0.00	0.00	0.00	0.00	2.94	2418.40	0.17	5124.95	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.13	0.17	5124.78	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.09	0.17	5124.61	2.49	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.04	0.17	5124.44	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.00	0.17	5124.27	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.95	0.17	5124.11	2.49	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.91	0.17	5123.94	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.87	0.17	5123.77	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.82	0.17	5123.60	2.49	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.78	0.17	5123.43	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.73	0.17	5123.27	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.69	0.17	5123.10	2.49	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.65	0.17	5122.93	2.49	0.00	0.00
					Total volume (cf)			5131.78									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1078.00	0.22	3.70	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1078.97	0.22	9.36	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1080.45	0.23	15.02	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1081.93	0.23	22.64	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1083.92	0.23	28.30	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1085.40	0.23	33.95	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1086.89	0.23	39.61	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1088.37	0.23	47.23	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1090.36	0.23	54.85	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1092.35	0.23	62.47	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1094.35	0.23	72.05	0.03	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1096.85	0.23	81.63	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1099.36	0.23	91.21	0.04	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1101.87	0.23	100.78	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1104.37	0.23	110.36	0.05	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1106.88	0.23	121.90	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1109.90	0.23	133.44	0.06	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1112.92	0.23	146.93	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1116.45	0.23	160.43	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1119.98	0.23	175.89	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1124.03	0.23	187.43	0.09	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1127.05	0.23	200.92	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1130.58	0.24	216.38	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1134.62	0.24	231.83	0.11	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0196	17.65	0.00	0.00	0.00	0.00	0.00	17.65	1138.67	0.24	249.25	0.12	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0196	17.65	0.00	0.00	0.00	0.00	0.00	17.65	1143.22	0.24	266.66	0.13	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1147.78	0.24	286.04	0.14	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1152.85	0.24	305.41	0.15	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1157.92	0.24	324.79	0.16	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0240	21.58	0.00	0.00	0.00	0.00	0.00	21.58	1162.99	0.24	346.12	0.17	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0262	23.54	0.00	0.00	0.00	0.00	0.00	23.54	1168.58	0.24	369.42	0.18	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0283	25.50	0.00	0.00	0.00	0.00	0.00	25.50	1174.67	0.24	394.67	0.19	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1181.28	0.25	423.85	0.21	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1188.91	0.25	453.02	0.22	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0349	31.38	0.00	0.00	0.00	0.00	0.00	31.38	1196.55	0.25	484.15	0.24	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0370	33.34	0.00	0.00	0.00	0.00	0.00	33.34	1204.70	0.25	517.25	0.25	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1213.36	0.25	554.26	0.27	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1223.04	0.25	593.24	0.29	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0458	41.19	0.00	0.00	0.00	0.00	0.00	41.19	1233.24	0.26	634.17	0.31	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0479	43.15	0.00	0.00	0.00	0.00	0.00	43.15	1243.95	0.26	677.07	0.33	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1255.18	0.26	706.23	0.34	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1262.81	0.26	735.38	0.36	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1270.44	0.26	774.35	0.38	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1280.64	0.27	813.31	0.39	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1290.83	0.27	850.31	0.41	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1300.51	0.27	887.31	0.43	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0370	33.34	0.00	0.00	0.00	0.00	0.00	33.34	1310.20	0.27	920.38	0.45	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0392	35.31	0.00	0.00	0.00	0.00	0.00	35.31	1318.85	0.27	955.41	0.46	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0545	49.04	0.00	0.00	0.00	0.00	0.00	49.04	1328.02	0.28	1004.17	0.49	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0567	51.00	0.00	0.00	0.00	0.00	0.00	51.00	1340.78	0.28	1054.89	0.51	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0671	60.43	0.00	0.00	0.00	0.00	0.00	60.43	1354.05	0.28	1115.04	0.54	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0971	87.42	0.00	0.00	0.00	0.00	0.00	87.42	1369.79	0.29	1202.17	0.58	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2142	192.78	0.00	0.00	0.00	0.00	0.00	192.78	1392.59	0.29	1394.66	0.68	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2222	199.97	0.00	0.00	0.00	0.00	0.00	199.97	1442.96	0.30	1594.33	0.77	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1495.22	0.31	1639.13	0.80	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1506.94	0.31	1683.93	0.82	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0930	83.69	0.00	0.00	0.00	0.00	0.00	83.69	1518.66	0.32	1767.30	0.86	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0788	70.88	0.00	0.00	0.00	0.00	0.00	70.88	1540.48	0.32	1837.87	0.89	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0862	77.60	0.00	0.00	0.00	0.00	0.00	77.60	1558.94	0.32	1915.14	0.93	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0718	64.60	0.00	0.00	0.00	0.00	0.00	64.60	1579.17	0.33	1979.41	0.96	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0572	51.50	0.00	0.00	0.00	0.00	0.00	51.50	1595.98	0.33	2030.58	0.99	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1609.37	0.34	2075.36	1.01	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1621.09	0.34	2112.29	1.03	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1630.76	0.34	2149.21	1.04	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1640.42	0.34	2156.72	1.05	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1642.38	0.34	2164.22	1.05	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1644.35	0.34	2169.76	1.05	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1645.80	0.34	2175.31	1.06	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1647.25	0.34	2184.77	1.06	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1649.72	0.34	2194.23	1.07	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1652.20	0.34	2203.70	1.07	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1654.68	0.34	2211.20	1.07	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1656.64	0.35	2218.70	1.08	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1658.60	0.35	2226.20	1.08	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1660.57	0.35	2231.74	1.08	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1662.02	0.35	2235.31	1.09	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1662.95	0.35	2240.85	1.09	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1664.40	0.35	2248.35	1.09	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1666.36	0.35	2253.89	1.09	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1667.81	0.35	2257.46	1.10	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1668.75	0.35	2263.00	1.10	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1670.20	0.35	2268.54	1.10	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1671.65	0.35	2274.07	1.10	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1673.09	0.35	2277.65	1.11	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1674.03	0.35	2283.18	1.11	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1675.48	0.35	2286.76	1.11	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1676.41	0.35	2292.29	1.11	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1677.86	0.35	2295.87	1.11	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1678.80	0.35	2301.40	1.12	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1680.25	0.35	2304.97	1.12	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1681.18	0.35	2308.55	1.12	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1682.12	0.35	2312.12	1.12	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1683.05	0.35	2315.69	1.12	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1683.98	0.35	2319.26	1.13	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1684.92	0.35	2322.83	1.13	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1685.85	0.35	2326.41	1.13	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1686.79	0.35	2326.05	1.13	0.00	0.00
						Total volume (cf)		2354.08									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.98ac+0.09ac typ street frontage=1.07ac

5/7/2024 LOT 9

Drainage Area (ac.)	1.0700	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5472	164.17	0.00	0.00	0.00	0.00	0.00	164.17	1078.00	0.07	164.09	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.8904	267.13	0.00	0.00	0.00	0.00	0.00	267.13	1120.94	0.08	431.15	0.21	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.9841	295.22	0.00	0.00	0.00	0.00	0.00	295.22	1190.83	0.08	726.28	0.35	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9216	276.49	0.00	0.00	0.00	0.00	0.00	276.49	1268.06	0.09	1002.69	0.49	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.4521	435.63	0.00	0.00	0.00	0.00	0.00	435.63	1340.39	0.09	1438.22	0.70	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.6705	501.15	0.00	0.00	0.00	0.00	0.00	501.15	1454.36	0.10	1939.27	0.94	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.0137	604.12	0.00	0.00	0.00	0.00	0.00	604.12	1585.48	0.11	2543.28	1.23	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.2009	660.28	0.00	0.00	0.00	0.00	0.00	660.28	1743.54	0.12	3203.44	1.56	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.2306	969.19	0.00	0.00	0.00	0.00	0.00	969.19	1916.30	0.13	4172.49	2.03	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	4.8843	1465.30	0.00	0.00	0.00	0.00	0.00	1465.30	2169.89	0.15	5637.64	2.74	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.4163	1324.89	0.00	0.00	0.00	0.00	0.00	1324.89	2553.30	0.18	6962.36	3.38	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7032	210.97	0.00	0.00	0.00	0.00	0.00	210.97	2899.95	0.20	7173.13	3.48	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.11	0.21	7172.92	3.48	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.06	0.21	7172.72	3.48	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2955.00	0.21	7172.51	3.48	0.00	0.00	
					Total volume (cf)			7174.54								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0522	15.65	0.00	0.00	0.00	0.00	0.00	15.65	1078.00	0.07	15.58	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0522	15.65	0.00	0.00	0.00	0.00	0.00	15.65	1082.08	0.08	31.16	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0441	13.24	0.00	0.00	0.00	0.00	0.00	13.24	1086.15	0.08	44.33	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1089.60	0.08	62.31	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1094.31	0.08	80.30	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1099.01	0.08	114.77	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1108.03	0.08	132.76	0.06	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1112.74	0.08	167.23	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1121.76	0.08	201.71	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0602	18.06	0.00	0.00	0.00	0.00	0.00	18.06	1130.79	0.08	219.69	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0642	19.27	0.00	0.00	0.00	0.00	0.00	19.27	1135.49	0.08	238.88	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	1140.51	0.08	273.35	0.13	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1149.53	0.08	355.99	0.17	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1171.16	0.08	438.63	0.21	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2757	82.72	0.00	0.00	0.00	0.00	0.00	82.72	1192.78	0.08	521.26	0.25	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1955	58.64	0.00	0.00	0.00	0.00	0.00	58.64	1214.41	0.08	579.81	0.28	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4363	130.88	0.00	0.00	0.00	0.00	0.00	130.88	1229.73	0.09	710.61	0.35	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4764	142.92	0.00	0.00	0.00	0.00	0.00	142.92	1263.96	0.09	853.44	0.41	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3560	106.80	0.00	0.00	0.00	0.00	0.00	106.80	1301.33	0.09	960.15	0.47	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4764	142.92	0.00	0.00	0.00	0.00	0.00	142.92	1329.26	0.09	1102.98	0.54	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7172	215.16	0.00	0.00	0.00	0.00	0.00	215.16	1366.63	0.09	1318.05	0.64	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6369	191.08	0.00	0.00	0.00	0.00	0.00	191.08	1422.92	0.10	1509.03	0.73	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5567	167.00	0.00	0.00	0.00	0.00	0.00	167.00	1472.89	0.10	1675.93	0.81	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.5968	179.04	0.00	0.00	0.00	0.00	0.00	179.04	1516.57	0.11	1854.87	0.90	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6369	191.08	0.00	0.00	0.00	0.00	0.00	191.08	1563.39	0.11	2045.84	0.99	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.0784	323.53	0.00	0.00	0.00	0.00	0.00	323.53	1613.37	0.11	2369.26	1.15	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.3995	419.86	0.00	0.00	0.00	0.00	0.00	419.86	1698.00	0.12	2789.00	1.35	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.7975	239.25	0.00	0.00	0.00	0.00	0.00	239.25	1807.84	0.13	3028.12	1.47	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.1220	636.59	0.00	0.00	0.00	0.00	0.00	636.59	1870.42	0.13	3664.58	1.78	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.3226	696.79	0.00	0.00	0.00	0.00	0.00	696.79	2036.97	0.14	4361.23	2.12	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.6839	805.16	0.00	0.00	0.00	0.00	0.00	805.16	2219.28	0.15	5166.24	2.51	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.7607	528.22	0.00	0.00	0.00	0.00	0.00	528.22	2429.94	0.17	5694.30	2.76	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1955	58.64	0.00	0.00	0.00	0.00	0.00	58.64	2568.12	0.18	5752.75	2.79	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	2583.42	0.18	5787.13	2.81	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1152	34.55	0.00	0.00	0.00	0.00	0.00	34.55	2592.41	0.18	5821.50	2.83	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0241	7.22	0.00	0.00	0.00	0.00	0.00	7.22	2601.41	0.18	5828.55	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.25	0.18	5828.36	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.20	0.18	5828.18	2.83	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.16	0.18	5828.00	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.11	0.18	5827.82	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.06	0.18	5827.64	2.83	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2603.01	0.18	5827.46	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2602.97	0.18	5827.28	2.83	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2602.92	0.18	5827.10	2.83	0.00	0.00
					Total volume (cf)		5832.33								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	1078.00	0.07	7.29	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1079.91	0.07	16.04	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1082.20	0.08	24.80	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1084.49	0.08	33.56	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	1086.78	0.08	42.31	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1089.07	0.08	52.54	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1091.75	0.08	62.77	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1094.43	0.08	73.00	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1097.10	0.08	83.23	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1099.78	0.08	93.46	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0343	10.30	0.00	0.00	0.00	0.00	0.00	10.30	1102.46	0.08	103.68	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1105.13	0.08	115.38	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1108.19	0.08	127.08	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1111.26	0.08	138.78	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1114.32	0.08	150.48	0.07	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1117.38	0.08	162.18	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1120.44	0.08	173.88	0.08	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1123.50	0.08	185.58	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1126.56	0.08	197.28	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1129.62	0.08	208.98	0.10	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1132.69	0.08	220.67	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1135.75	0.08	232.37	0.11	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1138.81	0.08	244.07	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1141.87	0.08	257.24	0.12	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0393	11.78	0.00	0.00	0.00	0.00	0.00	11.78	1145.32	0.08	268.94	0.13	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1148.38	0.08	282.10	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1151.82	0.08	295.27	0.14	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1155.27	0.08	308.44	0.15	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1158.71	0.08	321.61	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1162.16	0.08	334.78	0.16	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1165.61	0.08	347.95	0.17	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	1169.05	0.08	361.11	0.18	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1172.50	0.08	375.75	0.18	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1176.33	0.08	390.39	0.19	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1180.16	0.08	405.03	0.20	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1183.99	0.08	419.67	0.20	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0491	14.72	0.00	0.00	0.00	0.00	0.00	14.72	1187.82	0.08	434.31	0.21	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1191.65	0.08	450.42	0.22	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1195.87	0.08	466.53	0.23	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0540	16.19	0.00	0.00	0.00	0.00	0.00	16.19	1200.08	0.08	482.64	0.23	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0589	17.66	0.00	0.00	0.00	0.00	0.00	17.66	1204.30	0.08	500.22	0.24	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0638	19.14	0.00	0.00	0.00	0.00	0.00	19.14	1208.90	0.08	519.27	0.25	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0797	23.91	0.00	0.00	0.00	0.00	0.00	23.91	1213.89	0.08	543.10	0.26	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0797	23.91	0.00	0.00	0.00	0.00	0.00	23.91	1220.12	0.08	566.92	0.28	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1288	38.63	0.00	0.00	0.00	0.00	0.00	38.63	1226.36	0.09	605.47	0.29	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1288	38.63	0.00	0.00	0.00	0.00	0.00	38.63	1236.44	0.09	644.02	0.31	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1778	53.35	0.00	0.00	0.00	0.00	0.00	53.35	1246.53	0.09	697.29	0.34	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1778	53.35	0.00	0.00	0.00	0.00	0.00	53.35	1260.47	0.09	750.55	0.36	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2269	68.07	0.00	0.00	0.00	0.00	0.00	68.07	1274.41	0.09	818.54	0.40	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2760	82.79	0.00	0.00	0.00	0.00	0.00	82.79	1292.20	0.09	901.24	0.44	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3251	97.52	0.00	0.00	0.00	0.00	0.00	97.52	1313.84	0.09	998.67	0.48	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3741	112.24	0.00	0.00	0.00	0.00	0.00	112.24	1339.34	0.09	1110.81	0.54	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4232	126.96	0.00	0.00	0.00	0.00	0.00	126.96	1368.68	0.10	1237.67	0.60	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4232	126.96	0.00	0.00	0.00	0.00	0.00	126.96	1401.88	0.10	1364.53	0.66	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4723	141.68	0.00	0.00	0.00	0.00	0.00	141.68	1435.08	0.10	1506.11	0.73	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5213	156.40	0.00	0.00	0.00	0.00	0.00	156.40	1472.13	0.10	1662.41	0.81	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5704	171.12	0.00	0.00	0.00	0.00	0.00	171.12	1513.03	0.11	1833.42	0.89	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5704	171.12	0.00	0.00	0.00	0.00	0.00	171.12	1557.78	0.11	2004.43	0.97	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6195	185.84	0.00	0.00	0.00	0.00	0.00	185.84	1602.53	0.11	2190.16	1.06	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6685	200.56	0.00	0.00	0.00	0.00	0.00	200.56	1651.13	0.11	2390.61	1.16	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9139	274.16	0.00	0.00	0.00	0.00	0.00	274.16	1703.59	0.12	2664.65	1.29	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.1592	347.77	0.00	0.00	0.00	0.00	0.00	347.77	1775.30	0.12	3012.30	1.46	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3064	391.93	0.00	0.00	0.00	0.00	0.00	391.93	1866.28	0.13	3404.10	1.65	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.4536	436.09	0.00	0.00	0.00	0.00	0.00	436.09	1968.81	0.14	3840.05	1.86	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.6990	509.70	0.00	0.00	0.00	0.00	0.00	509.70	2082.89	0.14	4349.60	2.11	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.1406	642.18	0.00	0.00	0.00	0.00	0.00	642.18	2216.23	0.15	4991.63	2.42	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3251	97.52	0.00	0.00	0.00	0.00	0.00	97.52	2384.24	0.17	5088.98	2.47	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0442	13.25	0.00	0.00	0.00	0.00	0.00	13.25	2409.72	0.17	5102.06	2.48	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0294	8.83	0.00	0.00	0.00	0.00	0.00	8.83	2413.14	0.17	5110.73	2.48	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0245	7.36	0.00	0.00	0.00	0.00	0.00	7.36	2415.41	0.17	5117.92	2.48	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0147	4.42	0.00	0.00	0.00	0.00	0.00	4.42	2417.29	0.17	5122.17	2.49	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0098	2.94	0.00	0.00	0.00	0.00	0.00	2.94	2418.40	0.17	5124.95	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.13	0.17	5124.78	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.09	0.17	5124.61	2.49	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.04	0.17	5124.44	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2419.00	0.17	5124.27	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.95	0.17	5124.11	2.49	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.91	0.17	5123.94	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.87	0.17	5123.77	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.82	0.17	5123.60	2.49	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.78	0.17	5123.43	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.73	0.17	5123.27	2.49	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.69	0.17	5123.10	2.49	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2418.65	0.17	5122.93	2.49	0.00	0.00
					Total volume (cf)			5131.78									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1078.00	0.22	3.70	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1078.97	0.22	9.36	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1080.45	0.23	15.02	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1081.93	0.23	22.64	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1083.92	0.23	28.30	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1085.40	0.23	33.95	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1086.89	0.23	39.61	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1088.37	0.23	47.23	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1090.36	0.23	54.85	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1092.35	0.23	62.47	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1094.35	0.23	72.05	0.03	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1096.85	0.23	81.63	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1099.36	0.23	91.21	0.04	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1101.87	0.23	100.78	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1104.37	0.23	110.36	0.05	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1106.88	0.23	121.90	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1109.90	0.23	133.44	0.06	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1112.92	0.23	146.93	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1116.45	0.23	160.43	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1119.98	0.23	175.89	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0131	11.77	0.00	0.00	0.00	0.00	0.00	11.77	1124.03	0.23	187.43	0.09	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0153	13.73	0.00	0.00	0.00	0.00	0.00	13.73	1127.05	0.23	200.92	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1130.58	0.24	216.38	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0174	15.69	0.00	0.00	0.00	0.00	0.00	15.69	1134.62	0.24	231.83	0.11	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0196	17.65	0.00	0.00	0.00	0.00	0.00	17.65	1138.67	0.24	249.25	0.12	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0196	17.65	0.00	0.00	0.00	0.00	0.00	17.65	1143.22	0.24	266.66	0.13	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1147.78	0.24	286.04	0.14	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1152.85	0.24	305.41	0.15	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0218	19.61	0.00	0.00	0.00	0.00	0.00	19.61	1157.92	0.24	324.79	0.16	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0240	21.58	0.00	0.00	0.00	0.00	0.00	21.58	1162.99	0.24	346.12	0.17	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0262	23.54	0.00	0.00	0.00	0.00	0.00	23.54	1168.58	0.24	369.42	0.18	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0283	25.50	0.00	0.00	0.00	0.00	0.00	25.50	1174.67	0.24	394.67	0.19	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1181.28	0.25	423.85	0.21	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1188.91	0.25	453.02	0.22	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0349	31.38	0.00	0.00	0.00	0.00	0.00	31.38	1196.55	0.25	484.15	0.24	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0370	33.34	0.00	0.00	0.00	0.00	0.00	33.34	1204.70	0.25	517.25	0.25	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1213.36	0.25	554.26	0.27	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1223.04	0.25	593.24	0.29	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0458	41.19	0.00	0.00	0.00	0.00	0.00	41.19	1233.24	0.26	634.17	0.31	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0479	43.15	0.00	0.00	0.00	0.00	0.00	43.15	1243.95	0.26	677.07	0.33	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1255.18	0.26	706.23	0.34	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0327	29.42	0.00	0.00	0.00	0.00	0.00	29.42	1262.81	0.26	735.38	0.36	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1270.44	0.26	774.35	0.38	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0436	39.23	0.00	0.00	0.00	0.00	0.00	39.23	1280.64	0.27	813.31	0.39	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1290.83	0.27	850.31	0.41	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1300.51	0.27	887.31	0.43	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0370	33.34	0.00	0.00	0.00	0.00	0.00	33.34	1310.20	0.27	920.38	0.45	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0392	35.31	0.00	0.00	0.00	0.00	0.00	35.31	1318.85	0.27	955.41	0.46	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0545	49.04	0.00	0.00	0.00	0.00	0.00	49.04	1328.02	0.28	1004.17	0.49	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0567	51.00	0.00	0.00	0.00	0.00	0.00	51.00	1340.78	0.28	1054.89	0.51	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0671	60.43	0.00	0.00	0.00	0.00	0.00	60.43	1354.05	0.28	1115.04	0.54	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0971	87.42	0.00	0.00	0.00	0.00	0.00	87.42	1369.79	0.29	1202.17	0.58	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2142	192.78	0.00	0.00	0.00	0.00	0.00	192.78	1392.59	0.29	1394.66	0.68	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2222	199.97	0.00	0.00	0.00	0.00	0.00	199.97	1442.96	0.30	1594.33	0.77	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1495.22	0.31	1639.13	0.80	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1506.94	0.31	1683.93	0.82	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0930	83.69	0.00	0.00	0.00	0.00	0.00	83.69	1518.66	0.32	1767.30	0.86	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0788	70.88	0.00	0.00	0.00	0.00	0.00	70.88	1540.48	0.32	1837.87	0.89	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0862	77.60	0.00	0.00	0.00	0.00	0.00	77.60	1558.94	0.32	1915.14	0.93	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0718	64.60	0.00	0.00	0.00	0.00	0.00	64.60	1579.17	0.33	1979.41	0.96	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0572	51.50	0.00	0.00	0.00	0.00	0.00	51.50	1595.98	0.33	2030.58	0.99	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0501	45.11	0.00	0.00	0.00	0.00	0.00	45.11	1609.37	0.34	2075.36	1.01	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1621.09	0.34	2112.29	1.03	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0414	37.27	0.00	0.00	0.00	0.00	0.00	37.27	1630.76	0.34	2149.21	1.04	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1640.42	0.34	2156.72	1.05	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1642.38	0.34	2164.22	1.05	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1644.35	0.34	2169.76	1.05	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1645.80	0.34	2175.31	1.06	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1647.25	0.34	2184.77	1.06	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1649.72	0.34	2194.23	1.07	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0109	9.81	0.00	0.00	0.00	0.00	0.00	9.81	1652.20	0.34	2203.70	1.07	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1654.68	0.34	2211.20	1.07	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1656.64	0.35	2218.70	1.08	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1658.60	0.35	2226.20	1.08	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1660.57	0.35	2231.74	1.08	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1662.02	0.35	2235.31	1.09	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1662.95	0.35	2240.85	1.09	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0087	7.85	0.00	0.00	0.00	0.00	0.00	7.85	1664.40	0.35	2248.35	1.09	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1666.36	0.35	2253.89	1.09	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1667.81	0.35	2257.46	1.10	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1668.75	0.35	2263.00	1.10	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1670.20	0.35	2268.54	1.10	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1671.65	0.35	2274.07	1.10	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1673.09	0.35	2277.65	1.11	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1674.03	0.35	2283.18	1.11	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1675.48	0.35	2286.76	1.11	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1676.41	0.35	2292.29	1.11	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1677.86	0.35	2295.87	1.11	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0065	5.88	0.00	0.00	0.00	0.00	0.00	5.88	1678.80	0.35	2301.40	1.12	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1680.25	0.35	2304.97	1.12	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1681.18	0.35	2308.55	1.12	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1682.12	0.35	2312.12	1.12	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1683.05	0.35	2315.69	1.12	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1683.98	0.35	2319.26	1.13	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1684.92	0.35	2322.83	1.13	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0044	3.92	0.00	0.00	0.00	0.00	0.00	3.92	1685.85	0.35	2326.41	1.13	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1686.79	0.35	2326.05	1.13	0.00	0.00
						Total volume (cf)		2354.08									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.41ac+0.09ac typ street frontage=0.50ac

1.14

5/7/2024 LOT 10-FRONT

Drainage Area (ac.)	0.5000	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2118 s.f. Bot. = 756 s.f. Max. Depth (d)= 3 Max. storage= 4139.39 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.2557	76.71	0.00	0.00	0.00	0.00	0.00	76.71	756.00	0.05	76.66	0.06	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.4161	124.83	0.00	0.00	0.00	0.00	0.00	124.83	781.22	0.05	201.44	0.15	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.4598	137.95	0.00	0.00	0.00	0.00	0.00	137.95	822.28	0.06	339.33	0.25	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.4307	129.20	0.00	0.00	0.00	0.00	0.00	129.20	867.65	0.06	468.47	0.34	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	0.6785	203.56	0.00	0.00	0.00	0.00	0.00	203.56	910.14	0.06	671.97	0.49	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	0.7806	234.18	0.00	0.00	0.00	0.00	0.00	234.18	977.10	0.07	906.09	0.66	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	0.9410	282.30	0.00	0.00	0.00	0.00	0.00	282.30	1054.13	0.07	1188.31	0.86	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.0285	308.54	0.00	0.00	0.00	0.00	0.00	308.54	1147.00	0.08	1496.78	1.08	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	1.5096	452.89	0.00	0.00	0.00	0.00	0.00	452.89	1248.49	0.09	1949.58	1.41	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	2.2824	684.72	0.00	0.00	0.00	0.00	0.00	684.72	1397.48	0.10	2634.20	1.91	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	2.0637	619.11	0.00	0.00	0.00	0.00	0.00	619.11	1622.74	0.11	3253.20	2.36	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.3286	98.58	0.00	0.00	0.00	0.00	0.00	98.58	1826.41	0.13	3351.66	2.43	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.81	0.13	3351.53	2.43	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.77	0.13	3351.40	2.43	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.72	0.13	3351.27	2.43	0.00	0.00	
					Total volume (cf)			3352.59								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	756.00	0.05	7.26	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	758.39	0.05	14.52	0.01	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	760.78	0.05	20.66	0.01	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	762.80	0.05	29.05	0.02	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	765.56	0.05	37.43	0.03	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	768.32	0.05	53.53	0.04	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	773.61	0.05	61.91	0.04	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	776.37	0.05	78.01	0.06	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	781.67	0.05	94.10	0.07	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	786.96	0.05	102.48	0.07	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	789.72	0.05	111.43	0.08	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	792.66	0.06	127.52	0.09	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	797.96	0.06	166.12	0.12	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	810.66	0.06	204.72	0.15	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	823.36	0.06	243.31	0.18	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	836.06	0.06	270.65	0.20	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.2039	61.16	0.00	0.00	0.00	0.00	0.00	61.16	845.05	0.06	331.75	0.24	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	865.16	0.06	398.48	0.29	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.1664	49.91	0.00	0.00	0.00	0.00	0.00	49.91	887.11	0.06	448.32	0.32	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	903.51	0.06	515.05	0.37	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.3351	100.54	0.00	0.00	0.00	0.00	0.00	100.54	925.47	0.06	615.53	0.45	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	958.53	0.07	704.75	0.51	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.2601	78.04	0.00	0.00	0.00	0.00	0.00	78.04	987.89	0.07	782.72	0.57	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.2789	83.66	0.00	0.00	0.00	0.00	0.00	83.66	1013.54	0.07	866.32	0.63	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	1041.05	0.07	955.53	0.69	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.5039	151.18	0.00	0.00	0.00	0.00	0.00	151.18	1070.40	0.07	1106.64	0.80	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	0.6540	196.19	0.00	0.00	0.00	0.00	0.00	196.19	1120.12	0.08	1302.76	0.94	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.3727	111.80	0.00	0.00	0.00	0.00	0.00	111.80	1184.65	0.08	1414.48	1.03	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	0.9916	297.47	0.00	0.00	0.00	0.00	0.00	297.47	1221.41	0.08	1711.86	1.24	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	1.0853	325.60	0.00	0.00	0.00	0.00	0.00	325.60	1319.26	0.09	2037.38	1.48	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	1.2541	376.24	0.00	0.00	0.00	0.00	0.00	376.24	1426.37	0.10	2413.52	1.75	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	0.8228	246.83	0.00	0.00	0.00	0.00	0.00	246.83	1550.13	0.11	2660.24	1.93	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	1631.31	0.11	2687.53	1.95	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1640.29	0.11	2703.56	1.96	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1645.56	0.11	2719.60	1.97	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0113	3.38	0.00	0.00	0.00	0.00	0.00	3.38	1650.84	0.11	2722.86	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.91	0.11	2722.74	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.88	0.11	2722.63	1.97	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.84	0.11	2722.51	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.80	0.11	2722.40	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.76	0.11	2722.28	1.97	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.72	0.11	2722.17	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.69	0.11	2722.05	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.65	0.11	2721.94	1.97	0.00	0.00
					Total volume (cf)		2725.39								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	756.00	0.05	3.39	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	757.11	0.05	7.46	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	758.46	0.05	11.54	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	759.80	0.05	15.61	0.01	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	761.14	0.05	19.69	0.01	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	762.48	0.05	24.45	0.02	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	764.04	0.05	29.21	0.02	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	765.61	0.05	33.97	0.02	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	767.18	0.05	38.73	0.03	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	768.74	0.05	43.50	0.03	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	770.31	0.05	48.26	0.03	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	771.88	0.05	53.71	0.04	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	773.67	0.05	59.16	0.04	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	775.46	0.05	64.61	0.05	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	777.26	0.05	70.05	0.05	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	779.05	0.05	75.50	0.05	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	780.84	0.05	80.95	0.06	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.64	0.05	86.40	0.06	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	784.43	0.05	91.85	0.07	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	786.22	0.05	97.30	0.07	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	788.01	0.05	102.75	0.07	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	789.81	0.05	108.19	0.08	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	791.60	0.05	113.64	0.08	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	793.39	0.06	119.78	0.09	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	795.41	0.06	125.23	0.09	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	797.20	0.06	131.36	0.10	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	799.22	0.06	137.50	0.10	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	801.24	0.06	143.63	0.10	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	803.26	0.06	149.77	0.11	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	805.28	0.06	155.90	0.11	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	807.30	0.06	162.04	0.12	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	809.32	0.06	168.17	0.12	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	811.33	0.06	175.00	0.13	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	813.58	0.06	181.82	0.13	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	815.82	0.06	188.64	0.14	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	818.07	0.06	195.46	0.14	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	820.31	0.06	202.28	0.15	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	822.56	0.06	209.79	0.15	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	825.03	0.06	217.30	0.16	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	827.50	0.06	224.81	0.16	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0275	8.25	0.00	0.00	0.00	0.00	0.00	8.25	829.97	0.06	233.01	0.17	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0298	8.94	0.00	0.00	0.00	0.00	0.00	8.94	832.67	0.06	241.89	0.18	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	835.59	0.06	253.01	0.18	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	839.25	0.06	264.12	0.19	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	842.91	0.06	282.12	0.20	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	848.83	0.06	300.11	0.22	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	854.75	0.06	324.98	0.24	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	862.93	0.06	349.86	0.25	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.1060	31.81	0.00	0.00	0.00	0.00	0.00	31.81	871.11	0.06	381.61	0.28	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.1290	38.69	0.00	0.00	0.00	0.00	0.00	38.69	881.56	0.06	420.23	0.30	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	894.27	0.06	465.74	0.34	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.1748	52.45	0.00	0.00	0.00	0.00	0.00	52.45	909.24	0.06	518.12	0.38	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	926.48	0.06	577.38	0.42	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	945.98	0.07	636.64	0.46	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.2207	66.20	0.00	0.00	0.00	0.00	0.00	66.20	965.48	0.07	702.78	0.51	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.2436	73.08	0.00	0.00	0.00	0.00	0.00	73.08	987.24	0.07	775.80	0.56	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1011.26	0.07	855.69	0.62	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1037.55	0.07	935.58	0.68	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.2895	86.84	0.00	0.00	0.00	0.00	0.00	86.84	1063.84	0.07	1022.35	0.74	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.3124	93.72	0.00	0.00	0.00	0.00	0.00	93.72	1092.39	0.08	1115.99	0.81	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.4270	128.11	0.00	0.00	0.00	0.00	0.00	128.11	1123.20	0.08	1244.03	0.90	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	0.5417	162.51	0.00	0.00	0.00	0.00	0.00	162.51	1165.33	0.08	1406.45	1.02	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	0.6105	183.14	0.00	0.00	0.00	0.00	0.00	183.14	1218.77	0.08	1589.51	1.15	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	0.6793	203.78	0.00	0.00	0.00	0.00	0.00	203.78	1279.00	0.09	1793.21	1.30	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	0.7939	238.18	0.00	0.00	0.00	0.00	0.00	238.18	1346.03	0.09	2031.29	1.47	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.0003	300.09	0.00	0.00	0.00	0.00	0.00	300.09	1424.36	0.10	2331.28	1.69	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	1523.07	0.11	2376.74	1.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	1538.03	0.11	2382.82	1.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	1540.03	0.11	2386.84	1.73	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	1541.35	0.11	2390.18	1.73	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0069	2.06	0.00	0.00	0.00	0.00	0.00	2.06	1542.45	0.11	2392.13	1.73	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0046	1.38	0.00	0.00	0.00	0.00	0.00	1.38	1543.09	0.11	2393.40	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.51	0.11	2393.29	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.48	0.11	2393.19	1.73	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.44	0.11	2393.08	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.40	0.11	2392.97	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.37	0.11	2392.86	1.73	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.33	0.11	2392.76	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.30	0.11	2392.65	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.26	0.11	2392.54	1.73	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.23	0.11	2392.44	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.19	0.11	2392.33	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.16	0.11	2392.22	1.73	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.12	0.11	2392.11	1.73	0.00	0.00
					Total volume (cf)		2398.03								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	756.00	0.16	1.68	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	756.55	0.16	4.27	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	757.40	0.16	6.86	0.00	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	758.26	0.16	10.37	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	759.41	0.16	12.96	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	760.26	0.16	15.55	0.01	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	761.12	0.16	18.14	0.01	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	761.97	0.16	21.65	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	763.12	0.16	25.16	0.02	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	764.28	0.16	28.66	0.02	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	765.43	0.16	33.09	0.02	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	766.89	0.16	37.51	0.03	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	768.34	0.16	41.93	0.03	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	769.80	0.16	46.36	0.03	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	771.25	0.16	50.78	0.04	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	772.71	0.16	56.12	0.04	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	774.46	0.16	61.45	0.04	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	776.22	0.16	67.71	0.05	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	778.28	0.16	73.96	0.05	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	780.34	0.16	81.13	0.06	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.70	0.16	86.47	0.06	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	784.45	0.16	92.72	0.07	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	786.51	0.16	99.89	0.07	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	788.87	0.16	107.06	0.08	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	791.23	0.16	115.14	0.08	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	793.89	0.17	123.23	0.09	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	796.55	0.17	132.23	0.10	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	799.51	0.17	141.23	0.10	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	802.47	0.17	150.22	0.11	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0112	10.08	0.00	0.00	0.00	0.00	0.00	10.08	805.43	0.17	160.14	0.12	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0122	11.00	0.00	0.00	0.00	0.00	0.00	11.00	808.69	0.17	170.97	0.12	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0132	11.92	0.00	0.00	0.00	0.00	0.00	11.92	812.25	0.17	182.72	0.13	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	816.12	0.17	196.29	0.14	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	820.59	0.17	209.87	0.15	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0163	14.67	0.00	0.00	0.00	0.00	0.00	14.67	825.06	0.17	224.37	0.16	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	829.82	0.17	239.77	0.17	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	834.89	0.17	257.02	0.19	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	840.57	0.18	275.17	0.20	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0214	19.25	0.00	0.00	0.00	0.00	0.00	19.25	846.54	0.18	294.24	0.21	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0224	20.16	0.00	0.00	0.00	0.00	0.00	20.16	852.82	0.18	314.23	0.23	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	859.39	0.18	327.80	0.24	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	863.86	0.18	341.37	0.25	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	868.32	0.18	359.52	0.26	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	874.29	0.18	377.67	0.27	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	880.27	0.18	394.90	0.29	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	885.94	0.18	412.13	0.30	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	891.60	0.19	427.53	0.31	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0183	16.50	0.00	0.00	0.00	0.00	0.00	16.50	896.67	0.19	443.84	0.32	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	902.04	0.19	466.56	0.34	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0265	23.83	0.00	0.00	0.00	0.00	0.00	23.83	909.52	0.19	490.21	0.36	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0314	28.24	0.00	0.00	0.00	0.00	0.00	28.24	917.29	0.19	518.25	0.38	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0454	40.85	0.00	0.00	0.00	0.00	0.00	40.85	926.52	0.19	558.91	0.41	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.1001	90.08	0.00	0.00	0.00	0.00	0.00	90.08	939.90	0.20	648.80	0.47	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.1038	93.45	0.00	0.00	0.00	0.00	0.00	93.45	969.48	0.20	742.04	0.54	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1000.16	0.21	762.91	0.55	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1007.02	0.21	783.78	0.57	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0435	39.11	0.00	0.00	0.00	0.00	0.00	39.11	1013.89	0.21	822.68	0.60	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0368	33.12	0.00	0.00	0.00	0.00	0.00	33.12	1026.69	0.21	855.59	0.62	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0403	36.26	0.00	0.00	0.00	0.00	0.00	36.26	1037.52	0.22	891.63	0.65	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0335	30.19	0.00	0.00	0.00	0.00	0.00	30.19	1049.38	0.22	921.60	0.67	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0267	24.07	0.00	0.00	0.00	0.00	0.00	24.07	1059.24	0.22	945.45	0.69	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1067.08	0.22	966.30	0.70	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1073.95	0.22	983.50	0.71	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1079.60	0.22	1000.69	0.73	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1085.26	0.23	1004.13	0.73	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1086.39	0.23	1007.57	0.73	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1087.52	0.23	1010.09	0.73	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1088.35	0.23	1012.61	0.73	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1089.18	0.23	1016.97	0.74	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1090.62	0.23	1021.32	0.74	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1092.05	0.23	1025.68	0.74	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1093.48	0.23	1029.12	0.75	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1094.61	0.23	1032.56	0.75	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1095.75	0.23	1035.99	0.75	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1096.88	0.23	1038.51	0.75	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1097.71	0.23	1040.12	0.75	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1098.23	0.23	1042.64	0.76	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1099.06	0.23	1046.08	0.76	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1100.20	0.23	1048.60	0.76	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1101.02	0.23	1050.20	0.76	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1101.55	0.23	1052.72	0.76	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1102.38	0.23	1055.24	0.76	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1103.21	0.23	1057.76	0.77	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1104.04	0.23	1059.37	0.77	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1104.57	0.23	1061.88	0.77	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1105.40	0.23	1063.49	0.77	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1105.92	0.23	1066.01	0.77	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1106.75	0.23	1067.61	0.77	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1107.28	0.23	1070.13	0.78	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.11	0.23	1071.73	0.78	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.64	0.23	1073.33	0.78	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.16	0.23	1074.94	0.78	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.69	0.23	1076.54	0.78	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.22	0.23	1078.14	0.78	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.74	0.23	1079.74	0.78	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1111.27	0.23	1081.34	0.78	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1111.80	0.23	1081.11	0.78	0.00	0.00
						Total volume (cf)		1100.04									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.73ac

5/7/2024 LOT 10-BACK

Drainage Area (ac.)	0.7300	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2400 s.f. Bot. = 623 s.f. Max. Depth (d)= 4 Max. storage= 5661.04 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.3733	112.00	0.00	0.00	0.00	0.00	0.00	112.00	623.00	0.04	111.96	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.6075	182.25	0.00	0.00	0.00	0.00	0.00	182.25	658.14	0.05	294.16	0.21	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.6714	201.41	0.00	0.00	0.00	0.00	0.00	201.41	715.34	0.05	495.52	0.35	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.6288	188.64	0.00	0.00	0.00	0.00	0.00	188.64	778.54	0.05	684.11	0.48	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	0.9907	297.20	0.00	0.00	0.00	0.00	0.00	297.20	837.74	0.06	981.25	0.69	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.1397	341.91	0.00	0.00	0.00	0.00	0.00	341.91	931.01	0.06	1323.09	0.93	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	1.3739	412.16	0.00	0.00	0.00	0.00	0.00	412.16	1038.32	0.07	1735.18	1.23	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.5016	450.47	0.00	0.00	0.00	0.00	0.00	450.47	1167.67	0.08	2185.57	1.54	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	2.2041	661.22	0.00	0.00	0.00	0.00	0.00	661.22	1309.05	0.09	2846.70	2.01	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	3.3323	999.69	0.00	0.00	0.00	0.00	0.00	999.69	1516.58	0.11	3846.28	2.72	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	3.0130	903.90	0.00	0.00	0.00	0.00	0.00	903.90	1830.35	0.13	4750.05	3.36	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.4798	143.93	0.00	0.00	0.00	0.00	0.00	143.93	2114.04	0.15	4893.84	3.46	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2159.17	0.15	4893.69	3.46	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2159.13	0.15	4893.54	3.46	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2159.08	0.15	4893.39	3.46	0.00	0.00	
					Total volume (cf)			4894.78								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0356	10.68	0.00	0.00	0.00	0.00	0.00	10.68	623.00	0.04	10.64	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0356	10.68	0.00	0.00	0.00	0.00	0.00	10.68	626.34	0.04	21.27	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	629.68	0.04	30.26	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0411	12.32	0.00	0.00	0.00	0.00	0.00	12.32	632.50	0.04	42.54	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0411	12.32	0.00	0.00	0.00	0.00	0.00	12.32	636.35	0.04	54.82	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	640.21	0.04	78.35	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0411	12.32	0.00	0.00	0.00	0.00	0.00	12.32	647.59	0.04	90.63	0.06	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	651.45	0.05	114.16	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	658.83	0.05	137.68	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0411	12.32	0.00	0.00	0.00	0.00	0.00	12.32	666.22	0.05	149.96	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0438	13.14	0.00	0.00	0.00	0.00	0.00	13.14	670.07	0.05	163.06	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	674.18	0.05	186.58	0.13	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.1881	56.43	0.00	0.00	0.00	0.00	0.00	56.43	681.57	0.05	242.97	0.17	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.1881	56.43	0.00	0.00	0.00	0.00	0.00	56.43	699.27	0.05	299.36	0.21	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.1881	56.43	0.00	0.00	0.00	0.00	0.00	56.43	716.97	0.05	355.74	0.25	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1333	40.00	0.00	0.00	0.00	0.00	0.00	40.00	734.67	0.05	395.69	0.28	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	747.21	0.05	484.93	0.34	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.3250	97.51	0.00	0.00	0.00	0.00	0.00	97.51	775.22	0.05	582.38	0.41	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.2429	72.86	0.00	0.00	0.00	0.00	0.00	72.86	805.81	0.06	655.19	0.46	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.3250	97.51	0.00	0.00	0.00	0.00	0.00	97.51	828.66	0.06	752.64	0.53	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.4893	146.79	0.00	0.00	0.00	0.00	0.00	146.79	859.25	0.06	899.37	0.64	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.4346	130.37	0.00	0.00	0.00	0.00	0.00	130.37	905.31	0.06	1029.68	0.73	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.3798	113.94	0.00	0.00	0.00	0.00	0.00	113.94	946.22	0.07	1143.55	0.81	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.4072	122.15	0.00	0.00	0.00	0.00	0.00	122.15	981.96	0.07	1265.63	0.89	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.4346	130.37	0.00	0.00	0.00	0.00	0.00	130.37	1020.28	0.07	1395.92	0.99	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.7358	220.73	0.00	0.00	0.00	0.00	0.00	220.73	1061.18	0.07	1616.58	1.14	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	0.9548	286.44	0.00	0.00	0.00	0.00	0.00	286.44	1130.44	0.08	1902.94	1.34	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.5441	163.22	0.00	0.00	0.00	0.00	0.00	163.22	1220.33	0.08	2066.08	1.46	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	1.4477	434.31	0.00	0.00	0.00	0.00	0.00	434.31	1271.54	0.09	2500.30	1.77	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	1.5846	475.38	0.00	0.00	0.00	0.00	0.00	475.38	1407.84	0.10	2975.59	2.10	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	1.8310	549.31	0.00	0.00	0.00	0.00	0.00	549.31	1557.04	0.11	3524.79	2.49	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.2013	360.38	0.00	0.00	0.00	0.00	0.00	360.38	1729.43	0.12	3885.05	2.75	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1333	40.00	0.00	0.00	0.00	0.00	0.00	40.00	1842.52	0.13	3924.93	2.77	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	1855.03	0.13	3948.37	2.79	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.0786	23.57	0.00	0.00	0.00	0.00	0.00	23.57	1862.39	0.13	3971.82	2.81	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0164	4.93	0.00	0.00	0.00	0.00	0.00	4.93	1869.75	0.13	3976.62	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.26	0.13	3976.49	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.22	0.13	3976.36	2.81	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.18	0.13	3976.23	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.14	0.13	3976.10	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.10	0.13	3975.97	2.81	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.05	0.13	3975.84	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1871.01	0.13	3975.71	2.81	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1870.97	0.13	3975.58	2.81	0.00	0.00
					Total volume (cf)		3979.07								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0167	5.02	0.00	0.00	0.00	0.00	0.00	5.02	623.00	0.04	4.98	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	624.56	0.04	10.96	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	626.44	0.04	16.94	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	628.32	0.04	22.93	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	630.20	0.04	28.91	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	632.07	0.04	35.89	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	634.27	0.04	42.88	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	636.46	0.04	49.87	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	638.65	0.04	56.85	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	640.85	0.04	63.84	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0234	7.03	0.00	0.00	0.00	0.00	0.00	7.03	643.04	0.04	70.82	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	645.23	0.04	78.81	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	647.74	0.04	86.80	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	650.25	0.05	94.79	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	652.76	0.05	102.78	0.07	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	655.26	0.05	110.77	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	657.77	0.05	118.76	0.08	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	660.28	0.05	126.75	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	662.79	0.05	134.74	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	665.29	0.05	142.72	0.10	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	667.80	0.05	150.71	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	670.31	0.05	158.70	0.11	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	672.82	0.05	166.69	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	675.32	0.05	175.68	0.12	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0268	8.03	0.00	0.00	0.00	0.00	0.00	8.03	678.15	0.05	183.67	0.13	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	680.65	0.05	192.66	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	683.48	0.05	201.65	0.14	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	686.30	0.05	210.64	0.15	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	689.12	0.05	219.63	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	691.94	0.05	228.62	0.16	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	694.76	0.05	237.61	0.17	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	697.59	0.05	246.60	0.17	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	700.41	0.05	256.60	0.18	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	703.55	0.05	266.59	0.19	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	706.68	0.05	276.59	0.20	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	709.82	0.05	286.58	0.20	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0335	10.04	0.00	0.00	0.00	0.00	0.00	10.04	712.96	0.05	296.57	0.21	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0368	11.05	0.00	0.00	0.00	0.00	0.00	11.05	716.09	0.05	307.57	0.22	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0368	11.05	0.00	0.00	0.00	0.00	0.00	11.05	719.55	0.05	318.57	0.23	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0368	11.05	0.00	0.00	0.00	0.00	0.00	11.05	723.00	0.05	329.57	0.23	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0402	12.05	0.00	0.00	0.00	0.00	0.00	12.05	726.45	0.05	341.57	0.24	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0435	13.06	0.00	0.00	0.00	0.00	0.00	13.06	730.22	0.05	354.57	0.25	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0544	16.31	0.00	0.00	0.00	0.00	0.00	16.31	734.30	0.05	370.84	0.26	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0544	16.31	0.00	0.00	0.00	0.00	0.00	16.31	739.41	0.05	387.10	0.27	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.0879	26.36	0.00	0.00	0.00	0.00	0.00	26.36	744.51	0.05	413.40	0.29	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.0879	26.36	0.00	0.00	0.00	0.00	0.00	26.36	752.77	0.05	439.71	0.31	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1213	36.40	0.00	0.00	0.00	0.00	0.00	36.40	761.02	0.05	476.05	0.34	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1213	36.40	0.00	0.00	0.00	0.00	0.00	36.40	772.43	0.05	512.40	0.36	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.1548	46.44	0.00	0.00	0.00	0.00	0.00	46.44	783.84	0.05	558.79	0.39	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.1883	56.49	0.00	0.00	0.00	0.00	0.00	56.49	798.40	0.06	615.22	0.43	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.2218	66.53	0.00	0.00	0.00	0.00	0.00	66.53	816.12	0.06	681.69	0.48	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.2552	76.57	0.00	0.00	0.00	0.00	0.00	76.57	836.98	0.06	758.21	0.54	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.2887	86.62	0.00	0.00	0.00	0.00	0.00	86.62	861.00	0.06	844.76	0.60	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.2887	86.62	0.00	0.00	0.00	0.00	0.00	86.62	888.17	0.06	931.32	0.66	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.3222	96.66	0.00	0.00	0.00	0.00	0.00	96.66	915.34	0.06	1027.91	0.73	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.3557	106.70	0.00	0.00	0.00	0.00	0.00	106.70	945.66	0.07	1134.55	0.80	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.3891	116.74	0.00	0.00	0.00	0.00	0.00	116.74	979.13	0.07	1251.22	0.88	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.3891	116.74	0.00	0.00	0.00	0.00	0.00	116.74	1015.76	0.07	1367.90	0.97	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.4226	126.79	0.00	0.00	0.00	0.00	0.00	126.79	1052.38	0.07	1494.61	1.06	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.4561	136.83	0.00	0.00	0.00	0.00	0.00	136.83	1092.16	0.08	1631.37	1.15	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.6235	187.05	0.00	0.00	0.00	0.00	0.00	187.05	1135.09	0.08	1818.34	1.28	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	0.7909	237.26	0.00	0.00	0.00	0.00	0.00	237.26	1193.78	0.08	2055.52	1.45	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	0.8913	267.39	0.00	0.00	0.00	0.00	0.00	267.39	1268.23	0.09	2322.82	1.64	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	0.9917	297.52	0.00	0.00	0.00	0.00	0.00	297.52	1352.13	0.09	2620.25	1.85	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	1.1591	347.74	0.00	0.00	0.00	0.00	0.00	347.74	1445.49	0.10	2967.88	2.10	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.4604	438.12	0.00	0.00	0.00	0.00	0.00	438.12	1554.62	0.11	3405.90	2.41	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.2218	66.53	0.00	0.00	0.00	0.00	0.00	66.53	1692.11	0.12	3472.31	2.45	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0301	9.04	0.00	0.00	0.00	0.00	0.00	9.04	1712.96	0.12	3481.23	2.46	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0201	6.03	0.00	0.00	0.00	0.00	0.00	6.03	1715.76	0.12	3487.14	2.46	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0167	5.02	0.00	0.00	0.00	0.00	0.00	5.02	1717.61	0.12	3492.04	2.47	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0100	3.01	0.00	0.00	0.00	0.00	0.00	3.01	1719.15	0.12	3494.93	2.47	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0067	2.01	0.00	0.00	0.00	0.00	0.00	2.01	1720.06	0.12	3496.82	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.65	0.12	3496.70	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.61	0.12	3496.58	2.47	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.58	0.12	3496.47	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.54	0.12	3496.35	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.50	0.12	3496.23	2.47	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.46	0.12	3496.11	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.43	0.12	3495.99	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.39	0.12	3495.87	2.47	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.35	0.12	3495.75	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.31	0.12	3495.63	2.47	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.28	0.12	3495.51	2.47	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1720.24	0.12	3495.39	2.47	0.00	0.00
					Total volume (cf)		3501.12									Total Overflow (cf)		0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	623.00	0.13	2.55	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	623.80	0.13	6.43	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	625.02	0.13	10.32	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	626.24	0.13	15.54	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	627.88	0.13	19.42	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	629.10	0.13	23.31	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	630.32	0.13	27.19	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	631.53	0.13	32.41	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	633.17	0.13	37.63	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	634.81	0.13	42.85	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	636.45	0.13	49.41	0.03	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	638.51	0.13	55.97	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	640.57	0.13	62.53	0.04	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	642.63	0.13	69.08	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	644.68	0.13	75.64	0.05	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0089	8.03	0.00	0.00	0.00	0.00	0.00	8.03	646.74	0.13	83.53	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0089	8.03	0.00	0.00	0.00	0.00	0.00	8.03	649.22	0.14	91.43	0.06	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0104	9.37	0.00	0.00	0.00	0.00	0.00	9.37	651.70	0.14	100.66	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0104	9.37	0.00	0.00	0.00	0.00	0.00	9.37	654.60	0.14	109.89	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0119	10.71	0.00	0.00	0.00	0.00	0.00	10.71	657.49	0.14	120.46	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0089	8.03	0.00	0.00	0.00	0.00	0.00	8.03	660.81	0.14	128.35	0.09	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0104	9.37	0.00	0.00	0.00	0.00	0.00	9.37	663.29	0.14	137.58	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0119	10.71	0.00	0.00	0.00	0.00	0.00	10.71	666.19	0.14	148.15	0.10	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0119	10.71	0.00	0.00	0.00	0.00	0.00	10.71	669.50	0.14	158.71	0.11	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0134	12.04	0.00	0.00	0.00	0.00	0.00	12.04	672.82	0.14	170.62	0.12	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0134	12.04	0.00	0.00	0.00	0.00	0.00	12.04	676.56	0.14	182.52	0.13	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0149	13.38	0.00	0.00	0.00	0.00	0.00	13.38	680.29	0.14	195.76	0.14	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0149	13.38	0.00	0.00	0.00	0.00	0.00	13.38	684.45	0.14	209.00	0.15	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0149	13.38	0.00	0.00	0.00	0.00	0.00	13.38	688.60	0.14	222.24	0.16	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0164	14.72	0.00	0.00	0.00	0.00	0.00	14.72	692.76	0.14	236.81	0.17	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0178	16.06	0.00	0.00	0.00	0.00	0.00	16.06	697.34	0.15	252.73	0.18	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0193	17.40	0.00	0.00	0.00	0.00	0.00	17.40	702.33	0.15	269.98	0.19	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0223	20.07	0.00	0.00	0.00	0.00	0.00	20.07	707.75	0.15	289.90	0.20	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0223	20.07	0.00	0.00	0.00	0.00	0.00	20.07	714.00	0.15	309.83	0.22	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0238	21.41	0.00	0.00	0.00	0.00	0.00	21.41	720.25	0.15	331.09	0.23	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0253	22.75	0.00	0.00	0.00	0.00	0.00	22.75	726.93	0.15	353.69	0.25	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	734.02	0.15	378.96	0.27	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0297	26.76	0.00	0.00	0.00	0.00	0.00	26.76	741.95	0.15	405.57	0.29	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0312	28.10	0.00	0.00	0.00	0.00	0.00	28.10	750.31	0.16	433.51	0.31	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0327	29.44	0.00	0.00	0.00	0.00	0.00	29.44	759.08	0.16	462.80	0.33	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0223	20.07	0.00	0.00	0.00	0.00	0.00	20.07	768.27	0.16	482.71	0.34	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0223	20.07	0.00	0.00	0.00	0.00	0.00	20.07	774.52	0.16	502.62	0.36	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0297	26.76	0.00	0.00	0.00	0.00	0.00	26.76	780.77	0.16	529.22	0.37	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0297	26.76	0.00	0.00	0.00	0.00	0.00	26.76	789.12	0.16	555.82	0.39	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	797.47	0.17	581.08	0.41	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	805.40	0.17	606.34	0.43	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0253	22.75	0.00	0.00	0.00	0.00	0.00	22.75	813.33	0.17	628.92	0.44	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0268	24.09	0.00	0.00	0.00	0.00	0.00	24.09	820.42	0.17	652.84	0.46	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0372	33.45	0.00	0.00	0.00	0.00	0.00	33.45	827.92	0.17	686.12	0.48	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0387	34.79	0.00	0.00	0.00	0.00	0.00	34.79	838.37	0.17	720.74	0.51	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0458	41.23	0.00	0.00	0.00	0.00	0.00	41.23	849.24	0.18	761.79	0.54	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.0663	59.64	0.00	0.00	0.00	0.00	0.00	59.64	862.12	0.18	821.25	0.58	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.1461	131.52	0.00	0.00	0.00	0.00	0.00	131.52	880.79	0.18	952.59	0.67	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.1516	136.43	0.00	0.00	0.00	0.00	0.00	136.43	922.02	0.19	1088.82	0.77	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0342	30.78	0.00	0.00	0.00	0.00	0.00	30.78	964.78	0.20	1119.40	0.79	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0342	30.78	0.00	0.00	0.00	0.00	0.00	30.78	974.38	0.20	1149.98	0.81	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.0634	57.09	0.00	0.00	0.00	0.00	0.00	57.09	983.98	0.20	1206.87	0.85	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0537	48.36	0.00	0.00	0.00	0.00	0.00	48.36	1001.83	0.21	1255.02	0.89	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0588	52.94	0.00	0.00	0.00	0.00	0.00	52.94	1016.95	0.21	1307.75	0.92	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0490	44.07	0.00	0.00	0.00	0.00	0.00	44.07	1033.50	0.22	1351.60	0.96	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0390	35.14	0.00	0.00	0.00	0.00	0.00	35.14	1047.27	0.22	1386.52	0.98	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0342	30.78	0.00	0.00	0.00	0.00	0.00	30.78	1058.23	0.22	1417.08	1.00	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	1067.82	0.22	1442.28	1.02	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0283	25.43	0.00	0.00	0.00	0.00	0.00	25.43	1075.73	0.22	1467.48	1.04	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1083.64	0.23	1472.61	1.04	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1085.25	0.23	1477.74	1.04	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1086.86	0.23	1481.53	1.05	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1088.05	0.23	1485.31	1.05	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	1089.24	0.23	1491.78	1.05	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	1091.27	0.23	1498.24	1.06	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0074	6.69	0.00	0.00	0.00	0.00	0.00	6.69	1093.30	0.23	1504.70	1.06	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1095.33	0.23	1509.83	1.07	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1096.93	0.23	1514.95	1.07	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1098.54	0.23	1520.08	1.07	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1100.15	0.23	1523.86	1.08	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1101.34	0.23	1526.31	1.08	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1102.11	0.23	1530.09	1.08	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0059	5.35	0.00	0.00	0.00	0.00	0.00	5.35	1103.30	0.23	1535.22	1.08	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1104.90	0.23	1539.00	1.09	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1106.09	0.23	1541.45	1.09	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1106.86	0.23	1545.23	1.09	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1108.05	0.23	1549.02	1.09	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1109.24	0.23	1552.80	1.10	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1110.42	0.23	1555.24	1.10	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1111.19	0.23	1559.03	1.10	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1112.38	0.23	1561.47	1.10	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1113.15	0.23	1565.26	1.11	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1114.33	0.23	1567.70	1.11	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0045	4.01	0.00	0.00	0.00	0.00	0.00	4.01	1115.10	0.23	1571.48	1.11	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1116.29	0.23	1573.93	1.11	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1117.05	0.23	1576.37	1.11	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1117.82	0.23	1578.81	1.12	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1118.59	0.23	1581.26	1.12	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1119.36	0.23	1583.70	1.12	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1120.12	0.23	1586.14	1.12	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0030	2.68	0.00	0.00	0.00	0.00	0.00	2.68	1120.89	0.23	1588.59	1.12	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1121.66	0.23	1588.35	1.12	0.00	0.00
						Total volume (cf)	1606.06									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.41ac+0.09ac typ street frontage=0.50ac

1.14

5/7/2024 LOT 11-FRONT

Drainage Area (ac.)	0.5000	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2118 s.f. Bot. = 756 s.f. Max. Depth (d)= 3 Max. storage= 4139.39 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.2557	76.71	0.00	0.00	0.00	0.00	0.00	76.71	756.00	0.05	76.66	0.06	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.4161	124.83	0.00	0.00	0.00	0.00	0.00	124.83	781.22	0.05	201.44	0.15	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.4598	137.95	0.00	0.00	0.00	0.00	0.00	137.95	822.28	0.06	339.33	0.25	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.4307	129.20	0.00	0.00	0.00	0.00	0.00	129.20	867.65	0.06	468.47	0.34	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	0.6785	203.56	0.00	0.00	0.00	0.00	0.00	203.56	910.14	0.06	671.97	0.49	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	0.7806	234.18	0.00	0.00	0.00	0.00	0.00	234.18	977.10	0.07	906.09	0.66	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	0.9410	282.30	0.00	0.00	0.00	0.00	0.00	282.30	1054.13	0.07	1188.31	0.86	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.0285	308.54	0.00	0.00	0.00	0.00	0.00	308.54	1147.00	0.08	1496.78	1.08	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	1.5096	452.89	0.00	0.00	0.00	0.00	0.00	452.89	1248.49	0.09	1949.58	1.41	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	2.2824	684.72	0.00	0.00	0.00	0.00	0.00	684.72	1397.48	0.10	2634.20	1.91	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	2.0637	619.11	0.00	0.00	0.00	0.00	0.00	619.11	1622.74	0.11	3253.20	2.36	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.3286	98.58	0.00	0.00	0.00	0.00	0.00	98.58	1826.41	0.13	3351.66	2.43	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.81	0.13	3351.53	2.43	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.77	0.13	3351.40	2.43	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.72	0.13	3351.27	2.43	0.00	0.00	
					Total volume (cf)			3352.59								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	756.00	0.05	7.26	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	758.39	0.05	14.52	0.01	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	760.78	0.05	20.66	0.01	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	762.80	0.05	29.05	0.02	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	765.56	0.05	37.43	0.03	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	768.32	0.05	53.53	0.04	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	773.61	0.05	61.91	0.04	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	776.37	0.05	78.01	0.06	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	781.67	0.05	94.10	0.07	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	786.96	0.05	102.48	0.07	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	789.72	0.05	111.43	0.08	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	792.66	0.06	127.52	0.09	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	797.96	0.06	166.12	0.12	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	810.66	0.06	204.72	0.15	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	823.36	0.06	243.31	0.18	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	836.06	0.06	270.65	0.20	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.2039	61.16	0.00	0.00	0.00	0.00	0.00	61.16	845.05	0.06	331.75	0.24	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	865.16	0.06	398.48	0.29	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.1664	49.91	0.00	0.00	0.00	0.00	0.00	49.91	887.11	0.06	448.32	0.32	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	903.51	0.06	515.05	0.37	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.3351	100.54	0.00	0.00	0.00	0.00	0.00	100.54	925.47	0.06	615.53	0.45	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	958.53	0.07	704.75	0.51	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.2601	78.04	0.00	0.00	0.00	0.00	0.00	78.04	987.89	0.07	782.72	0.57	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.2789	83.66	0.00	0.00	0.00	0.00	0.00	83.66	1013.54	0.07	866.32	0.63	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	1041.05	0.07	955.53	0.69	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.5039	151.18	0.00	0.00	0.00	0.00	0.00	151.18	1070.40	0.07	1106.64	0.80	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	0.6540	196.19	0.00	0.00	0.00	0.00	0.00	196.19	1120.12	0.08	1302.76	0.94	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.3727	111.80	0.00	0.00	0.00	0.00	0.00	111.80	1184.65	0.08	1414.48	1.03	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	0.9916	297.47	0.00	0.00	0.00	0.00	0.00	297.47	1221.41	0.08	1711.86	1.24	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	1.0853	325.60	0.00	0.00	0.00	0.00	0.00	325.60	1319.26	0.09	2037.38	1.48	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	1.2541	376.24	0.00	0.00	0.00	0.00	0.00	376.24	1426.37	0.10	2413.52	1.75	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	0.8228	246.83	0.00	0.00	0.00	0.00	0.00	246.83	1550.13	0.11	2660.24	1.93	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	1631.31	0.11	2687.53	1.95	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1640.29	0.11	2703.56	1.96	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1645.56	0.11	2719.60	1.97	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0113	3.38	0.00	0.00	0.00	0.00	0.00	3.38	1650.84	0.11	2722.86	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.91	0.11	2722.74	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.88	0.11	2722.63	1.97	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.84	0.11	2722.51	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.80	0.11	2722.40	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.76	0.11	2722.28	1.97	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.72	0.11	2722.17	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.69	0.11	2722.05	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.65	0.11	2721.94	1.97	0.00	0.00
					Total volume (cf)		2725.39								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	756.00	0.05	3.39	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	757.11	0.05	7.46	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	758.46	0.05	11.54	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	759.80	0.05	15.61	0.01	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	761.14	0.05	19.69	0.01	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	762.48	0.05	24.45	0.02	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	764.04	0.05	29.21	0.02	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	765.61	0.05	33.97	0.02	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	767.18	0.05	38.73	0.03	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	768.74	0.05	43.50	0.03	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	770.31	0.05	48.26	0.03	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	771.88	0.05	53.71	0.04	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	773.67	0.05	59.16	0.04	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	775.46	0.05	64.61	0.05	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	777.26	0.05	70.05	0.05	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	779.05	0.05	75.50	0.05	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	780.84	0.05	80.95	0.06	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.64	0.05	86.40	0.06	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	784.43	0.05	91.85	0.07	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	786.22	0.05	97.30	0.07	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	788.01	0.05	102.75	0.07	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	789.81	0.05	108.19	0.08	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	791.60	0.05	113.64	0.08	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	793.39	0.06	119.78	0.09	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	795.41	0.06	125.23	0.09	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	797.20	0.06	131.36	0.10	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	799.22	0.06	137.50	0.10	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	801.24	0.06	143.63	0.10	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	803.26	0.06	149.77	0.11	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	805.28	0.06	155.90	0.11	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	807.30	0.06	162.04	0.12	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	809.32	0.06	168.17	0.12	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	811.33	0.06	175.00	0.13	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	813.58	0.06	181.82	0.13	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	815.82	0.06	188.64	0.14	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	818.07	0.06	195.46	0.14	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	820.31	0.06	202.28	0.15	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	822.56	0.06	209.79	0.15	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	825.03	0.06	217.30	0.16	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	827.50	0.06	224.81	0.16	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0275	8.25	0.00	0.00	0.00	0.00	0.00	8.25	829.97	0.06	233.01	0.17	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0298	8.94	0.00	0.00	0.00	0.00	0.00	8.94	832.67	0.06	241.89	0.18	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	835.59	0.06	253.01	0.18	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	839.25	0.06	264.12	0.19	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	842.91	0.06	282.12	0.20	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	848.83	0.06	300.11	0.22	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	854.75	0.06	324.98	0.24	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	862.93	0.06	349.86	0.25	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.1060	31.81	0.00	0.00	0.00	0.00	0.00	31.81	871.11	0.06	381.61	0.28	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.1290	38.69	0.00	0.00	0.00	0.00	0.00	38.69	881.56	0.06	420.23	0.30	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	894.27	0.06	465.74	0.34	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.1748	52.45	0.00	0.00	0.00	0.00	0.00	52.45	909.24	0.06	518.12	0.38	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	926.48	0.06	577.38	0.42	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	945.98	0.07	636.64	0.46	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.2207	66.20	0.00	0.00	0.00	0.00	0.00	66.20	965.48	0.07	702.78	0.51	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.2436	73.08	0.00	0.00	0.00	0.00	0.00	73.08	987.24	0.07	775.80	0.56	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1011.26	0.07	855.69	0.62	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1037.55	0.07	935.58	0.68	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.2895	86.84	0.00	0.00	0.00	0.00	0.00	86.84	1063.84	0.07	1022.35	0.74	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.3124	93.72	0.00	0.00	0.00	0.00	0.00	93.72	1092.39	0.08	1115.99	0.81	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.4270	128.11	0.00	0.00	0.00	0.00	0.00	128.11	1123.20	0.08	1244.03	0.90	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	0.5417	162.51	0.00	0.00	0.00	0.00	0.00	162.51	1165.33	0.08	1406.45	1.02	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	0.6105	183.14	0.00	0.00	0.00	0.00	0.00	183.14	1218.77	0.08	1589.51	1.15	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	0.6793	203.78	0.00	0.00	0.00	0.00	0.00	203.78	1279.00	0.09	1793.21	1.30	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	0.7939	238.18	0.00	0.00	0.00	0.00	0.00	238.18	1346.03	0.09	2031.29	1.47	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.0003	300.09	0.00	0.00	0.00	0.00	0.00	300.09	1424.36	0.10	2331.28	1.69	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	1523.07	0.11	2376.74	1.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	1538.03	0.11	2382.82	1.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	1540.03	0.11	2386.84	1.73	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	1541.35	0.11	2390.18	1.73	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0069	2.06	0.00	0.00	0.00	0.00	0.00	2.06	1542.45	0.11	2392.13	1.73	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0046	1.38	0.00	0.00	0.00	0.00	0.00	1.38	1543.09	0.11	2393.40	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.51	0.11	2393.29	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.48	0.11	2393.19	1.73	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.44	0.11	2393.08	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.40	0.11	2392.97	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.37	0.11	2392.86	1.73	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.33	0.11	2392.76	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.30	0.11	2392.65	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.26	0.11	2392.54	1.73	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.23	0.11	2392.44	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.19	0.11	2392.33	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.16	0.11	2392.22	1.73	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.12	0.11	2392.11	1.73	0.00	0.00
					Total volume (cf)		2398.03								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	756.00	0.16	1.68	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	756.55	0.16	4.27	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	757.40	0.16	6.86	0.00	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	758.26	0.16	10.37	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	759.41	0.16	12.96	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	760.26	0.16	15.55	0.01	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	761.12	0.16	18.14	0.01	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	761.97	0.16	21.65	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	763.12	0.16	25.16	0.02	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	764.28	0.16	28.66	0.02	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	765.43	0.16	33.09	0.02	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	766.89	0.16	37.51	0.03	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	768.34	0.16	41.93	0.03	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	769.80	0.16	46.36	0.03	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	771.25	0.16	50.78	0.04	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	772.71	0.16	56.12	0.04	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	774.46	0.16	61.45	0.04	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	776.22	0.16	67.71	0.05	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	778.28	0.16	73.96	0.05	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	780.34	0.16	81.13	0.06	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.70	0.16	86.47	0.06	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	784.45	0.16	92.72	0.07	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	786.51	0.16	99.89	0.07	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	788.87	0.16	107.06	0.08	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	791.23	0.16	115.14	0.08	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	793.89	0.17	123.23	0.09	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	796.55	0.17	132.23	0.10	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	799.51	0.17	141.23	0.10	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	802.47	0.17	150.22	0.11	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0112	10.08	0.00	0.00	0.00	0.00	0.00	10.08	805.43	0.17	160.14	0.12	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0122	11.00	0.00	0.00	0.00	0.00	0.00	11.00	808.69	0.17	170.97	0.12	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0132	11.92	0.00	0.00	0.00	0.00	0.00	11.92	812.25	0.17	182.72	0.13	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	816.12	0.17	196.29	0.14	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	820.59	0.17	209.87	0.15	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0163	14.67	0.00	0.00	0.00	0.00	0.00	14.67	825.06	0.17	224.37	0.16	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	829.82	0.17	239.77	0.17	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	834.89	0.17	257.02	0.19	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	840.57	0.18	275.17	0.20	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0214	19.25	0.00	0.00	0.00	0.00	0.00	19.25	846.54	0.18	294.24	0.21	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0224	20.16	0.00	0.00	0.00	0.00	0.00	20.16	852.82	0.18	314.23	0.23	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	859.39	0.18	327.80	0.24	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	863.86	0.18	341.37	0.25	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	868.32	0.18	359.52	0.26	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	874.29	0.18	377.67	0.27	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	880.27	0.18	394.90	0.29	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	885.94	0.18	412.13	0.30	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	891.60	0.19	427.53	0.31	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0183	16.50	0.00	0.00	0.00	0.00	0.00	16.50	896.67	0.19	443.84	0.32	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	902.04	0.19	466.56	0.34	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0265	23.83	0.00	0.00	0.00	0.00	0.00	23.83	909.52	0.19	490.21	0.36	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0314	28.24	0.00	0.00	0.00	0.00	0.00	28.24	917.29	0.19	518.25	0.38	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0454	40.85	0.00	0.00	0.00	0.00	0.00	40.85	926.52	0.19	558.91	0.41	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.1001	90.08	0.00	0.00	0.00	0.00	0.00	90.08	939.90	0.20	648.80	0.47	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.1038	93.45	0.00	0.00	0.00	0.00	0.00	93.45	969.48	0.20	742.04	0.54	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1000.16	0.21	762.91	0.55	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1007.02	0.21	783.78	0.57	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0435	39.11	0.00	0.00	0.00	0.00	0.00	39.11	1013.89	0.21	822.68	0.60	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0368	33.12	0.00	0.00	0.00	0.00	0.00	33.12	1026.69	0.21	855.59	0.62	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0403	36.26	0.00	0.00	0.00	0.00	0.00	36.26	1037.52	0.22	891.63	0.65	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0335	30.19	0.00	0.00	0.00	0.00	0.00	30.19	1049.38	0.22	921.60	0.67	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0267	24.07	0.00	0.00	0.00	0.00	0.00	24.07	1059.24	0.22	945.45	0.69	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1067.08	0.22	966.30	0.70	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1073.95	0.22	983.50	0.71	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1079.60	0.22	1000.69	0.73	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1085.26	0.23	1004.13	0.73	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1086.39	0.23	1007.57	0.73	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1087.52	0.23	1010.09	0.73	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1088.35	0.23	1012.61	0.73	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1089.18	0.23	1016.97	0.74	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1090.62	0.23	1021.32	0.74	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1092.05	0.23	1025.68	0.74	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1093.48	0.23	1029.12	0.75	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1094.61	0.23	1032.56	0.75	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1095.75	0.23	1035.99	0.75	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1096.88	0.23	1038.51	0.75	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1097.71	0.23	1040.12	0.75	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1098.23	0.23	1042.64	0.76	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1099.06	0.23	1046.08	0.76	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1100.20	0.23	1048.60	0.76	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1101.02	0.23	1050.20	0.76	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1101.55	0.23	1052.72	0.76	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1102.38	0.23	1055.24	0.76	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1103.21	0.23	1057.76	0.77	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1104.04	0.23	1059.37	0.77	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1104.57	0.23	1061.88	0.77	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1105.40	0.23	1063.49	0.77	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1105.92	0.23	1066.01	0.77	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1106.75	0.23	1067.61	0.77	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1107.28	0.23	1070.13	0.78	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.11	0.23	1071.73	0.78	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.64	0.23	1073.33	0.78	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.16	0.23	1074.94	0.78	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.69	0.23	1076.54	0.78	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.22	0.23	1078.14	0.78	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.74	0.23	1079.74	0.78	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1111.27	0.23	1081.34	0.78	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1111.80	0.23	1081.11	0.78	0.00	0.00
						Total volume (cf)		1100.04									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.95ac

5/7/2024 LOT 11 BACK

Drainage Area (ac.)	0.9500	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2788 s.f. Bot. = 794 s.f. Max. Depth (d)= 4 Max. storage= 6759.79 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.4859	145.76	0.00	0.00	0.00	0.00	0.00	145.76	794.00	0.06	145.70	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.7906	237.18	0.00	0.00	0.00	0.00	0.00	237.18	836.98	0.06	382.82	0.23	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.8737	262.11	0.00	0.00	0.00	0.00	0.00	262.11	906.92	0.06	644.86	0.38	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.8183	245.49	0.00	0.00	0.00	0.00	0.00	245.49	984.22	0.07	890.28	0.53	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.2892	386.77	0.00	0.00	0.00	0.00	0.00	386.77	1056.61	0.07	1276.98	0.76	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.4832	444.95	0.00	0.00	0.00	0.00	0.00	444.95	1170.68	0.08	1721.84	1.02	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	1.7879	536.37	0.00	0.00	0.00	0.00	0.00	536.37	1301.91	0.09	2258.12	1.34	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.9541	586.23	0.00	0.00	0.00	0.00	0.00	586.23	1460.10	0.10	2844.25	1.68	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	2.8683	860.49	0.00	0.00	0.00	0.00	0.00	860.49	1633.00	0.11	3704.63	2.19	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	4.3366	1300.97	0.00	0.00	0.00	0.00	0.00	1300.97	1886.79	0.13	5005.47	2.96	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	3.9210	1176.31	0.00	0.00	0.00	0.00	0.00	1176.31	2270.51	0.16	6181.61	3.66	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.6244	187.31	0.00	0.00	0.00	0.00	0.00	187.31	2617.45	0.18	6368.74	3.77	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2672.65	0.19	6368.56	3.77	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2672.59	0.19	6368.37	3.77	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2672.54	0.19	6368.19	3.77	0.00	0.00	
					Total volume (cf)			6369.92								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0463	13.90	0.00	0.00	0.00	0.00	0.00	13.90	794.00	0.06	13.84	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0463	13.90	0.00	0.00	0.00	0.00	0.00	13.90	798.08	0.06	27.68	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	802.17	0.06	39.39	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0535	16.04	0.00	0.00	0.00	0.00	0.00	16.04	805.62	0.06	55.37	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0535	16.04	0.00	0.00	0.00	0.00	0.00	16.04	810.33	0.06	71.35	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	815.05	0.06	101.97	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0535	16.04	0.00	0.00	0.00	0.00	0.00	16.04	824.08	0.06	117.95	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	828.79	0.06	148.57	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	837.82	0.06	179.19	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0535	16.04	0.00	0.00	0.00	0.00	0.00	16.04	846.86	0.06	195.17	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0570	17.10	0.00	0.00	0.00	0.00	0.00	17.10	851.57	0.06	212.21	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	856.60	0.06	242.83	0.14	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2448	73.44	0.00	0.00	0.00	0.00	0.00	73.44	865.63	0.06	316.21	0.19	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2448	73.44	0.00	0.00	0.00	0.00	0.00	73.44	887.28	0.06	389.59	0.23	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2448	73.44	0.00	0.00	0.00	0.00	0.00	73.44	908.92	0.06	462.97	0.27	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.1735	52.06	0.00	0.00	0.00	0.00	0.00	52.06	930.57	0.06	514.96	0.30	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.3873	116.20	0.00	0.00	0.00	0.00	0.00	116.20	945.90	0.07	631.10	0.37	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4230	126.89	0.00	0.00	0.00	0.00	0.00	126.89	980.16	0.07	757.92	0.45	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3161	94.82	0.00	0.00	0.00	0.00	0.00	94.82	1017.57	0.07	852.67	0.50	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4230	126.89	0.00	0.00	0.00	0.00	0.00	126.89	1045.52	0.07	979.49	0.58	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.6368	191.03	0.00	0.00	0.00	0.00	0.00	191.03	1082.93	0.08	1170.45	0.69	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.5655	169.65	0.00	0.00	0.00	0.00	0.00	169.65	1139.26	0.08	1340.03	0.79	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.4942	148.27	0.00	0.00	0.00	0.00	0.00	148.27	1189.28	0.08	1488.22	0.88	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.5299	158.96	0.00	0.00	0.00	0.00	0.00	158.96	1232.99	0.09	1647.09	0.97	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.5655	169.65	0.00	0.00	0.00	0.00	0.00	169.65	1279.86	0.09	1816.66	1.07	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.9575	287.25	0.00	0.00	0.00	0.00	0.00	287.25	1329.88	0.09	2103.81	1.24	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.2426	372.77	0.00	0.00	0.00	0.00	0.00	372.77	1414.58	0.10	2476.49	1.47	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.7080	212.41	0.00	0.00	0.00	0.00	0.00	212.41	1524.51	0.11	2688.80	1.59	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	1.8840	565.20	0.00	0.00	0.00	0.00	0.00	565.20	1587.14	0.11	3253.88	1.93	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.0622	618.65	0.00	0.00	0.00	0.00	0.00	618.65	1753.83	0.12	3872.41	2.29	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.3829	714.86	0.00	0.00	0.00	0.00	0.00	714.86	1936.28	0.13	4587.13	2.71	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.5633	468.98	0.00	0.00	0.00	0.00	0.00	468.98	2147.11	0.15	5055.97	2.99	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.1735	52.06	0.00	0.00	0.00	0.00	0.00	52.06	2285.41	0.16	5107.87	3.02	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	2300.72	0.16	5138.39	3.04	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1023	30.68	0.00	0.00	0.00	0.00	0.00	30.68	2309.72	0.16	5168.91	3.06	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0214	6.41	0.00	0.00	0.00	0.00	0.00	6.41	2318.72	0.16	5175.16	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.57	0.16	5175.00	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.52	0.16	5174.84	3.06	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.47	0.16	5174.68	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.42	0.16	5174.52	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.38	0.16	5174.36	3.06	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.33	0.16	5174.19	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.28	0.16	5174.03	3.06	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2320.23	0.16	5173.87	3.06	0.00	0.00
					Total volume (cf)		5178.24								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0218	6.53	0.00	0.00	0.00	0.00	0.00	6.53	794.00	0.06	6.48	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	795.91	0.06	14.27	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	798.21	0.06	22.05	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	800.51	0.06	29.84	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	802.80	0.06	37.63	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	805.10	0.06	46.72	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	807.78	0.06	55.81	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	810.46	0.06	64.90	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	813.15	0.06	74.00	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	815.83	0.06	83.09	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0305	9.15	0.00	0.00	0.00	0.00	0.00	9.15	818.51	0.06	92.18	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	821.19	0.06	102.58	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	824.26	0.06	112.98	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	827.33	0.06	123.38	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	830.39	0.06	133.77	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	833.46	0.06	144.17	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	836.53	0.06	154.57	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	839.60	0.06	164.97	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	842.66	0.06	175.36	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	845.73	0.06	185.76	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	848.80	0.06	196.16	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	851.86	0.06	206.56	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	854.93	0.06	216.95	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	858.00	0.06	228.66	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0349	10.46	0.00	0.00	0.00	0.00	0.00	10.46	861.45	0.06	239.05	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	864.52	0.06	250.75	0.15	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	867.97	0.06	262.46	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	871.42	0.06	274.16	0.16	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	874.87	0.06	285.86	0.17	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	878.32	0.06	297.56	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	881.78	0.06	309.26	0.18	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	885.23	0.06	320.97	0.19	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	888.68	0.06	333.97	0.20	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	892.52	0.06	346.98	0.21	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	896.35	0.06	359.99	0.21	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	900.19	0.06	373.00	0.22	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0436	13.07	0.00	0.00	0.00	0.00	0.00	13.07	904.03	0.06	386.00	0.23	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0479	14.38	0.00	0.00	0.00	0.00	0.00	14.38	907.86	0.06	400.32	0.24	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0479	14.38	0.00	0.00	0.00	0.00	0.00	14.38	912.09	0.06	414.63	0.25	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0479	14.38	0.00	0.00	0.00	0.00	0.00	14.38	916.31	0.06	428.94	0.25	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	920.53	0.06	444.56	0.26	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0566	16.99	0.00	0.00	0.00	0.00	0.00	16.99	925.14	0.06	461.49	0.27	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0708	21.23	0.00	0.00	0.00	0.00	0.00	21.23	930.13	0.06	482.66	0.29	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0708	21.23	0.00	0.00	0.00	0.00	0.00	21.23	936.37	0.07	503.82	0.30	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1143	34.30	0.00	0.00	0.00	0.00	0.00	34.30	942.62	0.07	538.06	0.32	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1143	34.30	0.00	0.00	0.00	0.00	0.00	34.30	952.72	0.07	572.29	0.34	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1579	47.37	0.00	0.00	0.00	0.00	0.00	47.37	962.81	0.07	619.59	0.37	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1579	47.37	0.00	0.00	0.00	0.00	0.00	47.37	976.77	0.07	666.89	0.39	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2015	60.44	0.00	0.00	0.00	0.00	0.00	60.44	990.72	0.07	727.26	0.43	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2450	73.51	0.00	0.00	0.00	0.00	0.00	73.51	1008.53	0.07	800.70	0.47	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	1030.19	0.07	887.21	0.52	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.3322	99.65	0.00	0.00	0.00	0.00	0.00	99.65	1055.71	0.07	986.79	0.58	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.3757	112.72	0.00	0.00	0.00	0.00	0.00	112.72	1085.08	0.08	1099.43	0.65	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.3757	112.72	0.00	0.00	0.00	0.00	0.00	112.72	1118.31	0.08	1212.07	0.72	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.4193	125.79	0.00	0.00	0.00	0.00	0.00	125.79	1151.54	0.08	1337.78	0.79	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.4629	138.86	0.00	0.00	0.00	0.00	0.00	138.86	1188.62	0.08	1476.56	0.87	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.5064	151.93	0.00	0.00	0.00	0.00	0.00	151.93	1229.55	0.09	1628.40	0.96	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.5064	151.93	0.00	0.00	0.00	0.00	0.00	151.93	1274.34	0.09	1780.24	1.05	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.5500	165.00	0.00	0.00	0.00	0.00	0.00	165.00	1319.13	0.09	1945.15	1.15	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.5936	178.07	0.00	0.00	0.00	0.00	0.00	178.07	1367.78	0.09	2123.12	1.26	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.8114	243.42	0.00	0.00	0.00	0.00	0.00	243.42	1420.28	0.10	2366.44	1.40	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	1.0292	308.77	0.00	0.00	0.00	0.00	0.00	308.77	1492.05	0.10	2675.10	1.58	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	1.1599	347.98	0.00	0.00	0.00	0.00	0.00	347.98	1583.10	0.11	3022.97	1.79	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	1.2906	387.18	0.00	0.00	0.00	0.00	0.00	387.18	1685.71	0.12	3410.03	2.02	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	1.5084	452.53	0.00	0.00	0.00	0.00	0.00	452.53	1799.89	0.12	3862.44	2.29	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.9005	570.16	0.00	0.00	0.00	0.00	0.00	570.16	1933.34	0.13	4432.47	2.62	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	2101.49	0.15	4518.90	2.67	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0392	11.76	0.00	0.00	0.00	0.00	0.00	11.76	2126.98	0.15	4530.52	2.68	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	2130.41	0.15	4538.21	2.69	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0218	6.53	0.00	0.00	0.00	0.00	0.00	6.53	2132.68	0.15	4544.60	2.69	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0131	3.92	0.00	0.00	0.00	0.00	0.00	3.92	2134.56	0.15	4548.37	2.69	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0087	2.61	0.00	0.00	0.00	0.00	0.00	2.61	2135.68	0.15	4550.84	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.40	0.15	4550.69	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.36	0.15	4550.54	2.69	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.32	0.15	4550.39	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.27	0.15	4550.24	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.23	0.15	4550.10	2.69	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.19	0.15	4549.95	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.14	0.15	4549.80	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.10	0.15	4549.65	2.69	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.05	0.15	4549.50	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2136.01	0.15	4549.35	2.69	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2135.97	0.15	4549.21	2.69	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2135.92	0.15	4549.06	2.69	0.00	0.00
					Total volume (cf)		4556.26								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	794.00	0.17	3.32	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	794.98	0.17	8.38	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	796.47	0.17	13.43	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	797.96	0.17	20.23	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	799.97	0.17	25.29	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	801.46	0.17	30.35	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	802.95	0.17	35.41	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	804.44	0.17	42.21	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	806.45	0.17	49.00	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	808.46	0.17	55.80	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	810.46	0.17	64.34	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	812.98	0.17	72.88	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	815.50	0.17	81.42	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	818.02	0.17	89.95	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	820.53	0.17	98.49	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	823.05	0.17	108.77	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	826.08	0.17	119.04	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0135	12.19	0.00	0.00	0.00	0.00	0.00	12.19	829.12	0.17	131.06	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0135	12.19	0.00	0.00	0.00	0.00	0.00	12.19	832.66	0.17	143.08	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0155	13.93	0.00	0.00	0.00	0.00	0.00	13.93	836.21	0.17	156.84	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	840.26	0.18	167.11	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0135	12.19	0.00	0.00	0.00	0.00	0.00	12.19	843.29	0.18	179.12	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0155	13.93	0.00	0.00	0.00	0.00	0.00	13.93	846.84	0.18	192.88	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0155	13.93	0.00	0.00	0.00	0.00	0.00	13.93	850.90	0.18	206.63	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0174	15.67	0.00	0.00	0.00	0.00	0.00	15.67	854.95	0.18	222.13	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0174	15.67	0.00	0.00	0.00	0.00	0.00	15.67	859.52	0.18	237.62	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	864.09	0.18	254.86	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	869.18	0.18	272.09	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	874.26	0.18	289.33	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0213	19.16	0.00	0.00	0.00	0.00	0.00	19.16	879.35	0.18	308.30	0.18	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0232	20.90	0.00	0.00	0.00	0.00	0.00	20.90	884.94	0.18	329.01	0.19	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0252	22.64	0.00	0.00	0.00	0.00	0.00	22.64	891.05	0.19	351.47	0.21	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0290	26.12	0.00	0.00	0.00	0.00	0.00	26.12	897.68	0.19	377.40	0.22	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0290	26.12	0.00	0.00	0.00	0.00	0.00	26.12	905.33	0.19	403.34	0.24	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0310	27.86	0.00	0.00	0.00	0.00	0.00	27.86	912.98	0.19	431.01	0.26	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0329	29.61	0.00	0.00	0.00	0.00	0.00	29.61	921.14	0.19	460.42	0.27	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	929.82	0.19	493.32	0.29	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0387	34.83	0.00	0.00	0.00	0.00	0.00	34.83	939.52	0.20	527.95	0.31	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0406	36.57	0.00	0.00	0.00	0.00	0.00	36.57	949.73	0.20	564.32	0.33	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0426	38.31	0.00	0.00	0.00	0.00	0.00	38.31	960.46	0.20	602.44	0.36	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0290	26.12	0.00	0.00	0.00	0.00	0.00	26.12	971.71	0.20	628.36	0.37	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0290	26.12	0.00	0.00	0.00	0.00	0.00	26.12	979.35	0.20	654.28	0.39	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0387	34.83	0.00	0.00	0.00	0.00	0.00	34.83	987.00	0.21	688.90	0.41	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0387	34.83	0.00	0.00	0.00	0.00	0.00	34.83	997.21	0.21	723.52	0.43	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	1007.42	0.21	756.40	0.45	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	1017.12	0.21	789.28	0.47	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0329	29.61	0.00	0.00	0.00	0.00	0.00	29.61	1026.82	0.21	818.67	0.48	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1035.49	0.22	849.80	0.50	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0484	43.54	0.00	0.00	0.00	0.00	0.00	43.54	1044.67	0.22	893.12	0.53	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0503	45.28	0.00	0.00	0.00	0.00	0.00	45.28	1057.45	0.22	938.18	0.56	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0596	53.65	0.00	0.00	0.00	0.00	0.00	53.65	1070.74	0.22	991.61	0.59	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.0862	77.62	0.00	0.00	0.00	0.00	0.00	77.62	1086.50	0.23	1068.99	0.63	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.1902	171.16	0.00	0.00	0.00	0.00	0.00	171.16	1109.33	0.23	1239.92	0.73	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.1973	177.55	0.00	0.00	0.00	0.00	0.00	177.55	1159.75	0.24	1417.23	0.84	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0445	40.05	0.00	0.00	0.00	0.00	0.00	40.05	1212.05	0.25	1457.03	0.86	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0445	40.05	0.00	0.00	0.00	0.00	0.00	40.05	1223.79	0.25	1496.83	0.89	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.0826	74.30	0.00	0.00	0.00	0.00	0.00	74.30	1235.53	0.26	1570.87	0.93	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0699	62.93	0.00	0.00	0.00	0.00	0.00	62.93	1257.37	0.26	1633.54	0.97	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0766	68.90	0.00	0.00	0.00	0.00	0.00	68.90	1275.86	0.27	1702.17	1.01	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0637	57.35	0.00	0.00	0.00	0.00	0.00	57.35	1296.11	0.27	1759.26	1.04	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0508	45.72	0.00	0.00	0.00	0.00	0.00	45.72	1312.95	0.27	1804.71	1.07	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0445	40.05	0.00	0.00	0.00	0.00	0.00	40.05	1326.35	0.28	1844.49	1.09	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	1338.09	0.28	1877.30	1.11	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0368	33.09	0.00	0.00	0.00	0.00	0.00	33.09	1347.76	0.28	1910.10	1.13	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1357.44	0.28	1916.79	1.13	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1359.41	0.28	1923.47	1.14	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1361.38	0.28	1928.41	1.14	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1362.84	0.28	1933.35	1.14	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	1364.30	0.28	1941.77	1.15	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	1366.78	0.28	1950.20	1.15	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0097	8.71	0.00	0.00	0.00	0.00	0.00	8.71	1369.27	0.29	1958.62	1.16	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1371.75	0.29	1965.30	1.16	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1373.72	0.29	1971.98	1.17	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1375.69	0.29	1978.66	1.17	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1377.66	0.29	1983.60	1.17	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1379.12	0.29	1986.79	1.18	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1380.06	0.29	1991.73	1.18	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0077	6.97	0.00	0.00	0.00	0.00	0.00	6.97	1381.52	0.29	1998.41	1.18	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1383.49	0.29	2003.34	1.19	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1384.95	0.29	2006.54	1.19	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1385.89	0.29	2011.47	1.19	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1387.34	0.29	2016.41	1.19	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1388.80	0.29	2021.34	1.20	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1390.26	0.29	2024.54	1.20	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1391.20	0.29	2029.47	1.20	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1392.65	0.29	2032.66	1.20	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1393.59	0.29	2037.60	1.21	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1395.05	0.29	2040.79	1.21	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0058	5.22	0.00	0.00	0.00	0.00	0.00	5.22	1395.99	0.29	2045.72	1.21	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1397.45	0.29	2048.92	1.21	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1398.39	0.29	2052.11	1.21	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1399.33	0.29	2055.30	1.22	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1400.27	0.29	2058.49	1.22	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1401.21	0.29	2061.68	1.22	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1402.15	0.29	2064.87	1.22	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0039	3.48	0.00	0.00	0.00	0.00	0.00	3.48	1403.10	0.29	2068.06	1.22	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1404.04	0.29	2067.77	1.22	0.00	0.00
					Total volume (cf)		2090.08									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=0.41ac+0.09ac typ street frontage=0.50ac

1.14

5/7/2024 LOT 12-FRONT

Drainage Area (ac.)	0.5000	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 2118 s.f. Bot. = 756 s.f. Max. Depth (d)= 3 Max. storage= 4139.39 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.2557	76.71	0.00	0.00	0.00	0.00	0.00	76.71	756.00	0.05	76.66	0.06	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.4161	124.83	0.00	0.00	0.00	0.00	0.00	124.83	781.22	0.05	201.44	0.15	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	0.4598	137.95	0.00	0.00	0.00	0.00	0.00	137.95	822.28	0.06	339.33	0.25	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.4307	129.20	0.00	0.00	0.00	0.00	0.00	129.20	867.65	0.06	468.47	0.34	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	0.6785	203.56	0.00	0.00	0.00	0.00	0.00	203.56	910.14	0.06	671.97	0.49	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	0.7806	234.18	0.00	0.00	0.00	0.00	0.00	234.18	977.10	0.07	906.09	0.66	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	0.9410	282.30	0.00	0.00	0.00	0.00	0.00	282.30	1054.13	0.07	1188.31	0.86	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	1.0285	308.54	0.00	0.00	0.00	0.00	0.00	308.54	1147.00	0.08	1496.78	1.08	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	1.5096	452.89	0.00	0.00	0.00	0.00	0.00	452.89	1248.49	0.09	1949.58	1.41	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	2.2824	684.72	0.00	0.00	0.00	0.00	0.00	684.72	1397.48	0.10	2634.20	1.91	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	2.0637	619.11	0.00	0.00	0.00	0.00	0.00	619.11	1622.74	0.11	3253.20	2.36	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.3286	98.58	0.00	0.00	0.00	0.00	0.00	98.58	1826.41	0.13	3351.66	2.43	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.81	0.13	3351.53	2.43	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.77	0.13	3351.40	2.43	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1858.72	0.13	3351.27	2.43	0.00	0.00	
					Total volume (cf)			3352.59								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	756.00	0.05	7.26	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0244	7.31	0.00	0.00	0.00	0.00	0.00	7.31	758.39	0.05	14.52	0.01	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	760.78	0.05	20.66	0.01	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	762.80	0.05	29.05	0.02	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	765.56	0.05	37.43	0.03	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	768.32	0.05	53.53	0.04	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	773.61	0.05	61.91	0.04	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	776.37	0.05	78.01	0.06	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	781.67	0.05	94.10	0.07	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0281	8.44	0.00	0.00	0.00	0.00	0.00	8.44	786.96	0.05	102.48	0.07	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0300	9.00	0.00	0.00	0.00	0.00	0.00	9.00	789.72	0.05	111.43	0.08	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	792.66	0.06	127.52	0.09	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	797.96	0.06	166.12	0.12	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	810.66	0.06	204.72	0.15	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.1288	38.65	0.00	0.00	0.00	0.00	0.00	38.65	823.36	0.06	243.31	0.18	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	836.06	0.06	270.65	0.20	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.2039	61.16	0.00	0.00	0.00	0.00	0.00	61.16	845.05	0.06	331.75	0.24	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	865.16	0.06	398.48	0.29	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.1664	49.91	0.00	0.00	0.00	0.00	0.00	49.91	887.11	0.06	448.32	0.32	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.2226	66.79	0.00	0.00	0.00	0.00	0.00	66.79	903.51	0.06	515.05	0.37	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.3351	100.54	0.00	0.00	0.00	0.00	0.00	100.54	925.47	0.06	615.53	0.45	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	958.53	0.07	704.75	0.51	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.2601	78.04	0.00	0.00	0.00	0.00	0.00	78.04	987.89	0.07	782.72	0.57	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.2789	83.66	0.00	0.00	0.00	0.00	0.00	83.66	1013.54	0.07	866.32	0.63	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.2976	89.29	0.00	0.00	0.00	0.00	0.00	89.29	1041.05	0.07	955.53	0.69	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	0.5039	151.18	0.00	0.00	0.00	0.00	0.00	151.18	1070.40	0.07	1106.64	0.80	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	0.6540	196.19	0.00	0.00	0.00	0.00	0.00	196.19	1120.12	0.08	1302.76	0.94	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.3727	111.80	0.00	0.00	0.00	0.00	0.00	111.80	1184.65	0.08	1414.48	1.03	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	0.9916	297.47	0.00	0.00	0.00	0.00	0.00	297.47	1221.41	0.08	1711.86	1.24	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	1.0853	325.60	0.00	0.00	0.00	0.00	0.00	325.60	1319.26	0.09	2037.38	1.48	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	1.2541	376.24	0.00	0.00	0.00	0.00	0.00	376.24	1426.37	0.10	2413.52	1.75	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	0.8228	246.83	0.00	0.00	0.00	0.00	0.00	246.83	1550.13	0.11	2660.24	1.93	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.0913	27.40	0.00	0.00	0.00	0.00	0.00	27.40	1631.31	0.11	2687.53	1.95	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1640.29	0.11	2703.56	1.96	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.0538	16.15	0.00	0.00	0.00	0.00	0.00	16.15	1645.56	0.11	2719.60	1.97	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0113	3.38	0.00	0.00	0.00	0.00	0.00	3.38	1650.84	0.11	2722.86	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.91	0.11	2722.74	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.88	0.11	2722.63	1.97	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.84	0.11	2722.51	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.80	0.11	2722.40	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.76	0.11	2722.28	1.97	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.72	0.11	2722.17	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.69	0.11	2722.05	1.97	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.65	0.11	2721.94	1.97	0.00	0.00
					Total volume (cf)		2725.39								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	756.00	0.05	3.39	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	757.11	0.05	7.46	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	758.46	0.05	11.54	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	759.80	0.05	15.61	0.01	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	761.14	0.05	19.69	0.01	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	762.48	0.05	24.45	0.02	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	764.04	0.05	29.21	0.02	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	765.61	0.05	33.97	0.02	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	767.18	0.05	38.73	0.03	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	768.74	0.05	43.50	0.03	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0161	4.82	0.00	0.00	0.00	0.00	0.00	4.82	770.31	0.05	48.26	0.03	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	771.88	0.05	53.71	0.04	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	773.67	0.05	59.16	0.04	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	775.46	0.05	64.61	0.05	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	777.26	0.05	70.05	0.05	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	779.05	0.05	75.50	0.05	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	780.84	0.05	80.95	0.06	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.64	0.05	86.40	0.06	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	784.43	0.05	91.85	0.07	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	786.22	0.05	97.30	0.07	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	788.01	0.05	102.75	0.07	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	789.81	0.05	108.19	0.08	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	791.60	0.05	113.64	0.08	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	793.39	0.06	119.78	0.09	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0183	5.50	0.00	0.00	0.00	0.00	0.00	5.50	795.41	0.06	125.23	0.09	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	797.20	0.06	131.36	0.10	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	799.22	0.06	137.50	0.10	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	801.24	0.06	143.63	0.10	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	803.26	0.06	149.77	0.11	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	805.28	0.06	155.90	0.11	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	807.30	0.06	162.04	0.12	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	809.32	0.06	168.17	0.12	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	811.33	0.06	175.00	0.13	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	813.58	0.06	181.82	0.13	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	815.82	0.06	188.64	0.14	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	818.07	0.06	195.46	0.14	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0229	6.88	0.00	0.00	0.00	0.00	0.00	6.88	820.31	0.06	202.28	0.15	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	822.56	0.06	209.79	0.15	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	825.03	0.06	217.30	0.16	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0252	7.57	0.00	0.00	0.00	0.00	0.00	7.57	827.50	0.06	224.81	0.16	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0275	8.25	0.00	0.00	0.00	0.00	0.00	8.25	829.97	0.06	233.01	0.17	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0298	8.94	0.00	0.00	0.00	0.00	0.00	8.94	832.67	0.06	241.89	0.18	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	835.59	0.06	253.01	0.18	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0372	11.17	0.00	0.00	0.00	0.00	0.00	11.17	839.25	0.06	264.12	0.19	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	842.91	0.06	282.12	0.20	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.0602	18.05	0.00	0.00	0.00	0.00	0.00	18.05	848.83	0.06	300.11	0.22	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	854.75	0.06	324.98	0.24	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.0831	24.93	0.00	0.00	0.00	0.00	0.00	24.93	862.93	0.06	349.86	0.25	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.1060	31.81	0.00	0.00	0.00	0.00	0.00	31.81	871.11	0.06	381.61	0.28	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.1290	38.69	0.00	0.00	0.00	0.00	0.00	38.69	881.56	0.06	420.23	0.30	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	894.27	0.06	465.74	0.34	0.00	0.00

4:20	2	0.91	0.56	N/A	0.3468	0.1748	52.45	0.00	0.00	0.00	0.00	0.00	52.45	909.24	0.06	518.12	0.38	0.00	0.00
4:25	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	926.48	0.06	577.38	0.42	0.00	0.00
4:30	2.1	0.96	0.56	N/A	0.3922	0.1978	59.33	0.00	0.00	0.00	0.00	0.00	59.33	945.98	0.07	636.64	0.46	0.00	0.00
4:35	2.2	1.00	0.56	N/A	0.4377	0.2207	66.20	0.00	0.00	0.00	0.00	0.00	66.20	965.48	0.07	702.78	0.51	0.00	0.00
4:40	2.3	1.05	0.56	N/A	0.4832	0.2436	73.08	0.00	0.00	0.00	0.00	0.00	73.08	987.24	0.07	775.80	0.56	0.00	0.00
4:45	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1011.26	0.07	855.69	0.62	0.00	0.00
4:50	2.4	1.09	0.56	N/A	0.5287	0.2665	79.96	0.00	0.00	0.00	0.00	0.00	79.96	1037.55	0.07	935.58	0.68	0.00	0.00
4:55	2.5	1.14	0.56	N/A	0.5742	0.2895	86.84	0.00	0.00	0.00	0.00	0.00	86.84	1063.84	0.07	1022.35	0.74	0.00	0.00
5:00	2.6	1.18	0.56	N/A	0.6196	0.3124	93.72	0.00	0.00	0.00	0.00	0.00	93.72	1092.39	0.08	1115.99	0.81	0.00	0.00
5:05	3.1	1.41	0.56	N/A	0.8470	0.4270	128.11	0.00	0.00	0.00	0.00	0.00	128.11	1123.20	0.08	1244.03	0.90	0.00	0.00
5:10	3.6	1.64	0.56	N/A	1.0744	0.5417	162.51	0.00	0.00	0.00	0.00	0.00	162.51	1165.33	0.08	1406.45	1.02	0.00	0.00
5:15	3.9	1.77	0.56	N/A	1.2109	0.6105	183.14	0.00	0.00	0.00	0.00	0.00	183.14	1218.77	0.08	1589.51	1.15	0.00	0.00
5:20	4.2	1.91	0.56	N/A	1.3473	0.6793	203.78	0.00	0.00	0.00	0.00	0.00	203.78	1279.00	0.09	1793.21	1.30	0.00	0.00
5:25	4.7	2.14	0.56	N/A	1.5747	0.7939	238.18	0.00	0.00	0.00	0.00	0.00	238.18	1346.03	0.09	2031.29	1.47	0.00	0.00
5:30	5.6	2.55	0.56	N/A	1.9840	1.0003	300.09	0.00	0.00	0.00	0.00	0.00	300.09	1424.36	0.10	2331.28	1.69	0.00	0.00
5:35	1.9	0.86	0.56	N/A	0.3013	0.1519	45.57	0.00	0.00	0.00	0.00	0.00	45.57	1523.07	0.11	2376.74	1.72	0.00	0.00
5:40	0.9	0.41	0.56	0.37	0.0409	0.0206	6.19	0.00	0.00	0.00	0.00	0.00	6.19	1538.03	0.11	2382.82	1.73	0.00	0.00
5:45	0.6	0.27	0.56	0.25	0.0273	0.0138	4.13	0.00	0.00	0.00	0.00	0.00	4.13	1540.03	0.11	2386.84	1.73	0.00	0.00
5:50	0.5	0.23	0.56	0.20	0.0227	0.0115	3.44	0.00	0.00	0.00	0.00	0.00	3.44	1541.35	0.11	2390.18	1.73	0.00	0.00
5:55	0.3	0.14	0.56	0.12	0.0136	0.0069	2.06	0.00	0.00	0.00	0.00	0.00	2.06	1542.45	0.11	2392.13	1.73	0.00	0.00
6:00	0.2	0.09	0.56	0.08	0.0091	0.0046	1.38	0.00	0.00	0.00	0.00	0.00	1.38	1543.09	0.11	2393.40	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.51	0.11	2393.29	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.48	0.11	2393.19	1.73	0.00	0.00
6:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.44	0.11	2393.08	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.40	0.11	2392.97	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.37	0.11	2392.86	1.73	0.00	0.00
6:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.33	0.11	2392.76	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.30	0.11	2392.65	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.26	0.11	2392.54	1.73	0.00	0.00
6:45	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.23	0.11	2392.44	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.19	0.11	2392.33	1.73	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.16	0.11	2392.22	1.73	0.00	0.00
7:00	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1543.12	0.11	2392.11	1.73	0.00	0.00
					Total volume (cf)		2398.03								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	756.00	0.16	1.68	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	756.55	0.16	4.27	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	757.40	0.16	6.86	0.00	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	758.26	0.16	10.37	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	759.41	0.16	12.96	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	760.26	0.16	15.55	0.01	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	761.12	0.16	18.14	0.01	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	761.97	0.16	21.65	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	763.12	0.16	25.16	0.02	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	764.28	0.16	28.66	0.02	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	765.43	0.16	33.09	0.02	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	766.89	0.16	37.51	0.03	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	768.34	0.16	41.93	0.03	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	769.80	0.16	46.36	0.03	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	771.25	0.16	50.78	0.04	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	772.71	0.16	56.12	0.04	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	774.46	0.16	61.45	0.04	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	776.22	0.16	67.71	0.05	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	778.28	0.16	73.96	0.05	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	780.34	0.16	81.13	0.06	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0061	5.50	0.00	0.00	0.00	0.00	0.00	5.50	782.70	0.16	86.47	0.06	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0071	6.42	0.00	0.00	0.00	0.00	0.00	6.42	784.45	0.16	92.72	0.07	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	786.51	0.16	99.89	0.07	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0081	7.33	0.00	0.00	0.00	0.00	0.00	7.33	788.87	0.16	107.06	0.08	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	791.23	0.16	115.14	0.08	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0092	8.25	0.00	0.00	0.00	0.00	0.00	8.25	793.89	0.17	123.23	0.09	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	796.55	0.17	132.23	0.10	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	799.51	0.17	141.23	0.10	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0102	9.17	0.00	0.00	0.00	0.00	0.00	9.17	802.47	0.17	150.22	0.11	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0112	10.08	0.00	0.00	0.00	0.00	0.00	10.08	805.43	0.17	160.14	0.12	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0122	11.00	0.00	0.00	0.00	0.00	0.00	11.00	808.69	0.17	170.97	0.12	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0132	11.92	0.00	0.00	0.00	0.00	0.00	11.92	812.25	0.17	182.72	0.13	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	816.12	0.17	196.29	0.14	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	820.59	0.17	209.87	0.15	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0163	14.67	0.00	0.00	0.00	0.00	0.00	14.67	825.06	0.17	224.37	0.16	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	829.82	0.17	239.77	0.17	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	834.89	0.17	257.02	0.19	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	840.57	0.18	275.17	0.20	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0214	19.25	0.00	0.00	0.00	0.00	0.00	19.25	846.54	0.18	294.24	0.21	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0224	20.16	0.00	0.00	0.00	0.00	0.00	20.16	852.82	0.18	314.23	0.23	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	859.39	0.18	327.80	0.24	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0153	13.75	0.00	0.00	0.00	0.00	0.00	13.75	863.86	0.18	341.37	0.25	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	868.32	0.18	359.52	0.26	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0204	18.33	0.00	0.00	0.00	0.00	0.00	18.33	874.29	0.18	377.67	0.27	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	880.27	0.18	394.90	0.29	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	885.94	0.18	412.13	0.30	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0173	15.58	0.00	0.00	0.00	0.00	0.00	15.58	891.60	0.19	427.53	0.31	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0183	16.50	0.00	0.00	0.00	0.00	0.00	16.50	896.67	0.19	443.84	0.32	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0255	22.91	0.00	0.00	0.00	0.00	0.00	22.91	902.04	0.19	466.56	0.34	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0265	23.83	0.00	0.00	0.00	0.00	0.00	23.83	909.52	0.19	490.21	0.36	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0314	28.24	0.00	0.00	0.00	0.00	0.00	28.24	917.29	0.19	518.25	0.38	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.0454	40.85	0.00	0.00	0.00	0.00	0.00	40.85	926.52	0.19	558.91	0.41	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.1001	90.08	0.00	0.00	0.00	0.00	0.00	90.08	939.90	0.20	648.80	0.47	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.1038	93.45	0.00	0.00	0.00	0.00	0.00	93.45	969.48	0.20	742.04	0.54	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1000.16	0.21	762.91	0.55	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1007.02	0.21	783.78	0.57	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0435	39.11	0.00	0.00	0.00	0.00	0.00	39.11	1013.89	0.21	822.68	0.60	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0368	33.12	0.00	0.00	0.00	0.00	0.00	33.12	1026.69	0.21	855.59	0.62	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0403	36.26	0.00	0.00	0.00	0.00	0.00	36.26	1037.52	0.22	891.63	0.65	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0335	30.19	0.00	0.00	0.00	0.00	0.00	30.19	1049.38	0.22	921.60	0.67	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0267	24.07	0.00	0.00	0.00	0.00	0.00	24.07	1059.24	0.22	945.45	0.69	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0234	21.08	0.00	0.00	0.00	0.00	0.00	21.08	1067.08	0.22	966.30	0.70	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1073.95	0.22	983.50	0.71	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0193	17.41	0.00	0.00	0.00	0.00	0.00	17.41	1079.60	0.22	1000.69	0.73	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1085.26	0.23	1004.13	0.73	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1086.39	0.23	1007.57	0.73	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1087.52	0.23	1010.09	0.73	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1088.35	0.23	1012.61	0.73	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1089.18	0.23	1016.97	0.74	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1090.62	0.23	1021.32	0.74	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0051	4.58	0.00	0.00	0.00	0.00	0.00	4.58	1092.05	0.23	1025.68	0.74	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1093.48	0.23	1029.12	0.75	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1094.61	0.23	1032.56	0.75	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1095.75	0.23	1035.99	0.75	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1096.88	0.23	1038.51	0.75	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1097.71	0.23	1040.12	0.75	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1098.23	0.23	1042.64	0.76	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0041	3.67	0.00	0.00	0.00	0.00	0.00	3.67	1099.06	0.23	1046.08	0.76	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1100.20	0.23	1048.60	0.76	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1101.02	0.23	1050.20	0.76	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1101.55	0.23	1052.72	0.76	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1102.38	0.23	1055.24	0.76	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1103.21	0.23	1057.76	0.77	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1104.04	0.23	1059.37	0.77	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1104.57	0.23	1061.88	0.77	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1105.40	0.23	1063.49	0.77	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1105.92	0.23	1066.01	0.77	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1106.75	0.23	1067.61	0.77	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0031	2.75	0.00	0.00	0.00	0.00	0.00	2.75	1107.28	0.23	1070.13	0.78	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.11	0.23	1071.73	0.78	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1108.64	0.23	1073.33	0.78	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.16	0.23	1074.94	0.78	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1109.69	0.23	1076.54	0.78	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.22	0.23	1078.14	0.78	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1110.74	0.23	1079.74	0.78	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0020	1.83	0.00	0.00	0.00	0.00	0.00	1.83	1111.27	0.23	1081.34	0.78	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1111.80	0.23	1081.11	0.78	0.00	0.00
						Total volume (cf)		1100.04									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.14ac

5/7/2024 LOT 12-BACK

Drainage Area (ac.)	1.1400	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3132 s.f. Bot. = 947 s.f. Max. Depth (d)= 4 Max. storage= 7734.95 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5830	174.91	0.00	0.00	0.00	0.00	0.00	174.91	947.00	0.07	174.84	0.09	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9487	284.61	0.00	0.00	0.00	0.00	0.00	284.61	996.39	0.07	459.38	0.24	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0484	314.53	0.00	0.00	0.00	0.00	0.00	314.53	1076.77	0.07	773.84	0.40	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9819	294.58	0.00	0.00	0.00	0.00	0.00	294.58	1165.60	0.08	1068.34	0.55	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.5471	464.13	0.00	0.00	0.00	0.00	0.00	464.13	1248.79	0.09	1532.38	0.79	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.7798	533.94	0.00	0.00	0.00	0.00	0.00	533.94	1379.87	0.10	2066.22	1.07	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.1455	643.64	0.00	0.00	0.00	0.00	0.00	643.64	1530.67	0.11	2709.75	1.40	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.3449	703.48	0.00	0.00	0.00	0.00	0.00	703.48	1712.46	0.12	3413.11	1.77	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.4420	1032.59	0.00	0.00	0.00	0.00	0.00	1032.59	1911.15	0.13	4445.57	2.30	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.2039	1561.16	0.00	0.00	0.00	0.00	0.00	1561.16	2202.80	0.15	6006.58	3.11	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.7052	1411.57	0.00	0.00	0.00	0.00	0.00	1411.57	2643.76	0.18	7417.96	3.84	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7492	224.77	0.00	0.00	0.00	0.00	0.00	224.77	3042.46	0.21	7642.52	3.95	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3105.89	0.22	7642.31	3.95	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3105.83	0.22	7642.09	3.95	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3105.77	0.22	7641.87	3.95	0.00	0.00	
					Total volume (cf)			7643.90								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0556	16.68	0.00	0.00	0.00	0.00	0.00	16.68	947.00	0.07	16.61	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0556	16.68	0.00	0.00	0.00	0.00	0.00	16.68	951.69	0.07	33.22	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0470	14.11	0.00	0.00	0.00	0.00	0.00	14.11	956.38	0.07	47.27	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0641	19.24	0.00	0.00	0.00	0.00	0.00	19.24	960.35	0.07	66.44	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0641	19.24	0.00	0.00	0.00	0.00	0.00	19.24	965.77	0.07	85.62	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	971.19	0.07	122.37	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0641	19.24	0.00	0.00	0.00	0.00	0.00	19.24	981.57	0.07	141.54	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	986.98	0.07	178.29	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	997.36	0.07	215.03	0.11	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0641	19.24	0.00	0.00	0.00	0.00	0.00	19.24	1007.74	0.07	234.20	0.12	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0684	20.53	0.00	0.00	0.00	0.00	0.00	20.53	1013.16	0.07	254.66	0.13	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	1018.94	0.07	291.40	0.15	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2938	88.13	0.00	0.00	0.00	0.00	0.00	88.13	1029.32	0.07	379.46	0.20	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2938	88.13	0.00	0.00	0.00	0.00	0.00	88.13	1054.19	0.07	467.52	0.24	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2938	88.13	0.00	0.00	0.00	0.00	0.00	88.13	1079.07	0.07	555.57	0.29	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2082	62.47	0.00	0.00	0.00	0.00	0.00	62.47	1103.94	0.08	617.96	0.32	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4648	139.44	0.00	0.00	0.00	0.00	0.00	139.44	1121.57	0.08	757.33	0.39	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.5076	152.27	0.00	0.00	0.00	0.00	0.00	152.27	1160.93	0.08	909.52	0.47	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3793	113.79	0.00	0.00	0.00	0.00	0.00	113.79	1203.92	0.08	1023.22	0.53	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.5076	152.27	0.00	0.00	0.00	0.00	0.00	152.27	1236.04	0.09	1175.41	0.61	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7641	229.24	0.00	0.00	0.00	0.00	0.00	229.24	1279.03	0.09	1404.56	0.73	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6786	203.58	0.00	0.00	0.00	0.00	0.00	203.58	1343.77	0.09	1608.05	0.83	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5931	177.93	0.00	0.00	0.00	0.00	0.00	177.93	1401.25	0.10	1785.88	0.92	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6359	190.76	0.00	0.00	0.00	0.00	0.00	190.76	1451.48	0.10	1976.53	1.02	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6786	203.58	0.00	0.00	0.00	0.00	0.00	203.58	1505.34	0.10	2180.01	1.13	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1490	344.70	0.00	0.00	0.00	0.00	0.00	344.70	1562.82	0.11	2524.60	1.31	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.4911	447.32	0.00	0.00	0.00	0.00	0.00	447.32	1660.16	0.12	2971.81	1.54	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8497	254.90	0.00	0.00	0.00	0.00	0.00	254.90	1786.49	0.12	3226.58	1.67	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.2608	678.24	0.00	0.00	0.00	0.00	0.00	678.24	1858.46	0.13	3904.69	2.02	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.4746	742.38	0.00	0.00	0.00	0.00	0.00	742.38	2050.01	0.14	4646.93	2.40	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.8594	857.83	0.00	0.00	0.00	0.00	0.00	857.83	2259.68	0.16	5504.60	2.85	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.8759	562.78	0.00	0.00	0.00	0.00	0.00	562.78	2501.96	0.17	6067.21	3.14	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2082	62.47	0.00	0.00	0.00	0.00	0.00	62.47	2660.89	0.18	6129.50	3.17	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	2678.49	0.19	6166.13	3.19	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1227	36.81	0.00	0.00	0.00	0.00	0.00	36.81	2688.83	0.19	6202.75	3.21	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0257	7.70	0.00	0.00	0.00	0.00	0.00	7.70	2699.18	0.19	6210.26	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.30	0.19	6210.08	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.25	0.19	6209.89	3.21	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.20	0.19	6209.70	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.14	0.19	6209.51	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.09	0.19	6209.33	3.21	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2701.04	0.19	6209.14	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2700.98	0.19	6208.95	3.21	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2700.93	0.19	6208.76	3.21	0.00	0.00
					Total volume (cf)		6213.88								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	947.00	0.07	7.78	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	949.20	0.07	17.12	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	951.84	0.07	26.46	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	954.48	0.07	35.81	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	957.12	0.07	45.15	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	959.75	0.07	56.06	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	962.84	0.07	66.98	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	965.92	0.07	77.89	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	969.00	0.07	88.80	0.05	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	972.08	0.07	99.71	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0366	10.98	0.00	0.00	0.00	0.00	0.00	10.98	975.17	0.07	110.62	0.06	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	978.25	0.07	123.10	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	981.77	0.07	135.58	0.07	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	985.30	0.07	148.06	0.08	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	988.82	0.07	160.54	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	992.35	0.07	173.01	0.09	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	995.87	0.07	185.49	0.10	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	999.40	0.07	197.97	0.10	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1002.92	0.07	210.45	0.11	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1006.45	0.07	222.92	0.12	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1009.97	0.07	235.40	0.12	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1013.50	0.07	247.88	0.13	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1017.02	0.07	260.35	0.13	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1020.55	0.07	274.40	0.14	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0418	12.55	0.00	0.00	0.00	0.00	0.00	12.55	1024.51	0.07	286.87	0.15	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1028.04	0.07	300.92	0.16	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1032.00	0.07	314.96	0.16	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1035.97	0.07	329.01	0.17	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1039.94	0.07	343.05	0.18	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1043.91	0.07	357.09	0.18	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1047.87	0.07	371.13	0.19	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	1051.84	0.07	385.18	0.20	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1055.81	0.07	400.79	0.21	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1060.22	0.07	416.40	0.22	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1064.63	0.07	432.01	0.22	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1069.04	0.07	447.62	0.23	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0523	15.68	0.00	0.00	0.00	0.00	0.00	15.68	1073.44	0.07	463.23	0.24	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0575	17.25	0.00	0.00	0.00	0.00	0.00	17.25	1077.85	0.07	480.40	0.25	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0575	17.25	0.00	0.00	0.00	0.00	0.00	17.25	1082.71	0.08	497.58	0.26	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0575	17.25	0.00	0.00	0.00	0.00	0.00	17.25	1087.56	0.08	514.76	0.27	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0627	18.82	0.00	0.00	0.00	0.00	0.00	18.82	1092.41	0.08	533.50	0.28	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0680	20.39	0.00	0.00	0.00	0.00	0.00	20.39	1097.71	0.08	553.81	0.29	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0849	25.48	0.00	0.00	0.00	0.00	0.00	25.48	1103.44	0.08	579.21	0.30	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0849	25.48	0.00	0.00	0.00	0.00	0.00	25.48	1110.62	0.08	604.61	0.31	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1372	41.16	0.00	0.00	0.00	0.00	0.00	41.16	1117.79	0.08	645.70	0.33	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1372	41.16	0.00	0.00	0.00	0.00	0.00	41.16	1129.40	0.08	686.78	0.36	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1895	56.84	0.00	0.00	0.00	0.00	0.00	56.84	1141.00	0.08	743.54	0.38	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1895	56.84	0.00	0.00	0.00	0.00	0.00	56.84	1157.04	0.08	800.30	0.41	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2418	72.53	0.00	0.00	0.00	0.00	0.00	72.53	1173.07	0.08	872.75	0.45	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2940	88.21	0.00	0.00	0.00	0.00	0.00	88.21	1193.54	0.08	960.88	0.50	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3463	103.90	0.00	0.00	0.00	0.00	0.00	103.90	1218.43	0.08	1064.69	0.55	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3986	119.58	0.00	0.00	0.00	0.00	0.00	119.58	1247.76	0.09	1184.18	0.61	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4509	135.26	0.00	0.00	0.00	0.00	0.00	135.26	1281.51	0.09	1319.35	0.68	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4509	135.26	0.00	0.00	0.00	0.00	0.00	135.26	1319.70	0.09	1454.53	0.75	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.5032	150.95	0.00	0.00	0.00	0.00	0.00	150.95	1357.88	0.09	1605.38	0.83	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5554	166.63	0.00	0.00	0.00	0.00	0.00	166.63	1400.49	0.10	1771.91	0.92	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.6077	182.31	0.00	0.00	0.00	0.00	0.00	182.31	1447.54	0.10	1954.12	1.01	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.6077	182.31	0.00	0.00	0.00	0.00	0.00	182.31	1499.01	0.10	2136.33	1.10	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6600	198.00	0.00	0.00	0.00	0.00	0.00	198.00	1550.48	0.11	2334.22	1.21	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.7123	213.68	0.00	0.00	0.00	0.00	0.00	213.68	1606.38	0.11	2547.79	1.32	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9737	292.10	0.00	0.00	0.00	0.00	0.00	292.10	1666.71	0.12	2839.78	1.47	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2351	370.52	0.00	0.00	0.00	0.00	0.00	370.52	1749.19	0.12	3210.18	1.66	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3919	417.57	0.00	0.00	0.00	0.00	0.00	417.57	1853.82	0.13	3627.62	1.88	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.5487	464.62	0.00	0.00	0.00	0.00	0.00	464.62	1971.74	0.14	4092.10	2.12	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.8101	543.04	0.00	0.00	0.00	0.00	0.00	543.04	2102.95	0.15	4635.00	2.40	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.2806	684.19	0.00	0.00	0.00	0.00	0.00	684.19	2256.31	0.16	5319.04	2.75	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3463	103.90	0.00	0.00	0.00	0.00	0.00	103.90	2449.54	0.17	5422.76	2.80	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0471	14.12	0.00	0.00	0.00	0.00	0.00	14.12	2478.84	0.17	5436.70	2.81	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0314	9.41	0.00	0.00	0.00	0.00	0.00	9.41	2482.78	0.17	5445.94	2.82	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0261	7.84	0.00	0.00	0.00	0.00	0.00	7.84	2485.39	0.17	5453.61	2.82	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0157	4.71	0.00	0.00	0.00	0.00	0.00	4.71	2487.56	0.17	5458.14	2.82	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0105	3.14	0.00	0.00	0.00	0.00	0.00	3.14	2488.84	0.17	5461.11	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.68	0.17	5460.93	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.63	0.17	5460.76	2.82	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.58	0.17	5460.59	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.53	0.17	5460.42	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.48	0.17	5460.24	2.82	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.43	0.17	5460.07	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.38	0.17	5459.90	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.33	0.17	5459.72	2.82	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.29	0.17	5459.55	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.24	0.17	5459.38	2.82	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.19	0.17	5459.21	2.82	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2489.14	0.17	5459.03	2.82	0.00	0.00
					Total volume (cf)			5467.51								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Loss Rate Value Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	947.00	0.20	3.98	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	948.12	0.20	10.05	0.01	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	949.84	0.20	16.13	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	951.56	0.20	24.29	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	953.86	0.20	30.36	0.02	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	955.58	0.20	36.43	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	957.29	0.20	42.50	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	959.00	0.20	50.66	0.03	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	961.31	0.20	58.82	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	963.61	0.20	66.97	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	965.92	0.20	77.22	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	968.81	0.20	87.47	0.05	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	971.71	0.20	97.72	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	974.60	0.20	107.96	0.06	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	977.50	0.20	118.21	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0139	12.54	0.00	0.00	0.00	0.00	0.00	12.54	980.39	0.20	130.54	0.07	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0139	12.54	0.00	0.00	0.00	0.00	0.00	12.54	983.88	0.20	142.87	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0163	14.63	0.00	0.00	0.00	0.00	0.00	14.63	987.36	0.21	157.30	0.08	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0163	14.63	0.00	0.00	0.00	0.00	0.00	14.63	991.43	0.21	171.72	0.09	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0186	16.72	0.00	0.00	0.00	0.00	0.00	16.72	995.51	0.21	188.23	0.10	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0139	12.54	0.00	0.00	0.00	0.00	0.00	12.54	1000.17	0.21	200.56	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0163	14.63	0.00	0.00	0.00	0.00	0.00	14.63	1003.66	0.21	214.98	0.11	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0186	16.72	0.00	0.00	0.00	0.00	0.00	16.72	1007.73	0.21	231.49	0.12	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0186	16.72	0.00	0.00	0.00	0.00	0.00	16.72	1012.39	0.21	248.00	0.13	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0209	18.81	0.00	0.00	0.00	0.00	0.00	18.81	1017.06	0.21	266.59	0.14	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0209	18.81	0.00	0.00	0.00	0.00	0.00	18.81	1022.31	0.21	285.19	0.15	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0232	20.90	0.00	0.00	0.00	0.00	0.00	20.90	1027.56	0.21	305.87	0.16	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0232	20.90	0.00	0.00	0.00	0.00	0.00	20.90	1033.40	0.22	326.55	0.17	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0232	20.90	0.00	0.00	0.00	0.00	0.00	20.90	1039.25	0.22	347.24	0.18	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0255	22.99	0.00	0.00	0.00	0.00	0.00	22.99	1045.09	0.22	370.01	0.19	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0279	25.08	0.00	0.00	0.00	0.00	0.00	25.08	1051.52	0.22	394.86	0.20	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0302	27.17	0.00	0.00	0.00	0.00	0.00	27.17	1058.54	0.22	421.81	0.22	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1066.15	0.22	452.94	0.23	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1074.95	0.22	484.06	0.25	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0372	33.44	0.00	0.00	0.00	0.00	0.00	33.44	1083.74	0.23	517.27	0.27	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0395	35.53	0.00	0.00	0.00	0.00	0.00	35.53	1093.12	0.23	552.57	0.29	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1103.09	0.23	592.04	0.31	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0464	41.80	0.00	0.00	0.00	0.00	0.00	41.80	1114.24	0.23	633.61	0.33	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0488	43.89	0.00	0.00	0.00	0.00	0.00	43.89	1125.98	0.23	677.26	0.35	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0511	45.98	0.00	0.00	0.00	0.00	0.00	45.98	1138.31	0.24	723.00	0.37	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1151.24	0.24	754.10	0.39	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0348	31.35	0.00	0.00	0.00	0.00	0.00	31.35	1160.02	0.24	785.21	0.41	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0464	41.80	0.00	0.00	0.00	0.00	0.00	41.80	1168.81	0.24	826.76	0.43	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0464	41.80	0.00	0.00	0.00	0.00	0.00	41.80	1180.55	0.25	868.31	0.45	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1192.28	0.25	907.77	0.47	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1203.43	0.25	947.22	0.49	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0395	35.53	0.00	0.00	0.00	0.00	0.00	35.53	1214.58	0.25	982.50	0.51	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0418	37.62	0.00	0.00	0.00	0.00	0.00	37.62	1224.54	0.26	1019.86	0.53	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0580	52.24	0.00	0.00	0.00	0.00	0.00	52.24	1235.09	0.26	1071.85	0.55	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0604	54.33	0.00	0.00	0.00	0.00	0.00	54.33	1249.78	0.26	1125.92	0.58	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0715	64.38	0.00	0.00	0.00	0.00	0.00	64.38	1265.05	0.26	1190.04	0.62	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.1035	93.14	0.00	0.00	0.00	0.00	0.00	93.14	1283.17	0.27	1282.91	0.66	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2282	205.39	0.00	0.00	0.00	0.00	0.00	205.39	1309.40	0.27	1488.03	0.77	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2367	213.06	0.00	0.00	0.00	0.00	0.00	213.06	1367.34	0.28	1700.80	0.88	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0534	48.07	0.00	0.00	0.00	0.00	0.00	48.07	1427.45	0.30	1748.57	0.90	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0534	48.07	0.00	0.00	0.00	0.00	0.00	48.07	1440.94	0.30	1796.33	0.93	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0991	89.16	0.00	0.00	0.00	0.00	0.00	89.16	1454.44	0.30	1885.19	0.97	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0839	75.52	0.00	0.00	0.00	0.00	0.00	75.52	1479.54	0.31	1960.40	1.01	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0919	82.67	0.00	0.00	0.00	0.00	0.00	82.67	1500.78	0.31	2042.76	1.06	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0765	68.83	0.00	0.00	0.00	0.00	0.00	68.83	1524.05	0.32	2111.27	1.09	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0610	54.87	0.00	0.00	0.00	0.00	0.00	54.87	1543.40	0.32	2165.82	1.12	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0534	48.07	0.00	0.00	0.00	0.00	0.00	48.07	1558.81	0.32	2213.56	1.14	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1572.30	0.33	2252.94	1.17	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0441	39.71	0.00	0.00	0.00	0.00	0.00	39.71	1583.42	0.33	2292.31	1.19	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1594.54	0.33	2300.34	1.19	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1596.81	0.33	2308.37	1.19	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1599.08	0.33	2314.30	1.20	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1600.75	0.33	2320.24	1.20	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	1602.43	0.33	2330.35	1.21	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	1605.29	0.33	2340.47	1.21	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0116	10.45	0.00	0.00	0.00	0.00	0.00	10.45	1608.15	0.34	2350.58	1.22	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1611.00	0.34	2358.61	1.22	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1613.27	0.34	2366.63	1.22	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1615.54	0.34	2374.65	1.23	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1617.80	0.34	2380.58	1.23	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1619.48	0.34	2384.43	1.23	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1620.56	0.34	2390.36	1.24	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0093	8.36	0.00	0.00	0.00	0.00	0.00	8.36	1622.24	0.34	2398.38	1.24	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1624.50	0.34	2404.31	1.24	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1626.18	0.34	2408.15	1.25	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1627.26	0.34	2414.08	1.25	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1628.94	0.34	2420.01	1.25	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1630.61	0.34	2425.94	1.25	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1632.29	0.34	2429.78	1.26	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1633.37	0.34	2435.71	1.26	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1635.05	0.34	2439.55	1.26	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1636.13	0.34	2445.48	1.26	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1637.81	0.34	2449.32	1.27	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0070	6.27	0.00	0.00	0.00	0.00	0.00	6.27	1638.89	0.34	2455.24	1.27	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1640.57	0.34	2459.08	1.27	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1641.65	0.34	2462.92	1.27	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1642.74	0.34	2466.76	1.28	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1643.82	0.34	2470.59	1.28	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1644.90	0.34	2474.43	1.28	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1645.99	0.34	2478.27	1.28	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0046	4.18	0.00	0.00	0.00	0.00	0.00	4.18	1647.07	0.34	2482.10	1.28	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1648.15	0.34	2481.76	1.28	0.00	0.00
						Total volume (cf)		2508.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.03ac+0.09ac typ street frontage=1.12ac

5/7/2024 LOTs 13-15

Drainage Area (ac.)	1.1200	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)	26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE			
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5728	171.84	0.00	0.00	0.00	0.00	0.00	171.84	1078.00	0.07	171.76	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9321	279.62	0.00	0.00	0.00	0.00	0.00	279.62	1122.95	0.08	451.30	0.22	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0300	309.01	0.00	0.00	0.00	0.00	0.00	309.01	1196.10	0.08	760.23	0.37	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9647	289.42	0.00	0.00	0.00	0.00	0.00	289.42	1276.94	0.09	1049.56	0.51	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.5199	455.98	0.00	0.00	0.00	0.00	0.00	455.98	1352.65	0.09	1505.45	0.73	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.7486	524.57	0.00	0.00	0.00	0.00	0.00	524.57	1471.95	0.10	2029.91	0.99	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.1078	632.35	0.00	0.00	0.00	0.00	0.00	632.35	1609.20	0.11	2662.15	1.29	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.3038	691.14	0.00	0.00	0.00	0.00	0.00	691.14	1774.65	0.12	3353.16	1.63	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.3816	1014.47	0.00	0.00	0.00	0.00	0.00	1014.47	1955.48	0.14	4367.50	2.12	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.1126	1533.77	0.00	0.00	0.00	0.00	0.00	1533.77	2220.92	0.15	5901.12	2.87	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.6227	1386.80	0.00	0.00	0.00	0.00	0.00	1386.80	2622.24	0.18	7287.74	3.54	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7361	220.83	0.00	0.00	0.00	0.00	0.00	220.83	2985.10	0.21	7508.36	3.65	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3042.84	0.21	7508.15	3.65	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3042.78	0.21	7507.94	3.65	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3042.73	0.21	7507.73	3.65	0.00	0.00	
					Total volume (cf)			7509.80								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0546	16.38	0.00	0.00	0.00	0.00	0.00	16.38	1078.00	0.07	16.31	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0546	16.38	0.00	0.00	0.00	0.00	0.00	16.38	1082.27	0.08	32.62	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0462	13.86	0.00	0.00	0.00	0.00	0.00	13.86	1086.54	0.08	46.41	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0630	18.91	0.00	0.00	0.00	0.00	0.00	18.91	1090.14	0.08	65.24	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0630	18.91	0.00	0.00	0.00	0.00	0.00	18.91	1095.07	0.08	84.07	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	1100.00	0.08	120.16	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0630	18.91	0.00	0.00	0.00	0.00	0.00	18.91	1109.44	0.08	138.99	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	1114.37	0.08	175.08	0.09	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	1123.82	0.08	211.17	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0630	18.91	0.00	0.00	0.00	0.00	0.00	18.91	1133.26	0.08	229.99	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0672	20.17	0.00	0.00	0.00	0.00	0.00	20.17	1138.19	0.08	250.08	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	1143.44	0.08	286.17	0.14	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	1152.89	0.08	372.67	0.18	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	1175.52	0.08	459.17	0.22	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2886	86.58	0.00	0.00	0.00	0.00	0.00	86.58	1198.16	0.08	545.67	0.26	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2046	61.38	0.00	0.00	0.00	0.00	0.00	61.38	1220.80	0.08	606.96	0.29	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4567	137.00	0.00	0.00	0.00	0.00	0.00	137.00	1236.83	0.09	743.87	0.36	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4987	149.60	0.00	0.00	0.00	0.00	0.00	149.60	1272.66	0.09	893.38	0.43	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3726	111.79	0.00	0.00	0.00	0.00	0.00	111.79	1311.79	0.09	1005.08	0.49	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4987	149.60	0.00	0.00	0.00	0.00	0.00	149.60	1341.02	0.09	1154.59	0.56	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7507	225.22	0.00	0.00	0.00	0.00	0.00	225.22	1380.14	0.10	1379.71	0.67	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6667	200.01	0.00	0.00	0.00	0.00	0.00	200.01	1439.05	0.10	1579.62	0.77	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5827	174.81	0.00	0.00	0.00	0.00	0.00	174.81	1491.37	0.10	1754.33	0.85	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6247	187.41	0.00	0.00	0.00	0.00	0.00	187.41	1537.08	0.11	1941.63	0.94	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6667	200.01	0.00	0.00	0.00	0.00	0.00	200.01	1586.10	0.11	2141.53	1.04	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1288	338.65	0.00	0.00	0.00	0.00	0.00	338.65	1638.41	0.11	2480.07	1.20	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.4649	439.48	0.00	0.00	0.00	0.00	0.00	439.48	1727.00	0.12	2919.42	1.42	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8348	250.43	0.00	0.00	0.00	0.00	0.00	250.43	1841.97	0.13	3169.72	1.54	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.2211	666.34	0.00	0.00	0.00	0.00	0.00	666.34	1907.47	0.13	3835.93	1.86	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.4312	729.35	0.00	0.00	0.00	0.00	0.00	729.35	2081.81	0.14	4565.14	2.22	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.8093	842.78	0.00	0.00	0.00	0.00	0.00	842.78	2272.63	0.16	5407.76	2.63	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.8430	552.91	0.00	0.00	0.00	0.00	0.00	552.91	2493.14	0.17	5960.50	2.89	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2046	61.38	0.00	0.00	0.00	0.00	0.00	61.38	2637.78	0.18	6021.69	2.92	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	2653.79	0.18	6057.67	2.94	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1206	36.17	0.00	0.00	0.00	0.00	0.00	36.17	2663.21	0.18	6093.66	2.96	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0252	7.56	0.00	0.00	0.00	0.00	0.00	7.56	2672.63	0.19	6101.03	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.56	0.19	6100.85	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.51	0.19	6100.66	2.96	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.46	0.19	6100.48	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.41	0.19	6100.29	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.36	0.19	6100.10	2.96	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.31	0.19	6099.92	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.27	0.19	6099.73	2.96	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2674.22	0.19	6099.55	2.96	0.00	0.00
					Total volume (cf)		6104.87								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0257	7.70	0.00	0.00	0.00	0.00	0.00	7.70	1078.00	0.07	7.63	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	1080.00	0.07	16.80	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	1082.40	0.08	25.97	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	1084.80	0.08	35.14	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	1087.20	0.08	44.31	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1089.60	0.08	55.02	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1092.40	0.08	65.73	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1095.20	0.08	76.44	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1098.00	0.08	87.15	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1100.81	0.08	97.86	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0360	10.79	0.00	0.00	0.00	0.00	0.00	10.79	1103.61	0.08	108.57	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1106.41	0.08	120.82	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1109.62	0.08	133.07	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1112.82	0.08	145.32	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1116.03	0.08	157.57	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1119.23	0.08	169.82	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1122.44	0.08	182.07	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1125.64	0.08	194.31	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1128.85	0.08	206.56	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1132.05	0.08	218.81	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1135.26	0.08	231.06	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1138.47	0.08	243.31	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1141.67	0.08	255.55	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1144.88	0.08	269.34	0.13	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0411	12.33	0.00	0.00	0.00	0.00	0.00	12.33	1148.48	0.08	281.59	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1151.69	0.08	295.38	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1155.30	0.08	309.17	0.15	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1158.90	0.08	322.95	0.16	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1162.51	0.08	336.74	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1166.12	0.08	350.53	0.17	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1169.73	0.08	364.31	0.18	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	1173.34	0.08	378.10	0.18	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1176.94	0.08	393.43	0.19	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1180.95	0.08	408.75	0.20	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1184.97	0.08	424.08	0.21	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1188.98	0.08	439.41	0.21	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0514	15.41	0.00	0.00	0.00	0.00	0.00	15.41	1192.99	0.08	454.73	0.22	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0565	16.95	0.00	0.00	0.00	0.00	0.00	16.95	1197.00	0.08	471.60	0.23	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0565	16.95	0.00	0.00	0.00	0.00	0.00	16.95	1201.41	0.08	488.46	0.24	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0565	16.95	0.00	0.00	0.00	0.00	0.00	16.95	1205.82	0.08	505.33	0.25	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0616	18.49	0.00	0.00	0.00	0.00	0.00	18.49	1210.24	0.08	523.74	0.25	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0668	20.03	0.00	0.00	0.00	0.00	0.00	20.03	1215.05	0.08	543.68	0.26	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0834	25.03	0.00	0.00	0.00	0.00	0.00	25.03	1220.27	0.08	568.63	0.28	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0834	25.03	0.00	0.00	0.00	0.00	0.00	25.03	1226.80	0.09	593.57	0.29	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1348	40.44	0.00	0.00	0.00	0.00	0.00	40.44	1233.33	0.09	633.92	0.31	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1348	40.44	0.00	0.00	0.00	0.00	0.00	40.44	1243.89	0.09	674.27	0.33	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1862	55.85	0.00	0.00	0.00	0.00	0.00	55.85	1254.45	0.09	730.03	0.35	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1862	55.85	0.00	0.00	0.00	0.00	0.00	55.85	1269.04	0.09	785.79	0.38	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2375	71.26	0.00	0.00	0.00	0.00	0.00	71.26	1283.63	0.09	856.96	0.42	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2889	86.66	0.00	0.00	0.00	0.00	0.00	86.66	1302.25	0.09	943.53	0.46	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3402	102.07	0.00	0.00	0.00	0.00	0.00	102.07	1324.91	0.09	1045.51	0.51	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3916	117.48	0.00	0.00	0.00	0.00	0.00	117.48	1351.60	0.09	1162.90	0.56	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4430	132.89	0.00	0.00	0.00	0.00	0.00	132.89	1382.31	0.10	1295.69	0.63	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4430	132.89	0.00	0.00	0.00	0.00	0.00	132.89	1417.07	0.10	1428.48	0.69	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4943	148.30	0.00	0.00	0.00	0.00	0.00	148.30	1451.81	0.10	1576.68	0.77	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5457	163.71	0.00	0.00	0.00	0.00	0.00	163.71	1490.60	0.10	1740.28	0.84	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5971	179.12	0.00	0.00	0.00	0.00	0.00	179.12	1533.41	0.11	1919.29	0.93	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5971	179.12	0.00	0.00	0.00	0.00	0.00	179.12	1580.25	0.11	2098.30	1.02	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6484	194.52	0.00	0.00	0.00	0.00	0.00	194.52	1627.10	0.11	2292.71	1.11	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6998	209.93	0.00	0.00	0.00	0.00	0.00	209.93	1677.97	0.12	2502.53	1.21	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9566	286.98	0.00	0.00	0.00	0.00	0.00	286.98	1732.88	0.12	2789.38	1.35	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2134	364.02	0.00	0.00	0.00	0.00	0.00	364.02	1807.94	0.13	3153.27	1.53	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3675	410.24	0.00	0.00	0.00	0.00	0.00	410.24	1903.17	0.13	3563.39	1.73	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.5216	456.47	0.00	0.00	0.00	0.00	0.00	456.47	2010.49	0.14	4019.72	1.95	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.7784	533.51	0.00	0.00	0.00	0.00	0.00	533.51	2129.91	0.15	4553.08	2.21	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.2406	672.19	0.00	0.00	0.00	0.00	0.00	672.19	2269.48	0.16	5225.12	2.54	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3402	102.07	0.00	0.00	0.00	0.00	0.00	102.07	2445.34	0.17	5327.02	2.59	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0462	13.87	0.00	0.00	0.00	0.00	0.00	13.87	2472.01	0.17	5340.72	2.59	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0308	9.25	0.00	0.00	0.00	0.00	0.00	9.25	2475.59	0.17	5349.79	2.60	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0257	7.70	0.00	0.00	0.00	0.00	0.00	7.70	2477.97	0.17	5357.32	2.60	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0154	4.62	0.00	0.00	0.00	0.00	0.00	4.62	2479.94	0.17	5361.77	2.60	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0103	3.08	0.00	0.00	0.00	0.00	0.00	3.08	2481.10	0.17	5364.68	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.86	0.17	5364.51	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.82	0.17	5364.34	2.60	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.77	0.17	5364.16	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.73	0.17	5363.99	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.68	0.17	5363.82	2.60	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.64	0.17	5363.65	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.59	0.17	5363.48	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.55	0.17	5363.30	2.60	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.50	0.17	5363.13	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.46	0.17	5362.96	2.60	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.41	0.17	5362.79	2.60	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2481.37	0.17	5362.61	2.60	0.00	0.00
					Total volume (cf)			5371.59								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1078.00	0.22	3.88	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1079.02	0.22	9.82	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1080.57	0.23	15.75	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1082.12	0.23	23.74	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1084.21	0.23	29.67	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1085.76	0.23	35.60	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1087.32	0.23	41.54	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1088.87	0.23	49.52	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1090.96	0.23	57.51	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1093.05	0.23	65.49	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1095.14	0.23	75.53	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1097.77	0.23	85.57	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1100.39	0.23	95.60	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1103.02	0.23	105.64	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1105.64	0.23	115.67	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0137	12.32	0.00	0.00	0.00	0.00	0.00	12.32	1108.27	0.23	127.76	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0137	12.32	0.00	0.00	0.00	0.00	0.00	12.32	1111.43	0.23	139.85	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0160	14.37	0.00	0.00	0.00	0.00	0.00	14.37	1114.60	0.23	153.99	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0160	14.37	0.00	0.00	0.00	0.00	0.00	14.37	1118.30	0.23	168.13	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0183	16.43	0.00	0.00	0.00	0.00	0.00	16.43	1122.00	0.23	184.32	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0137	12.32	0.00	0.00	0.00	0.00	0.00	12.32	1126.23	0.23	196.40	0.10	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0160	14.37	0.00	0.00	0.00	0.00	0.00	14.37	1129.40	0.24	210.54	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0183	16.43	0.00	0.00	0.00	0.00	0.00	16.43	1133.10	0.24	226.73	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0183	16.43	0.00	0.00	0.00	0.00	0.00	16.43	1137.33	0.24	242.92	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0205	18.48	0.00	0.00	0.00	0.00	0.00	18.48	1141.57	0.24	261.16	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0205	18.48	0.00	0.00	0.00	0.00	0.00	18.48	1146.34	0.24	279.40	0.14	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0228	20.53	0.00	0.00	0.00	0.00	0.00	20.53	1151.11	0.24	299.69	0.15	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0228	20.53	0.00	0.00	0.00	0.00	0.00	20.53	1156.42	0.24	319.98	0.16	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0228	20.53	0.00	0.00	0.00	0.00	0.00	20.53	1161.73	0.24	340.27	0.17	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0251	22.58	0.00	0.00	0.00	0.00	0.00	22.58	1167.04	0.24	362.61	0.18	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0274	24.64	0.00	0.00	0.00	0.00	0.00	24.64	1172.89	0.24	387.00	0.19	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0297	26.69	0.00	0.00	0.00	0.00	0.00	26.69	1179.27	0.25	413.45	0.20	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0342	30.80	0.00	0.00	0.00	0.00	0.00	30.80	1186.19	0.25	444.00	0.22	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0342	30.80	0.00	0.00	0.00	0.00	0.00	30.80	1194.19	0.25	474.55	0.23	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0365	32.85	0.00	0.00	0.00	0.00	0.00	32.85	1202.18	0.25	507.15	0.25	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0388	34.90	0.00	0.00	0.00	0.00	0.00	34.90	1210.71	0.25	541.80	0.26	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1219.78	0.25	580.55	0.28	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0456	41.06	0.00	0.00	0.00	0.00	0.00	41.06	1229.92	0.26	621.36	0.30	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0479	43.12	0.00	0.00	0.00	0.00	0.00	43.12	1240.60	0.26	664.22	0.32	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0502	45.17	0.00	0.00	0.00	0.00	0.00	45.17	1251.82	0.26	709.12	0.34	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0342	30.80	0.00	0.00	0.00	0.00	0.00	30.80	1263.57	0.26	739.66	0.36	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0342	30.80	0.00	0.00	0.00	0.00	0.00	30.80	1271.56	0.26	770.19	0.37	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0456	41.06	0.00	0.00	0.00	0.00	0.00	41.06	1279.55	0.27	810.98	0.39	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0456	41.06	0.00	0.00	0.00	0.00	0.00	41.06	1290.22	0.27	851.78	0.41	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1300.90	0.27	890.52	0.43	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1311.04	0.27	929.25	0.45	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0388	34.90	0.00	0.00	0.00	0.00	0.00	34.90	1321.17	0.28	963.88	0.47	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0411	36.96	0.00	0.00	0.00	0.00	0.00	36.96	1330.23	0.28	1000.56	0.49	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0570	51.33	0.00	0.00	0.00	0.00	0.00	51.33	1339.83	0.28	1051.61	0.51	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0593	53.38	0.00	0.00	0.00	0.00	0.00	53.38	1353.19	0.28	1104.71	0.54	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0703	63.25	0.00	0.00	0.00	0.00	0.00	63.25	1367.09	0.28	1167.67	0.57	0.00	0.00

13:00	2.9	0.59	0.50	N/A	0.0900	0.1017	91.50	0.00	0.00	0.00	0.00	0.00	91.50	1383.56	0.29	1258.89	0.61	0.00	0.00
13:15	3.4	0.69	0.49	N/A	0.1985	0.2242	201.79	0.00	0.00	0.00	0.00	0.00	201.79	1407.43	0.29	1460.39	0.71	0.00	0.00
13:30	3.4	0.69	0.48	N/A	0.2059	0.2326	209.32	0.00	0.00	0.00	0.00	0.00	209.32	1460.16	0.30	1669.40	0.81	0.00	0.00
13:45	2.3	0.46	0.47	0.42	0.0465	0.0525	47.22	0.00	0.00	0.00	0.00	0.00	47.22	1514.86	0.32	1716.31	0.83	0.00	0.00
14:00	2.3	0.46	0.47	0.42	0.0465	0.0525	47.22	0.00	0.00	0.00	0.00	0.00	47.22	1527.13	0.32	1763.21	0.86	0.00	0.00
14:15	2.7	0.55	0.46	N/A	0.0862	0.0973	87.60	0.00	0.00	0.00	0.00	0.00	87.60	1539.41	0.32	1850.48	0.90	0.00	0.00
14:30	2.6	0.53	0.45	N/A	0.0730	0.0824	74.20	0.00	0.00	0.00	0.00	0.00	74.20	1562.25	0.33	1924.35	0.93	0.00	0.00
14:45	2.6	0.53	0.45	N/A	0.0799	0.0902	81.22	0.00	0.00	0.00	0.00	0.00	81.22	1581.58	0.33	2005.25	0.97	0.00	0.00
15:00	2.5	0.51	0.44	N/A	0.0665	0.0751	67.62	0.00	0.00	0.00	0.00	0.00	67.62	1602.75	0.33	2072.53	1.01	0.00	0.00
15:15	2.4	0.48	0.43	N/A	0.0530	0.0599	53.91	0.00	0.00	0.00	0.00	0.00	53.91	1620.35	0.34	2126.10	1.03	0.00	0.00
15:30	2.3	0.46	0.43	0.42	0.0465	0.0525	47.22	0.00	0.00	0.00	0.00	0.00	47.22	1634.37	0.34	2172.98	1.05	0.00	0.00
15:45	1.9	0.38	0.42	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1646.64	0.34	2211.65	1.07	0.00	0.00
16:00	1.9	0.38	0.41	0.35	0.0384	0.0433	39.01	0.00	0.00	0.00	0.00	0.00	39.01	1656.76	0.35	2250.32	1.09	0.00	0.00
16:15	0.4	0.08	0.41	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1666.88	0.35	2258.18	1.10	0.00	0.00
16:30	0.4	0.08	0.40	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1668.94	0.35	2266.05	1.10	0.00	0.00
16:45	0.3	0.06	0.39	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1670.99	0.35	2271.86	1.10	0.00	0.00
17:00	0.3	0.06	0.39	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1672.51	0.35	2277.67	1.11	0.00	0.00
17:15	0.5	0.10	0.38	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1674.03	0.35	2287.58	1.11	0.00	0.00
17:30	0.5	0.10	0.38	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1676.63	0.35	2297.50	1.12	0.00	0.00
17:45	0.5	0.10	0.37	0.09	0.0101	0.0114	10.27	0.00	0.00	0.00	0.00	0.00	10.27	1679.22	0.35	2307.42	1.12	0.00	0.00
18:00	0.4	0.08	0.37	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1681.82	0.35	2315.28	1.12	0.00	0.00
18:15	0.4	0.08	0.36	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1683.88	0.35	2323.14	1.13	0.00	0.00
18:30	0.4	0.08	0.35	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1685.93	0.35	2331.00	1.13	0.00	0.00
18:45	0.3	0.06	0.35	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1687.99	0.35	2336.81	1.13	0.00	0.00
19:00	0.2	0.04	0.34	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1689.51	0.35	2340.56	1.14	0.00	0.00
19:15	0.3	0.06	0.34	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1690.49	0.35	2346.37	1.14	0.00	0.00
19:30	0.4	0.08	0.34	0.07	0.0081	0.0091	8.21	0.00	0.00	0.00	0.00	0.00	8.21	1692.01	0.35	2354.23	1.14	0.00	0.00
19:45	0.3	0.06	0.33	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1694.07	0.35	2360.04	1.15	0.00	0.00
20:00	0.2	0.04	0.33	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1695.59	0.35	2363.79	1.15	0.00	0.00
20:15	0.3	0.06	0.32	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1696.57	0.35	2369.60	1.15	0.00	0.00
20:30	0.3	0.06	0.32	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1698.09	0.35	2375.40	1.15	0.00	0.00
20:45	0.3	0.06	0.31	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1699.61	0.35	2381.21	1.16	0.00	0.00
21:00	0.2	0.04	0.31	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1701.13	0.35	2384.96	1.16	0.00	0.00
21:15	0.3	0.06	0.31	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1702.11	0.35	2390.76	1.16	0.00	0.00
21:30	0.2	0.04	0.30	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1703.63	0.35	2394.52	1.16	0.00	0.00
21:45	0.3	0.06	0.30	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1704.61	0.36	2400.32	1.17	0.00	0.00
22:00	0.2	0.04	0.30	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1706.13	0.36	2404.07	1.17	0.00	0.00
22:15	0.3	0.06	0.29	0.05	0.0061	0.0068	6.16	0.00	0.00	0.00	0.00	0.00	6.16	1707.11	0.36	2409.87	1.17	0.00	0.00
22:30	0.2	0.04	0.29	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1708.63	0.36	2413.62	1.17	0.00	0.00
22:45	0.2	0.04	0.29	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1709.61	0.36	2417.37	1.17	0.00	0.00
23:00	0.2	0.04	0.29	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1710.59	0.36	2421.12	1.18	0.00	0.00
23:15	0.2	0.04	0.28	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1711.58	0.36	2424.87	1.18	0.00	0.00
23:30	0.2	0.04	0.28	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1712.56	0.36	2428.62	1.18	0.00	0.00
23:45	0.2	0.04	0.28	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1713.54	0.36	2432.37	1.18	0.00	0.00
24:00	0.2	0.04	0.28	0.04	0.0040	0.0046	4.11	0.00	0.00	0.00	0.00	0.00	4.11	1714.52	0.36	2436.12	1.18	0.00	0.00
	0	0.00	0.28	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1715.50	0.36	2435.76	1.18	0.00	0.00
						Total volume (cf)	2464.09									Total Overflow (cf)		0.00	

HYDROLOGY CALCULATIONS - program updated 4-14-22 LC

Using the RCFC&WCD Short Cut Unit Hydrograph Method
Area Designations Area 1 VERSION 2 Area=1.02ac+0.09ac typ street frontage=1.11ac

5/7/2024 LOT 16

Drainage Area (ac.)	1.1100	JOB NUMBER 22106			
Unit time (minutes)	5	5	5	15	
100 Year Storm Duration (hrs)	1	3	6	24	
Total Precipitation (Plates D-4.4,E-5.2, 5.4, 5.6)(in.)	2.41	3.10	3.79	5.05	from NOAA interactive website
Soils Group	A				
AMC index II Runoff Number (plate E-6.1)	32				
Plate E-6.2 Pervious Area Loss Rate (Fp)(in/hr)	0.74	(AMC II)			
Percentage of Impervious Cover (Ai)(%) (plate E-6.3)		26.6	20% per the RCFC Hydrology Manual 1AC LOT-PLATE D 5.6 AND 0.09AC TYPICAL STREET FRONTAGE		
Weighted Average Loss Rate (F=Fp(1-.9Ai))(in./hr.)	0.56	(used for 1, 3, and 6 hour storm, the 24 hour storm uses variable maximum loss rate per plate E-1.1 (3 of 6))			
Low Loss Rate Percent (%)	90				
Retention Basin Percolation Rate (in/hr)	0.01	(also used for drywell percolation rate)			

Percolation is taken incrementally.
Basin volume is calculated using the "truncated pyramid" formula, a more conservative estimate than "averaged end areas" sometimes used

(Drywell can be "zeroed out" by reducing numbers to less than .001, but should not entered as zeros or program chokes.)
Drywell storage includes 40% of the 1' wide rock bed surrounding the drywell: formula (upper)*PI()*(diam/2)^2+(lower)*PI()*((diam/2)^2+0.4*((diam/2+(grav+0.4166))^2-(diam/2+0.4166)^2))
The drywell wall thickness is assumed at 5" (0.4166) and the gravel bed width is variable "grav"
Drywell is zeroed out by reducing to 0.001 since there is none.

Drywell design factors Upper sec. (ft.)= 0.001 Lower sec. (ft.)= 0.001 Ring diam. (ft.) = 0.001 Drywell lower max. (cf)= 0.00 Upper max.(cf)= 0.00
Gravel bed width around drywell= 0.001 Drywell total(cf)= 0.00

Ret. Basin design (area, depth) Top = 3234 s.f. Bot. = 1078 s.f. Max. Depth (d)= 4 Max. storage= 8238.87 (d/3)*(bottom+top+(bottom*top)^0.50)
Formulas vol=(h/3)*(bottom+top+(bottom*top)^0.50) area=bottom+(h/d)*(top-bottom) h=(vol*3)/(bottom+top+(bottom*top)^0.5) (values must be non-zero or error occurs)
Outside input from: N/A 3.25

1 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Max.	Loss Rate Min.	Value	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)	
0:05	3.7	1.0700	0.5628	N/A		0.5072	0.5677	170.30	0.00	0.00	0.00	0.00	0.00	170.30	1078.00	0.07	170.23	0.08	0.00	0.00	
0:10	4.8	1.3882	0.5628	N/A		0.8253	0.9237	277.12	0.00	0.00	0.00	0.00	0.00	277.12	1122.55	0.08	447.27	0.22	0.00	0.00	
0:15	5.1	1.4749	0.5628	N/A		0.9121	1.0208	306.25	0.00	0.00	0.00	0.00	0.00	306.25	1195.04	0.08	753.44	0.37	0.00	0.00	
0:20	4.9	1.4171	0.5628	N/A		0.8542	0.9561	286.83	0.00	0.00	0.00	0.00	0.00	286.83	1275.17	0.09	1040.18	0.51	0.00	0.00	
0:25	6.6	1.9087	0.5628	N/A		1.3459	1.5064	451.91	0.00	0.00	0.00	0.00	0.00	451.91	1350.20	0.09	1492.00	0.72	0.00	0.00	
0:30	7.3	2.1112	0.5628	N/A		1.5483	1.7330	519.89	0.00	0.00	0.00	0.00	0.00	519.89	1468.44	0.10	2011.78	0.98	0.00	0.00	
0:35	8.4	2.4293	0.5628	N/A		1.8664	2.0890	626.70	0.00	0.00	0.00	0.00	0.00	626.70	1604.46	0.11	2638.38	1.28	0.00	0.00	
0:40	9	2.6028	0.5628	N/A		2.0400	2.2832	684.97	0.00	0.00	0.00	0.00	0.00	684.97	1768.43	0.12	3323.22	1.61	0.00	0.00	
0:45	12.3	3.5572	0.5628	N/A		2.9943	3.3514	1005.42	0.00	0.00	0.00	0.00	0.00	1005.42	1947.64	0.14	4328.50	2.10	0.00	0.00	
0:50	17.6	5.0899	0.5628	N/A		4.5271	5.0669	1520.08	0.00	0.00	0.00	0.00	0.00	1520.08	2210.71	0.15	5848.43	2.84	0.00	0.00	
0:55	16.1	4.6561	0.5628	N/A		4.0933	4.5814	1374.42	0.00	0.00	0.00	0.00	0.00	1374.42	2608.45	0.18	7222.66	3.51	0.00	0.00	
1:00	4.2	1.2146	0.5628	N/A		0.6518	0.7295	218.86	0.00	0.00	0.00	0.00	0.00	218.86	2968.07	0.21	7441.32	3.61	0.00	0.00	MAX DEPTH
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3025.29	0.21	7441.11	3.61	0.00	0.00	
	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3025.24	0.21	7440.90	3.61	0.00	0.00	
1:15	0	0.0000	0.5628	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3025.18	0.21	7440.69	3.61	0.00	0.00	
					Total volume (cf)			7442.75								Total Overflow (cf)			0.00		

3 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	1.3	0.48	0.56	0.44	0.0484	0.0541	16.24	0.00	0.00	0.00	0.00	0.00	16.24	1078.00	0.07	16.16	0.01	0.00	0.00
0:10	1.3	0.48	0.56	0.44	0.0484	0.0541	16.24	0.00	0.00	0.00	0.00	0.00	16.24	1082.23	0.08	32.33	0.02	0.00	0.00
0:15	1.1	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1086.46	0.08	45.99	0.02	0.00	0.00
0:20	1.5	0.56	0.56	0.50	0.0558	0.0625	18.74	0.00	0.00	0.00	0.00	0.00	18.74	1090.04	0.08	64.65	0.03	0.00	0.00
0:25	1.5	0.56	0.56	0.50	0.0558	0.0625	18.74	0.00	0.00	0.00	0.00	0.00	18.74	1094.92	0.08	83.31	0.04	0.00	0.00
0:30	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	1099.80	0.08	119.08	0.06	0.00	0.00
0:35	1.5	0.56	0.56	0.50	0.0558	0.0625	18.74	0.00	0.00	0.00	0.00	0.00	18.74	1109.16	0.08	137.74	0.07	0.00	0.00
0:40	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	1114.04	0.08	173.51	0.08	0.00	0.00
0:45	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	1123.40	0.08	209.28	0.10	0.00	0.00
0:50	1.5	0.56	0.56	0.50	0.0558	0.0625	18.74	0.00	0.00	0.00	0.00	0.00	18.74	1132.76	0.08	227.93	0.11	0.00	0.00
0:55	1.6	0.60	0.56	0.54	0.0595	0.0666	19.99	0.00	0.00	0.00	0.00	0.00	19.99	1137.65	0.08	247.84	0.12	0.00	0.00
1:00	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	1142.86	0.08	283.61	0.14	0.00	0.00
1:05	2.2	0.82	0.56	N/A	0.2556	0.2860	85.81	0.00	0.00	0.00	0.00	0.00	85.81	1152.22	0.08	369.34	0.18	0.00	0.00
1:10	2.2	0.82	0.56	N/A	0.2556	0.2860	85.81	0.00	0.00	0.00	0.00	0.00	85.81	1174.65	0.08	455.06	0.22	0.00	0.00
1:15	2.2	0.82	0.56	N/A	0.2556	0.2860	85.81	0.00	0.00	0.00	0.00	0.00	85.81	1197.08	0.08	540.79	0.26	0.00	0.00
1:20	2	0.74	0.56	N/A	0.1812	0.2028	60.83	0.00	0.00	0.00	0.00	0.00	60.83	1219.52	0.08	601.53	0.29	0.00	0.00
1:25	2.6	0.97	0.56	N/A	0.4044	0.4526	135.77	0.00	0.00	0.00	0.00	0.00	135.77	1235.41	0.09	737.22	0.36	0.00	0.00
1:30	2.7	1.00	0.56	N/A	0.4416	0.4942	148.26	0.00	0.00	0.00	0.00	0.00	148.26	1270.92	0.09	885.40	0.43	0.00	0.00
1:35	2.4	0.89	0.56	N/A	0.3300	0.3693	110.79	0.00	0.00	0.00	0.00	0.00	110.79	1309.70	0.09	996.10	0.48	0.00	0.00
1:40	2.7	1.00	0.56	N/A	0.4416	0.4942	148.26	0.00	0.00	0.00	0.00	0.00	148.26	1338.66	0.09	1144.27	0.56	0.00	0.00
1:45	3.3	1.23	0.56	N/A	0.6648	0.7440	223.21	0.00	0.00	0.00	0.00	0.00	223.21	1377.44	0.10	1367.38	0.66	0.00	0.00
1:50	3.1	1.15	0.56	N/A	0.5904	0.6608	198.23	0.00	0.00	0.00	0.00	0.00	198.23	1435.82	0.10	1565.51	0.76	0.00	0.00
1:55	2.9	1.08	0.56	N/A	0.5160	0.5775	173.25	0.00	0.00	0.00	0.00	0.00	173.25	1487.67	0.10	1738.65	0.84	0.00	0.00
2:00	3	1.12	0.56	N/A	0.5532	0.6191	185.74	0.00	0.00	0.00	0.00	0.00	185.74	1532.98	0.11	1924.28	0.93	0.00	0.00
2:05	3.1	1.15	0.56	N/A	0.5904	0.6608	198.23	0.00	0.00	0.00	0.00	0.00	198.23	1581.56	0.11	2122.39	1.03	0.00	0.00
2:10	4.2	1.56	0.56	N/A	0.9996	1.1188	335.63	0.00	0.00	0.00	0.00	0.00	335.63	1633.40	0.11	2457.91	1.19	0.00	0.00
2:15	5	1.86	0.56	N/A	1.2972	1.4518	435.55	0.00	0.00	0.00	0.00	0.00	435.55	1721.20	0.12	2893.34	1.40	0.00	0.00
2:20	3.5	1.30	0.56	N/A	0.7392	0.8273	248.19	0.00	0.00	0.00	0.00	0.00	248.19	1835.15	0.13	3141.40	1.53	0.00	0.00
2:25	6.8	2.53	0.56	N/A	1.9668	2.2013	660.39	0.00	0.00	0.00	0.00	0.00	660.39	1900.06	0.13	3801.66	1.85	0.00	0.00
2:30	7.3	2.72	0.56	N/A	2.1528	2.4095	722.84	0.00	0.00	0.00	0.00	0.00	722.84	2072.84	0.14	4524.36	2.20	0.00	0.00
2:35	8.2	3.05	0.56	N/A	2.4876	2.7842	835.26	0.00	0.00	0.00	0.00	0.00	835.26	2261.96	0.16	5359.46	2.60	0.00	0.00
2:40	5.9	2.19	0.56	N/A	1.6320	1.8266	547.97	0.00	0.00	0.00	0.00	0.00	547.97	2480.50	0.17	5907.26	2.87	0.00	0.00
2:45	2	0.74	0.56	N/A	0.1812	0.2028	60.83	0.00	0.00	0.00	0.00	0.00	60.83	2623.85	0.18	5967.90	2.90	0.00	0.00
2:50	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	2639.72	0.18	6003.56	2.91	0.00	0.00
2:55	1.8	0.67	0.56	N/A	0.1068	0.1195	35.85	0.00	0.00	0.00	0.00	0.00	35.85	2649.05	0.18	6039.23	2.93	0.00	0.00
3:00	0.6	0.22	0.56	0.20	0.0223	0.0250	7.49	0.00	0.00	0.00	0.00	0.00	7.49	2658.38	0.18	6046.54	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.30	0.18	6046.35	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.25	0.18	6046.17	2.94	0.00	0.00
3:15	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.20	0.18	6045.98	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.15	0.18	6045.80	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.10	0.18	6045.61	2.94	0.00	0.00
3:30	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.05	0.18	6045.43	2.94	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2660.01	0.18	6045.24	2.93	0.00	0.00
	0	0.00	0.56	0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2659.96	0.18	6045.06	2.93	0.00	0.00
					Total volume (cf)		6050.36								Total Overflow (cf)			0.00	

6 Hour Storm in 5 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:05	0.5	0.23	0.56	0.20	0.0227	0.0255	7.64	0.00	0.00	0.00	0.00	0.00	7.64	1078.00	0.07	7.56	0.00	0.00	0.00
0:10	0.6	0.27	0.56	0.25	0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	1079.98	0.07	16.65	0.01	0.00	0.00
0:15	0.6	0.27	0.56	0.25	0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	1082.36	0.08	25.74	0.01	0.00	0.00
0:20	0.6	0.27	0.56	0.25	0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	1084.73	0.08	34.82	0.02	0.00	0.00
0:25	0.6	0.27	0.56	0.25	0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	1087.11	0.08	43.91	0.02	0.00	0.00
0:30	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1089.49	0.08	54.52	0.03	0.00	0.00
0:35	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1092.27	0.08	65.14	0.03	0.00	0.00
0:40	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1095.05	0.08	75.75	0.04	0.00	0.00
0:45	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1097.82	0.08	86.37	0.04	0.00	0.00
0:50	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1100.60	0.08	96.98	0.05	0.00	0.00
0:55	0.7	0.32	0.56	0.29	0.0318	0.0356	10.69	0.00	0.00	0.00	0.00	0.00	10.69	1103.38	0.08	107.59	0.05	0.00	0.00
1:00	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1106.16	0.08	119.73	0.06	0.00	0.00
1:05	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1109.33	0.08	131.87	0.06	0.00	0.00
1:10	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1112.51	0.08	144.01	0.07	0.00	0.00
1:15	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1115.69	0.08	156.15	0.08	0.00	0.00
1:20	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1118.86	0.08	168.29	0.08	0.00	0.00
1:25	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1122.04	0.08	180.43	0.09	0.00	0.00
1:30	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1125.22	0.08	192.57	0.09	0.00	0.00
1:35	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1128.39	0.08	204.71	0.10	0.00	0.00
1:40	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1131.57	0.08	216.84	0.11	0.00	0.00
1:45	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1134.75	0.08	228.98	0.11	0.00	0.00
1:50	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1137.92	0.08	241.12	0.12	0.00	0.00
1:55	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1141.10	0.08	253.26	0.12	0.00	0.00
2:00	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1144.27	0.08	266.92	0.13	0.00	0.00
2:05	0.8	0.36	0.56	0.33	0.0364	0.0407	12.22	0.00	0.00	0.00	0.00	0.00	12.22	1147.85	0.08	279.06	0.14	0.00	0.00
2:10	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1151.03	0.08	292.72	0.14	0.00	0.00
2:15	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1154.60	0.08	306.39	0.15	0.00	0.00
2:20	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1158.18	0.08	320.05	0.16	0.00	0.00
2:25	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1161.75	0.08	333.71	0.16	0.00	0.00
2:30	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1165.33	0.08	347.38	0.17	0.00	0.00
2:35	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1168.90	0.08	361.04	0.18	0.00	0.00
2:40	0.9	0.41	0.56	0.37	0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	1172.48	0.08	374.70	0.18	0.00	0.00
2:45	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1176.05	0.08	389.89	0.19	0.00	0.00
2:50	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1180.03	0.08	405.08	0.20	0.00	0.00
2:55	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1184.00	0.08	420.27	0.20	0.00	0.00
3:00	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1187.98	0.08	435.46	0.21	0.00	0.00
3:05	1	0.45	0.56	0.41	0.0455	0.0509	15.27	0.00	0.00	0.00	0.00	0.00	15.27	1191.95	0.08	450.65	0.22	0.00	0.00
3:10	1.1	0.50	0.56	0.45	0.0500	0.0560	16.80	0.00	0.00	0.00	0.00	0.00	16.80	1195.93	0.08	467.36	0.23	0.00	0.00
3:15	1.1	0.50	0.56	0.45	0.0500	0.0560	16.80	0.00	0.00	0.00	0.00	0.00	16.80	1200.30	0.08	484.08	0.24	0.00	0.00
3:20	1.1	0.50	0.56	0.45	0.0500	0.0560	16.80	0.00	0.00	0.00	0.00	0.00	16.80	1204.68	0.08	500.79	0.24	0.00	0.00
3:25	1.2	0.55	0.56	0.49	0.0546	0.0611	18.33	0.00	0.00	0.00	0.00	0.00	18.33	1209.05	0.08	519.03	0.25	0.00	0.00
3:30	1.3	0.59	0.56	0.53	0.0591	0.0662	19.85	0.00	0.00	0.00	0.00	0.00	19.85	1213.82	0.08	538.80	0.26	0.00	0.00
3:35	1.4	0.64	0.56	N/A	0.0739	0.0827	24.81	0.00	0.00	0.00	0.00	0.00	24.81	1219.00	0.08	563.52	0.27	0.00	0.00
3:40	1.4	0.64	0.56	N/A	0.0739	0.0827	24.81	0.00	0.00	0.00	0.00	0.00	24.81	1225.47	0.09	588.24	0.29	0.00	0.00
3:45	1.5	0.68	0.56	N/A	0.1194	0.1336	40.08	0.00	0.00	0.00	0.00	0.00	40.08	1231.93	0.09	628.23	0.31	0.00	0.00
3:50	1.5	0.68	0.56	N/A	0.1194	0.1336	40.08	0.00	0.00	0.00	0.00	0.00	40.08	1242.40	0.09	668.22	0.32	0.00	0.00
3:55	1.6	0.73	0.56	N/A	0.1648	0.1845	55.35	0.00	0.00	0.00	0.00	0.00	55.35	1252.86	0.09	723.48	0.35	0.00	0.00
4:00	1.6	0.73	0.56	N/A	0.1648	0.1845	55.35	0.00	0.00	0.00	0.00	0.00	55.35	1267.33	0.09	778.74	0.38	0.00	0.00
4:05	1.7	0.77	0.56	N/A	0.2103	0.2354	70.62	0.00	0.00	0.00	0.00	0.00	70.62	1281.79	0.09	849.27	0.41	0.00	0.00
4:10	1.8	0.82	0.56	N/A	0.2558	0.2863	85.89	0.00	0.00	0.00	0.00	0.00	85.89	1300.24	0.09	935.07	0.45	0.00	0.00
4:15	1.9	0.86	0.56	N/A	0.3013	0.3372	101.16	0.00	0.00	0.00	0.00	0.00	101.16	1322.70	0.09	1036.14	0.50	0.00	0.00

4:20	2	0.91	0.56	N/A		0.3468	0.3881	116.43	0.00	0.00	0.00	0.00	0.00	116.43	1349.14	0.09	1152.48	0.56	0.00	0.00
4:25	2.1	0.96	0.56	N/A		0.3922	0.4390	131.70	0.00	0.00	0.00	0.00	0.00	131.70	1379.59	0.10	1284.09	0.62	0.00	0.00
4:30	2.1	0.96	0.56	N/A		0.3922	0.4390	131.70	0.00	0.00	0.00	0.00	0.00	131.70	1414.03	0.10	1415.69	0.69	0.00	0.00
4:35	2.2	1.00	0.56	N/A		0.4377	0.4899	146.97	0.00	0.00	0.00	0.00	0.00	146.97	1448.47	0.10	1562.57	0.76	0.00	0.00
4:40	2.3	1.05	0.56	N/A		0.4832	0.5408	162.25	0.00	0.00	0.00	0.00	0.00	162.25	1486.90	0.10	1724.71	0.84	0.00	0.00
4:45	2.4	1.09	0.56	N/A		0.5287	0.5917	177.52	0.00	0.00	0.00	0.00	0.00	177.52	1529.33	0.11	1902.12	0.92	0.00	0.00
4:50	2.4	1.09	0.56	N/A		0.5287	0.5917	177.52	0.00	0.00	0.00	0.00	0.00	177.52	1575.76	0.11	2079.52	1.01	0.00	0.00
4:55	2.5	1.14	0.56	N/A		0.5742	0.6426	192.79	0.00	0.00	0.00	0.00	0.00	192.79	1622.18	0.11	2272.20	1.10	0.00	0.00
5:00	2.6	1.18	0.56	N/A		0.6196	0.6935	208.06	0.00	0.00	0.00	0.00	0.00	208.06	1672.60	0.12	2480.14	1.20	0.00	0.00
5:05	3.1	1.41	0.56	N/A		0.8470	0.9480	284.41	0.00	0.00	0.00	0.00	0.00	284.41	1727.02	0.12	2764.44	1.34	0.00	0.00
5:10	3.6	1.64	0.56	N/A		1.0744	1.2026	360.77	0.00	0.00	0.00	0.00	0.00	360.77	1801.42	0.13	3125.08	1.52	0.00	0.00
5:15	3.9	1.77	0.56	N/A		1.2109	1.3553	406.58	0.00	0.00	0.00	0.00	0.00	406.58	1895.79	0.13	3531.53	1.71	0.00	0.00
5:20	4.2	1.91	0.56	N/A		1.3473	1.5080	452.40	0.00	0.00	0.00	0.00	0.00	452.40	2002.15	0.14	3983.78	1.93	0.00	0.00
5:25	4.7	2.14	0.56	N/A		1.5747	1.7625	528.75	0.00	0.00	0.00	0.00	0.00	528.75	2120.50	0.15	4512.39	2.19	0.00	0.00
5:30	5.6	2.55	0.56	N/A		1.9840	2.2206	666.19	0.00	0.00	0.00	0.00	0.00	666.19	2258.83	0.16	5178.42	2.51	0.00	0.00
5:35	1.9	0.86	0.56	N/A		0.3013	0.3372	101.16	0.00	0.00	0.00	0.00	0.00	101.16	2433.12	0.17	5279.41	2.56	0.00	0.00
5:40	0.9	0.41	0.56	0.37		0.0409	0.0458	13.74	0.00	0.00	0.00	0.00	0.00	13.74	2459.55	0.17	5292.99	2.57	0.00	0.00
5:45	0.6	0.27	0.56	0.25		0.0273	0.0305	9.16	0.00	0.00	0.00	0.00	0.00	9.16	2463.10	0.17	5301.98	2.57	0.00	0.00
5:50	0.5	0.23	0.56	0.20		0.0227	0.0255	7.64	0.00	0.00	0.00	0.00	0.00	7.64	2465.46	0.17	5309.44	2.58	0.00	0.00
5:55	0.3	0.14	0.56	0.12		0.0136	0.0153	4.58	0.00	0.00	0.00	0.00	0.00	4.58	2467.41	0.17	5313.85	2.58	0.00	0.00
6:00	0.2	0.09	0.56	0.08		0.0091	0.0102	3.05	0.00	0.00	0.00	0.00	0.00	3.05	2468.56	0.17	5316.73	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.32	0.17	5316.56	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.27	0.17	5316.39	2.58	0.00	0.00
6:15	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.23	0.17	5316.22	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.18	0.17	5316.05	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.14	0.17	5315.88	2.58	0.00	0.00
6:30	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.09	0.17	5315.71	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.05	0.17	5315.53	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2469.00	0.17	5315.36	2.58	0.00	0.00
6:45	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2468.96	0.17	5315.19	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2468.91	0.17	5315.02	2.58	0.00	0.00
	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2468.87	0.17	5314.85	2.58	0.00	0.00
7:00	0	0.00	0.56	0.00		0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2468.82	0.17	5314.68	2.58	0.00	0.00
					Total volume (cf)			5323.63								Total Overflow (cf)			0.00	

24 Hour Storm in 15 minute increments

Time	Pattern %	Storm Rain (in/hr)	Loss Rate Value Max.	Min.	Effective Rain (in/hr	Flow Rate (cfs)	Flow Vol. (cf)	Outside Input (cf)	Drywell Retention Area (sf)	Drywell Period Perc. (cf)	Drywell Storage Vol. (cf)	Drywell Storage Depth (ft)	Overflow To Basin (cf)	Retention Area (sf)	Basin Period Perc. (cf)	Basin Storage Vol. (cf)	Basin Storage Depth (ft	Overflow Vol. (cf)	Overflow Rate (cfs)
0:15	0.2	0.04	0.99	0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1078.00	0.22	3.85	0.00	0.00	0.00
0:30	0.3	0.06	0.98	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1079.01	0.22	9.72	0.00	0.00	0.00
0:45	0.3	0.06	0.97	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1080.54	0.23	15.60	0.01	0.00	0.00
1:00	0.4	0.08	0.95	0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1082.08	0.23	23.52	0.01	0.00	0.00
1:15	0.3	0.06	0.94	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1084.15	0.23	29.40	0.01	0.00	0.00
1:30	0.3	0.06	0.93	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1085.69	0.23	35.27	0.02	0.00	0.00
1:45	0.3	0.06	0.92	0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1087.23	0.23	41.15	0.02	0.00	0.00
2:00	0.4	0.08	0.91	0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1088.77	0.23	49.06	0.02	0.00	0.00
2:15	0.4	0.08	0.90	0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1090.84	0.23	56.98	0.03	0.00	0.00
2:30	0.4	0.08	0.89	0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1092.91	0.23	64.89	0.03	0.00	0.00
2:45	0.5	0.10	0.88	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1094.98	0.23	74.83	0.04	0.00	0.00
3:00	0.5	0.10	0.87	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1097.58	0.23	84.78	0.04	0.00	0.00
3:15	0.5	0.10	0.85	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1100.19	0.23	94.72	0.05	0.00	0.00
3:30	0.5	0.10	0.84	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1102.79	0.23	104.67	0.05	0.00	0.00
3:45	0.5	0.10	0.83	0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1105.39	0.23	114.61	0.06	0.00	0.00
4:00	0.6	0.12	0.82	0.11	0.0121	0.0136	12.21	0.00	0.00	0.00	0.00	0.00	12.21	1107.99	0.23	126.59	0.06	0.00	0.00
4:15	0.6	0.12	0.81	0.11	0.0121	0.0136	12.21	0.00	0.00	0.00	0.00	0.00	12.21	1111.13	0.23	138.57	0.07	0.00	0.00
4:30	0.7	0.14	0.80	0.13	0.0141	0.0158	14.24	0.00	0.00	0.00	0.00	0.00	14.24	1114.26	0.23	152.58	0.07	0.00	0.00
4:45	0.7	0.14	0.79	0.13	0.0141	0.0158	14.24	0.00	0.00	0.00	0.00	0.00	14.24	1117.93	0.23	166.59	0.08	0.00	0.00
5:00	0.8	0.16	0.78	0.15	0.0162	0.0181	16.28	0.00	0.00	0.00	0.00	0.00	16.28	1121.59	0.23	182.63	0.09	0.00	0.00
5:15	0.6	0.12	0.77	0.11	0.0121	0.0136	12.21	0.00	0.00	0.00	0.00	0.00	12.21	1125.79	0.23	194.61	0.09	0.00	0.00
5:30	0.7	0.14	0.76	0.13	0.0141	0.0158	14.24	0.00	0.00	0.00	0.00	0.00	14.24	1128.93	0.24	208.62	0.10	0.00	0.00
5:45	0.8	0.16	0.75	0.15	0.0162	0.0181	16.28	0.00	0.00	0.00	0.00	0.00	16.28	1132.59	0.24	224.66	0.11	0.00	0.00
6:00	0.8	0.16	0.74	0.15	0.0162	0.0181	16.28	0.00	0.00	0.00	0.00	0.00	16.28	1136.79	0.24	240.70	0.12	0.00	0.00
6:15	0.9	0.18	0.73	0.16	0.0182	0.0203	18.31	0.00	0.00	0.00	0.00	0.00	18.31	1140.99	0.24	258.78	0.13	0.00	0.00
6:30	0.9	0.18	0.72	0.16	0.0182	0.0203	18.31	0.00	0.00	0.00	0.00	0.00	18.31	1145.72	0.24	276.85	0.13	0.00	0.00
6:45	1	0.20	0.71	0.18	0.0202	0.0226	20.35	0.00	0.00	0.00	0.00	0.00	20.35	1150.45	0.24	296.96	0.14	0.00	0.00
7:00	1	0.20	0.70	0.18	0.0202	0.0226	20.35	0.00	0.00	0.00	0.00	0.00	20.35	1155.71	0.24	317.07	0.15	0.00	0.00
7:15	1	0.20	0.69	0.18	0.0202	0.0226	20.35	0.00	0.00	0.00	0.00	0.00	20.35	1160.97	0.24	337.17	0.16	0.00	0.00
7:30	1.1	0.22	0.68	0.20	0.0222	0.0249	22.38	0.00	0.00	0.00	0.00	0.00	22.38	1166.23	0.24	359.31	0.17	0.00	0.00
7:45	1.2	0.24	0.67	0.22	0.0242	0.0271	24.42	0.00	0.00	0.00	0.00	0.00	24.42	1172.03	0.24	383.49	0.19	0.00	0.00
8:00	1.3	0.26	0.66	0.24	0.0263	0.0294	26.45	0.00	0.00	0.00	0.00	0.00	26.45	1178.35	0.25	409.69	0.20	0.00	0.00
8:15	1.5	0.30	0.66	0.27	0.0303	0.0339	30.52	0.00	0.00	0.00	0.00	0.00	30.52	1185.21	0.25	439.97	0.21	0.00	0.00
8:30	1.5	0.30	0.65	0.27	0.0303	0.0339	30.52	0.00	0.00	0.00	0.00	0.00	30.52	1193.13	0.25	470.24	0.23	0.00	0.00
8:45	1.6	0.32	0.64	0.29	0.0323	0.0362	32.56	0.00	0.00	0.00	0.00	0.00	32.56	1201.06	0.25	502.55	0.24	0.00	0.00
9:00	1.7	0.34	0.63	0.31	0.0343	0.0384	34.59	0.00	0.00	0.00	0.00	0.00	34.59	1209.51	0.25	536.89	0.26	0.00	0.00
9:15	1.9	0.38	0.62	0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1218.50	0.25	575.29	0.28	0.00	0.00
9:30	2	0.40	0.61	0.36	0.0404	0.0452	40.70	0.00	0.00	0.00	0.00	0.00	40.70	1228.55	0.26	615.73	0.30	0.00	0.00
9:45	2.1	0.42	0.60	0.38	0.0424	0.0475	42.73	0.00	0.00	0.00	0.00	0.00	42.73	1239.13	0.26	658.21	0.32	0.00	0.00
10:00	2.2	0.44	0.59	0.40	0.0444	0.0497	44.77	0.00	0.00	0.00	0.00	0.00	44.77	1250.24	0.26	702.71	0.34	0.00	0.00
10:15	1.5	0.30	0.58	0.27	0.0303	0.0339	30.52	0.00	0.00	0.00	0.00	0.00	30.52	1261.89	0.26	732.97	0.36	0.00	0.00
10:30	1.5	0.30	0.58	0.27	0.0303	0.0339	30.52	0.00	0.00	0.00	0.00	0.00	30.52	1269.81	0.26	763.23	0.37	0.00	0.00
10:45	2	0.40	0.57	0.36	0.0404	0.0452	40.70	0.00	0.00	0.00	0.00	0.00	40.70	1277.73	0.27	803.66	0.39	0.00	0.00
11:00	2	0.40	0.56	0.36	0.0404	0.0452	40.70	0.00	0.00	0.00	0.00	0.00	40.70	1288.31	0.27	844.09	0.41	0.00	0.00
11:15	1.9	0.38	0.55	0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1298.89	0.27	882.48	0.43	0.00	0.00
11:30	1.9	0.38	0.54	0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1308.93	0.27	920.86	0.45	0.00	0.00
11:45	1.7	0.34	0.53	0.31	0.0343	0.0384	34.59	0.00	0.00	0.00	0.00	0.00	34.59	1318.98	0.27	955.18	0.46	0.00	0.00
12:00	1.8	0.36	0.53	0.33	0.0364	0.0407	36.63	0.00	0.00	0.00	0.00	0.00	36.63	1327.96	0.28	991.53	0.48	0.00	0.00
12:15	2.5	0.51	0.52	0.45	0.0505	0.0565	50.87	0.00	0.00	0.00	0.00	0.00	50.87	1337.47	0.28	1042.12	0.51	0.00	0.00
12:30	2.6	0.53	0.51	0.47	0.0525	0.0588	52.90	0.00	0.00	0.00	0.00	0.00	52.90	1350.71	0.28	1094.75	0.53	0.00	0.00
12:45	2.8	0.57	0.50	N/A	0.0622	0.0697	62.69	0.00	0.00	0.00	0.00	0.00	62.69	1364.48	0.28	1157.15	0.56	0.00	0.00

13:00	2.9	0.59	0.50	N/A		0.0900	0.1008	90.69	0.00	0.00	0.00	0.00	0.00	90.69	1380.81	0.29	1247.55	0.61	0.00	0.00
13:15	3.4	0.69	0.49	N/A		0.1985	0.2222	199.99	0.00	0.00	0.00	0.00	0.00	199.99	1404.47	0.29	1447.24	0.70	0.00	0.00
13:30	3.4	0.69	0.48	N/A		0.2059	0.2305	207.45	0.00	0.00	0.00	0.00	0.00	207.45	1456.72	0.30	1654.39	0.80	0.00	0.00
13:45	2.3	0.46	0.47		0.42	0.0465	0.0520	46.80	0.00	0.00	0.00	0.00	0.00	46.80	1510.93	0.31	1700.87	0.83	0.00	0.00
14:00	2.3	0.46	0.47		0.42	0.0465	0.0520	46.80	0.00	0.00	0.00	0.00	0.00	46.80	1523.09	0.32	1747.35	0.85	0.00	0.00
14:15	2.7	0.55	0.46	N/A		0.0862	0.0965	86.81	0.00	0.00	0.00	0.00	0.00	86.81	1535.26	0.32	1833.85	0.89	0.00	0.00
14:30	2.6	0.53	0.45	N/A		0.0730	0.0817	73.53	0.00	0.00	0.00	0.00	0.00	73.53	1557.89	0.32	1907.06	0.93	0.00	0.00
14:45	2.6	0.53	0.45	N/A		0.0799	0.0894	80.50	0.00	0.00	0.00	0.00	0.00	80.50	1577.05	0.33	1987.23	0.96	0.00	0.00
15:00	2.5	0.51	0.44	N/A		0.0665	0.0745	67.01	0.00	0.00	0.00	0.00	0.00	67.01	1598.03	0.33	2053.91	1.00	0.00	0.00
15:15	2.4	0.48	0.43	N/A		0.0530	0.0594	53.43	0.00	0.00	0.00	0.00	0.00	53.43	1615.48	0.34	2107.00	1.02	0.00	0.00
15:30	2.3	0.46	0.43		0.42	0.0465	0.0520	46.80	0.00	0.00	0.00	0.00	0.00	46.80	1629.37	0.34	2153.46	1.05	0.00	0.00
15:45	1.9	0.38	0.42		0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1641.53	0.34	2191.78	1.06	0.00	0.00
16:00	1.9	0.38	0.41		0.35	0.0384	0.0430	38.66	0.00	0.00	0.00	0.00	0.00	38.66	1651.56	0.34	2230.10	1.08	0.00	0.00
16:15	0.4	0.08	0.41		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1661.59	0.35	2237.89	1.09	0.00	0.00
16:30	0.4	0.08	0.40		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1663.62	0.35	2245.68	1.09	0.00	0.00
16:45	0.3	0.06	0.39		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1665.66	0.35	2251.44	1.09	0.00	0.00
17:00	0.3	0.06	0.39		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1667.17	0.35	2257.20	1.10	0.00	0.00
17:15	0.5	0.10	0.38		0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1668.68	0.35	2267.02	1.10	0.00	0.00
17:30	0.5	0.10	0.38		0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1671.25	0.35	2276.85	1.11	0.00	0.00
17:45	0.5	0.10	0.37		0.09	0.0101	0.0113	10.17	0.00	0.00	0.00	0.00	0.00	10.17	1673.82	0.35	2286.67	1.11	0.00	0.00
18:00	0.4	0.08	0.37		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1676.39	0.35	2294.46	1.11	0.00	0.00
18:15	0.4	0.08	0.36		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1678.43	0.35	2302.25	1.12	0.00	0.00
18:30	0.4	0.08	0.35		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1680.47	0.35	2310.04	1.12	0.00	0.00
18:45	0.3	0.06	0.35		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1682.51	0.35	2315.79	1.12	0.00	0.00
19:00	0.2	0.04	0.34		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1684.01	0.35	2319.51	1.13	0.00	0.00
19:15	0.3	0.06	0.34		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1684.99	0.35	2325.27	1.13	0.00	0.00
19:30	0.4	0.08	0.34		0.07	0.0081	0.0090	8.14	0.00	0.00	0.00	0.00	0.00	8.14	1686.49	0.35	2333.05	1.13	0.00	0.00
19:45	0.3	0.06	0.33		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1688.53	0.35	2338.81	1.14	0.00	0.00
20:00	0.2	0.04	0.33		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1690.03	0.35	2342.52	1.14	0.00	0.00
20:15	0.3	0.06	0.32		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1691.01	0.35	2348.28	1.14	0.00	0.00
20:30	0.3	0.06	0.32		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1692.51	0.35	2354.03	1.14	0.00	0.00
20:45	0.3	0.06	0.31		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1694.02	0.35	2359.78	1.15	0.00	0.00
21:00	0.2	0.04	0.31		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1695.52	0.35	2363.50	1.15	0.00	0.00
21:15	0.3	0.06	0.31		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1696.50	0.35	2369.25	1.15	0.00	0.00
21:30	0.2	0.04	0.30		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1698.00	0.35	2372.96	1.15	0.00	0.00
21:45	0.3	0.06	0.30		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1698.97	0.35	2378.71	1.15	0.00	0.00
22:00	0.2	0.04	0.30		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1700.48	0.35	2382.43	1.16	0.00	0.00
22:15	0.3	0.06	0.29		0.05	0.0061	0.0068	6.10	0.00	0.00	0.00	0.00	0.00	6.10	1701.45	0.35	2388.18	1.16	0.00	0.00
22:30	0.2	0.04	0.29		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1702.95	0.35	2391.89	1.16	0.00	0.00
22:45	0.2	0.04	0.29		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1703.93	0.35	2395.61	1.16	0.00	0.00
23:00	0.2	0.04	0.29		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1704.90	0.36	2399.32	1.16	0.00	0.00
23:15	0.2	0.04	0.28		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1705.87	0.36	2403.04	1.17	0.00	0.00
23:30	0.2	0.04	0.28		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1706.84	0.36	2406.75	1.17	0.00	0.00
23:45	0.2	0.04	0.28		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1707.81	0.36	2410.47	1.17	0.00	0.00
24:00	0.2	0.04	0.28		0.04	0.0040	0.0045	4.07	0.00	0.00	0.00	0.00	0.00	4.07	1708.79	0.36	2414.18	1.17	0.00	0.00
	0	0.00	0.28		0.00	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1709.76	0.36	2413.82	1.17	0.00	0.00
						Total volume (cf)		2442.09									Total Overflow (cf)		0.00	

EXHIBITS

PRELIMINARY HYDROLOGY PLAN
TENTATIVE TRACT MAP NO. 38971

A PORTION OF THE NW QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

LEGEND:

- - - - LOT WATERSHEDS

NORTH

0 50' 100' 150' 200'

SCALE 1"=50'

PRELIMINARY

DATE: 07/09/2024

DIGALERT — DIAL BEFORE YOU DIG — TOLL FREE 1-800-227-2600 — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — PHILLIP K. FOMOTOR — No. 47284 — CIVIL — STATE OF CALIFORNIA

FOR REVIEW PURPOSES ONLY DATE: _____

PHILLIP K. FOMOTOR PE., PLS.
R.C.E. NO. 47284

PRELIMINARY HYDROLOGY PLAN FOR TENTATIVE TRACT MAP NO. 38971

PREPARED BY:
FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1842 FAX (760) 323-1742

Appendix G

AGREEMENTS – CC&RS, COVENANT AND AGREEMENTS, BMP MAINTENANCE AGREEMENTS AND/OR OTHER MECHANISMS FOR ENSURING ONGOING OPERATION, MAINTENANCE, FUNDING AND TRANSFER OF REQUIREMENTS FOR THIS PROJECT-SPECIFIC WQMP

Recording requested by:

City of Rancho Mirage

When recorded mail to:

City of Rancho Mirage
69825 Highway 111
Rancho Mirage, CA, 92270
Attn: City Clerk

APNs: 689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022

Space above this line for Recorder's use

(Exempt from recording fees pursuant to Government Code Sections 6103 and 27383)

Water Quality Management Plan and Urban Runoff BMP Transfer, Access and Maintenance Agreement and Covenant

THIS WATER QUALITY MANAGEMENT PLAN AND URBAN RUNOFF BMP TRANSFER, ACCESS AND MAINTENANCE AGREEMENT AND COVENANT ("Agreement and Covenant") is made and entered into in Rancho Mirage, California, this _____day of _____, by and between Horti Caesaris LLC, herein after referred to as "Owner," and the City of Rancho Mirage, a municipal corporation, located in the County of Riverside, State of California hereinafter referred to as "City."

RECITALS

WHEREAS, Owner owns real property ("Property") having a common address of: Peterson Road, in the City of Rancho Mirage, County of Riverside, State of California, having Assessor's Parcel Number(s) of 689-090-003, 689-130-004, -005, -013, -014, -018 & 689-140-022, more specifically described in **Exhibit "A"** and depicted in **Exhibit "B"** both of which exhibits are attached hereto and incorporated herein by this reference; and

WHEREAS, the California Regional Water Quality Control Board – Colorado River Basin Region (CRWQCB-CRB), pursuant to Order No. R7-2008-001 issued to the City, along with the County of Riverside, the Coachella Valley Water District (CVWD), and the cities of Banning, Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, and Palm Springs (collectively, "Co-Permittees"), a permit dated May 21, 2008 and identified as: Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer System (MS4) within the Whitewater River Watershed Riverside County Flood Control and Water Conservation District, Owner/Operator County of Riverside, Owner/Operator, Coachella Valley Water District, Owner/Operator, and Incorporated Cities of Riverside County within the Whitewater River Basin, Owners/Operators, which also serves as the National Pollutant Discharge

Elimination System (NPDES) Permit No. CAS617002 ("NPDES Permit"), pursuant to the Federal Clean Water Act; and

WHEREAS, the NPDES Permit provides that the City, as a co-permittee, must implement appropriate procedures to regulate the entry of pollutants and non-storm water discharges into the county storm water conveyance system; and

WHEREAS, the NPDES requires the City adopt Best Management Practices ("BMP") pursuant to the NPDES Permit; and

WHEREAS, these BMP and other regulations are supplemented by the City's Storm Water Management and Discharge Control Ordinance codified as Chapter 7.03 of the Rancho Mirage Municipal Code; and

WHEREAS, when the City Council on Month? Date?, Year?, approved Owner's request for Development Agreement Case No. DAXXXXXX for development of a 20.05 acre proposed tract map residential project site (TTM 38971) is located on Peterson Road, in the City of Rancho Mirage, County of Riverside, California, the Owner was required to employ BMPs to minimize pollutants in urban runoff; and

WHEREAS, Owner has chosen to install and/or implement BMPs as described in the Water Quality Management Plan, on file with the City, hereinafter referred to as "WQMP," to minimize pollutants in urban runoff and to minimize other adverse impacts of urban runoff; and

WHEREAS, the parties acknowledge that the WQMP on file with the City is incorporated herein by this reference; and

WHEREAS, said WQMP has been certified by the Owner, reviewed and approved by the City, and summarized by selected excerpts attached hereto and incorporated herein by this reference as **Exhibit "C"**; and

WHEREAS, said BMPs, with installation and/or implementation on private property and draining only private property, are part of a private facility with all maintenance or replacement, therefore, the sole responsibility of the Owner in accordance with the terms of this Agreement; and

WHEREAS, the Owner is aware that periodic and continuous maintenance, including, but not necessarily limited to, filter material replacement and sediment removal, is required to assure peak performance of all BMPs in the WQMP and that, furthermore, such maintenance activity will require compliance with all Local, State, or Federal laws and regulations, including those pertaining to confined space and waste disposal methods, in effect at the time such maintenance occurs.

COVENANT

NOW THEREFORE in consideration of the foregoing, it is mutually stipulated and agreed as follows:

1. Owner hereby provides the City or City's designee complete access, of any duration, to the BMPs and their immediate vicinity at any time, upon reasonable notice, or in the event of emergency, as determined by City's Director of Public Works ("Director") on advance notice, for the purpose of inspection, sampling, testing of the BMPs and in case of emergency, to undertake all necessary repairs or other preventative measures at Owner's expense as provided in paragraph 3 below. City shall make every effort at all times to minimize or avoid interference with Owner's use of the Property.

2. Owner shall use its best efforts diligently to maintain all BMPs in a manner assuring peak performance at all times. All reasonable precautions shall be exercised by Owner and Owner's representative or contractor in the removal and extraction of any material(s) from the BMPs and the ultimate disposal of the material(s) in a manner consistent with all relevant laws and regulations in effect at the time. As may be requested from time to time by the City, the Owner shall provide the City with documentation identifying the material(s) removed, the quantity, and disposal destination.

3. In the event Owner, or its successors or assigns, fails to accomplish the necessary maintenance contemplated by this Agreement, within five (5) days of being given written notice by the City, the City is hereby authorized to cause any maintenance necessary to be done and charge the entire cost and expense to the Owner or Owner's successors or assigns, including administrative costs, attorneys fees and interest thereon at the maximum rate authorized by the Civil Code from the date of the notice of expense until paid in full.

4. The City may require the Owner to post security in form and for a time period satisfactory to the City to guarantee the performance of the obligations stated herein. Should the Owner fail to perform the obligations under the Agreement, the City may, in the case of a cash bond, act for the Owner using the proceeds from it, or in the case of a surety bond, require the sureties to perform the obligations of the Agreement. As an additional remedy, the Director may withdraw any previous Urban Runoff-related approval with respect to the property on which BMPs have been installed and/or implemented until such time as Owner repays to City its reasonable costs incurred in accordance with paragraph 3 above.

5. This Agreement and Covenant shall be recorded in the Office of the Recorder of Riverside County, California, at the expense of the Owner and shall constitute notice to all successors and assigns of the title to said Property of the obligation herein set forth, and also a lien in such amount as will fully reimburse the City, including interest as herein above set forth, subject to foreclosure in event of default in payment.

6. In event of legal action occasioned by any default or action of the Owner, or its successors or assigns, the Owner and its successors or assigns agree(s) to pay all costs incurred by the City in enforcing the terms of this Agreement, including reasonable attorney's fees and costs, and that the same shall become a part of the lien against said Property.

7. It is the intent of the parties hereto that burdens and benefits herein undertaken shall constitute covenants that run with said Property and constitute a lien there against.

8. The obligations herein undertaken shall be binding upon the heirs, successors, executors, administrators and assigns of the parties hereto. The term "Owner" shall include not only the present Owner, but also its heirs, successors, executors, administrators, and assigns. Owner shall notify any successor to title of all or part of the Property about the existence of this Agreement and Covenant. Owner shall provide such notice prior to such successor obtaining an interest in all or part of the Property. Owner shall provide a copy of such notice to the City at the same time such notice is provided to the successor.

9. Time is of the essence in the performance of this Agreement and Covenant.

10. Any notice to a party required or called for in this Agreement and Covenant shall be served in person, or by deposit in the U.S. Mail, first class postage prepaid, to the address set forth below. Notice(s) shall be deemed effective upon receipt, or seventy-two (72) hours after deposit in the U.S. Mail, whichever is earlier. A party may change a notice address only by providing written notice thereof to the other party.

IF TO CITY:

City of Rancho Mirage
69825 Highway 111
Rancho Mirage, CA 92270
Attn: Leland Cole, City Engineer
Ph. 760-770-3224

IF TO OWNER:

Konstantinos Patis
Horti Caesaris LLC
9401 Wilshire Blvd., 12th Floor
Beverly Hills, CA 90212-2928
Ph. 30(210)812-8242

[THE REMAINDER OF THIS PAGE LEFT INTENTIONALLY BLANK]

IN WITNESS THEREOF, the parties hereto have affixed their signatures as of the date first written above.

CITY OF RANCHO MIRAGE

Leland Cole, R.C.E. 47159

City Engineer
Title

ATTEST:

Kristie Ramos, City Clerk

APPROVED AS TO FORM:

Steve Quintanilla, City Attorney

OWNER

Name

Title

Name

Title

NOTARIES ON FOLLOWING PAGE

EXHIBIT A
(Legal Description)

EXHIBIT B
(Map/Illustration)

EXHIBIT C
(Summary Excerpts from WQMP)

[TO BE ATTACHED]

LIST OF WQMP EXCERPTS INCLUDED IN EXHIBIT C

1. **COVER SHEET SUMMARY PAGE (INCLUDES WQMP PREPARATION/REVISION DATE) (1 PAGE)**
2. **SITE PLAN (REDUCED COPY OF PLAN FROM FULL WQMP) (1 PAGE)**
3. **OWNER'S CERTIFICATION AND NOTARY ATTACHMENT (2 PAGES)**
4. **SECTION I: "PROJECT DESCRIPTION" AND "ADDITIONAL PERMITS/APPROVALS TABLE" (2 PAGES)**
5. **SECTION II: "SITE CHARACTERIZATION" AND "RECEIVING WATERS TABLE" (2 PAGES)**
6. **SECTION III: "POLLUTANTS OF CONCERN" SUMMARY TABLE (1 PAGE)**
7. **SECTION IV: "HYDROLOGIC CONDITIONS OF CONCERN" CHECKBOXES & TABLE (2 PAGES)**
8. **SECTION V: "BEST MANAGEMENT PRACTICES" CHECKBOXES, SUMMARY, & LIST OF APPLICABLE IMPROVEMENT PLANS ON FILE AT THE CITY (3 PAGES)**
9. **SECTION VI: "OPERATION AND MAINTENANCE RESPONSIBILITY FOR BMPS" SUMMARY (1 PAGE)**
10. **SECTION VII: "FUNDING" SUMMARY (1 PAGE)**
11. **SUMMARY LIST OF DOCUMENTS IN FULL WQMP APPENDICES, INCLUDING DATES (1 PAGE)**
12. **SUMMARY OF HYDROLOGY / HYDRAULIC STUDY (2 PAGES)**
13. **"PROJECT-SPECIFIC WQMP SUMMARY DATA FORM" (APP. I) (1 PAGE)**

Appendix H

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT – SUMMARY OF SITE REMEDIATION CONDUCTED AND USE RESTRICTIONS

N/A

Appendix I

PROJECT-SPECIFIC WQMP SUMMARY DATA FORM

Project-Specific WQMP Summary Data Form

Applicant Information	
Name and Title	Konstantinos Patis, Owner
Company	Horti Caesaris LLC
Phone	30(210)812-8242
Email	kpatis@centralicd.ch
Project Information	
Project Name (as shown on project application/project-specific WQMP)	Tentative Tract Map 38971
Street Address	Peterson Road
Nearest Cross Streets	Mirage Cove Drive
Municipality (City or Unincorporated County)	Rancho Mirage, CA
Zip Code	92270
Tract Number(s) and/or Assessor Parcel Number(s)	Tentative Tract Map 38971
Other (other information to help identify location of project)	

Indicate type of project.	**Priority Development Projects (Use an "X" in cell preceding project type):**	
		SF hillside residence; impervious area ≥ 10,000 sq. ft.; Slope ≥ 25%
		SF hillside residence; impervious area ≥ 10,000 sq. ft.; Slope ≥ 10% & erosive soils
		Commercial or Industrial ≥ 100,000 sq. ft.
		Automotive repair shop
		Retail Gasoline Outlet disturbing > 5,000 sq. ft.
		Restaurant disturbing > 5,000 sq. ft.
	X	Home subdivision ≥ 10 housing units
		Parking lot ≥ 5,000 sq. ft. or ≥ 25 parking spaces

Date Project-Specific WQMP Submitted	
Size of Project Area (nearest 0.1 acre)	20.1
Will the project replace more than 50% of the impervious surfaces on an existing developed site?	No
Project Area managed with LID/Site Design BMPs (nearest 0.1 acre)	20.1
Are Treatment Control BMPs required?	No
Is the project subject to onsite retention by ordinance or policy?	Yes
Did the project meet the 100% LID/Site Design Measurable Goal?	Yes
Name of the entity that will implement, operate, and maintain the post-construction BMPs	Horti Caesaris LLC
Contact Name	Konstantinos Patis
Street or Mailing Address	9401 Wilshire Blvd., 12th Floor
City	Beverly Hills, CA
Zip Code	90212-2928
Phone	30(210)812-8242
Space Below for Use by City/County Staff Only	
Preceding Information Verified by (consistent with information in project-specific WQMP)	**Name:** **Date:**
Date Project-Specific WQMP Approved:	
Data Entered by	**Name:** **Date:**

Other Comments	

APPENDIX E

Sladden Engineering

45090 Golf Center Parkway, Suite F, Indio, CA 92201 (760) 863-0713 Fax (760) 863-0847
6782 Stanton Avenue, Suite C, Buena Park, CA 90621 (714) 523-0952 Fax (714) 523-1369
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863
www.Sladdenengineering.com

June 7, 2024

Project No. 544-22493
24-06-294

Konstantinos Patis
c/o Horti Caesaris ,LLC
9401 Wilshire Boulevard, 12th Floor
Beverly Hills, California 90212-2928

Project: Tract Map No. 68971
APN's 689-130-005, 014,017,018
APN's 689-090-003 & 689-140-022
Peterson Road
Rancho Mirage, California

Subject: Geotechnical Update

Ref: Geotechnical Investigation report prepared by Sladden Engineering dated October 19, 2010; Project No. 544-10159, Report No. 10-10-237
Geotechnical Update prepared by Sladden Engineering dated December 7, 2022; Project No. 544-22493, Report No. 22-12-717

In accordance with your request, we have reviewed the above referenced Geotechnical Investigation report and Geotechnical Update as they relate to the design and construction of the residences proposed for the properties identified as APN's 689-130-005, 014,017,018, 689-090-003 & 689-140-022 located on Peterson Road north of Mirage Cove Drive in the City of Rancho Mirage, California. It is our understanding that the proposed residential structures will be of relatively lightweight wood-frame or light gauge steel-frame construction and will be supported by conventional shallow spread footings and concrete slabs on grade.

The referenced reports include recommendations pertaining to the design and construction of residential structure foundations. Based upon our review of the referenced report, our previous experience on the project site and our understanding of the proposed construction, it is our opinion that the structural values and remedial grading recommendations included in this report remain applicable for the design and construction of the residential structures, except as amended herein.

The proposed residential buildings may be supported upon conventional shallow spread footings. Conventional shallow spread footings should be bottomed into properly compacted engineered fill soil a minimum of 12 inches below lowest adjacent grade. Continuous footings should be at least 12 inches wide and isolated pad footings should be at least 2 feet wide. Continuous footings and isolated pad footings may be designed utilizing allowable bearing pressures of 1800 psf and 2000 psf, respectively. Allowable increases of 250 psf for each additional 1 foot of width and 250 psf for each additional 6 inches of depth may be utilized, if desired. The maximum allowable bearing pressure should be 2500 psf. The recommended allowable bearing pressures may be increased by one-third for wind and seismic loading.

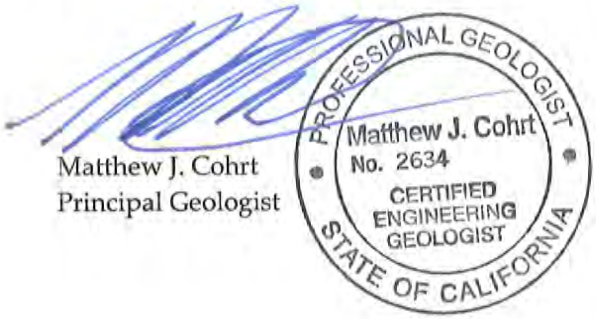
To provide firm and uniform foundation bearing conditions, the primary foundation bearing soil should be over-excavated and recompacted. Over-excavation should extend to a minimum depth of 5 feet below existing grade or 5 feet below the bottom of the footings, whichever is deeper. Once adequate removals have been verified, the exposed native soil should be moisture conditioned to near optimum moisture content and compacted to at least 90 percent relative compaction. The previously removed material may then be placed in thin lifts at near optimum moisture content and compacted to at least 90 percent relative compaction compacted engineered fill. Removals should extend at least 5 feet laterally beyond the footing limits.

We appreciate the opportunity to provide service to you on this project. If you have any questions regarding this letter or the referenced report, please contact the undersigned.

Respectfully submitted,
SLADDEN ENGINEERING

Brett L. Anderson
Principal Engineer

SER/cg



Matthew J. Cohrt
Principal Geologist

Copies: pdf/ Addressee

SITE-SPECIFIC GROUND MOTION ANALYSIS
(ASCE 7-16)

Project: PROPOSED RESIDENTIAL SUBDIVISIONS
Project Number: 544-22493
Client: KONSTANTINOS PATIS
Site Lat/Long: 33.7690/-116.4391
Controlling Seismic Source: San Andreas Fault

REFERENCE	NOTATION	VALUE
Site Class	C, D, D default, or E	D measured
Site Class D - Table 11.4-1	F_a	1.0
Site Class D - 21.3(ii)	F_v	2.5
$0.2*(S_{D1}/S_{DS})$	T_0	0.205
S_{D1}/S_{DS}	T_S	1.027
Fundamental Period (12.8.2)	T	Period
Seismic Design Maps or Fig 22-14	T_L	8
Equation 11.4-4 - $2/3*S_{M1}$	S_{D1}	1.0433
Equation 11.4-2 - F_v*S_1 [1]	S_{M1}	1.5650

[1] - F_v as determined by Section 21.3

REFERENCE	NOTATION	VALUE
Fv (Table 11.4-2)[Used for General Spectrum]	F_v	1.7
Design Maps	S_s	1.524
Design Maps	S_1	0.626
Equation 11.4-1 - F_A*S_s	S_{MS}	1.524*
Equation 11.4-3 - $2/3*S_{MS}$	S_{DS}	1.016*
Design Maps	PGA	0.668
Table 11.8-1	F_{PGA}	1.1
Equation 11.8-1 - $F_{PGA}*PGA$	PGA_M	0.735*
Section 21.5.3	80% of PGA_M	0.588
Design Maps	C_{RS}	0.913
Design Maps	C_{R1}	0.894

REFERENCE	NOTATION	VALUE
$0.2*(S_{D1}/S_{DS})$	T_0	0.14*
S_{D1}/S_{DS}	T_S	0.698*
Equation 11.4-4 - $2/3*S_{M1}$	S_{D1}	0.709*
Equation 11.4-2 - F_v*S_1	S_{M1}	1.0942*

RISK COEFFICIENT

Cr - At Perods <=0.2, Cr=C_{RS}	C_{RS}	0.913
Cr - At Periods >=1.0, Cr=C_{R1}	C_{R1}	0.894

Cr - At Periods between 0.2 and 1.0 use trendline formula to complete

Period	Cr
0.200	0.913
0.300	0.911
0.400	0.908
0.500	0.906
0.600	0.904
0.680	0.902
1.000	0.894

* Code based design value. See accompanying data for Site Specific Design values.

Mapped values from https://hazards.atcouncil.org/
https://www.seismicmaps.org/

Sladden Engineering

PROBABILISTIC SPECTRA[1]
2% in 50 year Exceedence

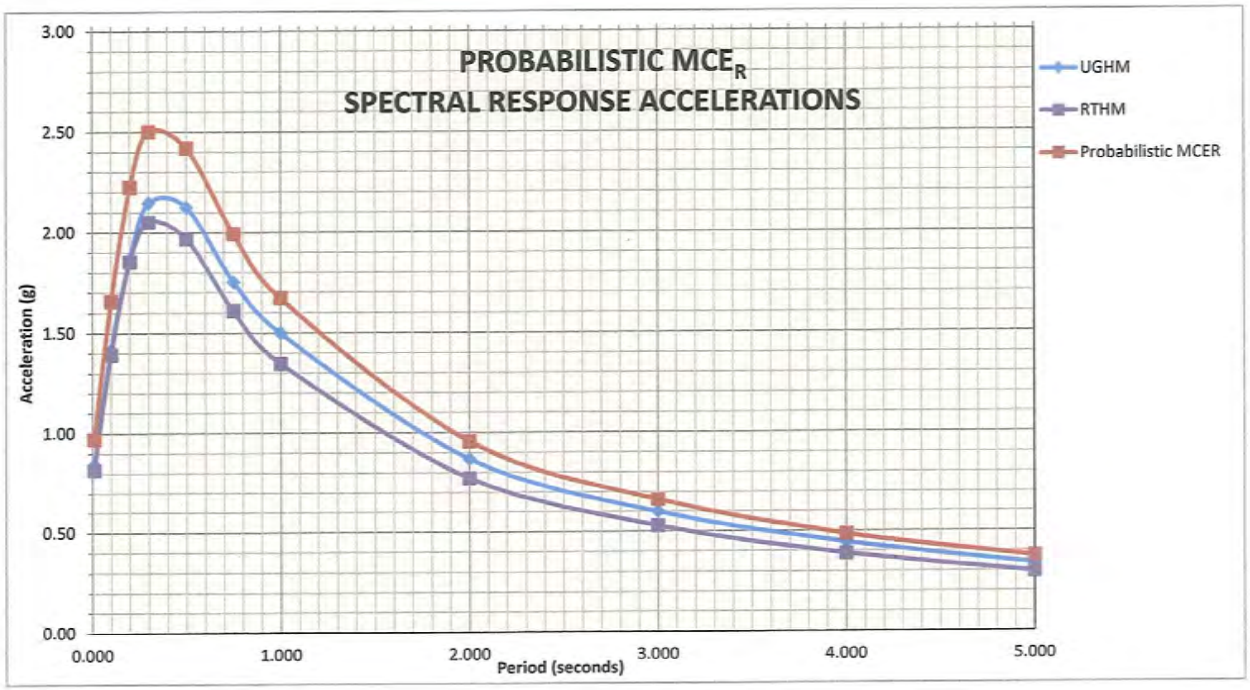
Project No: 544-22493

Period	UGHM	RTGM	Max Directional Scale Factor[2]	Probabilistic MCE
0.010	0.844	0.816	1.19	0.971
0.100	1.418	1.392	1.19	1.656
0.200	1.868	1.853	1.20	2.224
0.300	2.145	2.050	1.22	2.501
0.500	2.123	1.967	1.23	2.419
0.750	1.750	1.606	1.24	1.991
1.000	1.497	1.346	1.24	1.669
2.000	0.867	0.770	1.24	0.955
3.000	0.597	0.527	1.25	0.659
4.000	0.441	0.386	1.25	0.483
5.000	0.337	0.297	1.26	0.374

[1] Data Sources:
https://earthquake.usgs.gov/hazards/interactive/
https://earthquake.usgs.gov/designmaps/rtgm/

[2] Shahi-Baker RotD100/RotD50 Factors (2014)

Probabilistic PGA: 0.844
Is Probabilistic $Sa_{(max)} < 1.2F_a$? NO



Sladden Engineering

DETERMINISTIC SPECTRUM

Largest Amplitudes of Ground Motions Considering All Sources Calculated using Weighted Mean of Attenuation Equations[1]

Controlling Source: San Andreas Fault

Is Probabilistic $Sa_{(max)}$<1.2Fa? NO

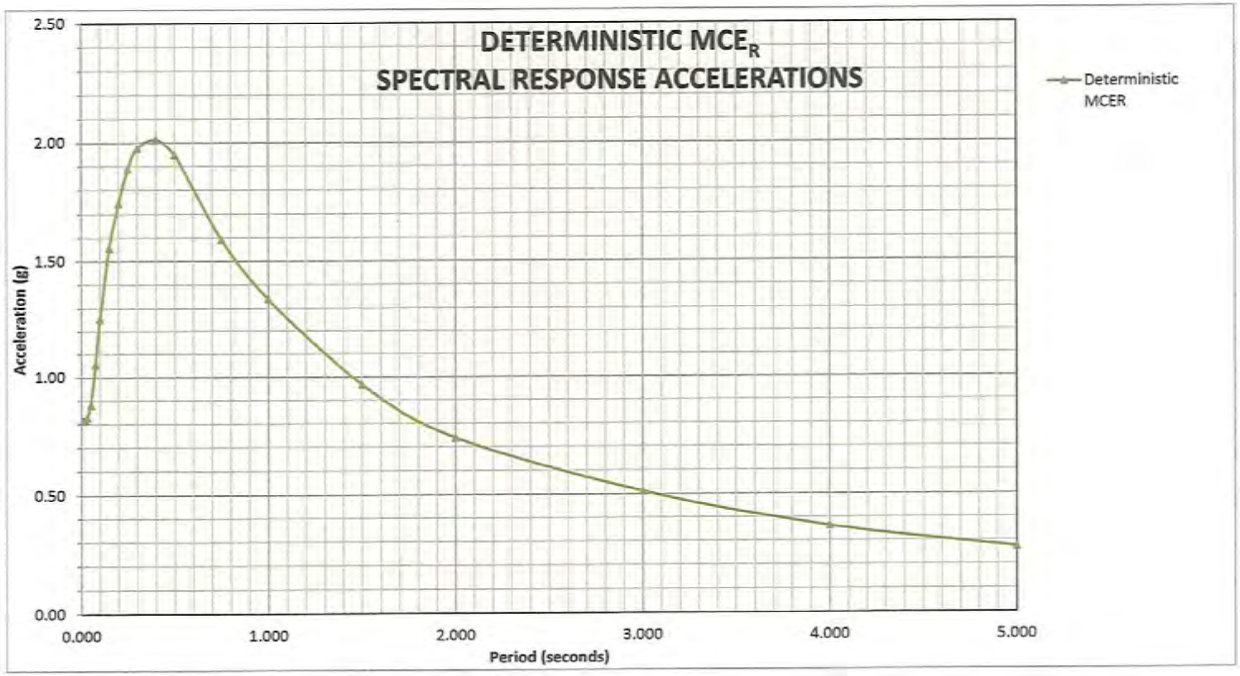
Project No: 544-22493

Period	Deterministic PSa Median + 1.σ for 5% Damping	Max Directional Scale Factor[2]	Deterministic MCE	Section 21.2.2 Scaling Factor Applied
0.010	0.685	1.19	0.815	0.815
0.020	0.685	1.19	0.815	0.815
0.030	0.695	1.19	0.827	0.827
0.050	0.739	1.19	0.880	0.880
0.075	0.886	1.19	1.054	1.054
0.100	1.052	1.19	1.252	1.252
0.150	1.296	1.20	1.555	1.555
0.200	1.453	1.20	1.743	1.743
0.250	1.562	1.21	1.889	1.889
0.300	1.620	1.22	1.976	1.976
0.400	1.636	1.23	2.012	2.012
0.500	1.583	1.23	1.947	1.947
0.750	1.283	1.24	1.591	1.591
1.000	1.079	1.24	1.338	1.338
1.500	0.779	1.24	0.966	0.966
2.000	0.595	1.24	0.738	0.738
3.000	0.409	1.25	0.512	0.512
4.000	0.289	1.25	0.361	0.361
5.000	0.215	1.26	0.271	0.271

Is Determinstic $Sa_{(max)}$<1.5*Fa?	NO
Section 21.2.2 Scaling Factor:	N/A
Deterministic PGA:	0.685
Is Deterministic PGA >=F_{PGA}*0.5?	YES

[1] NGAWest 2 GMPE worksheet and Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3) - Time Dependent Model

[2] Shahi-Baker RotD100/RotD50 Factors (2014)



Sladden Engineering

SITE SPECIFIC SPECTRA

Period	Probabilistic MCE	Deterministic MCE	Site-Specific MCE	Design Response Spectrum (Sa)
0.010	0.971	0.815	0.815	0.543
0.100	1.656	1.252	1.252	0.835
0.200	2.224	1.743	1.743	1.162
0.300	2.501	1.976	1.976	1.318
0.500	2.419	1.947	1.947	1.298
0.750	1.991	1.591	1.591	1.061
1.000	1.669	1.338	1.338	0.892
2.000	0.955	0.738	0.738	0.492
3.000	0.659	0.512	0.512	0.341
4.000	0.483	0.361	0.361	0.241
5.000	0.374	0.271	0.271	0.181

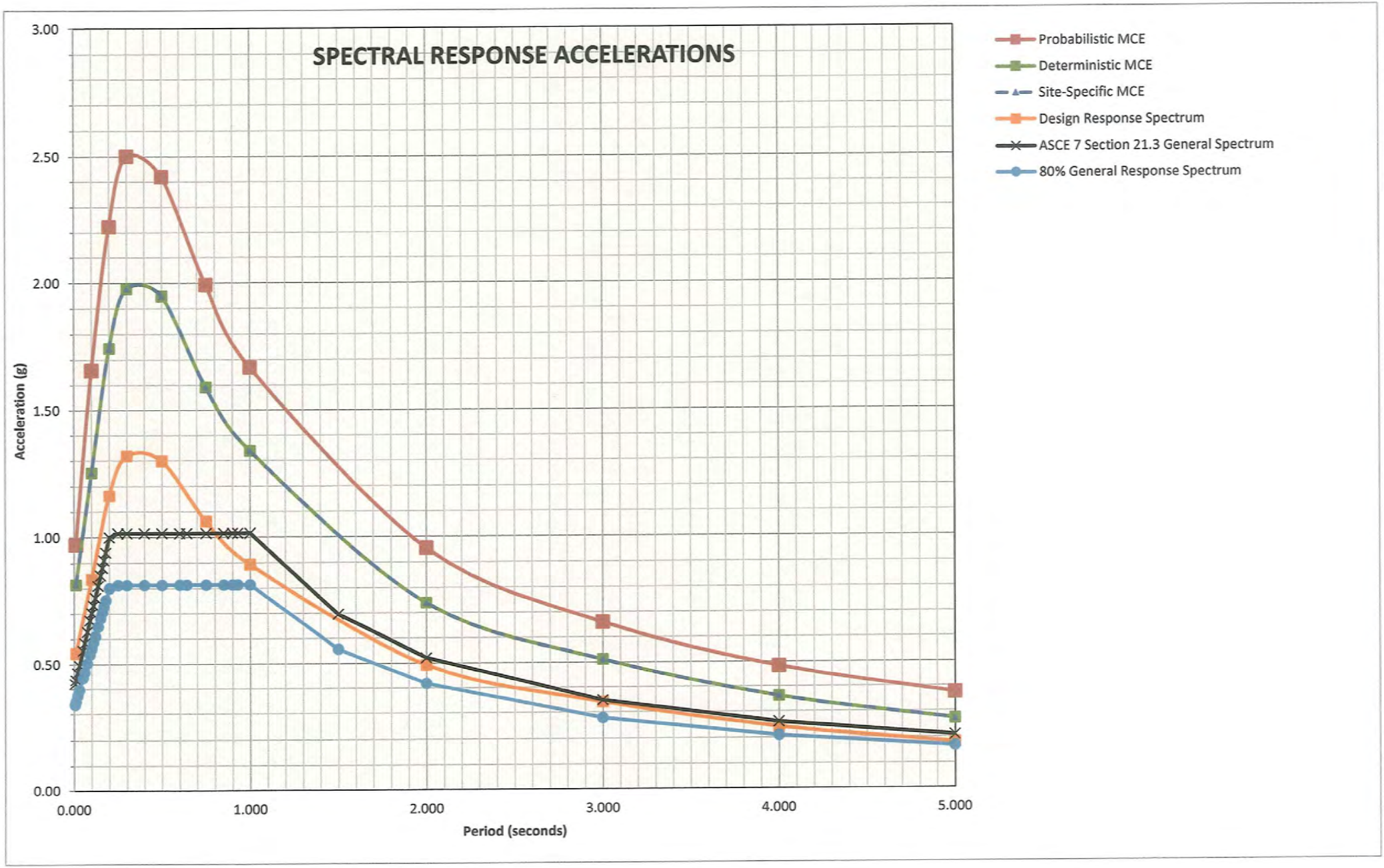
ASCE 7-16: Section 21.4
Site Specific

	Calculated Value	Design Value
SDS:	1.186	1.186
SD1:	1.024	1.024
SMS:	1.779	1.779
SM1:	1.536	1.536
Site Specific PGAm:	0.685	0.685
Site Class:	D measured	

Seismic Design Category - Short* D
Seismic Design Category - 1s* D
* Risk Categories I, II, or III

Period	ASCE 7 SECTION 21.3 General Spectrum	80% General Response Spectrum
0.005	0.421	0.337
0.010	0.436	0.349
0.020	0.466	0.373
0.030	0.495	0.396
0.050	0.555	0.444
0.060	0.584	0.468
0.075	0.629	0.503
0.090	0.674	0.539
0.100	0.703	0.563
0.110	0.733	0.586
0.120	0.763	0.610
0.136	0.810	0.648
0.150	0.852	0.681
0.160	0.881	0.705
0.170	0.911	0.729
0.180	0.941	0.753
0.200	1.000	0.800
0.250	1.016	0.813
0.300	1.016	0.813
0.400	1.016	0.813
0.500	1.016	0.813
0.600	1.016	0.813
0.640	1.016	0.813
0.750	1.016	0.813
0.850	1.016	0.813
0.900	1.016	0.813
0.930	1.016	0.813
1.000	1.016	0.813
1.500	0.696	0.556
2.000	0.522	0.417
3.000	0.348	0.278
4.000	0.261	0.209
5.000	0.209	0.167

Project No: 544-22493


SPECTRAL RESPONSE ACCELERATIONS
Acceleration (g)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0.000
1.000
2.000
3.000
4.000
5.000
Period (seconds)
Probabilistic MCE
Deterministic MCE
Site-Specific MCE
Design Response Spectrum
ASCE 7 Section 21.3 General Spectrum
80% General Response Spectrum

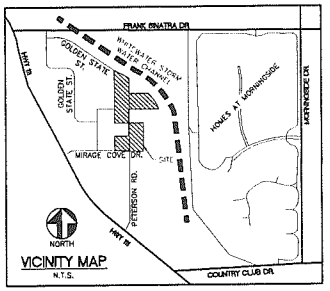
PRELIMINARY

TENTATIVE TRACT MAP NO. 38971

A PORTION OF THE NW QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

FOMOTOR ENGINEERING

APRIL 2024



VICINITY MAP
N.T.S.

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF RANCHO MIRAGE IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:
THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM 1/16TH OF ALL COAL, OIL, GAS, AND OTHER MINERAL DEPOSITS IN SAID LAND, RESERVED IN PATENT FROM THE STATE OF CALIFORNIA, RECORDED DECEMBER 03, 1923 IN BOOK 8, PAGE 398 OF PATENTS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

(APN 689-130-014)

PARCEL 2:
THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN.

(APN 689-130-017; APN 689-130-018)

PARCEL 3:
THAT PORTION OF THE NORTHERLY 247.50 FEET OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO UNITED STATES GOVERNMENT SURVEY THEREOF, LYING WESTERLY OF THE WESTERLY LINE OF THE COACHELLA VALLEY STORM WATER CHANNEL.

(APN 689-130-004)

PARCEL 3A:
A NON-EXCLUSIVE EASEMENT FOR ROAD AND PUBLIC UTILITIES, OVER THE WESTERLY 15 FEET OF THE SOUTH HALF OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST
QUARTER, AND THE WESTERLY 15 FEET OF THE WEST HALF OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, AND THE EASTERLY 15 FEET OF SOUTHEAST
QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER, AND THE EASTERLY 15 FEET OF THE SOUTHEAST QUARTER OF THE SOUTHEAST
QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER IN SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO UNITED STATES
GOVERNMENT SURVEY THEREOF.

PARCEL 4:
THAT PORTION OF THE NORTH HALF OF THE NORTH HALF QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 247.50 FEET SOUTH OF THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5, RANGE 5 EAST SAN
BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF; THENCE CONTINUING SOUTH 00°34'50" EAST TO THE SOUTHWEST CORNER OF THE SOUTH HALF OF THE NORTH HALF OF THE
NORTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 2; THENCE EASTERLY AND PARALLEL WITH THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE
NORTHWEST QUARTER OF SAID SECTION 2, TO THE WESTERLY BOUNDARY LINE OF THE COACHELLA VALLEY STORM WATER CANAL; THENCE NORTHWESTERLY ON THE WESTERLY BOUNDARY LINE OF
THE COACHELLA VALLEY STORM WATER CANAL TO A POINT 247.50 FEET SOUTH OF THE NORTH BOUNDARY LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 2,
WHEN MEASURED ON A LINE PARALLEL WITH THE EASTERLY LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 2; THENCE WESTERLY
AND PARALLEL WITH THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 2, TO THE POINT OF BEGINNING.

(APN 689-130-005)

PARCEL 5:
THE EASTERLY RECTANGULAR 330.79 FEET OF GOVERNMENT LOT 4, SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, LYING SOUTHERLY OF THE SOUTH RIGHT OF WAY OF THE COACHELLA VALLEY STORM WATER CHANNEL.

(APN 689-090-003)

PARCEL 6:
THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE
AND MERIDIAN, IN THE CITY OF RANCHO MIRAGE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

EXCEPTING THEREFROM THE WESTERLY 15 FEET.

ALSO EXCEPTING THEREFROM, 1/16TH OF ALL COAL, OIL, GAS, AND OTHER MINERAL DEPOSITS CONTAINED IN SAID LAND, AS RESERVED TO THE STATE OF CALIFORNIA IN THE PATENT RECORDED
DECEMBER 03, 1923 IN BOOK 8, PAGE 398 OF PATENTS, RIVERSIDE COUNTY RECORDS.

(APN 689-140-022)

PARCEL 7:
PARCEL A, IN THE CITY OF RANCHO MIRAGE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN ON EXHIBIT "A" ATTACHED TO CERTIFICATE OF COMPLIANCE RECORDED SEPTEMBER 30, 1997 AS INSTRUMENT NO. 355737 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA. WEST ½ OF THE SOUTHWEST ¼ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM ONE-SIXTEENTH OF ALL COAL, OIL, GAS, AND MINERAL DEPOSITS IN SAID LAND RESERVED IN PATENT FROM THE STATE OF CALIFORNIA, RECORDED DECEMBER 03, 1923 IN BOOK 8, PAGE 398 OF PATENTS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

(APN 689-130-013)

EASEMENT NOTES

1. WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT DISCLOSED BY THE PUBLIC RECORDS.

3. RIGHTS OF THE PUBLIC IN AND TO ANY PORTION OF SAID LAND, LYING WITHIN ANY LAWFULLY ESTABLISHED STREETS, ROADS, OR HIGHWAYS.

4. ANY RIGHT, TITLE, AND INTEREST OF THE STATE OF CALIFORNIA IN AND TO ALL COAL, OIL, OILSHALE, GAS, PHOSPHATE, SODIUM, AND OTHER MINERAL DEPOSITS UNDER THE PROVISIONS OF CHAPTER 303, STATUTES OF 1921, EXCEPT AS TO A 15/16THS OF ALL OIL AND GAS RESERVED IN PATENT RECORDED DECEMBER 03, 1923 IN BOOK 8, PAGE 398 OF PATENTS.

5. ANY RIGHT, TITLE, AND INTEREST OF THE STATE OF CALIFORNIA, IN AND TO ALL COAL, OIL, OILSHALE, GAS PHOSPHATE, SODIUM, AND OTHER MINERAL DEPOSITS, UNDER THE PROVISIONS OF CHAPTER 303, STATUTES OF 1921, EXCEPT AS TO 15/16THS OF ALL OIL AND GAS.

6. EASEMENT IN FAVOR OF HARVEY E. PETERSON AND EDNA P. PETERSON FOR ROAD PURPOSES RECORDED APRIL 23, 1947 IN BOOK 832, PAGE 53 O.R. AFFECTS PARCELS 1 AND 6.

7. EASEMENTS IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY FOR UTILITIES PURPOSES RECORDED MARCH 23, 1948 IN BOOK 899, PAGE 277 O.R. AFFECTS PARCEL 6. (CENTERLINE OF UNDISCLOSED WIDTH)

8. EASEMENT IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY FOR THE TRANSMISSION OF ELECTRIC ENERGY PURPOSES RECORDED JANUARY 26, 1949 IN BOOK 1047, PAGE 72 O.R.
AFFECTS: PARCELS 2 AND 5

9. EASEMENTS IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY FOR THE TRANSMISSION OF ELECTRIC ENERGY PURPOSES RECORDED APRIL 25, 1950 IN BOOK 1167, PAGE 229 O.R.
AFFECTS: PARCELS 1, 2, AND 5. (CENTERLINE OF UNDISCLOSED WIDTH)

10. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT ENTITLED "AGREEMENT" RECORDED AUGUST 10, 1950 IN BOOK 1186, PAGE 186 O.R.

11. EASEMENTS FOR FLOOD CONTROL PURPOSES RECORDED APRIL 11, 1951 IN BOOK 1261, PAGE 183 O.R. AFFECTS: PARCELS 2, 4, AND 5

12. EASEMENTS IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY FOR UTILITIES PURPOSES RECORDED NOVEMBER 30, 1951 IN BOOK 1323, PAGE 415 O.R.
AFFECTS: PARCEL 6. (CENTERLINE OF UNDISCLOSED WIDTH)

13. EASEMENTS IN FAVOR OF FLOYD ALTON GILES FOR UNDERGROUND PIPELINES PURPOSES, RECORDED NOVEMBER 13, 1956 IN BOOK 2363, PAGE 7 O.R.
LOCATED FROM THE WELL PUMPING PLANT TO THE NORTH LINE OF SAID LAND.
AFFECTS: PARCELS 2, 3, 4, 5, AND 6
(THE LOCATION CANNOT BE DETERMINED FROM THE RECORD DOCUMENT)

14. EASEMENTS FOR ROAD AND PUBLIC UTILITIES PURPOSES RECORDED JUNE 22, 1959 AS INSTRUMENT NO. 53997 O.R. ALSO RECORDED JUNE 22, 1959 AS INSTRUMENT NO. 53998 O.R.

15. EASEMENTS IN FAVOR OF FLOYD A. GILES FOR UNDERGROUND PIPELINES PURPOSES RECORDED NOVEMBER 09, 1959 AS INSTRUMENT NO. 95489 O.R.

16. EASEMENTS IN FAVOR OF GENERAL TELEPHONE COMPANY OF CALIFORNIA FOR THE TRANSMISSION OF ELECTRIC ENERGY FOR COMMUNICATION PURPOSES RECORDED OCTOBER 31, 1980 AS INSTRUMENT NO. 203643 O.R.

17. EASEMENTS IN FAVOR OF GENERAL TELEPHONE COMPANY OF CALIFORNIA FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 15, 1981 AS INSTRUMENT NO. 7907 O.R.

18. DOCUMENT RECORDED MAY 01, 1981 IN 78588 O.R.
(IT IS NOT ON, OR DOES NOT TOUCH, THE SURVEYED PROPERTY)

19. EASEMENTS IN FAVOR OF: THE CITY OF RANCHO MIRAGE FOR FLOOD CONTROL FACILITIES PURPOSES RECORDED MARCH 30, 1983 AS INSTRUMENT NO. 59319 O.R.

20. EASEMENTS IN FAVOR OF: THE CITY OF RANCHO MIRAGE FOR STORM WATER CONTROL FACILITIES PURPOSES RECORDED AUGUST 03, 1984 AS INSTRUMENT NO. 169692 O.R.

21. THE LAND DESCRIBED HEREIN IS INCLUDED WITHIN A PROJECT AREA OF THE REDEVELOPMENT AGENCY SHOWN BELOW, AND THAT PROCEEDINGS FOR THE REDEVELOPMENT OF SAID PROJECT HAVE BEEN INSTITUTED UNDER THE REDEVELOPMENT LAW (SUCH REDEVELOPMENT TO PROCEED ONLY AFTER THE ADOPTION OF THE REDEVELOPMENT PLAN) AS DISCLOSED BY A DOCUMENT.
REDEVELOPMENT AGENCY: RANCHO MIRAGE REDEVELOPMENT AGENCY
RECORDING DATE: FEBRUARY 27, 2004
RECORDING NO: 2004-0134828 OF OFFICIAL RECORDS

22. EASEMENTS IN FAVOR OF: SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO. 2009-0017714 O.R.

23. EASEMENTS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO: 2009-0017715 O.R.

24. EASEMENTS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO: 2009-0017716 O.R.

25. EASEMENTS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO: 2009-0017717 O.R.

26. EASEMENTS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO: 2009-0017718 O.R.

31. ANY RIGHTS OF THE PARTIES IN POSSESSION OF A PORTION OF, OR ALL OF, SAID LAND, WHICH RIGHTS ARE NOT DISCLOSED BY THE PUBLIC RECORDS.

OWNER/APPLICANT

HORTI CAESARIS LLC
9401 WILSHIRE BLVD. 12TH FLOOR
BEVERLY HILLS, CA 90212-2928

CONTACT:
KONSTANTINOS PATIS
CEO LAV
OFFICE: +302108128242
MOBILE: +306947378121
KPATIS@CENTRALICO.CH

VANJA HABEKOVIC
ERVIN COHEN & JESSUP LLP.
OFFICE: (310) 281-6377
FAX: (310) 877-6818

ENGINEER/SURVEYROR

FOMOTOR ENGINEERING
225. S. CIVIC DR. SUIT 1-5
PALM SPRINGS, CA 92262
PHILLIP FOMOTOR, CIVIL ENGINEER
EMAIL: SURVEY@FOMOTOR.COM
TEL: (760) 323-1842

BASIS OF BEARINGS

THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTER SECTION LINE OF SECTION 2, BEING N00°10'53"W PER RS 152/51.

FEMA ZONE

ZONE X (0.2% ANNUAL CHANCE FLOOD HAZARD OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREA OF LESS THAN ONE SQUARE MILE) PER FEMA MAP NO. 06065C1595G EFFECTIVE 08/28/2008.

ASSESSOR PARCEL NUMBER(S)

689-090-003, 689-130-004, 689-130-005, 689-130-013, 689-130-014, 689-130-017, 689-130-018, 689-140-022

EXISTING ZONING

RESIDENTIAL - ESTATE (R-E)
OPEN SPACE - FLOODWAYS & DRAINAGE CHANNELS (OS-W)

PROPOSED ZONING

RESIDENTIAL - ESTATE (RE)

BUILDING SETBACK

FRONT - 25'
REAR - 25'
SIDE (INTERIOR) - 10'
SIDE (STREET) - 25'

SCHOOL DISTRICT

RANCHO MIRAGE SCHOOL DISTRICT

LOT TABULATION

NO.	TYPE	GROSS ACRES
LOT(S) 1-16	RESIDENTIAL LOTS	17.38 AC.
LOT A	PUBLIC STREET	1.33 AC.
LOT B	PUBLIC STREET	0.70 AC.
LOT C	PUBLIC STREET	0.06 AC.
LOT D	PRIVATE STREET	0.34 AC.
TOTAL:	19.81 AC.	

UTILITIES:

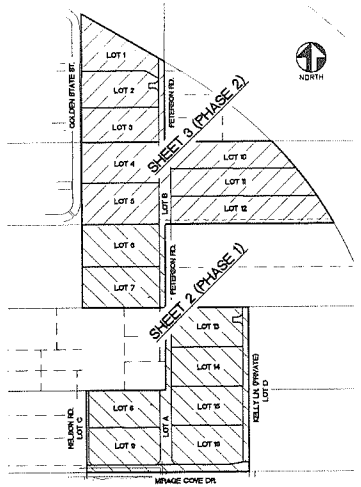
ELECTRIC: SOUTHERN CALIFORNIA EDISON
6899 OLD WOMAN SPRING RD.
YUCCA VALLEY, CA 92284
(760) 369-5413

WATER/SEWER: COACHELLA VALLEY WATER DISTRICT
51501 TYLER ST.
COACHELLA, CA 92236
(760) 398-2851

GAS: SOCAL GAS
PO BOX 1626
MONTEREY PARK, CA 91754-8626
(909) 305-8261

TELEPHONE: FRONTIER
1980 ORANGE TREE LN. STE 210
REDLANDS, CA 92374
(951) 992-1715

CABLE: GCI SYSTEMS (SPECTRUM)
105 KENT ST.
IRON MOUNTAIN, MI 49801
(800) 338-9289



INDEX MAP
SCALE 1"= 200'

DATE: 5/1/2024

DIGALERT — CALL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG — TOLL FREE 1-800-227-2600 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL — REGISTERED PROFESSIONAL ENGINEER — PHILIP K. FOMOTOR — No. 47264 — CIVIL — STATE OF CALIFORNIA

PRELIMINARY

PHILIP K. FOMOTOR PE., PLS. DATE: _____
R.C.E. NO. 47264

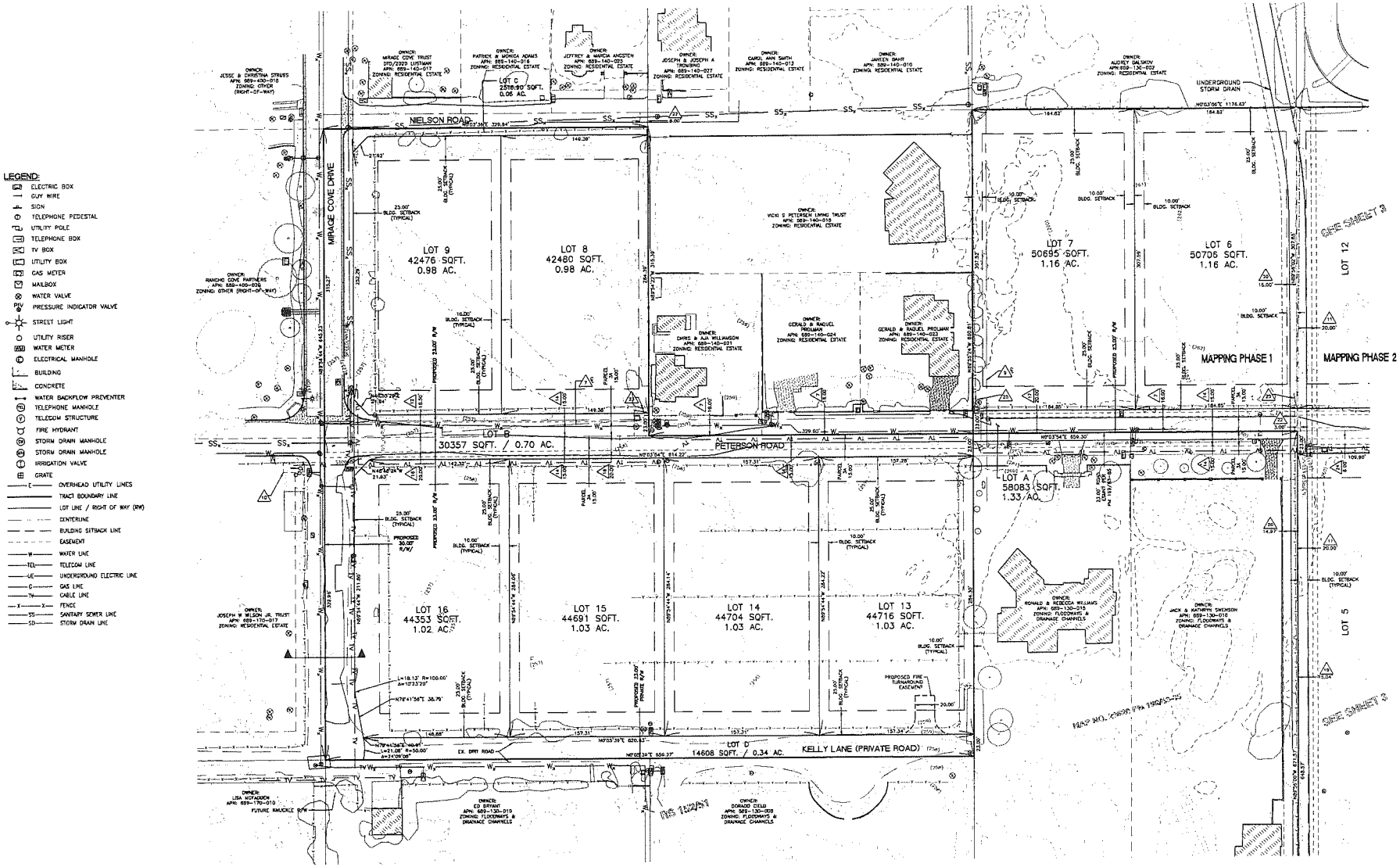
TRACT MAP NO. 68971

OWNER: HORTI CAESARIS LLC
PH. +30(210)812-8242
MAILING: 9401 WILSHIRE BLVD. 12TH FLOOR
BEVERLY HILLS, CA 90212-2928

SITE: PETERSON RD.
RANCHO MIRAGE, CA 92270

PREPARED BY:
FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1842 FAX (760) 323-1742

PRELIMINARY



DATE: 5/1/2024

DIGALERT — DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG — TOLL FREE 1-800-227-2600 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL — REGISTERED PROFESSIONAL ENGINEER — PHILLIP K. FOMOTOR No. 47284 — CIVIL — STATE OF CALIFORNIA

PRELIMINARY

DATE: _____

PHILLIP K. FOMOTOR PE., PLS.
R.C.E. NO. 47284

TRACT MAP NO. 68971

OWNER: HORTI CAESARIS LLC
PH. +30(210)812-8242
MAILING: 9401 WILSHIRE BLVD. 12TH FLOOR
BEVERLY HILLS, CA 90212-2928

SITE: PETERSON RD.
RANCHO MIRAGE, CA 92270

PREPARED BY:
FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1049 FAX (760) 323-1742

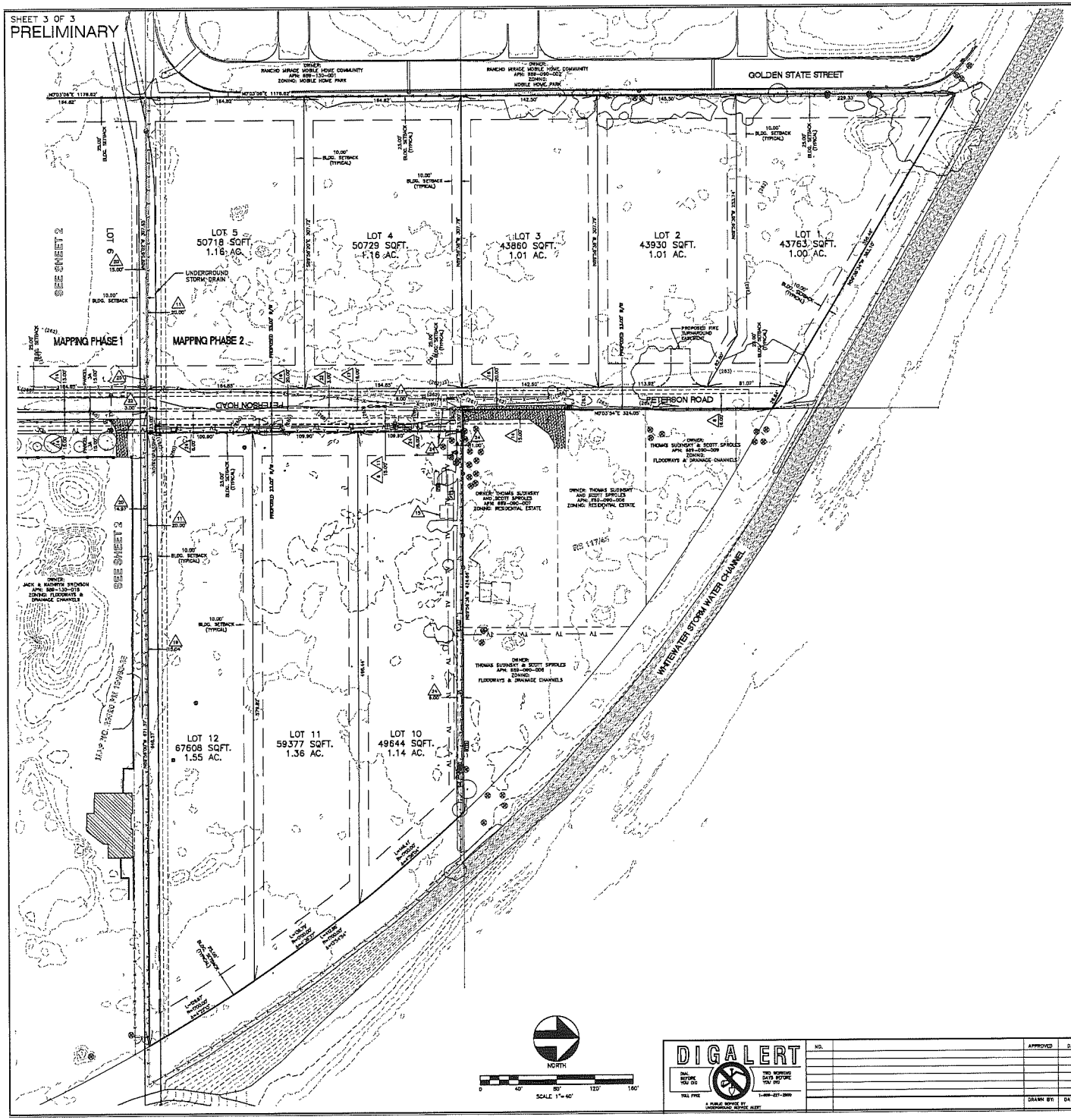
SHEET 3 OF 3
PRELIMINARY

TENTATIVE TRACT MAP NO. 38971

A PORTION OF THE NW QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

FOMOTOR ENGINEERING

APRIL 2024



NORTH

SCALE 1"=40'

DATE: 5/1/2024

DIGALERT — CALL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG — TOLL FREE 1-800-227-2600 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL — REGISTERED PROFESSIONAL ENGINEER — PHILLIP K. FOMOTOR — No. 47284 — CIVIL — STATE OF CALIFORNIA

PRELIMINARY

PHILLIP K. FOMOTOR PE, PLS
R.C.E. NO. 47284

DATE:

TRACT MAP NO. 68971

OWNER: HORTI CAESARIS LLC
PH. +30(210)812-8242
MAILING: 9401 WILSHIRE BLVD. 12TH FLOOR
BEVERLY HILLS, CA 90212-2925

SITE: PETERSON RD.
RANCHO MIRAGE, CA 92270

PREPARED BY:

FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-3
PALM SPRINGS, CA. 92262
(760) 323-1942 FAX (760) 323-1742

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
PETERSON ROAD - 20 ACRES
RANCHO MIRAGE, CALIFORNIA

-Prepared By-

Sladden Engineering

45090 Golf Center Parkway, Suite F
Indio, California 92201
(760) 772-3893

Sladden Engineering

45090 Golf Center Parkway, Suite F, Indio, California 92201 (760) 863-0713 Fax (760) 863-0847
6782 Stanton Avenue, Suite A, Buena Park, CA 90621 (714) 523-0952 Fax (714) 523-1369
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863
800 E. Florida Avenue, Hemet, CA 92543 (951) 766-8777 Fax (951) 766-8778

October 19, 2010

Project No. 544-10159
10-10-237

IMH Special Asset NT 100, LLC
4900 North Scottsdale Blvd, Suite 5000
Scottsdale, Arizona 85251

Project: Proposed Residential Subdivision
Peterson Road - 20 Acres
Rancho Mirage, California

Subject: Geotechnical Investigation

Sladden Engineering is pleased to present the results of our geotechnical investigation for the proposed residential subdivision to be constructed adjacent to Peterson Road and north of Mirage Cove Drive in the City of Rancho Mirage, California. Our services were completed in accordance with our proposal for geotechnical engineering services dated August 31, 2010 and your authorization to proceed with the work. The purpose of our investigation was to explore the subsurface conditions at the site in order to provide recommendations for foundation design and site preparation. Evaluation of environmental issues and hazardous wastes was not included within the scope of services provided.

The opinions, recommendations and design criteria presented in this report are based on our field exploration program, laboratory testing and engineering analyses. Based on the results of our investigation, it is our professional opinion that the proposed project is feasible provided the recommendations presented in this report are implemented in the design and carried out through construction.

We appreciate the opportunity to provide service to you on this project. If you have any questions regarding this report, please contact the undersigned.

Respectfully submitted,
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GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
PETERSON ROAD - 20 ACRES
RANCHO MIRAGE, CALIFORNIA

October 19, 2010

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INTRODUCTION

This report presents the results of the geotechnical investigation performed by Sladden Engineering (Sladden) for the proposed future residential development to be located adjacent to Peterson Road and north of Mirage Cove Drive in the City of Rancho Mirage, California. The site consists of seven (7) parcels that are located on the NW ¼ of Section 2, Township 5 South, Range 5 East (SBBM) at approximately 33.76919° north latitude and 116.43917° west longitude. The approximate location of the site is indicated on the Site Location Map (Figure 1).

Our investigation was conducted in order to evaluate the engineering properties of the subsurface materials, to evaluate their *in-situ* characteristics, and to provide engineering recommendations and design criteria for site preparation, foundation design and the design of various site improvements. This study also includes a review of published and unpublished geotechnical and geological literature regarding seismicity at and near the subject site.

PROJECT DESCRIPTION

Based on our preliminary conversations, it is our understanding that future construction at the site will consist of constructing a new residential subdivision. Sladden anticipates that the proposed project will also include new concrete flatwork, paved roads and various other associated site improvements. For our analyses we expect that the future residences will consist of relatively lightweight one-story or two-story, wood-frame structures supported on conventional shallow spread footings and concrete slabs-on-grade.

Grading plans and finished floor elevation were not available at the time of this report. However, based on the relatively level nature of the site, Sladden expects that grading will be limited to minor cuts and fills in order to accomplish the desired pad elevations and provide adequate gradients for site drainage. This does not include the removal and recompaction of foundation bearing soil within the building envelope. Upon completion of precise grading plans, Sladden should be retained in order to ensure that the recommendations presented within in this report are incorporated into the design of the proposed project.

Structural foundation loads were not available at the time of this report. Based on our experience with relatively lightweight structures, we expect that isolated column loads will be less than 20 kips and continuous wall loads will be less than 2.0 kips per linear foot. If these assumed loads vary significantly from the actual loads, we should be consulted to verify the applicability of the recommendations provided.

SCOPE OF SERVICES

The purpose of our investigation was to determine specific engineering characteristics of the surface and near surface soil in order to develop foundation design criteria and recommendations for site preparation. Exploration of the site was achieved by drilling ten (10) exploratory boreholes to depths between approximately 21.5 and 51.5 feet below (existing) ground surface (bgs). Specifically, our site characterization consisted of the following tasks:

- Site reconnaissance to assess the existing surface conditions on and adjacent to the site.
- Advancing ten (10) exploratory boreholes to depths between approximately 21.5 and 51.5 feet bgs in order to characterize the subsurface soil conditions. Representative samples of the soil were classified in the field and retained for laboratory testing and engineering analyses.
- Performing laboratory testing on selected samples to evaluate their engineering characteristics.
- Reviewing geologic literature and discussing geologic hazards.
- Performing engineering analyses to develop recommendations for foundation design and site preparation.
- The preparation of this report summarizing our work at the site.

SITE CONDITIONS

The subject site is located on east and west of Peterson Road and north of Mirage Cove Drive in the City of Rancho Mirage. The site consists of seven (7) undeveloped parcels that occupy a combined area of approximately 20 acres. The site is located in an area of custom residential homes and is generally bounded by residential structures to the immediate west, Mirage Cove Drive to the south, residential properties to the east and the Whitewater River Channel to the immediate north. At the time of our investigation, the site had been cleared of vegetative cover and structures.

Based on our review of the United States Geological Survey (USGS) 7.5' Cathedral City Quadrangle map (1981) and Riverside County Land Information System (RCLIS, 2010), the site is situated at an approximate elevation of 260 feet above mean sea level (AMSL).

No natural ponding of water or surface seeps were observed at or near the site during our investigation conducted on September 29, 2010. Site drainage appears to be controlled via sheet flow and surface infiltration. Regional drainage is provided by the Whitewater River that is located to the immediate north of the site.

GEOLOGIC SETTING

The project site is located within the Colorado Desert Physiographic Province (also referred to as the Salton Trough) that is characterized as a northwest-southeast trending structural depression extending from the Gulf of California to the Banning Pass. The Salton Trough is dominated by several northwest trending faults, most notably the San Andreas Fault system. The Salton Trough is bounded by the Santa Rosa – San Jacinto Mountains on the southwest, the San Bernardino Mountains on the north, the Little San Bernardino - Chocolate – Orocopia Mountains on the east, and extends through the Imperial Valley into the Gulf of California on the south.

A relatively thick sequence (20,000 feet) of sediment have been deposited in the Coachella Valley portion of the Salton Trough from Miocene to present times. These sediments are predominately terrestrial in nature with some lacustrian (lake) and minor marine deposits. The major contributor of these sediments has been the Colorado River. The mountains surrounding the Coachella Valley are composed primarily of Precambrian metamorphic and Mesozoic "granitic" rock.

The Salton Trough is an internally draining area with no readily available outlet to Gulf of California and with portions well below sea level (-253' msl). The region is intermittently blocked from the Gulf of California by the damming effects of the Colorado River delta (current elevation +30'msl). Between about 300AD and 1600 AD (to 1700 ?) the Salton Trough has been inundated by the River's water, forming ancient Lake Cahuilla (max. elevation +58' msl). Since that time the floor of the Trough has been repeatedly flooded with other "fresh" water lakes (1849, 1861, and 1891), the most recent and historically long lived being the current Salton Sea (1905). The sole outlet for these waters is evaporation, leaving behind vast amounts of terrestrial sediment materials and evaporite minerals.

The site has been mapped by Rogers (1965) to be immediately underlain by undifferentiated Quaternary-age alluvium and sand (Qal-Qs). The regional geologic setting for the site vicinity is presented on the Regional Geologic Map (Figure 2).

SUBSURFACE CONDITIONS

The subsurface conditions at the site were investigated by drilling ten (10) exploratory boreholes to depths between approximately 21.5 and 51.5 feet bgs. The approximate locations of the boreholes are illustrated on the Borehole Location Plan (Figure 3). The boreholes were advanced using a truck-mounted Mobile B-61 drill rig equipped with 8-inch outside diameter (O.D.) hollow stem augers. A representative of Sladden was on-site to log the materials encountered and retrieve samples for laboratory testing and engineering analysis.

During our field investigation, a thin mantle of artificial fill soil on the order of five (5) feet bgs was encountered directly overlying alluvium consisting of silty sand, sand and silt. Detailed descriptions of the subsurface materials encountered are included in Appendix A of this report.

Groundwater was not encountered during our field investigation. Based on our field investigation and previous experience in the project vicinity, it is our opinion that groundwater should not be a factor during the construction of the proposed project.

SEISMICITY AND FAULTING

The southwestern United States is a tectonically active and structurally complex region, dominated by northwest trending dextral faults. The faults of the region are often part of complex fault systems, composed of numerous subparallel faults which splay or step from main fault traces. Strong seismic shaking could be produced by any of these faults during the design life of the proposed project.

We consider the most significant geologic hazard to the project to be the potential for moderate to strong seismic shaking that is likely to occur during the design life of the project. The proposed project is located in the highly seismic Southern California region within the influence of several fault systems that are considered to be active or potentially active. An active fault is defined by the State of California as a "sufficiently active and well defined fault" that has exhibited surface displacement within the Holocene epoch (about the last 11,000 years). A potentially active fault is defined by the State as a fault with a history of movement within Pleistocene time (between 11,000 and 1.6 million years ago).

As previously stated, the site has been subjected to strong seismic shaking related to active faults that traverse through the region. Some of the more significant seismic events near the subject site within recent times include: M6.0 North Palm Springs (1986), M6.1 Joshua Tree (1992), M7.3 Landers (1992), M6.2 Big Bear (1992) and M7.1 Hector Mine (1999).

Table 1 lists the closest known potentially active faults that was generated in part using the EQFAULT computer program (Blake, 2000), as modified using the fault parameters from The Revised 2002 California Probabilistic Seismic Hazard Maps (Cao et al, 2003). This table does not identify the probability of reactivation or the on-site effects from earthquakes occurring on any of the other faults in the region.

TABLE 1
CLOSEST KNOWN ACTIVE FAULTS

Fault Name	Distance (Km)	Maximum Event
San Andreas - Coachella	12.2	7.2
San Andreas - Southern	12.2	7.2
San Andreas - San Bernardino	17.6	7.5
Burnt Mountain	20.4	6.5
Eureka Peak	24.1	6.4
San Jacinto - Anza	30.7	7.2
San Jacinto - Coyote Creek	35.3	6.8
Pinto Mountain	36.3	7.2

2007 CBC SEISMIC DESIGN PARAMETERS

Sladden has reviewed the 2007 California Building Code (CBC) and summarized the current seismic design parameters for the proposed residential structures. The seismic design category for a structure may be determined in accordance with Section 1613 of the 2007 CBC or ASCE7. According to the 2007 CBC, Site Class D may be used to estimate design seismic loading for the proposed structure. The period of the structures should be less than ½ second. This assumption should be verified by the project structural engineer. The 2007 CBC Seismic Design Parameters are summarized below.

Occupancy Category (Table 1604.5): II
Site Class (Table 1613.5.5): D
Ss (Figure 1613.5.1): 1.500g
S1 (Figure 1613.5.1): 0.600g
Fa (Table 1613.5.3(1)): 1.0
Fv (Table 1613.5.3(2)): 1.5
S_{MS} (Equation 16-37 {Fa X Ss}): 1.500g
S_{M1} (Equation 16-38 {Fv X S1}): 0.900g
S_{DS} (Equation 16-39 {2/3 X S_{MS}}): 1.000g
S_{D1} (Equation 16-40 {2/3 X S_{M1}}): 0.600g
Seismic Design Category: D

GEOLOGIC HAZARDS

The subject site is located in an active seismic zone and will likely experience strong seismic shaking during the design life of the proposed project. In general, the intensity of ground shaking will depend on several factors including: the distance to the earthquake focus, the earthquake magnitude, the response characteristics of the underlying materials, and the quality and type of construction. Geologic hazards and their relationship to the site are discussed below.

I. Surface Rupture. Surface rupture is expected to occur along preexisting, known active fault traces. However, surface rupture could potentially splay or step from known active faults or rupture along unidentified traces. Based on our review of Rogers (1965), Jennings (1994), Hart and Bryant (1997), and RCLIS (2010), no known faults are currently mapped on or projecting towards the site. In addition, no signs of active surface faulting were observed during our review of non-stereo digitized photographs of the site and site vicinity (Google, 2010; Terra Server 2002). Finally, no signs of active surface fault rupture or secondary seismic effects (lateral spreading, lurching etc.) were identified on-site during our field investigation. Therefore, it is our opinion that risks associated with primary surface ground rupture should be considered "low".

II. Ground Shaking. The site has been subjected to past ground shaking by faults that traverse through the region. Strong seismic shaking from nearby active faults is expected to produce strong seismic shaking during the design life of the proposed project. A probabilistic approach was employed to estimate the peak ground acceleration (a_{max}) that could be experienced at the site. Based on the USGS Probabilistic Hazard Curves (USGS, 2009) the site could be subjected to ground motions on the order of 0.4957g. The peak ground acceleration at the site is judged to have a 475 year return period and a 10 percent chance of exceedence in 50 years.

III. Liquefaction. Liquefaction is the process in which loose, saturated granular soil loses strength as a result of cyclic loading. The strength loss is a result of a decrease in granular sand volume and a positive increase in pore pressures. Generally, liquefaction can occur if all of the following conditions apply: liquefaction-susceptible soil, groundwater within a depth of 50 feet or less, and strong seismic shaking.

According to the County of Riverside, the site is situated within a "Moderate" liquefaction potential zone (RCLIS, 2010). Based on our review of groundwater maps of the site vicinity (>50 feet bgs; Tyley, 1975), risks associated with liquefaction and liquefaction related hazards should be considered negligible.

IV. Tsunamis and Seiches. Because the site is situated at an inland location, and is not immediately adjacent to any impounded bodies of water, risk associated with tsunamis and seiches is considered negligible.

V. Slope Failure, Landsliding, Rock Falls. The project site is located on relatively flat ground and not immediately adjacent to any hillsides. Accordingly, risks associated with slope instability is considered "low".

VI. Expansive Soil. Generally, the site soil consists of interbedded silty sand (SM), sand (SP) and silt (ML). Based on the results of our laboratory testing (EI=0), the materials underlying the site are considered to have a "very low" expansive potential and the risk of structural damage caused by volumetric changes in the subgrade soil is considered "negligible".

VII. Settlement. Settlement resulting from the anticipated foundation loads should be tolerable provided that the recommendations included in this report are considered in foundation design and construction. The estimated ultimate settlement is calculated to be less that approximately one inch when using the recommended bearing values. As a practical matter, differential settlement between footings can be assumed as one-half of the total settlement.

VIII. Subsidence. The site situated within a "Susceptible" subsidence zone (RCLIS, 2010). Land subsidence can occur in valleys where aquifer systems have been subjected to extensive groundwater pumping, such that groundwater pumping exceeds groundwater recharge. Generally, pore water reduction can result in a rearrangement of skeletal grains and could result in elastic (recoverable) or inelastic (unrecoverable) deformation of an aquifer system. Recent published literature indicates that the Upper Coachella Valley region between 1996 and 2005 has been subjected to groundwater withdrawal related subsidence (USGS, 2007).

Although recent investigations have documented limited subsidence within the Rancho Mirage area (USGS, 2007), no fissures or other surficial evidence of subsidence were observed at the subject site. With the exception of isolated tension zones typically manifested on the ground surface as fissures and/or ground cracks, subsidence related to groundwater depletion is generally areal in nature with very little differential settlement over short distances such as across individual buildings.

The Coachella Valley Water District has publically acknowledged regional subsidence throughout the southern portion of the Coachella Valley and has indicated a commitment to groundwater replenishment programs that are intended to limit future subsidence. At this time, subsidence is considered a regional problem requiring regional mitigation not specific to the project vicinity.

Locally, no fissures or other surficial evidence of subsidence were observed at or near the subject site. Although the site specific effects resulting from long term regional subsidence is beyond the scope of our investigation the location of the site suggests that the potential for subsidence is negligible.

IX. Debris Flows. Debris flows are viscous flows consisting of poorly sorted mixtures of sediment and water and are generally initiated on slopes steeper than approximately six horizontal to one vertical (6H:1V)(Boggs, 2001). Based on the relatively flat nature of the site, risks associated with debris flows should be considered "low".

X. Flooding and Erosion. No signs of flooding or erosion were observed during our field investigation. Accordingly, risks associated with flooding and erosion should be considered "low".

CONCLUSIONS

Based on the results of our investigation, it is our professional opinion that the project is feasible from a soil mechanic's standpoint provided the recommendations of this report are incorporated in the design and carried out through construction. The main geotechnical concern in the construction of the proposed project is the presence of potentially compressible artificial fill and native soil near the surface.

The surface soil on the site is considered loose, potentially compressible and not suitable for support of shallow foundations or concrete slabs in its existing condition. Because of the somewhat loose and potentially compressible condition of the near surface soil, remedial grading including overexcavation and recompaction is recommended for the proposed building and foundation areas. We recommend that remedial grading within the proposed building area include overexcavation and recompaction of the foundation bearing soil. Specific recommendations for site preparation are presented in the Earthwork and Grading section of this report.

Caving did occur to varying degrees within each of our exploratory bores and the surface soil may be susceptible to caving within deeper excavations. All excavations should be constructed in accordance with the normal CalOSHA excavation criteria. On the basis of our observations of the materials encountered, we anticipate that the subsoil will conform to that described by CalOSHA as Type B or C. Soil conditions should be verified in the field by a "Competent person" employed by the Contractor.

The following recommendations present more detailed design criteria that have been developed on the basis of our field and laboratory investigation.

EARTHWORK AND GRADING

All earthwork including excavation, backfill and preparation of the subgrade soil should be performed in accordance with the geotechnical recommendations presented in this report and portions of the local regulatory requirements, as applicable. All earthwork should be performed under the observation and testing of a qualified soil engineer. The following geotechnical engineering recommendations for the proposed project are based on observations from the field investigation program, laboratory testing and geotechnical engineering analysis.

a. Stripping. Due to the reported presence of previous structures and improvements on portions of the site, proper clearing will be important. Areas to be graded should be cleared of any existing structures, vegetation, associated root systems, and debris. All areas scheduled to receive fill should be cleared of old fills and any irreducible matter. The strippings should be removed off site, or stockpiled for later use in landscape areas. Voids left by obstructions should be properly backfilled in accordance with the compaction recommendations of this report.

b. Preparation of the Building Areas. In order to achieve firm and uniform bearing conditions, we recommend overexcavation and recompaction throughout the building areas. Near surface soil should be removed to a depth of at least 5 feet below existing grade or 5 feet below the bottom of the footings, whichever is deeper. Remedial grading should extend laterally, a minimum of five feet beyond the building perimeter. The exposed surface should then be scarified, moisture conditioned to within two percent of optimum moisture content, and compacted to at least 90 percent relative compaction. Testing of the native soil within the excavation bottoms should be performed during grading to verify adequacy.

c. Compaction. Soil to be used as engineered fill should be free of organic material, debris, and other deleterious substances, and should not contain irreducible matter greater than three inches in maximum dimension. All fill materials should be placed in thin lifts, not exceeding six inches in their loose state. If import fill is required, the material should be of a low to non-expansive nature and should meet the following criteria:

Plastic Index	Less than 12
Liquid Limit	Less than 35
Percent Soil Passing #200 Sieve	Between 15% and 35%
Maximum Aggregate Size	3 inches

The subgrade and all fills should be compacted with acceptable compaction equipment, to at least 90 percent relative compaction. The bottom of the exposed subgrade should be observed by a representative of Sladden Engineering prior to fill placement. Compaction testing should be performed on all lifts in order to ensure proper placement of the fill materials. Table 2 provides a summary of the excavation and compaction recommendations.

Table 2
SUMMARY OF RECOMMENDATIONS

*Remedial Grading	Excavation and recompaction within the building envelope and extending laterally for 5 feet beyond the building limits and to a minimum of 5 feet below existing grade or 5 feet below the bottom of the footings, whichever is deeper.
Native / Import Engineered Fill	Place in thin lifts not exceeding 6 inches in the loose state, compact to a minimum of 90 percent relative compaction within 2 percent of the optimum moisture content.
Driveway and Flatwork	Compact the top 12 inches to at least 95 percent compaction within 2 percent of optimum moisture content.

*Actual depth may vary and should be determined by a representative of Sladden Engineering in the field during construction.

d. Shrinkage and Subsidence. Volumetric shrinkage of the material that is excavated and replaced as controlled compacted fill should be anticipated. We estimate that this shrinkage could vary from 15 to 20 percent. Subsidence of the surfaces that are scarified and compacted should be between 1 and 3 tenths of a foot. This will vary depending upon the type of equipment used, the moisture content of the soil at the time of grading and the actual degree of compaction attained.

FOUNDATION: CONVENTIONAL SPREAD FOOTINGS

Load bearing walls may be supported on continuous spread footings and interior columns may be supported on isolated pad footings. All footings should be founded upon properly engineered fill and should have a minimum embedment depth of 12 inches measured from the lowest adjacent finished grade. Continuous and isolated footings should have a minimum width of 12 inches and 24 inches respectively. Continuous and isolated footings placed on such materials may be designed using an allowable (net) bearing pressures of 1800 and 2000 pounds per square foot (psf), respectively. Allowable increases of 250 psf for each additional 1 foot in width and 250 psf for each additional 6 inches in depth may be utilized, if desired. The maximum allowable bearing pressure should be 2,500 psf. The allowable bearing pressure applies to combined dead and sustained live loads.

The allowable bearing pressure may be increased by one-third when considering transient live loads, including seismic and wind forces. All footings should be reinforced in accordance with the project structural engineer's recommendations.

Based on the allowable bearing pressures recommended above, total settlement of the shallow footings are anticipated to be less than one-inch, provided foundation preparations conform to the recommendations described in this report. Differential settlement is anticipated to be less than one half the total settlement for similarly loaded footings spaced up to approximately 40 feet apart.

Lateral load resistance for the spread footings will be developed by passive soil pressure against the sides of the footings below grade and by friction acting at the base of the concrete footings bearing on compacted fill. An allowable passive pressure of 300 psf per foot of depth may be used for design purposes. An allowable coefficient of friction 0.45 may be used for dead and sustained live loads to compute the frictional resistance of the footing placed directly on compacted fill. Under seismic and wind loading conditions, the passive pressure and frictional resistance may be increased by one-third.

All footing excavations should be observed by a representative of the project geotechnical consultant to verify adequate embedment depths prior to placement of forms, steel reinforcement or concrete. The excavations should be trimmed neat, level and square. All loose, disturbed, sloughed or moisture-softened soils and/or any construction debris should be removed prior to concrete placement. Excavated soil generated from footing and/or utility trenches should not be stockpiled within the building envelope or in areas of exterior concrete flatwork.

SLABS-ON-GRADE

In order to reduce the risk of cracking and settlement, concrete slabs-on-grade must be placed on properly compacted fill as outlined in the previous sections. The slab subgrades should remain near optimum moisture content and should not be permitted to dry. Prior to concrete pour, all slab subgrades should be firm and unyielding. Disturbed soils should be removed and then replaced and compacted to a minimum of 90 percent relative compaction.

We recommend a minimum slab thickness of 4.0 inches. Slab thickness and reinforcement should be determined by the structural engineer. All slab reinforcement should be supported on concrete chairs to ensure that reinforcement is placed at slab mid-height.

Slabs with moisture sensitive surfaces should be underlain with a moisture vapor retarder consisting of a polyvinyl chloride membrane such as 10-mil Visqueen, or equivalent. All laps within the membrane should be sealed and at least 2 inches of clean sand should be placed over the membrane to prevent damage and to promote uniform curing of the concrete. To reduce the potential for punctures, the membrane should be placed on a pad surface that has been graded smooth without any sharp protrusions. If a smooth surface can not be achieved by grading, consideration should be given to placing a 1-inch thick leveling course of sand across the pad surface prior to placement of the membrane.

SOLUBLE SULFATES

Soluble sulfate concentrations were determined to be "negligible" (less that 1,000 ppm) based upon our laboratory testing. Based upon our preliminary testing the use of Type V and/or sulfate resistant mix design should not be necessary. The soluble sulfate content of the surface soil should be reevaluated after grading and appropriate concrete mix designs should be established based upon post-grading test results.

UTILITY TRENCH BACKFILL

All utility trench backfill should be compacted to a minimum relative compaction of 90 percent. Trench backfill materials should be placed in lifts no greater than six inches in their loose state, moisture conditioned (or air-dried) as necessary to achieve near optimum moisture conditions, and then mechanically compacted in place to a minimum relative compaction of 90 percent. A representative of the project soil engineer should test the backfill to verify adequate compaction.

EXTERIOR CONCRETE FLATWORK

To minimize cracking of concrete flatwork, the subgrade soil below concrete flatwork areas should be compacted to a minimum relative compaction of 90 percent. A representative of the project geotechnical consultant should observe and verify the density and moisture content of the soil prior to concrete placement.

DRAINAGE

All final grades should be provided with positive gradients away from foundations to provide rapid removal of surface water runoff to an adequate discharge point. No water should be allowed to be pond on or immediately adjacent to foundation elements. In order to reduce water infiltration into the subgrade soil, surface water should be directed away from building foundations to an adequate discharge point. Subgrade drainage should be evaluated upon completion of the precise grading plans and in the field during grading. Drainage should also be diverted away from the descending slope that faces the eastern side of the lot.

LIMITATIONS

The findings and recommendations presented in this report are based upon an interpolation of the soil conditions between the exploratory boring locations and extrapolation of these conditions throughout the proposed building area. Should conditions encountered during grading appear different than those indicated in this report, this office should be notified.

The use of this report by other parties or for other projects is not authorized. The recommendations of this report are contingent upon monitoring of the grading operation by a representative of Sladden Engineering. All recommendations are considered to be tentative pending our review of the grading operation and additional testing, if indicated. If others are employed to perform any soil testing, this office should be notified prior to such testing in order to coordinate any required site visits by our representative and to assure indemnification of Sladden Engineering.

We recommend that a pre-job conference be held on the site prior to the initiation of site grading. The purpose of this meeting will be to assure a complete understanding of the recommendations presented in this report as they apply to the actual grading performed.

ADDITIONAL SERVICES

Once completed, final project plans and specifications should be reviewed by use prior to construction to confirm that the full intent of the recommendations presented herein have been applied to design and construction. Following review of plans and specifications, observation should be performed by the Soil Engineer during construction to document that foundation elements are founded on/or penetrate into the recommended soil, and that suitable backfill soil is placed upon competent materials and properly compacted at the recommended moisture content.

Tests and observations should be performed during grading by the Soil Engineer or his representative in order to verify that the grading is being performed in accordance with the project specifications. Field density testing shall be performed in accordance with acceptable ASTM test methods. The minimum acceptable degree of compaction should be 90 percent for subgrade soils and 95 percent for Class II aggregate base as obtained by the ASTM D1557-91 test method. Where testing indicates insufficient density, additional compactive effort shall be applied until retesting indicates satisfactory compaction.

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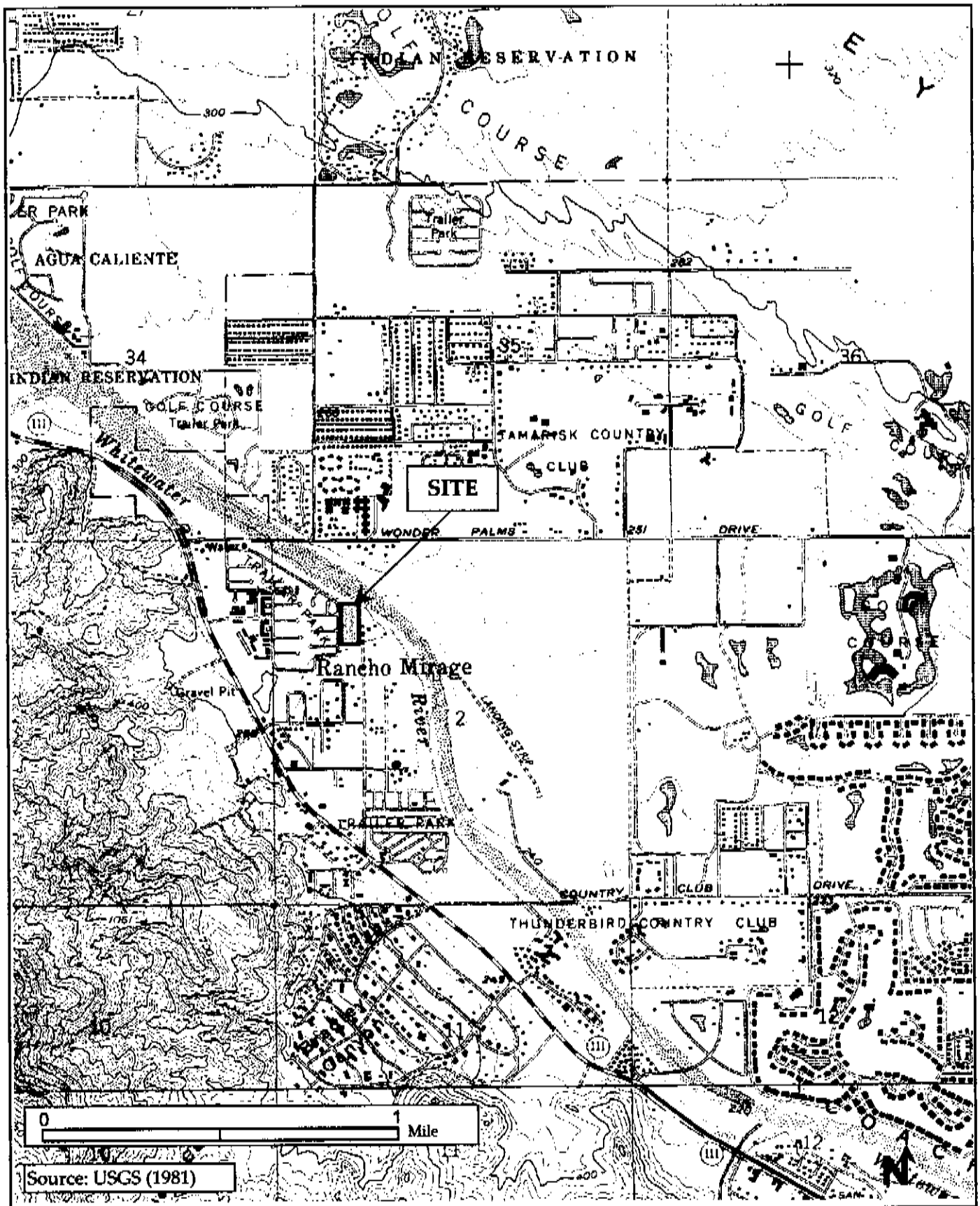
FIGURES

SITE LOCATION MAP
REGIONAL GEOLOGIC MAP
BOREHOLE LOCATION PLAN



SITE LOCATION MAP

FIGURE 1

Project Number:	544-10159
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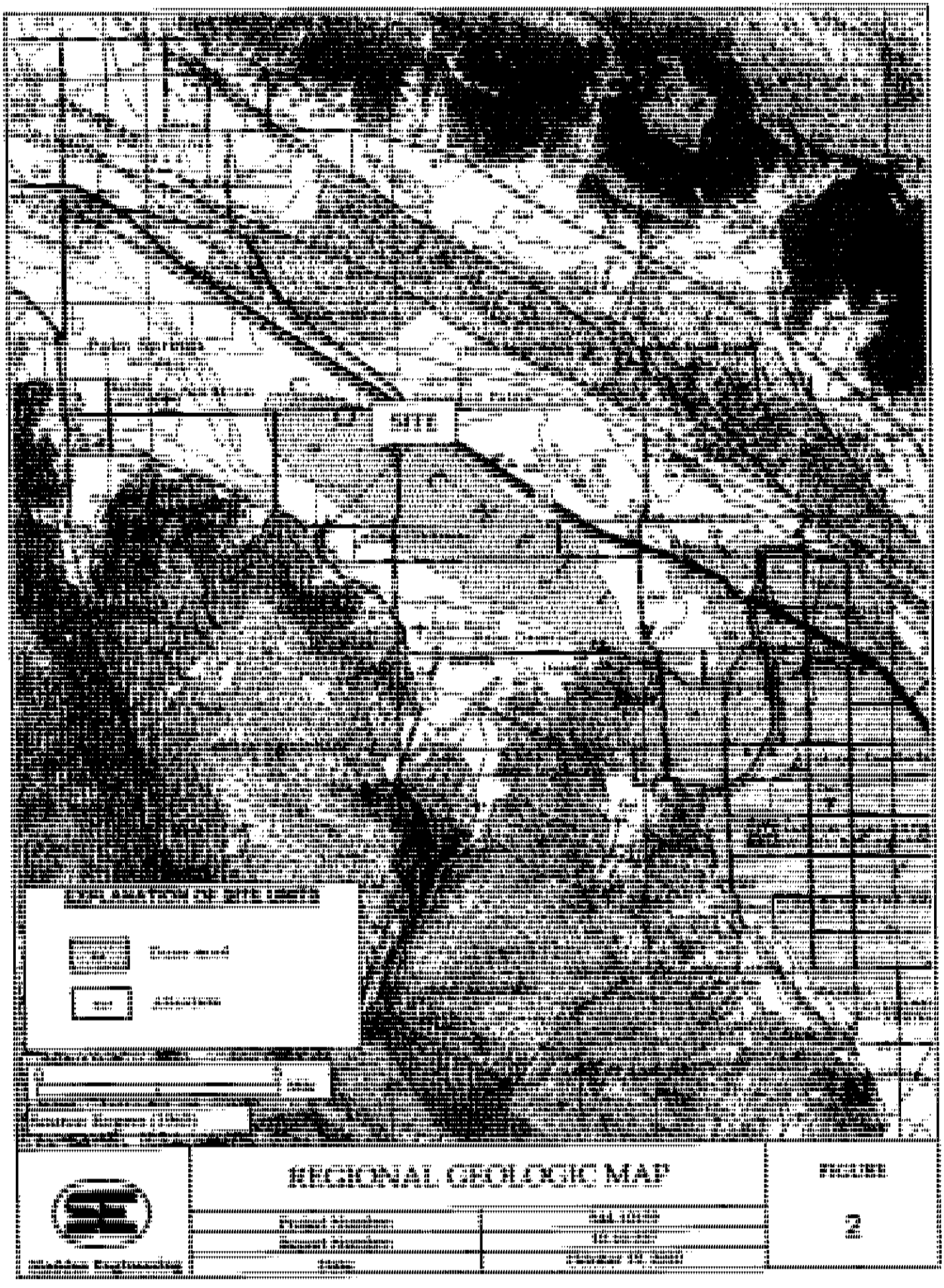
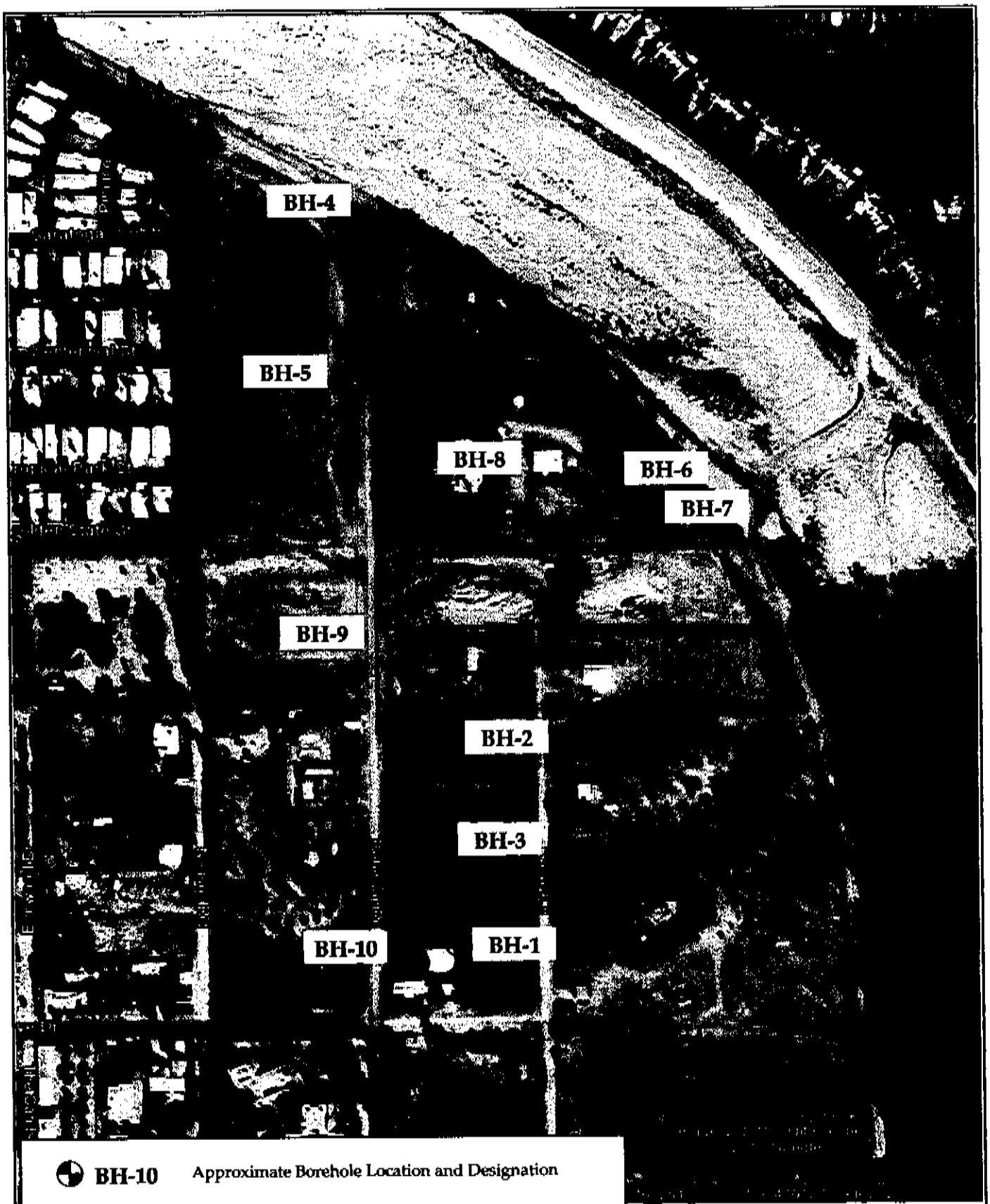
Date:	October 19, 2010

Sladden Engineering


SITE
REGIONAL GEOLOGIC MAP
2



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BOREHOLE LOCATION PHOTOGRAPH

FIGURE 3

Project Number:	544-10159
Report Number:	10-10-237
Date:	October 19, 2010

APPENDIX A

FIELD EXPLORATION

APPENDIX A

FIELD EXPLORATION

For our field investigation ten (10) exploratory borings were excavated on September 29, 2010 utilizing a truck mounted hollow stem auger rig (Mobile B-61). Continuous logs of the materials encountered were made by a representative of Sladden Engineering. Materials encountered in the boreholes were classified in accordance with the Unified Soil Classification System which is presented in this appendix.

Representative undisturbed samples were obtained within our borings by driving a thin-walled steel penetration sampler (California split spoon sampler) or a Standard Penetration Test (SPT) sampler with a 140 pound automatic-trip hammer dropping approximately 30 inches (ASTM D1586). The number of blows required to drive the samplers 18 inches was recorded in 6-inch increments and blowcounts are indicated on the boring logs.

The California samplers are 3.0 inches in diameter, carrying brass sample rings having inner diameters of 2.5 inches. The standard penetration samplers are 2.0 inches in diameter with an inner diameter of 1.5 inches. Undisturbed samples were removed from the sampler and placed in moisture sealed containers in order to preserve the natural soil moisture content. Bulk samples were obtained from the excavation spoils and samples were then transported to our laboratory for further observations and testing.

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	9/29/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-1

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
							0		Silty Sand (SM); very pale brown, dry, fine-grained (Fill/Disturbed).
							2		
							4		
■	4/9/11			3.5	0.5	100.8	6		Sand (SP); very pale brown, dry, medium dense, fine-grained (Alluvium).
							8		
■	4/5/5			5.0	0.9		10		Sand (SP); very pale brown, dry, loose, fine-grained (Alluvium).
							12		
							14		
■	5/6/6			4.6	0.9		16		Sand (SP); very pale brown, dry, medium dense, fine-grained (Alluvium).
							18		
■	5/7/7			10.7	1.1		20		Sand (SP); very pale brown, dry, medium dense, fine-grained (Alluvium).
							22		
							24		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.
							26		
							28		
							30		
							32		
							34		
							36		
							38		
							40		
							42		
							44		
							46		
							48		
							50		

Completion Notes:

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	9/29/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-2

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
							0–4		Silty Sand (SM); very pale brown, dry, fine-grained (Fill/Disturbed).
■	2/4/4			2.8	1.7		6		Sand (SP); very pale brown, dry, loose, fine-grained (Alluvium).
■	2/3/3			28.3	3.5		10–14		Sand (SP); very pale brown, dry, loose, fine-grained (Alluvium).
■	2/3/4			68.6	2.1		16–18		Sandy Silt (ML); very pale brown, dry, medium stiff, low plasticity (Alluvium).
■	3/4/5			19.0	1.5		20–22		Silty Sand (SM); very pale brown, dry, loose, fine-grained (Alluvium).
							24–50		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.

Completion Notes:

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	9/29/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-3

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
							0		Silty Sand (SM); very pale yellow, dry, fine-grained (Fill/Disturbed).
	2/2/2			67.0	4.0		6		Sandy Silt (ML); very pale yellow, moist, soft, low plasticity (Alluvium).
	2/2/4			63.0	5.5		10		Sandy Silt (ML); very pale yellow, moist, medium stiff, low plasticity (Alluvium).
	2/3/4			46.4	5.0		16		Silty Sand (SM); very pale yellow, moist, loose, fine-grained (Alluvium).
	2/3/3			52.5	3.2		20		Sandy Silt (ML); very pale yellow, moist, medium stiff, low plasticity (Alluvium).
							22		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.

Completion Notes:

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	9/30/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-4

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
		1	0				2		Silty Sand (SM); pale yellow, dry, fine-grained (Fill/Disturbed).
	2/3/3			51.7	1.1	89.2	6		Sandy Silt (ML); pale yellow, soft, dry, low plasticity (Alluvium).
	4/6/6			34.0	2.2		10		Silty Sand (SM); pale yellow, dry, medium dense, fine-grained (Alluvium).
	5/7/10			6.3	0.6	99.9	16		Sand (SP); pale yellow, dry, medium dense, fine-grained (Alluvium).
	6/7/8			5.9	0.8		20		Sand (SP); pale yellow, dry, medium dense, fine-grained (Alluvium).
	13/13/14						26		No Recovery
	6/10/11			4.7	0.8		30		Sand (SP); yellowish brown, dry, medium dense, fine-grained (Alluvium).
	6/8/9			16.9	1.5	95.1	36		Silty Sand (SM); yellowish brown, dry, medium dense, fine-grained (Alluvium).
	8/11/12			5.5	1.1		40		Sand with gravel (SP); yellowish brown, dry, medium dense, fine- to coarse-grained (Alluvium).
	9/13/11			34.2	3.2	103.9	46		Silty Sand (SM); yellowish brown, dry, medium dense, fine-grained (Alluvium).
	6/9/11			5.8	1.4		50		Sand (SP); yellowish brown, dry, medium dense, fine-grained (Alluvium)

Completion Notes:
Terminated at ~51.5 Feet bgs.
No Bedrock Encountered.
No Groundwater or Seepage Encountered.

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	10/4/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-5

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
							0		Silty Sand (SM); pale yellow, dry, fine-grained (Fill/Disturbed).
■	5/6/5			54.7	1.2		6		Sandy Silt (ML); very pale brown, dry, stiff, low plasticity (Alluvium).
■	6/9/9			6.5	0.4		10		Sand (SP); very pale brown, dry, medium dense, fine-grained (Alluvium).
■	5/7/7			33.7	1.6		16		Silty Sand (SM); very pale brown to yellowish brown, dry, medium dense, fine-grained (Alluvium).
■	9/12/15			6.4	0.5		20		Sand (SP); yellowish brown, dry, medium dense, fine-grained (Alluvium).
							22		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.

Completion Notes:

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	10/4/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-6

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
							0–4		Silty Sand (SM); pale yellow, dry, fine-grained (Fill/Disturbed).
■	3/2/2			54.1	3.3		6–8		Sandy Silt (ML); very pale brown, dry, soft, low plasticity (Alluvium).
■	4/5/6			7.5	1.9		10–14		Sand (SP); yellowish brown, dry, medium dense, fine-grained (Alluvium).
■	4/6/6			5.8	1.6		16–18		Sand (SP); yellowish brown, dry, medium dense, fine-grained (Alluvium).
■	5/6/5			35.2	5.1		20–22		Silty Sand (SM); very pale brown to yellowish brown, dry, medium dense, fine-grained (Alluvium)
							24–50		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.

Completion Notes:

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	10/4/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-7

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
							0		Silty Sand (SM); pale yellow, dry, fine-grained (Fill/Disturbed).
	1/1/2			54.3	4.0		6		Sandy Silt (ML); very pale brown, dry, soft, low plasticity, thinly laminated (Alluvium).
	2/4/5			25.4	3.6		10		Silty Sand (SM); very pale brown, dry, loose, fine-grained (Alluvium).
	4/4/4			19.6	3.5		16		Silty Sand (SM); very pale brown, dry, loose, fine-grained (Alluvium).
	3/5/5			13.6	2.8		20		Silty Sand (SM); very pale brown, dry, loose, fine-grained (Alluvium)
							22		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.

Completion Notes:

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	10/4/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-8

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
							0–4		Silty Sand (SM); pale yellow, dry, fine-grained with surface gravel (Fill/Disturbed).
	3/3/4			68.2	4.6		6–8		Sandy Silt (ML); very pale brown, dry, medium stiff, low plasticity (Alluvium).
	5/5/7			25.4	1.2		10–14		Silty Sand (SM); very pale brown, dry, medium dense, fine-grained (Alluvium).
	5/6/7			8.5	1.3		16–18		Sand (SP); very pale brown, dry, medium dense, fine-grained (Alluvium).
	3/3/3			50.5	8.0		20–22		Sandy Silt (ML); yellowish brown, moist, medium stiff, low plasticity (Alluvium).
							24–50		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.

Completion Notes:

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	10/4/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-9

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
							2		Silty Sand (SM); pale yellow, dry, fine- to coarse- grained with surface gravel (Fill/Disturbed).
	2/2/2			34.3	1.4		6		Silty Sand (SM); very pale brown, dry, very loose, fine-grained (Fill).
	2/3/3			21.7	1.4		10		Silty Sand (SM); very pale brown, dry, loose, fine-grained (Alluvium).
	3/4/4			57.7	2.2		16		Sandy Silt (ML); very pale brown, dry, medium stiff, low plasticity (Alluvium).
	5/5/4			7.1	0.9		20		Sand (SP); pale brown, dry, loose, fine-grained (Alluvium).
							22		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.
							24		
							26		
							28		
							30		
							32		
							34		
							36		
							38		
							40		
							42		
							44		
							46		
							48		
							50		

Completion Notes:

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

SLADDEN ENGINEERING

BORE LOG

Drill Rig:	Mobil B-61	Date Drilled:	10/4/2010
Elevation:	240 Feet (AMSL)	Boring No:	BH-10

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density, pcf	Depth (Feet)	Graphic Lithology	Description
							2		Silty Sand (SM); pale yellowish brown, dry, fine-grained (Fill/Disturbed).
■	3/5/7			3.5	0.4	97.0	6		Sand (SP); pale yellowish brown, dry, loose, fine-grained (Alluvium).
☒	4/6/8						10		No Recovery
■	4/6/9			8.7	0.7	94.9	16		Sand (SP); pale yellowish brown, dry, loose, fine-grained (Alluvium).
■	3/4/5			10.4	0.7	90.9	20		Sand (SP); pale yellowish brown, dry, loose, fine-grained (Alluvium).
							22		
							24		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.
							26		
							28		
							30		
							32		
							34		
							36		
							38		
							40		
							42		
							44		
							46		
							48		
							50		

Completion Notes:

PROPOSED RESIDENTIAL SUBDIVISION
PETERSON ROAD - 20 ACRES

Project No: 544-10159
Report No: 10-10-237

APPENDIX B

LABORATORY TESTING

APPENDIX B

LABORATORY TESTING

Representative bulk and relatively undisturbed soil samples were obtained in the field and returned to our laboratory for additional observations and testing. Laboratory testing was generally performed in two phases. The first phase consisted of testing in order to determine the compaction of the existing natural soil and the general engineering classifications of the soils underlying the site. This testing was performed in order to estimate the engineering characteristics of the soil and to serve as a basis for selecting samples for the second phase of testing. The second phase consisted of soil mechanics testing. This testing including consolidation, shear strength and expansion testing was performed in order to provide a means of developing specific design recommendations based on the mechanical properties of the soil.

CLASSIFICATION AND COMPACTION TESTING

Unit Weight and Moisture Content Determinations: Each undisturbed sample was weighed and measured in order to determine its unit weight. A small portion of each sample was then subjected to testing in order to determine its moisture content. This was used in order to determine the dry density of the soil in its natural condition. The results of this testing are shown on the Boring Logs.

Maximum Density-Optimum Moisture Determinations: Representative soil types were selected for maximum density determinations. This testing was performed in accordance with the ASTM Standard D1557-91, Test Method A. The results of this testing are presented graphically in this appendix. The maximum densities are compared to the field densities of the soil in order to determine the existing relative compaction to the soil.

Classification Testing: Soil samples were selected for classification testing. This testing consists of mechanical grain size analyses. This provides information for developing classifications for the soil in accordance with the Unified Soil Classification System which is presented in the preceding appendix. This classification system categorizes the soil into groups having similar engineering characteristics. The results of this testing is very useful in detecting variations in the soil and in selecting samples for further testing.

SOIL MECHANIC'S TESTING

Expansion Testing: One (1) bulk sample was selected for Expansion testing. Expansion testing was performed in accordance with the UBC Standard 18-2. This testing consists of remolding 4-inch diameter by 1-inch thick test specimens to a moisture content and dry density corresponding to approximately 50 percent saturation. The samples are subjected to a surcharge of 144 pounds per square foot and allowed to reach equilibrium. At that point the specimens are inundated with distilled water. The linear expansion is then measured until complete.

Direct Shear Tests: One (1) bulk sample was selected for Direct Shear Tests. This test measures the shear strength of the soil under various normal pressures and is used to develop parameters for foundation design and lateral design. Tests were performed using a recompacted test specimen that was saturated prior to tests. Tests were performed using a strain controlled test apparatus with normal pressures ranging from 800 to 2300 pounds per square foot.

Consolidation Test: One (1) relatively undisturbed sample was selected for consolidation testing. For this test, a one-inch thick test specimen was subjected to vertical loads varying from 575 psf to 11520 psf applied progressively. The consolidation at each load increment was recorded prior to placement of each subsequent load. The specimens were saturated at 575 psf or 720 psf load increment.

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Maximum Density/Optimum Moisture

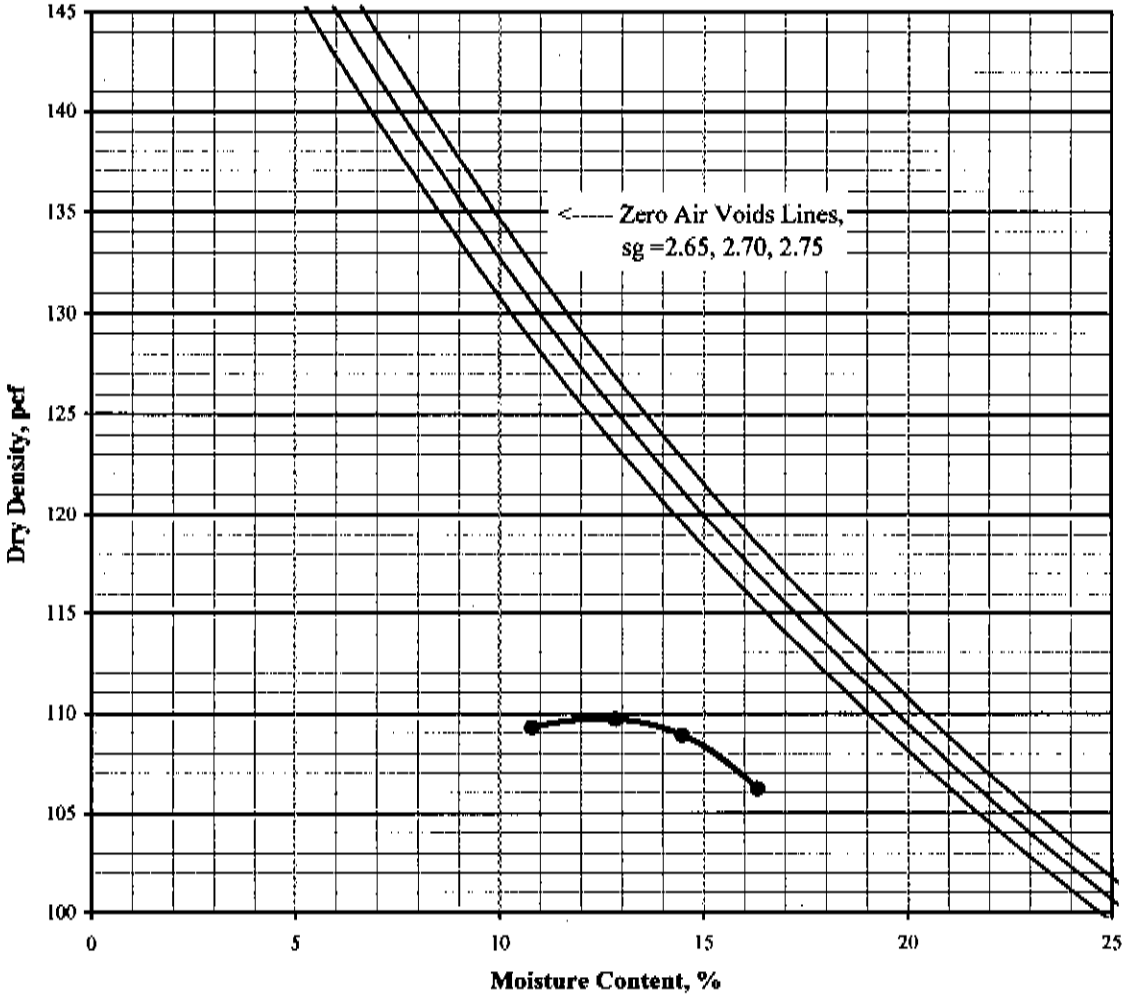
ASTM D698/D1557

Project Number: 544-10159
Project Name: Peterson Road Subdivision
Lab ID Number: LN6-10381
Sample Location: BH-4 Bulk 1 @ 0-5'
Description: Brown Silty Sand (SM)

ASTM D-1557 A
Rammer Type: Machine

Maximum Density: 110 pcf
Optimum Moisture: 13%

Sieve Size	% Retained
3/4"	
3/8"	
#4	



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Expansion Index

ASTM D 4829

Job Number: 544-10159
Job Name: Peterson Road Subdivision
Lab ID Number: LN6-10381
Sample ID: BH-4 Bulk 1 @ 0-5'
Soil Description: Brown Silty Sand (SM)

Wt of Soil + Ring:	548.9
Weight of Ring:	191.4
Wt of Wet Soil:	357.5
Percent Moisture:	12.0%

Wet Density, pcf:	114.0
Dry Denstiy, pcf:	101.8

% Saturation:	49.5

Expansion **Rack # 4**

Date/Time	10/11/2010	2:25 PM
Initial Reading	0.0000	
Final Reading	0.0002	

Expansion Index **0**

(Final - Initial) x 1000

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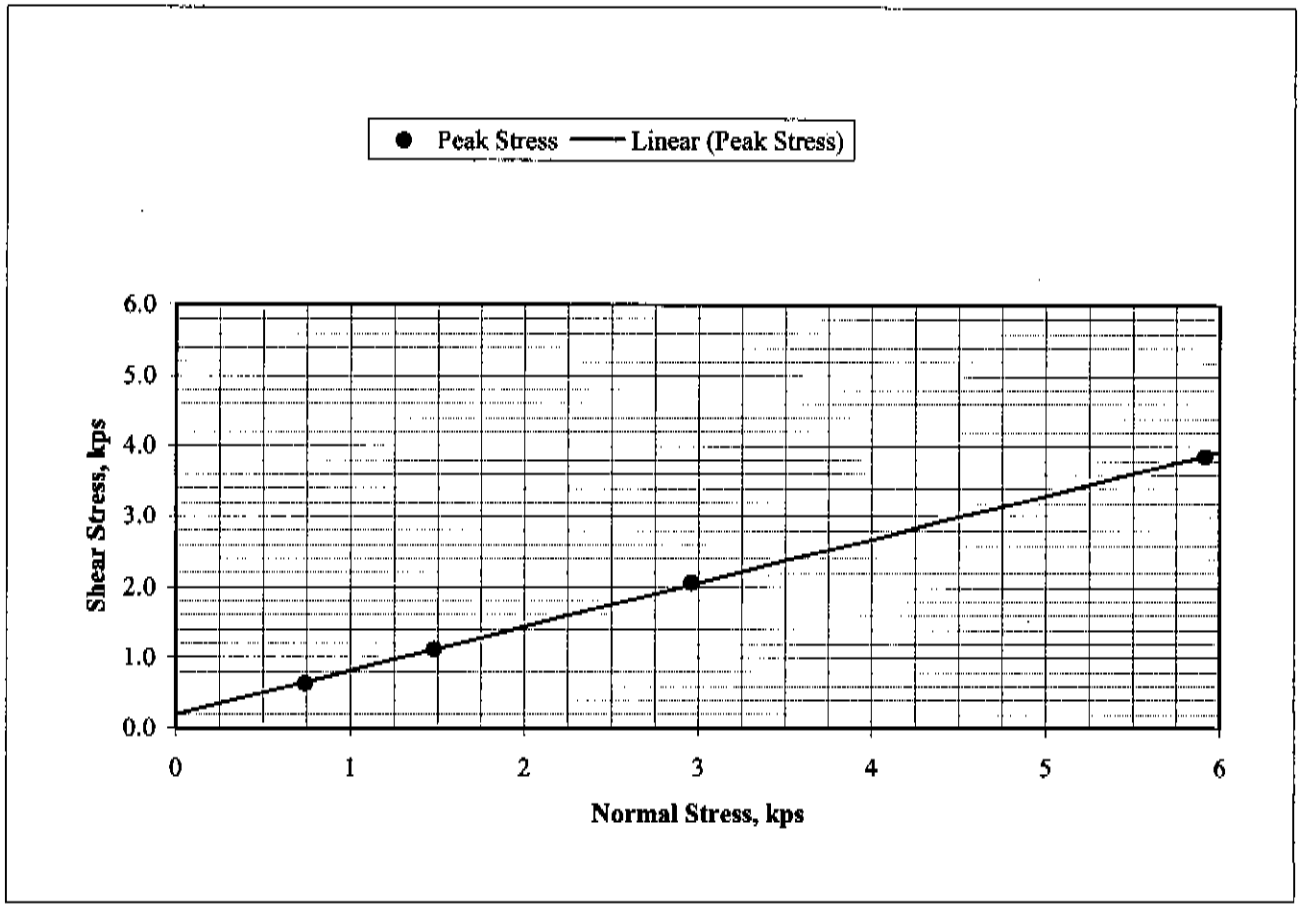
Direct Shear ASTM D 3080-04
(modified for unconsolidated condition)

Job Number:	544-10159
Job Name	Peterson Road Subdivision
Lab ID No.	LN6-10381
Sample ID	BH-4 Bulk 1 @ 0-5'
Classification	Brown Silty Sand (SM)
Sample Type	Remolded @ 90% of Maximum Density

Initial Dry Density: 98.7 pcf
Initial Mosture Content: 13.2 %
Peak Friction Angle (Ø): 32°
Cohesion (c): 200 psf

Test Results	1	2	3	4	Average
Moisture Content, %	21.2	21.2	21.2	21.2	21.2
Saturation, %	81.1	81.1	81.1	81.1	81.1
Normal Stress, kps	0.739	1.479	2.958	5.916	
Peak Stress, kps	0.636	1.118	2.061	3.860	



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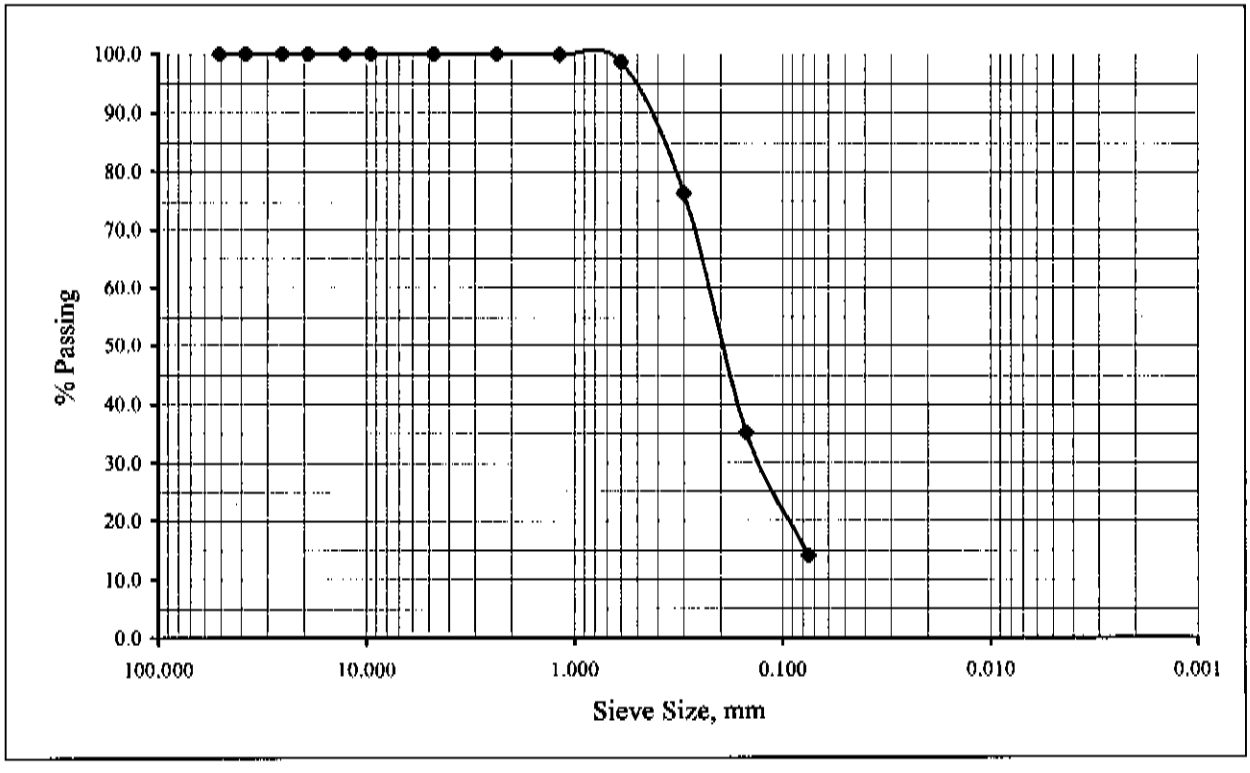
Gradation

ASTM C117 & C136

Project Number: 544-10159
Project Name: Peterson Road Subdivision
Lab ID Number: LN6-10381
Sample ID: BH-4 Bulk 1 @ 0-5' Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	100.0
#8	2.36	100.0
#16	1.18	99.9
#30	0.60	98.6
#50	0.30	76.4
#100	0.15	35.1
#200	0.075	14.0



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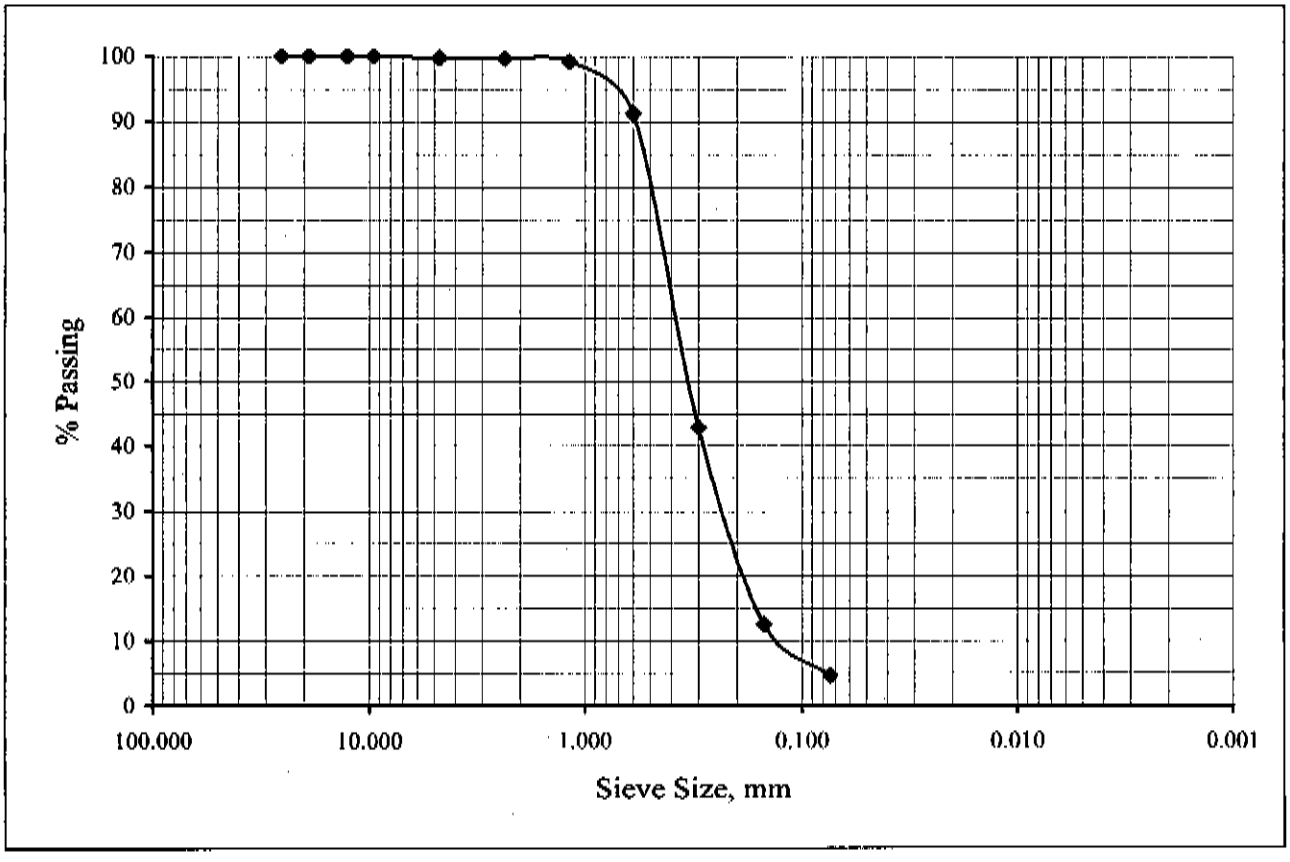
Gradation

ASTM C117 & C136

Project Number: 544-10159
Project Name: Peterson Road Subdivision
Lab ID Number: LN6-10381
Sample ID: BH-1 S-3 @ 15' Soil Classification: SP

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	99.8
#8	2.36	99.6
#16	1.18	99.2
#30	0.60	91.2
#50	0.30	42.9
#100	0.15	12.5
#200	0.074	4.6



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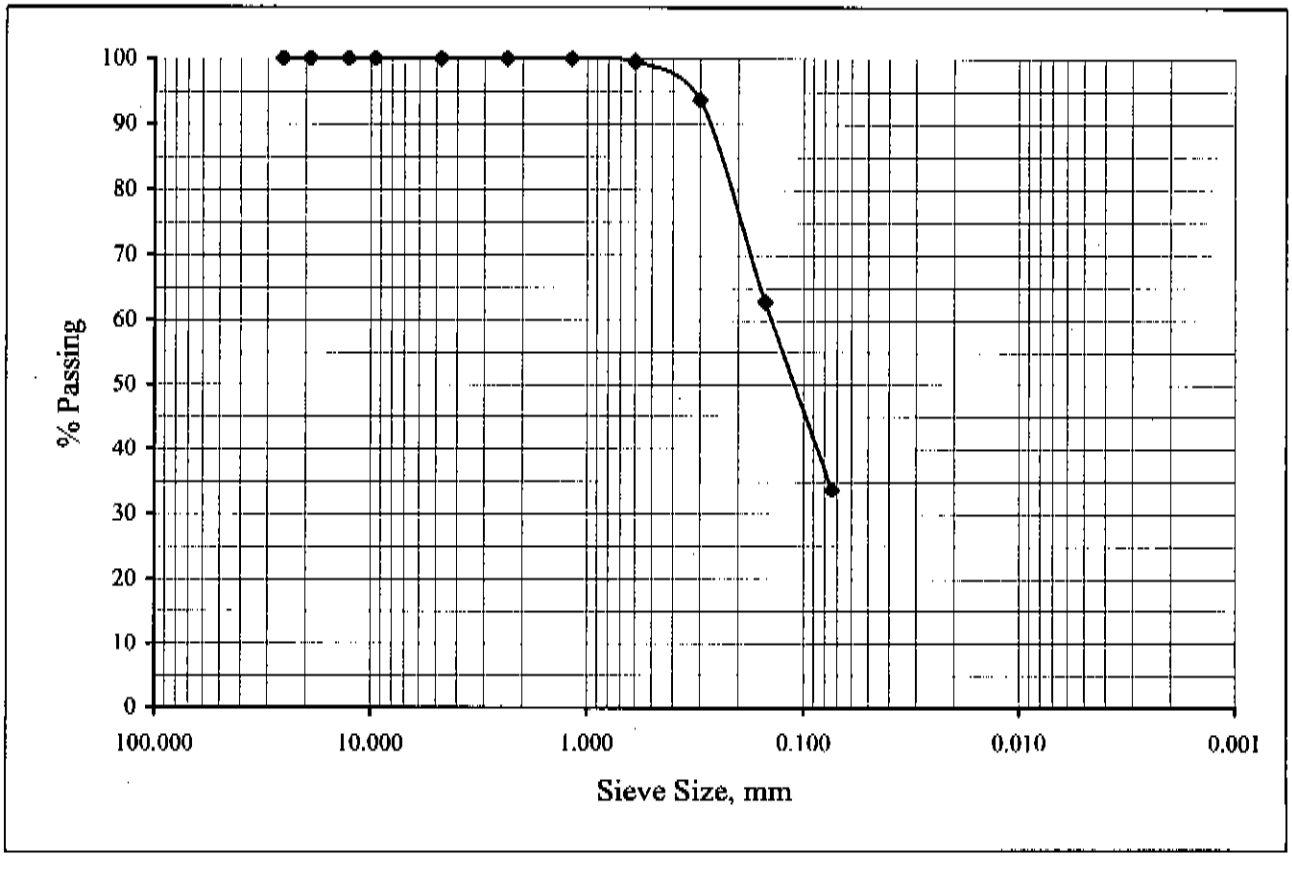
Gradation

ASTM C117 & C136

Project Number: 544-10159
Project Name: Peterson Road Subdivision
Lab ID Number: LN6-10381
Sample ID: BH-5 S-3 @ 15' Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
I/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	100.0
#8	2.36	100.0
#16	1.18	100.0
#30	0.60	99.6
#50	0.30	93.7
#100	0.15	62.9
#200	0.074	33.7



Sladden Engineering

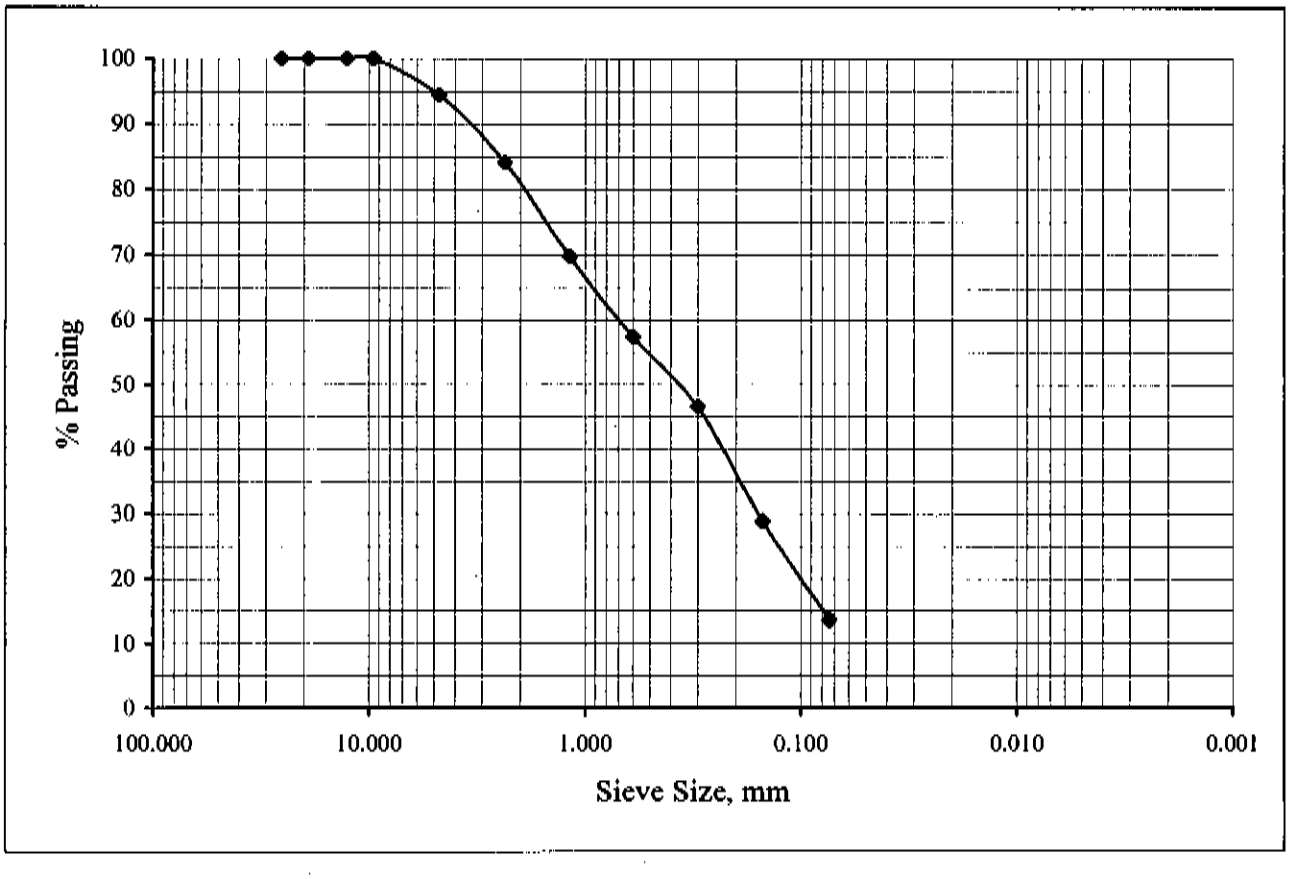
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

Gradation

ASTM C117 & C136

Project Number: 544-10159
Project Name: Peterson Road Subdivision
Lab ID Number: LN6-10381
Sample ID: BH-7 S-4 @ 20' Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	94.5
#8	2.36	84.2
#16	1.18	69.8
#30	0.60	57.4
#50	0.30	46.5
#100	0.15	28.8
#200	0.074	13.6



Sladden Engineering

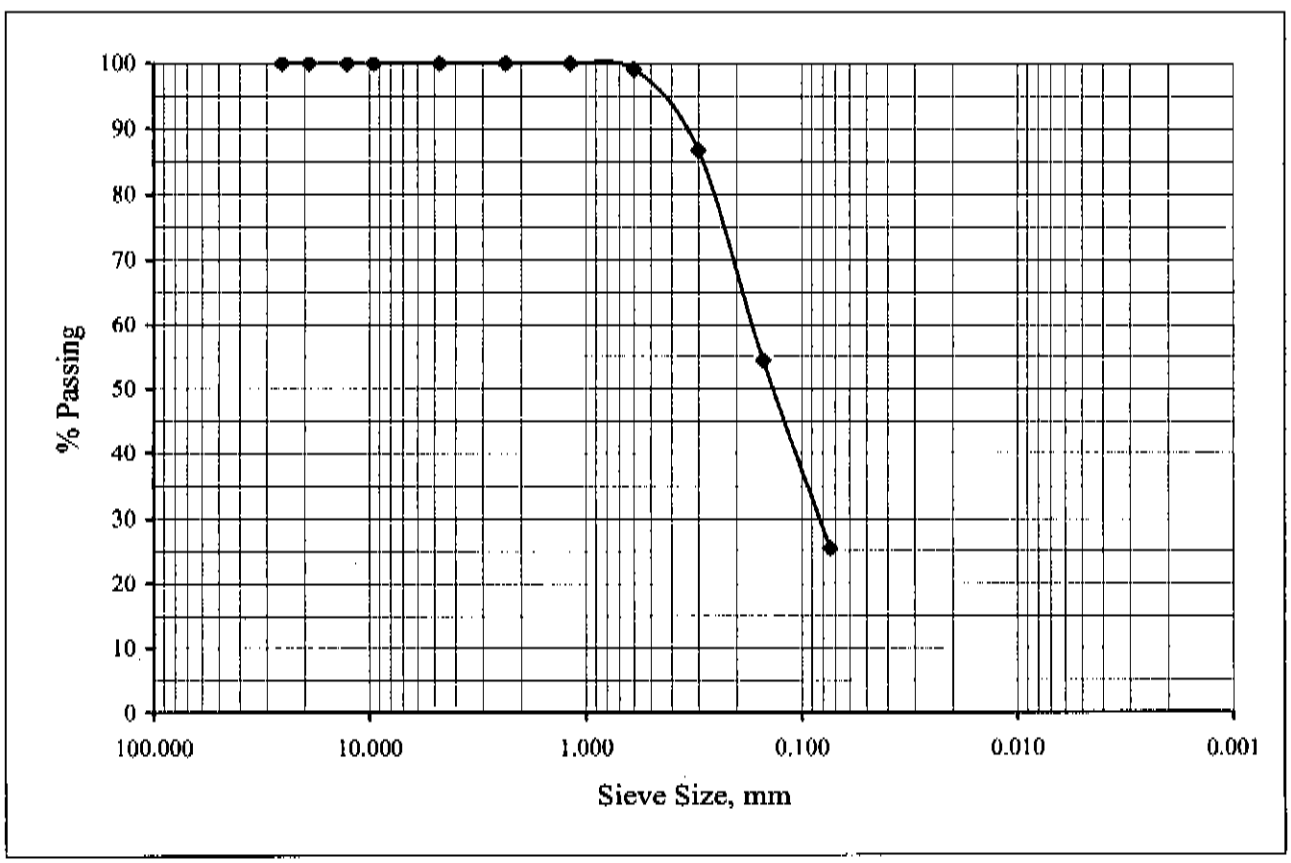
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

Gradation

ASTM C117 & C136

Project Number: 544-10159
Project Name: Peterson Road Subdivision
Lab ID Number: LN6-10381
Sample ID: BH-8 S-2 @ 10' Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	100.0
#8	2.36	100.0
#16	1.18	99.9
#30	0.60	99.1
#50	0.30	86.6
#100	0.15	54.3
#200	0.074	25.4



Sladden Engineering

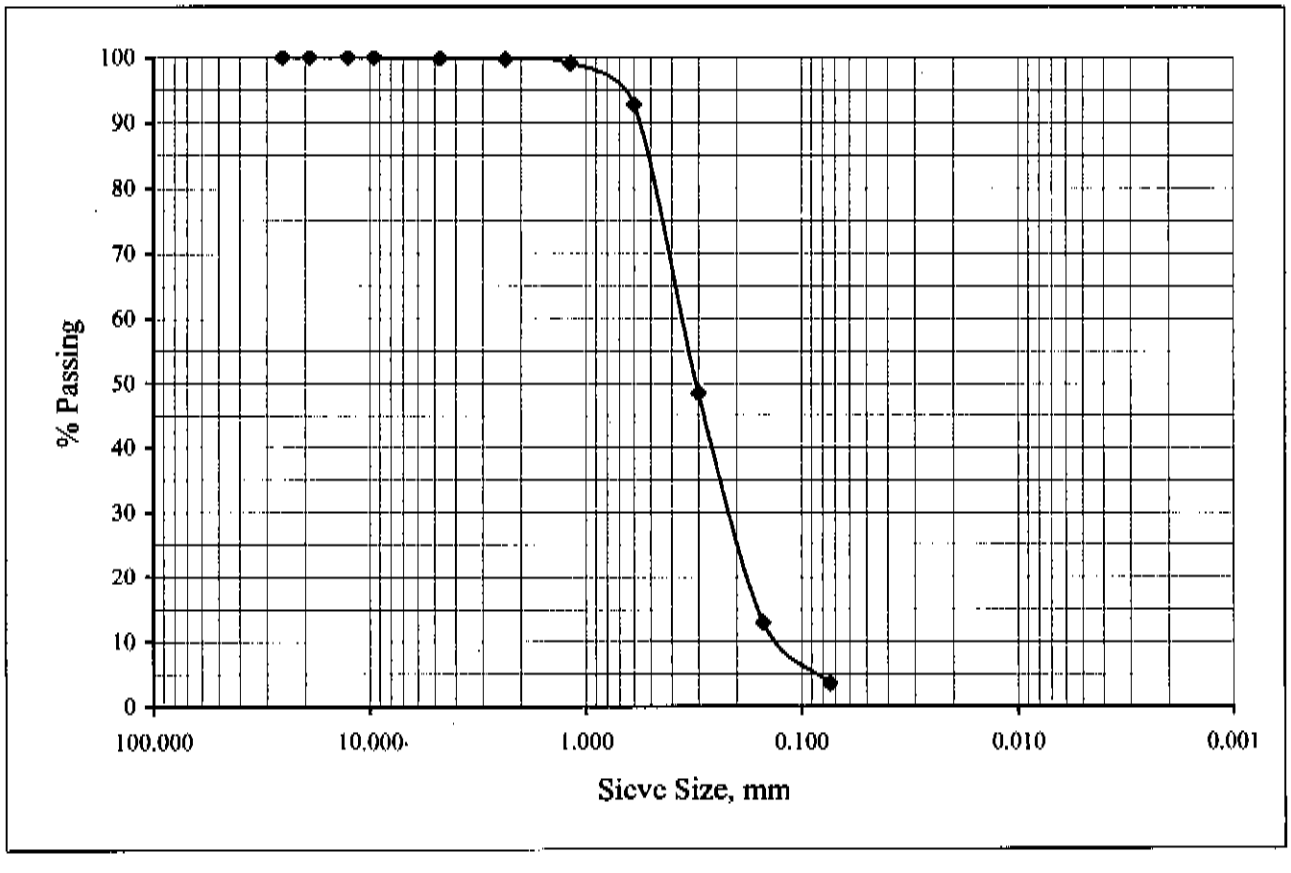
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

Gradation

ASTM C117 & C136

Project Number: 544-10159
Project Name: Peterson Road Subdivision
Lab ID Number: LN6-10381
Sample ID: BH-10 R-1 @ 5' Soil Classification: SP

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	99.8
#8	2.36	99.7
#16	1.18	99.1
#30	0.60	92.7
#50	0.30	48.4
#100	0.15	12.9
#200	0.074	3.5



Sladden Engineering

450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

One Dimensional Consolidation

ASTM D2435 & D5333

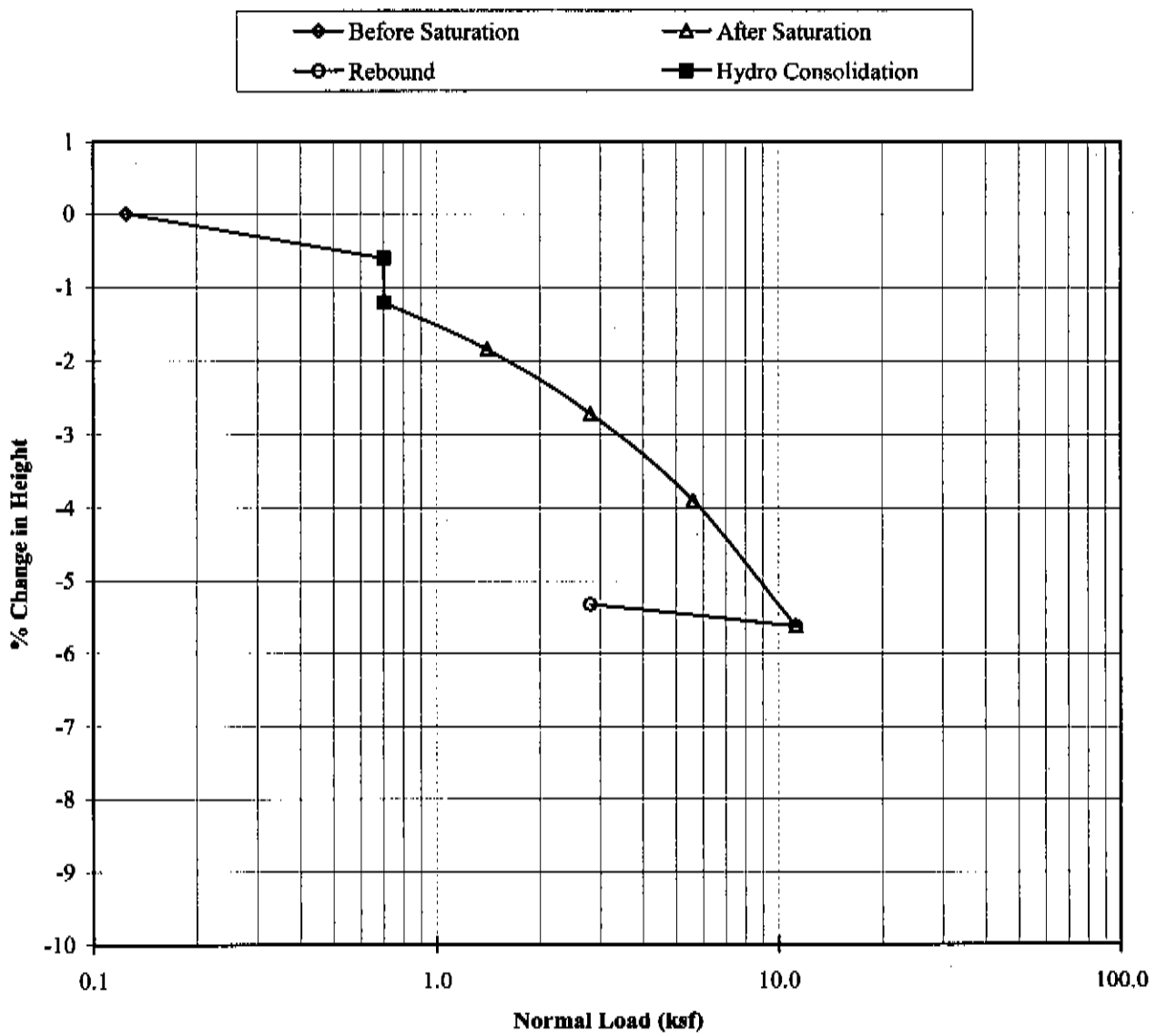
Job Number: 544-10159
Job Name: Peterson Road Subdivision

Lab ID Number: LN6-10381
Sample ID: BH-4 R-1 @ 5'
Soil Description: Brown Sandy Silt (ML)

Initial Dry Density, pcf:	86.7
Initial Moisture, %:	1.1
Initial Void Ratio:	0.923
Specific Gravity:	2.67

Hydrocollapse: 0.6% @ 0.702 ksf

% Change in Height vs Normal Presssure Diagram



Sladden Engineering

6782 Stanton Ave., Suite A, Buena Park, CA 90621 (714) 523-0952 Fax (714) 523-1369
45090 Golf Center Pkwy, Suite F, Indio, CA 92201 (760) 863-0713 Fax (760) 863-0847
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

Date: October 11, 2010

Account No.: 544-10159

Customer: IMH Special Asset NT 100, LLC

Location: Peterson Road, Rancho Mirage

Analytical Report

Corrosion Series

	pH per CA 643	Soluble Sulfates per CA 417 ppm	Soluble Chloride per CA 422 ppm	Min. Resistivity per CA 643 ohm-cm
BH-4 @ 0-5'	8.4	110	60	2900

APPENDIX F

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/1/2024
Case Description: RNCH 005 - Peterson Road 16 Lot Subdivision (TTM 38971)

		---- Receptor #1 ----		
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential Homes	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	100	10
Compactor (ground)	No	20		83.2	100	10
Concrete Mixer Truck	No	40		78.8	100	10
Concrete Pump Truck	No	20		81.4	100	10
Dump Truck	No	40		76.5	100	10
Excavator	No	40		80.7	100	10
Grader	No	40	85		100	10
Front End Loader	No	40		79.1	100	10
Roller	No	20		80	100	10
Paver	No	50		77.2	100	10
Tractor	No	40	84		100	10
Flat Bed Truck	No	40		74.3	100	10

		Results															
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)							
				Day		Evening		Night		Day		Evening		Night			
Equipment		*Lmax	L10	Lmax	L10	Lmax	L10	Lmax	L10	Lmax	L10	Lmax	L10	Lmax	L10		
Backhoe		61.5	60.6	85	75	85	60	80	55	None	None	None	0.6	None	5.6		
Compactor (ground)		67.2	63.2	85	75	85	60	80	55	None	None	None	3.2	None	8.2		
Concrete Mixer Truck		62.8	61.8	85	75	85	60	80	55	None	None	None	1.8	None	6.8		
Concrete Pump Truck		65.4	61.4	85	75	85	60	80	55	None	None	None	1.4	None	6.4		
Dump Truck		60.4	59.5	85	75	85	60	80	55	None	None	None	None	None	4.4		
Excavator		64.7	63.7	85	75	85	60	80	55	None	None	None	3.7	None	8.7		
Grader		69	68	85	75	85	60	80	55	None	None	None	8	None	13		
Front End Loader		63.1	62.1	85	75	85	60	80	55	None	None	None	2.1	None	7.1		
Roller		64	60	85	75	85	60	80	55	None	None	None	None	None	5		
Paver		61.2	61.2	85	75	85	60	80	55	None	None	None	1.2	None	6.2		
Tractor		68	67	85	75	85	60	80	55	None	None	None	7	None	12		
Flat Bed Truck		58.2	57.3	85	75	85	60	80	55	None	None	None	None	None	2.3		
	Total	69	74	85	75	85	60	80	55	None	None	None	14	None	19		

*Calculated Lmax is the Loudest value.

AGUA CALIENTE BAND OF CAHUILLA INDIANS
TRIBAL HISTORIC PRESERVATION

03-008-2023-009

April 29, 2025

[VIA EMAIL TO:pilarf@ranchomirageca.gov]
City of Rancho Mirage
Pilar Fløtterud
68-825 Highway 111
Rancho Mirage, California 92270

Re: EA24-0009

Dear Pilar Fløtterud,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the 16-Lot Subdivision project. We have reviewed the documents and have the following comments:

> *At this time the concerns of the ACBCI THPO have been addressed and proper mitigation measures have been proposed to ensure the protection of tribal cultural resources. This letter shall conclude our AB52 consultation efforts.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760) 423-3485. You may also email me at ACBCI-THPO@aguacaliente.net.

Cordially,

Xitlaly Madrigal
Cultural Resources Analyst
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

AUGUSTINE BAND OF CAHUILLA INDIANS

84-001 AVENUE 54 COACHELLA, CA 92236 | T: 760-398-4722 F: 760-369-7161

TRIBAL CHAIRPERSON: AMANDA AUGUSTINE TRIBAL TREASURER: WILLIAM VANCE

TRIBAL COUNCIL MEMBER: RONNIE VANCE

Date: 03/21/2025

Pilar Flotterud
Senior Planner
Development Services Department
69-825 Highway 111
Rancho Mirage, CA 92270

SUBJECT: Environmental Assessment Case No. EA24-0009 Tentative Tract Map Case No. TTM24-0003 for Tentative Tract Map 38971 – APN: 689-090-003, 689-130-004, 689-130-005, 689-130-014, 689-130-017-689-130-018, 689-140-022

Thank you for contacting Augustine Band of Cahuilla Indians about the proposed **aforementioned project.** We appreciate your consideration of the cultural resources in the project area.

At this time, we are not aware of any specific cultural resources within the project area that would be affected by the proposed development. Therefore, we do not believe that formal consultation is necessary at this stage.

If any cultural resources are discovered during the project, we ask that you contact the California Native American Heritage Commission immediately to take appropriate steps to evaluate and protect them.

Thank you once again for your attention to this important matter.

Very truly yours,

Jacobia Kirksey

Jacobia Kirksey, Tribal Operations Specialist
Augustine Band of Cahuilla Indians

Subject: Environmental Assessment Case No. EA24-0009 Tentative Map Case No. TTM24-0003 for Tentative Tract Map 38971

Jill Mccormick <historicpreservation@quechantribe.com>
to Pilar Fløtterud

Mon, Mar 10, 3:22 PM

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

Good afternoon,

This email is to inform you that the Historic Preservation Office does not wish to comment on this project. We defer to the local Tribes and support their determinations on this matter.

Email correspondence is the preferred method of communication with this office. Hard copies of project letters are not required if an email containing the project documents has been sent to the Historic Preservation Office. Also, please update your contact information for the Quechan Tribe.

All project-based correspondence should be sent to this email address (historicpreservation@quechantribe.com) and President Jordan Joaquin (executivesecretary@quechantribe.com). Per the Tribe's NAHC contact list, please remove Manfred Scott (culturalcommittee@quechantribe.com and scottmanfred@yahoo.com) from the distribution list for the Quechan Tribe.

Jill

H. Jill McCormick, M.A.
Historic Preservation Office
Ft. Yuma Quechan Indian Tribe
P.O. Box 1899
Yuma, AZ 85366-1899
Office: 760-919-3631
Cell: 928-920-6521

CITY OF RANCHO MIRAGE

May 8, 2025

Pechanga Band of Indians
P.O. Box 2183
Temecula, CA 92593

RE: Environmental Assessment Case No. EA24-0009 Tentative Tract Map Case No. TTM24-0003 for Tentative Tract Map 38971 – APN: 689-090-003, 689-130-004, 689-130-005, 689-130-013, 689-130-014, 689-130-017, 689-130-018, 689-140-022

To Whom It May Concern:

Thank you for your participation in the AB 52 Tribal Consultation process regarding the following project: Environmental Assessment Case No. EA24-0009 and Tentative Tract Map Case No. TTM24-0003 (Tentative Tract Map 38971) located on APNs: 689-090-003, 689-130-004, 689-130-005, 689-130-013, 689-130-014, 689-130-017, 689-130-018, 689-140-022.

To provide full clarity, the following is a summary of the consultation timeline:

- February 11, 2025 – AB 52 notification letter was sent to the Pechanga Tribe via certified mail, initiating the 30-day consultation request period.
- March 7, 2025 – The City received the Tribe's formal request for consultation. Requested materials were provided, and a consultation meeting was scheduled.
- March 10, 2025 – End of the initial 30-day consultation request period. A request from the Pechanga Tribe was sent requesting project documents, which City staff sent documents that same day.
- April 7, 2025 – Consultation meeting was held. The City reviewed proposed mitigation measures and the Tribe requested additional time, until April 21, 2025, to provide further comments.
- April 28, May 1, May 5, and May 7, 2025 – Follow-up emails sent by City requesting a response.
- April 28 and May 5, 2025 – Voicemails left requesting an update.

As of today, the City has not received any additional correspondence from the Pechanga Tribe. In accordance with AB 52, and based on the reasonable and good-faith efforts detailed above, the City concludes that mutual agreement could not be reached. Therefore, the AB 52 Tribal Consultation period will be considered closed within five (5) working days from receipt of this notice, which is being sent via email and certified mail, if no further information is provided by the Tribe.

We sincerely appreciate your time and consideration and welcome future opportunities for collaboration with your tribe.

Sincerely,

Pilar Fløtterud
Senior Planner

RESPONSE TO COMMENTS

TENTATIVE TRACT MAP 38971
16 LOT SUBDIVISION
RANCHO MIRAGE, CALIFORNIA

LEAD AGENCY:

CITY OF RANCHO MIRAGE
69-825 HIGHWAY 111
RANCHO MIRAGE, CALIFORNIA 92270

REPORT PREPARED BY:

BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING
2211 S. HACIENDA BOULEVARD, SUITE 107
HACIENDA HEIGHTS, CALIFORNIA 91745

OCTOBER 2025

1. INTRODUCTION & PROJECT OVERVIEW

The City of Rancho Mirage is reviewing an application that would involve the subdivision of 16 lots within 8 parcels totaling 19.81 acres. Currently, the three southern parcels would subdivided into 8 lots - Lot 6, 7, 8, 9, 13, 14, 15, and 16. This would be phase 1 of the project. Phase 2 of the project involves the remaining 5 northern parcels which would be subdivided into 8 lots - Lots 1, 2, 3, 4, 5, 10, 11, and 12. The subject parcels are all vacant and undeveloped. The proposed development would connect to a new 8-inch water main and an 8-inch sewer main in Peterson Road. The terrain in the project area is generally level, with ground elevations ranging approximately from 255 feet to 260 feet above mean sea level. The surface soil is composed of light olive gray fine sand. The project is located within what is considered to be the California Creosote Bush Scrub plant community though the ground surface in the project area has been cleared of native vegetation in the past and existing vegetation include introduced and ruderal species such as landscaping plants and low-lying grasses. The Zoning designation that is applicable to the aforementioned parcels is *Residential Estate (R-E)*. No General Plan Amendment or Zone Change would be required for the proposed residential development.

The City of Rancho Mirage determined, as part of the Initial Study's preparation, that a Mitigated Negative Declaration was the appropriate environmental document for the proposed project's CEQA review. The Initial Study and the Notice of Intent to Adopt a Mitigated Negative Declaration was forwarded to responsible agencies, trustee agencies, and the public for review and comment. A 30-day public review period commenced on July 31, 2025 and ended on August 19, 2025 to allow these entities and other interested parties to comment on the proposed project and the findings of the Initial Study. Only one comment letter was received from the following State Agency:

- State of California – Natural Resources Agency Department of Fish and Wildlife. 3602 Inland Deserts Region, Ontario California 91764.

2. COMMENTS AND RESPONSE TO COMMENTS

2.1 COMMENTS & RESPONSES - CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Comment #1

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt a Mitigated Negative Declaration from the City of Rancho Mirage (City) for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

Response #1

The comment is noted for the record. No further response is required.

Comment #2 CDFW Role

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on Projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

Response #2

The comment is noted for the record. No further response is required.

Comment #3 Project Description Summary

Proponent: Phillip Fomotor
Objective: The Project involves the subdivision of 16 single-family residential lots within 8 parcels totaling 19.81 acres and the development of those lots. The 16 individual lot sizes would range in land area from 42,476 square feet to 67,608 square feet. The lots would be arranged along Peterson Road around the proposed cul-de-sac roadway. The Project will undergo two phases. Currently, the three southern parcels would be subdivided into 8 lots: Lots 6, 7, 8, 9, 13, 14, 15, and 16. This would be phase 1 of the Project. Phase 2 of the Project involves the remaining 5 northern parcels, which would be subdivided into 8 lots: Lots 1, 2, 3, 4, 5, 10, 11, and 12.

All exterior lighting at the project site would be conditioned to be Dark-Sky compliant. Drought tolerant landscaping will be planted throughout the project site.

Location: The proposed Project is located north of the intersection of Mirage Cove Drive and Peterson Road in the City of Rancho Mirage, in the County of Riverside. Assessor's Parcel Numbers: 689-090-003, 689-130-004, 689-130-005, 689-130-013, 689- 130-014, 689-130-017, 689-130-018, and 689-140-022. The proposed Project area is generally bounded on the north by the Whitewater River, on the west by Golden State Street, a private street with no access to the subject site, on the south by Mirage Cove Drive, and on the east by the Whitewater River and Kelley Lane.

Timeframe: The MND proposes Project construction to start in July 2025.

Response #3

The comment is noted for the record.

Comment #4 Comments and Recommendations

CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (i.e., biological resources). CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. The MND has not adequately identified and disclosed the Project's impacts (i.e., direct, indirect, and cumulative) on biological resources and whether those impacts are reduced to less than significant. CDFW's comments and recommendations on the MND are explained in greater detail below and summarized here. CDFW is concerned that the MND does not adequately identify or mitigate the Project's significant, or potentially significant, impacts to biological resources. CDFW requests that additional information and analyses be added to a revised MND, along with avoidance, minimization, and mitigation measures that avoid or reduce impacts to a level less than significant.

Response #4

The comment has been noted for the record. Biological surveys were conducted on the 19.8-acre parcel. The property is located in an area zoned for residential usage in Rancho Mirage, California. As part of the environmental process, California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) data sources were reviewed. Following the data review, surveys were performed on the site on October 4, 2022, during which the biological resources on the site and in the surrounding areas were documented by biologists from RCA Associates, Inc. As part of the surveys, the property and adjoining areas were evaluated for the presence of native habitats to determine if they supported populations of sensitive wildlife species. The property was also evaluated for the presence of sensitive habitats including wetlands, vernal pools, riparian habitats, and jurisdictional areas. Habitat assessments were also conducted for the desert tortoise and burrowing owl. In addition, data from USFWS, CDFW, and a search of the California Natural Diversity Database was completed. The Biological Report, in its entirety was included in Appendix A.

Comment #5 Existing Environmental Setting

Compliance with CEQA is predicated on a complete and accurate description of the environmental setting that may be affected by the proposed Project. CDFW is concerned that the assessment of the existing environmental setting has not been adequately analyzed in the MND. CDFW is concerned that without a complete and accurate description of the existing environmental setting, the MND may provide an incomplete analysis of Project-related environmental impacts. The MND lacks a complete and appropriate assessment of biological resources within the Project site and surrounding area specifically as it relates burrowing owl (Athene cunicularia) and an assessment of biological resources, as discussed in the Assessment of Biological Resources and Burrowing Owl sections below. A complete and accurate assessment of the environmental setting and Project-related impacts to biological resources is needed to both identify appropriate avoidance, minimization, and mitigation measures and demonstrate that these measures reduce Project impacts to less than significant.

Response #5

The relatively flat site is approximately 131 meters above sea level and contains no slope. The vegetation community present on site supports a disturbed desert scrub habitat encompassing mainly native plants and some non-native grasses. The site contains a few species of plant which include kelch grass (*Schismus barbatus*), creosote bush (*Larrea tridentata*), Four winged saltbush (*Atriplex canescens*), Asian mustard (*Brassica tournefortii*), Nettle leaved goosefoot (*Chenopodiastrum murale*) and Brittlebush (*Encelia farinosa*). The site also supports a minimal amount of wildlife, with many of them being birds. Species that were not observed, but are expected to occur on site given their abundance in the surrounding areas include California ground squirrel (*Otospermophilus beecheyi*) and antelope ground squirrel (*Ammospermophilus leucurus*). Birds observed included common ravens (*Corvus corax*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), Anna's hummingbird (*Calypte anna*), red-tailed hawk (*Buteo.* The site is located within documented burrowing owl habitat according to CNDDB (2024). No owls were seen on the property during the survey, and minimal suitable habitat was observed. Burrowing owls are not expected to occur on the site due to lack of suitable vegetation and burrows. Mitigation was included to address the potential impacts to burrowing owls during construction activities.

Comment #6 Mitigation Measures

CEQA requires that an MND include mitigation measures to avoid or reduce significant impacts. CDFW is concerned that the mitigation measures proposed in the MND are not adequate to avoid or reduce impacts to biological resources to below a level of significance. To support the City in ensuring that Project impacts to biological resources are reduced to less than significant, CDFW recommends revising the mitigation measures for burrowing owl, nesting birds, and special-status plants, and adding mitigation measures for artificial nighttime lighting and the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP).

Response #6

Later in this RTC document, new and/or revised mitigation measures have been identified where appropriate. These include measures that address potential construction impacts to burrowing owls, nesting birds, and special status plant species. These measures are identified in the responses that follow. In addition, the Mitigation Monitoring and Reporting Program was revised to reflect the new or revised mitigation.

Comment #7 Assessment of Biological Resources

Page 5 of the Project's General Biological Assessment (Biological Assessment), dated March 2024, indicates that the Project site supports suitable habitat for slender cottonheads (*Nemacaulis denudate* var. *gracilis*) and chaparral sand-verbena (*Abronia villosa* var. *aurita*) but none were observed during field surveys. CDFW concurs that the Project site contains suitable habitat for these two species. Page 4 of the Biological Assessment indicates that general biological surveys were conducted on February, 12, 2024, a time that is outside of the typical bloom period for slender cottonheads (April and May according to Calflora). Additionally, photos provided in the Biological Assessment appear to show presence of desert sand verbena (*Abronia villosa*), though the Biological Assessment does not indicate that desert sand verbena was observed on-site or discuss how the absence of a rare variety of the species, chapparal sandverbena, was determined.

Per CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018), CDFW recommends that botanical field surveys are conducted at the times of year when plants will be both evident and identifiable. Since surveys were conducted outside of the peak bloom period for slender cottonheads, and the Biological Assessment lacks a discussion of how absence of chapparal sand-verbena was determined, CDFW is concerned that the assessment of the existing environmental setting with respect to special-status plants has not been adequately analyzed in the MND. Compliance with CEQA is predicated on a complete and accurate description of the environmental setting that may be affected by the proposed Project. CDFW is concerned that without a complete and accurate description of the existing environmental setting, the MND likely provides an incomplete or inaccurate analysis of Project-related environmental impacts and whether those impacts have been mitigated to a level that is less than significant. Without an appropriate assessment of the biological resources, particularly focused on special-status plants, appropriate avoidance, minimization, and/or mitigation measures cannot be identified, and it is uncertain if impacts to biological resources have been reduced to a level less than significant. CDFW recommends the MND and its supporting documents be revised to include the results of a thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018), which includes conducting botanical field surveys at the times of year when plants will be both evident and identifiable. Based on the findings of a thorough, recent floristic-based assessment, CDFW recommends that the MND is revised to include appropriate avoidance, minimization, and mitigation measures.

The MND includes Mitigation Measure BIO-2, indicating that a "focused plant survey should be considered for all special status plant species that have the potential to occur on the site to be performed during the blooming season (April-June) to determine the potential environmental effects of the proposed projects on special status plants and sensitive natural communities following recommended protocols by the Department of Fish and Wildlife." CDFW considers the measure to be inadequate, in part, because it does not identify specific survey protocols or include appropriate avoidance, minimization, and mitigation. To reduce impacts to special-status plants to a level less than significant, CDFW recommends the City revise Mitigation Measure BIO-2 as follows (with additions in **bold** and removals in ~~strikethrough~~):

Mitigation Measure BIO-2: Special-Status Plants

Prior to Project construction activities, a thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (see https://wildlife.ca.gov/Conservation/Plants) shall be performed by a qualified biologist. Should any state-listed plant species (excluding CVMSHCP Covered Species) be present in the Project area, the Project proponent shall obtain appropriate California Endangered Species Act (CESA) authorization for those species prior to the start of Project activities. Should any species of native plants designated as rare, threatened, or endangered by state law (excluding CVMSHCP Covered Species) be present in the Project area, on-site or off-site habitat restoration (whichever is applicable) and/or enhancement and preservation should be evaluated and discussed in detail. Where habitat preservation is not available on-site, off-site land acquisition, management, and preservation should be evaluated. ~~A focused plant survey should be considered for all special status plant species that have the potential to occur on the site to be performed during the blooming season (April-~~

~~June) to determine the potential environmental effects of the proposed projects on special status plants and sensitive natural communities following recommended protocols by the Department of Fish and Wildlife.~~

Pursuant to the CEQA Guidelines, section 15097(f), CDFW has prepared a draft mitigation monitoring and reporting program (MMRP) in Attachment 1 for CDFW recommended revisions to MM BIO-1 and MM BIO-2 and CDFW-recommended MM BIO-[A], MM BIO-[B], and MM BIO-[C].

Response #7

The comment is noted for the record. Mitigation Measure BIO-2 has been revised to address the CDFW's concerns regarding the identification of specific survey protocols along with appropriate avoidance, minimization, and mitigation strategies. The revised mitigation language would be incorporated into the ISMND by reference. The CDFW indicated that the revised mitigation measure would reduce the impacts to special-status plants to a level less than significant, The revised mitigation is provided below (with additions in **bold** and removals in ~~strikethrough~~):

> *Mitigation Measure BIO-2: Special-Status Plants.* **Prior to Project construction activities, a thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* shall be performed by a qualified biologist. Should any state-listed plant species (excluding CVMSHCP Covered Species) be present in the Project area, the Project proponent shall obtain appropriate California Endangered Species Act (CESA) authorization for those species prior to the start of Project activities. Should any species of native plants designated as rare, threatened, or endangered by state law (excluding CVMSHCP Covered Species) be present in the Project area, on-site or off-site habitat restoration (whichever is applicable) and/or enhancement and preservation should be evaluated and discussed in detail. Where habitat preservation is not available on-site, off-site land acquisition, management, and preservation should be evaluated.** ~~A focused plant survey should be considered for all special status plant species that have the potential to occur on the site to be performed during the blooming season (April-June) to determine the potential environmental effects of the proposed projects on special status plants and sensitive natural communities following recommended protocols by the Department of Fish and Wildlife.~~

Comment #8 Nesting Birds

It is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

With regard to the CVMSHCP, per its associated Implementing Agreement (IA) and Permits from CDFW and the U.S. Fish and Wildlife Service (the Wildlife Agencies), Take associated with Covered Activities will not be in violation of the Migratory Bird Treaty Act and will be consistent with Fish and Game Code sections 3503 and 3503.5; therefore, all Covered Activities within and outside Conservation Areas must undertake measures to avoid the take of individuals, nests, and eggs of nesting birds. The CVMSHCP includes a general conservation measure that applies to all bird species to avoid impacts to habitat for nesting birds during the nesting season (CVMSHCP Section 9.7). Per IA Section 13.2, the City is obligated to ensure the projects to which it confers Take Authorization under the CVMSHCP comply with all terms and requirements of the CVMSHCP, the Wildlife Agencies' Permits that create the CVMSHCP, and the IA, including compliance with laws that protect nesting birds.

The MND and its supporting documents lack an analysis on the potential impacts of the Project on nesting birds and their suitable habitat, though the MND includes a mitigation measure for nesting birds. CDFW considers the Project site to contain suitable habitat for ground-nesting birds and birds that nest in shrubs and trees, including both native and non-native vegetation (including ornamental plants). Disturbance to and removal of vegetation within and surrounding the Project areas has the potential to impact nesting birds. Construction noise associated with the Project also has the potential to impact nesting birds. The direct and indirect impacts of the Project have the potential to significantly adversely affect nesting birds.

CDFW considers the mitigation measure for nesting birds in the MND to be inadequate in scope and timing to reduce impacts to nesting birds to a level less than significant. In alignment with the CVMSHCP's general conservation measure for nesting birds (CVMSHCP Section 9.7), CDFW recommends Project construction activities are conducted outside of the peak nesting bird season. CDFW also recommends the completion of nesting bird surveys *regardless* of the time of year to ensure that impacts to nesting birds and their nests and eggs are avoided. The timing of the nesting season varies greatly depending on several factors, such as bird species, weather conditions in any given year, and long-term climate changes (e.g., drought, warming, etc.). In response to warming, birds have been reported to breed earlier, thereby reducing temperatures that nests are exposed to during breeding and tracking shifts in availability of resources (Socolar et al., 2017). CDFW staff have observed that climate change conditions may result in the nesting bird season occurring earlier and later in the year than historical nesting season dates. CDFW recommends that disturbance of occupied nests of migratory birds and raptors within the Project site and surrounding area be avoided any time birds are nesting on-site. CDFW therefore recommends the completion of nesting bird surveys *regardless of the time of year* to ensure compliance with all applicable laws pertaining to nesting and migratory birds. To support the City in reducing impacts to nesting birds to a less than significant level, CDFW recommends the City revise the mitigation measure for nesting birds as follows (with additions in **bold** and removals in ~~strikethrough~~):

Mitigation Measure BIO-1: Nesting Birds

Nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest

buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance. ~~Pre-construction surveys for burrowing owls and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.~~

a. ~~Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.~~
b. ~~Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as a reasonable buffer around these areas~~

Response #8

The site supports a disturbed desert scrub community which sparsely covers the property. Species present on the site included kelch grass (*Schismus barbatus*), creosote bush (*Larrea tridentata*), Four-winged saltbush (*Atriplex canescens*), Asian mustard (*Brassica tournefortii*), Nettle leaved goosefoot (*Chenopodiastrum murale*) and Brittlebush (*Encelia farinosa*). The surface soil is composed of light olive gray fine sand. The project location is within what would be the California Creosote Bush Scrub plant community; however, the ground surface in the project area has been cleared of native vegetation in the past and existing vegetation include introduced and ruderal species such as landscaping plants and low-lying grasses. The entirety of the project area has been disturbed in the past, with all native vegetation being removed. Nevertheless, the biological report acknowledged that nesting birds located onsite are protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Cod. For this reason, surveys shall be conducted prior to the commencement of Project-related ground disturbance. The revised mitigation is outlined below. Deleted text is noted using ~~strikeout~~ and new text is shown in **bold** lettering.

> *Mitigation Measure BIO-1: Nesting Birds.* **Nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species**

and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance. ~~Pre-construction surveys for burrowing owls and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.~~

a. ~~Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.~~
b. ~~Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as a reasonable buffer around these areas~~

Comment #9 Burrowing Owl

On October 10, 2024, the Fish and Game Commission determined that western burrowing owl warrants protection as a candidate species under the California Endangered Species Act (Fish & G. Code, § 2050 et seq.). During the candidacy period, western burrowing owl will be afforded the same protection as threatened and endangered species under CESA. If Project activities, including relocation, could result in take, appropriate CESA authorization (i.e., Incidental Take Permit under Fish and Game Code section 2081) should be obtained prior to commencement of Project activities.

Take of individual burrowing owls and their nests or eggs is defined by Fish and Game Code section 86, and prohibited by sections 3503, 3503.5, and 3513. Take is defined in Fish and Game Code section 86 as "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill." Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

With regard to the CVMSHCP, the CDFW Natural Community Conservation Plan (NCCP) Permit #2835-2008-001-06 does not provide Take Authorization for burrowing owl individuals, nests, or eggs. To the contrary, section 3.5.6 of the NCCP Permit states burrowing owl "pairs or individuals will not be Taken" and reiterates that the "HCP/NCCP does not authorize Take of [burrowing owl] nests [or] eggs[.]" Therefore, throughout the CVMSHCP area—both within and without Conservation Areas—Permittees must ensure

that activities occurring within their jurisdictions do not result in the take, possession, or destruction of burrowing owl individuals, nests, or eggs. Any activity occurring within the CVMSHCP area that results in the take of burrowing owl individuals, nests, or eggs would be unlawful and would not be a Covered Activity under the CVMSHCP. Per IA Section 13.2, the City is obligated to ensure the projects to which it confers Take Authorization under the CVMSHCP comply with all terms and requirements of the CVMSHCP, the Wildlife Agencies' Permits that created the CVMSHCP, and the IA, including compliance with laws that protect burrowing owls.

Page 34 of the MND states that the "site is located within documented burrowing owl habitat according to CNDDB (2024). No owls were seen on the property during the survey, and minimal suitable habitat was observed. Burrowing owls are not expected to occur on the site due to lack of suitable vegetation and burrows." Page 4 of the Project's General Biological Resources Assessment (Biological Assessment), dated March 3, 2023, states that "following completion of the initial reconnaissance survey, habitat assessments were conducted for the burrowing owl." The MND and its supporting documents lack information on the protocols used to conduct a habitat assessment for burrowing owl and lack reporting on the findings of the habitat assessment, including, but not limited to, a discussion of vegetation and habitat types potentially supporting burrowing owls in the Project area and vicinity, a written description of the biological setting as it relates to the potential presence of burrowing owl, and the locations of any suitable burrows and/or burrow surrogates identified within or adjacent to the Project site. Given the MND's lack of findings from a habitat assessment and recent focused surveys for burrowing owl following the guidelines in the *Staff Report on Burrowing Owl Mitigation*, the number and locations of suitable and occupied burrows within the Project site and surrounding areas are unknown, and CDFW is limited in its ability to provide biological expertise to support the City in reducing impacts to burrowing owl to a level less than significant.

CDFW notes that in California, preferred habitat for burrowing owl is generally typified by short, sparse vegetation with few shrubs, and that burrowing owls may occur in ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable and there are useable burrows and foraging habitat proximity. Based on review of historical aerial imagery, most areas of the Project contain vacant land with sparse vegetation cover that is suitable nesting and foraging habitat for burrowing owl. CDFW also notes that burrowing owls have also been observed within 1.3 miles of the Project site in areas associated with the Whitewater River based on unprocessed occurrence data accessed using the California Natural Diversity Database. Burrowing owls also frequently move into disturbed areas prior to and during construction activities since they are adapted to highly modified habitats. CDFW considers the Project site and surrounding vacant area to contain suitable nesting and foraging habitat for burrowing owl. Given the presence of suitable habitat for burrowing owl within the Project sites and surrounding area, CDFW recommends that the MND is revised to include the results of focused surveys, including survey reports, for burrowing owl within the Project site and surrounding area following the guidelines outlined in Appendix D of the *Staff Report on Burrowing Owl Mitigation* and to incorporate appropriate avoidance, minimization, and mitigation measures for burrowing owl. Focused surveys and pre-construction surveys are needed to inform appropriate avoidance, minimization, and mitigation measures and support the City in reducing impacts to burrowing owl to a level less than significant. Without conducting focused and pre-construction surveys and incorporating appropriate avoidance, minimization, and mitigation measures, the Project is at risk of significantly adversely affecting burrowing owl.

Page 11 of the Project's Biological Assessment states that "a pre-construction burrowing owl survey may be required by CDFW to determine if any owls have moved on to the site since the February 12, 2024 surveys." The MND includes Mitigation Measure BIO-1, which addresses both nesting birds and burrowing owl. CDFW considers Mitigation Measure BIO-1 to be inadequate in scope and timing to reduce impacts to burrowing owl to a level less than significant. CDFW recommends the City add the following stand-alone mitigation measure for burrowing owl to a revised MND:

Mitigation Measure BIO-[A]: Burrowing Owl Focused and Pre-Construction Surveys

Suitable burrowing owl habitat has been confirmed on the site; therefore, focused burrowing owl surveys shall be conducted by a CVMSHCP-approved Acceptable Biologist in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version) prior to vegetation removal or ground-disturbing activities. If burrowing owls are detected during the focused surveys, the qualified biologist and Project proponent shall begin coordination with CDFW and USFWS immediately, and shall prepare a Burrowing Owl Avoidance and Monitoring Plan that shall be submitted to CDFW for review and approval prior to commencing Project activities. The Burrowing Owl Plan shall describe proposed avoidance and monitoring actions, including measures necessary to avoid take of burrowing owl individuals, nests, and eggs. The Burrowing Owl Plan shall include the number and location of occupied burrow sites (occupied site means at least one burrowing owl or its sign has been observed within the last three years; may be indicated by owl sign including feathers, pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance or perch site), acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures. If impacts to occupied burrowing owl habitat or burrow(s) or burrowing owl individuals, nests, or eggs cannot be avoided, appropriate CESA authorization (i.e., Incidental Take Permit under Fish and Game Code section 2081) should be obtained from CDFW prior to commencement of Project activities. Preconstruction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version). Preconstruction surveys should be repeated when there is a pause in construction of more than 30 days. Preconstruction surveys shall be performed by a CVMSHCP-approved Acceptable Biologist following the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation*. If the preconstruction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with CDFW and prepare a Burrowing Owl Avoidance and Monitoring Plan that shall be submitted to CDFW and USFWS for review and approval prior to commencing Project activities.

Response #9

Both the IS/MND and the and the Biological Report that was prepared for the project indicated there was a potential for burrowing owls to be present on the site and that a preconstruction survey was warranted. The IS/MND states "the site is located within documented burrowing owl habitat according to CNDDB (2024). No owls were seen on the property during the survey, and minimal suitable habitat was observed. Burrowing owls are not expected to occur on the site due to lack of suitable vegetation and burrows." However, the ISMND did include the following mitigation:

Biological Resources Mitigation No. A1 Pre-construction surveys for burrowing owls and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.

a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.

b. Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as a reasonable buffer around these areas.

The revised mitigation is outlined below. New text is shown in **bold** lettering.

Biological Resources Mitigation No. 3. **Pre-construction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or most recent version). Pre-construction surveys shall be performed by a qualified biologist following the recommendations and guidelines provided in the Staff Report on Burrowing Owl Mitigation. If the pre-construction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with the California Department of Fish & Wildlife (CDFW) and United State Fish & Wildlife Service (USFWS) to conduct an impact assessment to develop avoidance and minimization measures to be approved by CDFW prior to commencing Project activities.**

Comment #10 *Artificial Nighttime Lighting*

Page 23 of the MND indicates that "All exterior lighting at the project site would be conditioned to be Dark-Sky compliant, in order to reduce the amount of light emitted at the project site at night." The MND lacks additional information on artificial nighttime lighting and any additional associated avoidance measures. Two of the Project areas are located adjacent to the Whitewater River—an area that provides suitable nesting, roosting, foraging, and refugia habitat for birds, migratory birds that fly at night, bats, and other nocturnal and crepuscular wildlife. The Project's proposed artificial nighttime lighting has the potential to significantly and adversely affect wildlife in the open-space and vacant areas adjacent to the Project site. Artificial lighting alters ecological processes including, but not limited to, the temporal niches of species; the repair and recovery of physiological function; the measurement of time through interference with the detection of circadian and lunar and seasonal cycles; the detection of resources and natural enemies; and navigation. Many species use photoperiod cues for communication (e.g., bird song), determining when to begin foraging, behavioral thermoregulation, and migration. Phototaxis, a phenomenon that results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it.

While plans to condition the Project's artificial nighttime lighting to be Dark-Sky compliant support the Project in limiting lighting impacts to biological resources within areas surrounding the Project site, CDFW considers these minimization plans insufficient in scope and timing to reduce impacts to a level less than significant. To support the City in avoiding or reducing impacts of artificial nighttime lighting on biological resources to less than significant, CDFW recommends the City add the following mitigation measure to a revised MND:

Mitigation Measure BIO-[B]: Artificial Nighttime Lighting

Throughout construction and the lifetime operations of the Project, the City and Project proponent shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light at night during the hours of dawn and dusk when many wildlife species are most active. The City and Project proponent shall ensure that all lighting for the Project is fully shielded, cast downward and directed away from surrounding open-space and agricultural areas, reduced in intensity to the greatest extent possible, and does not result in lighting trespass including glare into surrounding areas or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). The City and Project proponent shall ensure use of LED lighting with a correlated color temperature of 3,000 Kelvins or less, proper disposal of hazardous waste, and recycling of lighting that contains toxic compounds with a qualified recycler.

Response #10

The comment is noted for the record, but provides no substantial evidence that the Project will result in substantial lighting, or that the lighting proposed for the Project will impact biological resources. The proposed Project's lighting must be designed so as to prevent emissions of glare or light beyond the property line in accordance with City Municipal Code Section 17.18.050 and the Community Design Element in the City's General Plan. All exterior lighting at the project site would be conditioned to be Dark-Sky compliant, in order to reduce the amount of light emitted at the project site at night and preserve the desert night sky. Further, the City's construction hour restrictions make it unlikely that construction will occur at night. Adherence with the Municipal Code and General Plan will help ensure that lighting on the property would not pose significant impacts to wildlife; no change to the IS/MND is required.

Comment #11 Coachella Valley Multiple Species Habitat Conservation Plan

Local Development Mitigation Fee. The Project is located within the CVMSHCP Plan Boundary and outside of a Conservation Area and contains habitat for Covered Species and/or conserved natural communities. Per CVMSHCP Section 5.2.1.1 and IA Sections 12.2.1 and 13.2, the City is obligated to impose a local development mitigation fee for new development within the Plan Area that impacts vacant land containing Habitat for Covered Species and/or conserved natural communities, including small vacant lots within urban areas that contain natural open space, and to transmit collected fees to CVCC at least quarterly and prior to impacts to Covered Species and their Habitats. To document the City's obligation to impose and transmit a Local Development Mitigation Fee for the Project, CDFW recommends the City add the following mitigation measure to a revised MND:

Mitigation Measure BIO-[C]: CVMSHCP Compliance

Prior to construction and issuance of any grading permit, the City shall ensure compliance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and its associated Implementing Agreement and shall ensure the collection of payment of the CVMSHCP Local Development Mitigation Fee and transfer of revenues to the Coachella Valley Conservation Commission.

Response #11

The ISMND does indicate the Project occurs within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) plan area and is subject to provisions and policies of the CVMSHCP. No mitigation measure is required given that all development impact fees will be collected as part of the city's normal entitlement and building permit process.

Comment #12 Landscaping

Page 84 the MND states that "drought tolerant landscaping will be planted throughout the project site." CDFW recommends that the MND include recommendations regarding landscaping from Section 4.0 of the CVMSHCP "Table 4-112: Coachella Valley Native Plants Recommended for Landscaping" (pp. 4-180 to 4-182; https://cvmshcp.org/plandocuments/). CDFW also recommends incorporation of water-wise concepts in any Project landscape design plans. In particular, CDFW recommends xeriscaping with locally native California species and installing water-efficient and targeted irrigation systems (such as drip irrigation). Native plants support butterflies, birds, reptiles, amphibians, small mammals, bees, and other pollinators that evolved with those plants. More information on native plants suitable for the Project location and nearby nurseries is available at Calscape: https://calscape.org/. Local water agencies/cities and resource conservation cities in your area may be able to provide information on plant nurseries that carry locally native species, and some facilities display drought-tolerant locally native species demonstration gardens. Information on drought-tolerant landscaping and water-efficient irrigation systems is available on California's Save our Water website: https://saveourwater.com/.

Response #12

The comment is noted for the record. The proposed project is a "subdivision" project at this time No specific development plan or landscape plan has been prepared at this time. Future landscaping will require City and Coachella Valley Water District approval and must comply with water efficient standards and the water district's water conservation requirements.

Comment #13 Environmental Data

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

Response #13

The comment is noted for the record.

Comment #14 Environmental Document Filing Fees

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

Response #14

The comment is noted for the record.

Comment #15 Conclusion

CDFW appreciates the opportunity to comment on the MND to assist the City in identifying and mitigating Project impacts to biological resources. CDFW concludes that the MND does not adequately identify or mitigate the Project's significant, or potentially significant, impacts to biological resources. CDFW recommends that additional mitigation measures and analysis as described in this letter be added to a revised MND. CDFW personnel are available for consultation regarding biological resources and strategies to avoid and minimize impacts. Questions regarding this letter or further coordination should be directed to Jacob Skaggs, Senior Environmental Scientist Specialist, at jacob.skaggs@wildlife.ca.gov.

Response #15

The comment is noted for the record.

3. REVISIONS TO THE MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Table 13 Mitigation Monitoring and Reporting Program

Mitigation Measure	Responsible Agency	Timing	Verification (Date and Initials)
AESTHETICS			
No Mitigation was required.			
AGRICULTURAL RESOURCES			
No Mitigation was required.			
AIR QUALITY			
No Mitigation was required.			

BIOLOGICAL RESOURCES			
Biological Resources Mitigation Measure No. 1. **Nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.**	Project Developer Qualified Biologist City of Rancho Mirage	Prior to commencement of Construction	
Biological Resources Mitigation Measure No. 2. **Prior to Project construction activities, a thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (see** https://wildlife.ca.gov/Conservation/Plants) **shall be performed by a qualified biologist. Should any state-listed plant species (excluding CVMSHCP Covered Species) be present in the Project area, the Project proponent shall obtain appropriate California Endangered Species Act (CESA) authorization for those species prior to the start of Project activities. Should any species of native plants designated as rare, threatened, or endangered by state law (excluding CVMSHCP Covered Species) be present in the Project area, on-site or off-site habitat restoration (whichever is applicable) and/or enhancement and preservation should be evaluated and discussed in detail. Where habitat preservation is not available on-site, off-site land acquisition, management, and preservation should be evaluated.**	Project Developer Qualified Biologist City of Rancho Mirage	Prior to commencement of Construction	
Biological Resources Mitigation Measure No. 3. Pre-construction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or most recent version). Pre-construction surveys shall be performed by a qualified biologist following the recommendations and guidelines provided in the Staff Report on Burrowing Owl Mitigation. If the pre-construction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with the California Department of Fish & Wildlife (CDFW) and United State Fish & Wildlife Service (USFWS) to conduct an impact assessment to develop avoidance and minimization measures to be approved by CDFW prior to commencing Project activities.	**Project Developer Qualified Biologist City of Rancho Mirage**	**Project Proponent shall provide the City with pre-construction surveys prior to the issuance of any permit to allow ground disturbance.**	
CULTURAL RESOURCES			
No Mitigation was required.			

GEOLOGY AND SOILS			
No Mitigation was required.			
GREENHOUSE GAS EMISSIONS			
No Mitigation was required.			
HAZARDS AND HAZARDOUS MATERIALS			
No Mitigation was required.			
HYDROLOGY AND WATER QUALITY			
No Mitigation was required.			
LAND USE AND PLANNING			
No Mitigation was required.			
MINERAL RESOURCES			
No Mitigation was required.			
NOISE			
No Mitigation was required.			
POPULATION AND HOUSING			
No Mitigation was required.			
PUBLIC SERVICES			
No Mitigation was required.			
RECREATION			
No Mitigation was required.			
TRANSPORTATION/TRAFFIC			
No Mitigation was required.			
TRIBAL CULTURAL RESOURCES			
Tribal Cultural Resources Mitigation Measure No. 1. The Agua Caliente Band of Cahuilla Indians must be notified a minimum of 30 days prior to any earth-moving activities including grading, grubbing, trenching, or excavations at the site. All earth-moving activities including grading, grubbing, trenching, or excavations at the site shall be monitored by a qualified archaeologist and/or approved Agua Caliente Native American Cultural Resource Monitor(s).	Project Developer Cultural Monitor City of Rancho Mirage	Prior to commencement of Construction	
Tribal Cultural Resources Mitigation Measure No. 2. A qualified archaeologist and approved Agua Caliente Native American Cultural Resource Monitor(s) shall provide preconstruction training for all earthmoving construction personnel prior to the start of any ground-disturbing activities, regarding how to recognize the types of Tribal Cultural Resources and/or archaeological resources that may be encountered and to instruct personnel about actions to be taken in the event of a discovery. Should cultural materials be discovered, they shall be recorded and evaluated in the field. The monitors shall be prepared to recover artifacts to avoid construction delays but must have the power to temporarily halt or divert construction equipment to allow for controlled archaeological recovery if a substantial cultural deposit is encountered. If artifacts are discovered, these shall be cataloged and analyzed. The archaeologist and monitor, in discussion with the Tribal Historic Preservation Office, shall determine and implement the best course of action for the treatment and disposition of the artifacts.	Project Developer Cultural Monitor City of Rancho Mirage	During the Project's construction phase	
Tribal Cultural Resources Mitigation Measure No. 3. In the unexpected event human remains are uncovered during construction	Project Developer Cultural Monitor	During the Project's construction phase	

activities, all construction work taking place within the vicinity of the discovered remains must cease and the necessary steps to ensure the integrity of the immediate area must be taken. The County Coroner must be notified within 24 hours of the discovery of human remains. If the remains discovered are determined by the Coroner to be of Native American descent, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would in turn contact the Most Likely Descendant (MLD) would determine further action to be taken. The MLD would have 48 hours to access the site and make a recommendation regarding disposition of the remains.	City of Rancho Mirage		
UTILITIES AND SERVICE SYSTEMS			
No Mitigation was required.			
Wildfire			
No Mitigation was required.			

ATTACHMENT 7

CITY OF RANCHO MIRAGE ©

DEVELOPMENT SERVICES DEPARTMENT
69-825 Highway 111 ● Rancho Mirage, CA 92270
Planning@RanchoMirageCA.gov ● (760) 328-2266

NOTICE OF DETERMINATION AND MITIGATED NEGATIVE DECLARATION

To: ☒ Office of Land Use and Climate Innovation
1400 Tenth Street
Sacramento, CA 95814

☒ Riverside County Clerk
P.O. Box 751
Riverside, CA 92501

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse (SCH) Number: 2025070800
Project Title/Case No.: Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) ("Project")
Project Applicant: Phillip Fomotor
Project Location: North of the intersection of Mirage Cove Drive and Peterson Road. Assessor's Parcel Numbers: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022
Project Description: Consideration to subdivide eight (8) parcels totaling 19.81 acres into sixteen (16) residential lots. Phase 1 includes the subdivision of three (3) southern parcels into eight (8) lots, identified as Lots 6, 7, 8, 9, 13, 14, 15, and 16. Phase 2 includes the subdivision of five (5) northern parcels into eight (8) lots, identified as Lots 1, 2, 3, 4, 5, 10, 11, and 12. The project site is currently vacant and has a zoning designation of Residential Estate (R-E). A Minor Variance is proposed to consider a .98-acre size for two parcels; all other parcels will range in size from 1 acre to 1.55 acres. No single-family residence architectural plans are proposed as part of this project.

This is to advise that the lead agency, City of Rancho Mirage, has approved the above described project on _____ and has made the following determinations regarding the above described project.

1. The project ☐ will ☒ will not have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures ☒ were ☐ were not made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan ☒ was ☐ was not adopted for this project.
5. A Statement of Overriding Considerations ☐ was ☒ was not adopted for this project.
6. Findings ☒ were ☐ were not made pursuant to the provisions of CEQA.

The City Council adopted the following Finding: The proposed project has been reviewed in compliance with the provisions of the California Environmental Quality Act (CEQA). This is to certify that the Mitigated Negative Declaration with comments and responses and record of project approval is available to the General Public at: City of Rancho Mirage, 69-825 Highway 111, Rancho Mirage, CA 92270.

Mitigated Negative Declaration – Rancho Mirage City Council

Date: _____

_____
Ben Torres, Planning Manager

I hereby certify that the City of Rancho Mirage has made the above findings of fact and that based upon the Mitigated Negative Declaration and hearing record the project will not have a significant effect on the environment.

Date: _____

_____
Ben Torres, Planning Manager

DRAFT

Mayor Mallotto
Mayor Pro Tem O'Keefe
Council Member Downs
Council Member Fromberg Edelstein
Council Member Weill

REGULAR MEETING OF THE RANCHO MIRAGE CITY COUNCIL AND COMMUNITY SERVICES DISTRICT, ENERGY AUTHORITY, HOUSING AUTHORITY, JOINT POWERS FINANCE AUTHORITY, LIBRARY AND OBSERVATORY, AND REDEVELOPMENT SUCCESSOR AGENCY BOARDS

69-825 Highway 111, Rancho Mirage, CA 92270

Thursday, November 20, 2025, 1:00 PM

DRAFT MINUTES

1. GENERAL

1.A. Call to Order

Mayor Weill called the meeting to order at 1:00 P.M.

1.B. Flag Salute

Mayor Weill led the flag salute.

1.C. Roll Call: Downs, Fromberg Edelstein, O'Keefe, Mallotto, Weill

All City Council Members were present.

2. ACTION CALENDAR

2.A. Appointment of Mayor and Mayor Pro Tem

— RECOMMENDED ACTION: Appoint Lynn Mallotto to serve as Mayor and Michael O'Keefe to serve as Mayor Pro Tem.

Mayor Weill commented on the past year serving as Mayor. Council Members then thanked Mayor Weill for his service and Mayor Pro Tem Mallotto presented him with a shadowbox to commemorate his year as Mayor.

Kristie Ramos, City Clerk, presented the staff report.

MOVED/SECONDED BY DOWNS/FROMBERG EDELSTEIN TO APPOINT LYNN MALLOTTO TO SERVE AS MAYOR AND MICHAEL O'KEEFE TO SERVE AS MAYOR PRO TEM. MOTION CARRIED 5/0.

Ms. Ramos administered the Oath of Office to Mayor Mallotto and Mayor Pro Tem O'Keefe. The City Council then posed for a group photo.

Mayor Mallotto thanked those in attendance and spoke of her upcoming year as Mayor.

3. COUNCIL MEMBER COMMENTS/REPORTS

Mayor Mallotto spoke regarding the recent passing of Cathedral City Council Member Mark Carnevale and acknowledged his contributions to the community.

Council Member Weill congratulated Mayor Mallotto on assuming the role of Mayor and wished her success in her term.

Council Member Downs spoke in favor of the Mayoral rotation method used in Rancho Mirage.

Mayor Pro Tem O'Keefe commended the Rancho Mirage Chamber of Commerce on its recent Business Expo & Job Fair. He expressed that he was honored to serve as Mayor Pro Tem and pledged to place the interests of the City of Rancho Mirage above any other agenda. He commended City staff for their work and shared that he looked forward to working with all Council Members. Lastly, he spoke highly of incoming Mayor Lynn Mallotto.

4. CITY MANAGER COMMENTS/REPORTS

None.

5. CONSENT CALENDAR (A-F)

Isaiah Hagerman, City Manager, presented the Consent Calendar items.

MOVED/SECONDED BY DOWNS/WEILL TO APPROVE THE CONSENT CALENDAR AS PRESENTED. MOTION CARRIED 5/0.

5.A. Waive Full Reading of Any Ordinance Introduced or Adopted Pursuant to this Agenda

5.B. Revision of the Library & Observatory Collection Development Policy in Compliance with the California Freedom to Read Act (AB 1825)

— RECOMMENDED ACTION: Adopt Ordinance No. 1226, 2nd Reading, Amending Section 9.30.072 (“Collection Development Policy”) of Chapter 9.30 (“Use of Library and Observatory”) of Division III ("Offenses Against Public Peace") of Title 9 ("Public Peace, Morals and Welfare") of the Rancho Mirage Municipal Code.

5.C. November 6, 2025, Regular City Council Meeting Minutes

— RECOMMENDED ACTION: Approve the November 6, 2025, Regular City Council Meeting Minutes as presented.

5.D. Rancho Mirage Mobilehome Fair Practices Commission Annual Report

— RECOMMENDED ACTION: Receive and file the 2024 Mobile Home Fair Practices Commission Annual Report as presented.

5.E. Contracts

— RECOMMENDED ACTION: Approve the terms of the contracts as presented and authorize the City Manager to execute the subject contracts.

5.F. Demands

— RECOMMENDED ACTION: Approve the demands as presented.

6. PUBLIC HEARINGS

6.A. Annexation No. 201 to Community Facilities District No. 1 in Connection with Tentative Parcel Map No. 38492. Location: Approximately 2,000 Feet South of Frank Sinatra Drive, on the West Side of Vista Del Sol. (Artemis Court)

— RECOMMENDED ACTION: Adopt Resolution No. 2025-(Next-in-Order) Calling an Election on Levying a Special Tax within the Area Proposed to be Annexed to Community Facilities District No. 1 (Annexation No. 201), Declaring the Election Results, Approving the Annexation of the Territory and Directing the Recordation of the Amendment of the Notice of Special Tax Lien.

Jacob De La Cruz, Financial Analyst, presented the staff report.

Kristie Ramos, City Clerk, declared the election results as follows: the ballot for the 6 eligible votes was received on October 24, 2025, and was in favor; therefore, votes cast in favor equal 100% of total votes cast.

No public testimony was provided.

MOVED/SECONDED BY WEILL/FROMBERG EDELSTEIN TO ADOPT RESOLUTION NO. 2025-45, CALLING AN ELECTION ON LEVYING A SPECIAL TAX WITHIN THE AREA PROPOSED TO BE ANNEXED TO COMMUNITY FACILITIES DISTRICT NO. 1 (ANNEXATION NO. 201), DECLARING THE ELECTION RESULTS, APPROVING THE ANNEXATION OF THE TERRITORY AND DIRECTING THE RECORDATION OF THE AMENDMENT OF THE NOTICE OF SPECIAL TAX LIEN. MOTION CARRIED 5/0.

6.B. Annexation No. 202 to Community Facilities District No. 1 in Connection with Preliminary Development Plan Case No. PDP24-0002. Location: South of Via Vail, West of Monterey Avenue, and East of the Rancho Mirage Dog Park. (Rosette Apartments)

— RECOMMENDED ACTION: Adopt Resolution No. 2025-(Next-in-Order) Calling an Election on Levying a Special Tax within the Area Proposed to be Annexed to Community Facilities District No. 1 (Annexation No. 202), Declaring the Election Results, Approving the Annexation of the Territory and Directing the Recordation of the Amendment of the Notice of Special Tax Lien.

Jacob De La Cruz, Financial Analyst, presented the staff report.

No public testimony was provided.

Kristie Ramos, City Clerk, declared the election results as follows: the ballot for the 10 eligible votes was received on October 12, 2025, and was in favor; therefore, votes cast in favor equal 100% of total votes cast.

MOVED/SECONDED BY O'KEEFE/DOWNS TO ADOPT RESOLUTION NO. 2025-46, CALLING AN ELECTION ON LEVYING A SPECIAL TAX WITHIN THE AREA PROPOSED TO BE ANNEXED TO COMMUNITY FACILITIES DISTRICT NO. 1 (ANNEXATION NO. 202), DECLARING THE ELECTION RESULTS, APPROVING THE ANNEXATION OF THE TERRITORY AND DIRECTING THE RECORDATION OF THE AMENDMENT OF THE NOTICE OF SPECIAL TAX LIEN. MOTION CARRIED 5/0.

6.C. CONTINUED FROM 11/06/2025 CITY COUNCIL MEETING - Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) – Applicant: Phillip Fomotor. Consideration of a 16-Lot Residential Subdivision on 19.81 Gross Acres. The Project Requests Approval of a Minor Variance to the Residential Estate (R-E) Minimum Required Lot Size of 1 Acre to .98 Acre for Two Lots. Located North of the Intersection of Mirage Cove Drive and Peterson Road (APN's: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022)

— RECOMMENDED ACTION: Continue the item to the December 4, 2025, regularly scheduled City Council meeting.

Majna Dukic, Director of Development Services, reported that staff recommended a continuance in order to further review the project.

MOVED/SECONDED BY DOWNS/FROMBERG EDELSTEIN TO CONTINUE ITEM NO. 6C TO THE DECEMBER 4, 2025, REGULAR CITY COUNCIL MEETING. MOTION CARRIED 5/0.

7. NON-AGENDA PUBLIC COMMENTS

The following individuals provided non-agenda public comments: Susan Ragsdale, Patrick Lowry, Trevor Ryan, and Wally Melendez.

8. CLOSED SESSION

8.A. Closed Session Agenda

— 1. CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION Pursuant to Government Code Section 54956.9(d)(1). Case name unspecified since disclosure may jeopardize existing settlement negotiations.

Colin Kirkpatrick, City Attorney, announced that the City Council would recess to Closed Session to confer with legal counsel regarding one existing litigation item, pursuant to Government Code Section 54956.9(d)(1), noting the case name was unspecified since disclosure may jeopardize existing settlement negotiations.

8.B. Recess to Closed Session

Mayor Mallotto recessed the meeting to Closed Session at 2:00 P.M.

8.C. Reconvene Open Session

Mayor Mallotto reconvened the meeting at 2:36 P.M.

8.D. Closed Session Announcements

Colin Kirkpatrick, City Attorney, reported that no reportable action was taken during Closed Session.

9. ADJOURNMENT

Mayor Mallotto adjourned the meeting at 2:36 P.M.

Date Approved by City Council:

Mayor Weill
Mayor Pro Tem Mallotto
Council Member Downs
Council Member Fromberg Edelstein
Council Member O'Keefe

REGULAR MEETING OF THE RANCHO MIRAGE CITY COUNCIL AND COMMUNITY SERVICES DISTRICT, ENERGY AUTHORITY, HOUSING AUTHORITY, JOINT POWERS FINANCE AUTHORITY, LIBRARY AND OBSERVATORY, AND REDEVELOPMENT SUCCESSOR AGENCY BOARDS

69-825 Highway 111, Rancho Mirage, CA 92270

Thursday, November 6, 2025, 1:00 PM

MINUTES

1. GENERAL

1.A. Call to Order

Mayor Weill called the meeting to order at 1:01 P.M.

1.B. Flag Salute

Mayor Weill led the flag salute.

1.C. Roll Call: Downs, Fromberg Edelstein, O'Keefe, Mallotto, Weill

All City Council Members were present.

2. PRESENTATIONS

2.A. Performance of “The Star-Spangled Banner” by Coachella Acappella

Coachella Acappella was introduced by Artistic Director Alan Scott and then performed "The Star-Spangled Banner."

2.B. Presentation of a Proclamation Recognizing Retired Teachers Week

Bettyann Sherrell, Legislation/GRC Chair of CalRTA Desert Roadrunners Division 43, introduced other retired teachers in attendance and accepted a proclamation from Mayor Weill honoring Retired Teachers Week.

3. COUNCIL MEMBER COMMENTS/REPORTS

Council Member O'Keefe reflected on the memorial service honoring former Council Member G. Dana Hobart. He noted the return of the Rancho Mirage Certified Farmers Market and announced that the Riverside County Department of Animal Services would be offering free pet adoptions. He also spoke of the ongoing amphitheater programs presented by Desert Theatricals and noted that the City would be represented in the Palm Springs Pride Parade.

Council Member Fromberg Edelstein spoke regarding the Children's Discovery Museum of the Desert's successful Halloween Fest.

Mayor Pro Tem Mallotto spoke regarding the Dia De Los Muertos celebration presented by the Rancho Mirage Community Cultural Commission. She commented on potential national cuts, how the City was being proactive, and provided examples

of how cuts were already impacting residents. She also reminded the community that the Joslyn Center was an available resource.

Council Member Downs spoke regarding the City's conflict of interest procedures and also provided an update on the I-10 projects discussed at a recent Coachella Valley Association of Governments Transportation Committee meeting.

Mayor Weill commented on the memorial service held for former Council Member G. Dana Hobart. He also congratulated the Rancho Mirage Chamber of Commerce and the City Marketing Department on a wonderful 2025 State of the City event, and highlighted the City's project development process.

4. CITY MANAGER COMMENTS/REPORTS

None.

5. CONSENT CALENDAR

Isaiah Hagerman, City Manager, presented the Consent Calendar items.

Mayor Weill recessed the meeting for a short break at 1:35 p.m., following the vote on the Consent Calendar, and reconvened the meeting at 1:38 p.m.

MOVED/SECONDED BY MALLOTTO/FROMBERG EDELSTEIN TO APPROVE THE CONSENT CALENDAR AS PRESENTED. MOTION CARRIED 5/0.

5.A. Waive Full Reading of Any Ordinance Introduced or Adopted Pursuant to this Agenda

5.B. October 16, 2025, Regular City Council Meeting Minutes

— RECOMMENDED ACTION: Approve the October 16, 2025, Regular City Council Meeting Minutes as presented.

5.C. October 28, 2025, Special City Council Meeting Minutes

— RECOMMENDED ACTION: Approve the October 28, 2025, Special City Council Meeting Minutes as presented.

5.D. Rancho Mirage Traffic Safety Commission Appointment

— RECOMMENDED ACTION: Appoint Mark Jacobs to serve on the Rancho Mirage Traffic Safety Commission for the remainder of the current term.

5.E. City Capital Project CP 14-313 - Congestion Mitigation and Sand Fence Installation

— RECOMMENDED ACTION: Reject all bids received on August 28, 2025, related to City Capital Project CP 14-313, and direct staff to readvertise the project.

5.F. Coachella Valley Association of Governments (CVAG) Transportation Uniform Mitigation Fee (TUMF) Inflation Adjustment

— RECOMMENDED ACTION: Adopt Resolution No. 2025-(Next-in-Order), Implementing the Coachella Valley Association of Government's (CVAG) Inflation Adjustment for the Transportation Uniform Mitigation Fee (TUMF) Collected by the City of Rancho Mirage as Required by CVAG for Calendar Year 2026. (Adopted Resolution No. 2025-44)

5.G. Extension of Completion Date for Parcel Map No. 38106 (Via Josefina)

— RECOMMENDED ACTION: Authorize an amendment to the Subdivision Improvement Agreement, which provides for the extension of the completion date for Parcel Map No. 38106 until November 6, 2026.

5.H. Quarterly Treasurer's Report for the Quarter Ending September 30, 2025

— RECOMMENDED ACTION: Receive and File the September 30, 2025, Quarterly Treasurer's Report.

5.I. Demands

— RECOMMENDED ACTION: Approve the demands as presented.

6. PUBLIC HEARINGS

6.A. Environmental Assessment Case No. EA23-0003, Variance Case No. VAR24-0002, and Tentative Tract Map Case No. TTM23-0001 (TTM 38636) – Applicant: Farhad Zomorodi. Consideration of a 9-Lot Residential Subdivision on 5.04 Gross Acres. The Project Requests Approval of a Variance to the Very Low Density Residential (R-L-2) Minimum Required Lot Size From 18,000 Sq. Ft. to 16,000 Sq. Ft. Located at 72094 Ginger Rogers Road (APN: 685-080-002)

— RECOMMENDED ACTION: 1) Approve the filing of a Mitigated Negative Declaration (SCH# 2025051428) based on Environmental Assessment Case No. EA23-0003; 2) Approve Variance Case No. VAR24-0002; and 3) Approve Tentative Tract Map Case No. TTM23-0001 (TTM 38636), subject to the Conditions of Approval, and based on the content and Findings in the staff report.

Joy Tsai, Senior Planner, presented the staff report.

No public testimony was provided.

A discussion ensued.

MOVED/SECONDED BY MALLOTTO/DOWNS TO: 1) APPROVE THE FILING OF A MITIGATED NEGATIVE DECLARATION (SCH# 2025051428) BASED ON ENVIRONMENTAL ASSESSMENT CASE NO. EA23-0003; 2) APPROVE VARIANCE CASE NO. VAR24-0002; AND 3) APPROVE TENTATIVE TRACT MAP CASE NO. TTM23-0001 (TTM 38636), SUBJECT TO THE CONDITIONS OF APPROVAL, AND BASED ON THE CONTENT AND FINDINGS IN THE STAFF REPORT. MOTION CARRIED 5/0.

6.B. Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) – Applicant: Phillip Fomotor. Consideration of a 16-Lot Residential Subdivision on 19.81 Gross Acres. The Project Requests Approval of a Minor Variance to the Residential Estate (R-E) Minimum Required Lot Size of 1 Acre to .98 Acre for Two Lots. Located North of the Intersection of Mirage Cove Drive and Peterson Road (APN's: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022)

— RECOMMENDED ACTION: 1) Approve the filing of a Mitigated Negative Declaration (SCH# 2025070800) based on Environmental Assessment Case No. EA24-0009; 2) Approve Minor Variance Case No. VAR24-0005; and 3) Approve Tentative Tract Map Case No. TTM24-0003 (TTM 38971), subject to the Conditions of Approval, and based on the content and Findings in the staff report.

Majna Dukic, Director of Development Services, recommended that Item 6B be continued to the November 20, 2025, Regular City Council Meeting, enabling staff to further consider comments received. She recommended that the City Council still hear the staff report and take public testimony.

Ben Torres, Planning Manager, presented the staff report.

Ryan Stendell, Assistant City Manager, spoke regarding streets in the project area.

The following individuals provided public testimony: Janeen Bahr, Vicki Petersen, Jack Swenson, Kay Williams, and Murray Bryant.

MOVED/SECONDED BY DOWNS/MALLOTTO TO CONTINUE ITEM NO. 6B TO THE NOVEMBER 20, 2025, REGULAR CITY COUNCIL MEETING. MOTION CARRIED 5/0.

7. ACTION CALENDAR

7.A. Revision of the Library & Observatory Collection Development Policy in Compliance with the California Freedom to Read Act (AB 1825)

— RECOMMENDED ACTION: Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Section 9.30.072 (“Collection Development Policy”) of Chapter 9.30 (“Use of Library and Observatory”) of Division III ("Offenses Against Public Peace") of Title 9 ("Public Peace, Morals and Welfare") of the Rancho Mirage Municipal Code.

Aaron Espinosa, Library Director, presented the staff report.

A discussion ensued.

MOVED/SECONDED BY FROMBERG EDELSTEIN/O’KEEFE TO INTRODUCE ORDINANCE NO. 1226, 1ST READING, AMENDING SECTION 9.30.072 (“COLLECTION DEVELOPMENT POLICY”) OF CHAPTER 9.30 (“USE OF LIBRARY AND OBSERVATORY”) OF DIVISION III ("OFFENSES AGAINST PUBLIC PEACE") OF TITLE 9 ("PUBLIC PEACE, MORALS AND WELFARE") OF THE RANCHO MIRAGE MUNICIPAL CODE. MOTION CARRIED 5/0.

8. NON-AGENDA PUBLIC COMMENTS

The following individuals provided non-agenda public comments: Wally Melendez, Kay Williams, and Susan Ragsdale.

9. CLOSED SESSION

9.A. Closed Session Agenda

— 1. CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION Pursuant to Government Code Section 54956.9(d)(1). Case name unspecified since disclosure may jeopardize existing settlement negotiations.

Colin Kirkpatrick, City Attorney, announced that the City Council would recess to Closed Session to confer with legal counsel regarding one existing litigation item, pursuant to Government Code Section 54956.9(d)(1), noting the case name was unspecified since disclosure may jeopardize existing settlement negotiations.

9.B. Recess to Closed Session

Mayor Weill recessed the meeting to Closed Session at 2:36 P.M.

9.C. Reconvene Open Session

Mayor Weill reconvened the meeting at 3:38 P.M.

9.D. Closed Session Announcements

Colin Kirkpatrick, City Attorney, reported that no reportable action was taken during Closed Session.

10. ADJOURNMENT

Mayor Weill adjourned the meeting at 3:38 P.M.

Date Approved by City Council: 11/20/2025

CITY OF RANCHO MIRAGE ©

Chair Chanter
Vice Chair Bryant
Commissioner Agostini
Commissioner Beale
Commissioner Grey

REGULAR PLANNING COMMISSION MEETING

69-825 Highway 111, Rancho Mirage, CA 92270

Thursday, October 9, 2025, 2:00 PM

DRAFT MINUTES

1. GENERAL

1.A. CALL TO ORDER

Chair Chanter called the meeting to order at 2:00 P.M.

1.B. FLAG SALUTE

Commissioner Agostini led the flag salute.

1.C. ROLL CALL - Agostini, Beale, Grey, Bryant, Chanter

Present: Agostini, Beale, Bryant, Chanter.

Absent: Grey.

MOVED/SECONDED BY AGOSTINI/BEALE TO EXCUSE COMMISSIONER GREY'S ABSENCE. MOTION CARRIED 4/0.

2. COMMISSIONER COMMENTS

Commissioner Agostini thanked the City and staff for honoring G. Dana Hobart, former Rancho Mirage City Council Member, and highlighted his contributions to the City and community.

Vice Chair Bryant reflected on the passing of G. Dana Hobart, calling it a somber time for Rancho Mirage. He praised Mr. Hobart's intelligence, leadership, and integrity, recalling his own appointment to the Planning Commission by Mr. Hobart in 2018 and the four guiding principles Mr. Hobart shared with him. Vice Chair Bryant highlighted Mr. Hobart's long tenure in public service and dedication to the City.

Chair Chanter agreed with Vice Chair Bryant's remarks, calling them fine words about a valuable man to the community.

3. APPROVAL OF MINUTES

3.A. September 25, 2025, Regular Planning Commission Meeting Minutes

—RECOMMENDED ACTION: Approve the September 25, 2025, Regular Planning Commission Meeting Minutes as presented.

The following individual provided public comments: Brad Anderson.

MOVED/SECONDED BY BEALE/AGOSTINI TO APPROVE THE SEPTEMBER 25, 2025, REGULAR PLANNING COMMISSION MEETING MINUTES AS PRESENTED. MOTION CARRIED 4/0.

4. PUBLIC HEARINGS

4.A. Environmental Assessment Case No. EA23-0003, Variance Case No. VAR24-0002, and Tentative Tract Map Case No. TTM23-0001 (TTM 38636) – Applicant: Farhad Zomorodi. Consideration of a 9-Lot Residential Subdivision on 5.04 Gross Acres. The Project Requests Approval of a Variance to the Very Low Density Residential (R-L-2) Minimum Required Lot Size From 18,000 Sq. Ft. to 16,000 Sq. Ft. Located at 72094 Ginger Rogers Road (APN: 685-080-002)

Joy Tsai, Senior Planner, presented the staff report.

The following individual provided public comments: Brad Anderson.

A discussion ensued.

MOVED/SECONDED BY BEALE/AGOSTINI TO RECOMMEND THAT THE CITY COUNCIL TAKE THE FOLLOWING ACTIONS: 1) APPROVE THE FILING OF A MITIGATED NEGATIVE DECLARATION (SCH# 2025051428) BASED ON ENVIRONMENTAL ASSESSMENT CASE NO. EA23-0003; AND, 2) APPROVE VARIANCE CASE NO. VAR24-0002; AND, 3) APPROVE TENTATIVE TRACT MAP CASE NO. TTM23-0001 (TTM 38636), SUBJECT TO THE CONDITIONS OF APPROVAL, AND BASED ON THE CONTENT AND FINDINGS IN THE STAFF REPORT. MOTION CARRIED 4/0.

4.B. Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971) – Applicant: Phillip Fomotor. Consideration of a 16-Lot Residential Subdivision on 19.81 Gross Acres. The Project Requests Approval of a Minor Variance to the Residential Estate (R-E) Minimum Required Lot Size of 1 Acre to .98 Acre for Two Lots. North of the Intersection of Mirage Cove Drive and Peterson Road (APN's: 689-090-003, 689-130-004, -005, -013, -014, -017, -018, & 689-140-022)

Vice Chair Bryant recused himself, due to the proximity of his residence to the subject project.

The meeting was recessed at 2:24 P.M. and Vice Chair Bryant left the Council Chamber. The meeting was reconvened at 2:30 P.M., with Commissioner Agostini, Commissioner Beale, and Chair Chanter present.

Ben Torres, Planning Manager, presented the staff report. He recommended inclusion of the following three (3) additional conditions of approval:

- As determined to be feasible by the City Engineer curb and gutter shall be installed along the project frontage on Nielson Road and Peterson Road with the curb face at a width to be determined during plan check.
- Existing tamarisk trees on the project site shall be removed within 6 months from a final determination on the proposed project by the City Council.
- The ultimate roadway width as determined by the City Engineer shall be installed by the applicant on Peterson Road fronting the following addresses: 38841, 38785, & 38775 Peterson Road.

The following individuals provided public testimony: Kay Williams, Toni Ringlein, Janeen Bahr, and Vicki Petersen.

Phillip Fomotor, applicant, spoke regarding the project and answered questions posed by the Planning Commission.

A discussion ensued.

Stephan Longoria, City Engineer, answered questions posed by the Planning Commission.

MOVED/SECONDED BY BEALE/AGOSTINI TO RECOMMEND THAT THE CITY COUNCIL TAKE THE FOLLOWING ACTIONS: 1) APPROVE THE FILING OF A MITIGATED NEGATIVE DECLARATION (SCH# 2025070800) BASED ON ENVIRONMENTAL ASSESSMENT CASE NO. EA24-0009; 2) APPROVE MINOR VARIANCE CASE NO. VAR24- 0005; 3) APPROVE TENTATIVE TRACT MAP CASE NO. TTM24-0003 (TTM 38971), SUBJECT TO THE CONDITIONS OF APPROVAL WITH THE ADDED CONDITIONS, AND BASED ON THE CONTENT AND FINDINGS IN THE STAFF

REPORT; 4) DIRECT STAFF TO LOOK INTO EQUESTRIAN TRAIL INCLUSION; AND 5) ADD THE FOLLOWING THREE (3) CONDITIONS OF APPROVAL:

- **AS DETERMINED TO BE FEASIBLE BY THE CITY ENGINEER CURB AND GUTTER SHALL BE INSTALLED ALONG THE PROJECT FRONTAGE ON NIELSON ROAD AND PETERSON ROAD WITH THE CURB FACE AT A WIDTH TO BE DETERMINED DURING PLAN CHECK.**
- **EXISTING TAMARISK TREES ON THE PROJECT SITE SHALL BE REMOVED WITHIN 6 MONTHS FROM A FINAL DETERMINATION ON THE PROPOSED PROJECT BY THE CITY COUNCIL.**
- **THE ULTIMATE ROADWAY WIDTH AS DETERMINED BY THE CITY ENGINEER SHALL BE INSTALLED BY THE APPLICANT ON PETERSON ROAD FRONTING THE FOLLOWING ADDRESSES: 38841, 38785, & 38775 PETERSON ROAD.**

MOTION CARRIED 3/0 (VICE CHAIR BRYANT RECUSED).

The meeting was recessed at 3:01 P.M. and Vice Chair Bryant returned to the Council Chamber. The meeting was reconvened at 3:03 P.M. with all four Planning Commissioners present.

5. NON-AGENDA PUBLIC COMMENTS

The following individual provided non-agenda public comments: Vicki Petersen.

6. ADJOURNMENT

Chair Chanter adjourned the meeting at 3:04 P.M.

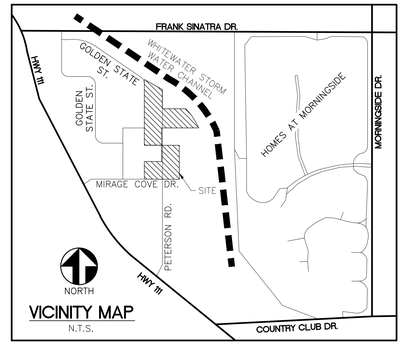
Date Approved by Planning Commission:

TENTATIVE TRACT MAP NO. 38971

A PORTION OF THE NW QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

FOMOTOR ENGINEERING — APRIL 2024

Attachment 11



VICINITY MAP
N.T.S.

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF RANCHO MIRAGE IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:
THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE
AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM 1/16TH OF ALL COAL, OIL, GAS, AND OTHER MINERAL DEPOSITS IN SAID LAND, RESERVED IN PATENT FROM THE STATE OF CALIFORNIA, RECORDED DECEMBER 03, 1923 IN
BOOK 8, PAGE 398 OF PATENTS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

(APN 689-130-014)

PARCEL 2:
THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE
AND MERIDIAN.

(APN 689-130-017; APN 689-130-018)

PARCEL 3:
THAT PORTION OF THE NORTHERLY 247.50 FEET OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND
MERIDIAN, ACCORDING TO UNITED STATES GOVERNMENT SURVEY THEREOF, LYING WESTERLY OF THE WESTERLY LINE OF THE COACHELLA VALLEY STORM WATER CHANNEL.

(APN 689-130-004)

PARCEL 3A:
A NON-EXCLUSIVE EASEMENT FOR ROAD AND PUBLIC UTILITIES, OVER THE WESTERLY 15 FEET OF THE SOUTH HALF OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST
QUARTER, AND THE WESTERLY 15 FEET OF THE WEST HALF OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, AND THE EASTERLY 15 FEET OF SOUTHEAST
QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER, AND THE EASTERLY 15 FEET OF THE SOUTHEAST QUARTER OF THE SOUTHEAST
QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER IN SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN,
ACCORDING TO UNITED STATES
GOVERNMENT SURVEY THEREOF.

PARCEL 4:
THAT PORTION OF THE NORTH HALF OF THE NORTH HALF QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN
BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 247.50 FEET SOUTH OF THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5, RANGE 5 EAST SAN
BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF; THENCE CONTINUING SOUTH 00°04'50" EAST TO THE SOUTHWEST CORNER OF THE SOUTH HALF OF THE NORTH HALF OF THE
NORTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 2; THENCE EASTERLY AND PARALLEL WITH THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE
NORTHWEST QUARTER OF SAID SECTION 2, TO THE WESTERLY BOUNDARY LINE OF THE COACHELLA VALLEY STORM WATER CANAL; THENCE NORTHWESTERLY ON THE WESTERLY BOUNDARY LINE OF
THE COACHELLA VALLEY STORM WATER CANAL TO A POINT 247.50 FEET SOUTH OF THE NORTH BOUNDARY LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 2,
WHEN MEASURED ON A LINE PARALLEL WITH THE EASTERLY LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 2; THENCE WESTERLY
AND PARALLEL WITH THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 2, TO THE POINT OF BEGINNING.

(APN 689-130-005)

PARCEL 5:
THE EASTERLY RECTANGULAR 330.79 FEET OF GOVERNMENT LOT 4, SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, LYING SOUTHERLY OF THE SOUTH RIGHT OF WAY OF THE COACHELLA VALLEY STORM WATER CHANNEL.

(APN 689-090-003)

PARCEL 6:
THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE
AND MERIDIAN, IN THE CITY OF RANCHO MIRAGE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

EXCEPTING THEREFROM THE WESTERLY 15 FEET.

ALSO EXCEPTING THEREFROM, 1/16TH OF ALL COAL, OIL, GAS, AND OTHER MINERAL DEPOSITS CONTAINED IN SAID LAND, AS RESERVED TO THE STATE OF CALIFORNIA IN THE PATENT RECORDED
DECEMBER 03, 1923 IN BOOK 8, PAGE 398 OF PATENTS, RIVERSIDE COUNTY RECORDS.

(APN 689-140-022)

PARCEL 7:
PARCEL A, IN THE CITY OF RANCHO MIRAGE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN ON EXHIBIT "A" ATTACHED TO CERTIFICATE OF COMPLIANCE RECORDED SEPTEMBER 30,
1997 AS INSTRUMENT NO. 355737 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA. WEST ½ OF THE SOUTHWEST ¼ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ OF SECTION 2,
TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM ONE-SIXTEENTH OF ALL COAL, OIL, GAS, AND MINERAL DEPOSITS IN SAID LAND RESERVED IN PATENT FROM THE STATE OF CALIFORNIA, RECORDED DECEMBER 03, 1923 IN
BOOK 8, PAGE 398 OF PATENTS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

(APN 689-130-013)

EASEMENT NOTES

1. WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT DISCLOSED BY THE PUBLIC RECORDS.

3. RIGHTS OF THE PUBLIC IN AND TO ANY PORTION OF SAID LAND, LYING WITHIN ANY LAWFULLY ESTABLISHED STREETS, ROADS, OR HIGHWAYS.

4. ANY RIGHT, TITLE, AND INTEREST OF THE STATE OF CALIFORNIA, IN AND TO ALL COAL, OIL, OILSHALE, GAS, PHOSPHATE, SODIUM, AND OTHER MINERAL DEPOSITS UNDER THE PROVISIONS OF CHAPTER 303, STATUTES OF 1921, EXCEPT AS TO A 15/16THS OF ALL OIL AND GAS RESERVED IN PATENT RECORDED DECEMBER 03, 1923 IN BOOK 8, PAGE 398 OF PATENTS.

5. ANY RIGHT, TITLE, AND INTEREST OF THE STATE OF CALIFORNIA, IN AND TO ALL COAL, OIL, OILSHALE, GAS PHOSPHATE, SODIUM, AND OTHER MINERAL DEPOSITS, UNDER THE PROVISIONS OF CHAPTER 303, STATUTES OF 1921, EXCEPT AS TO 15/16THS OF ALL OIL AND GAS.

△6 6. EASEMENT IN FAVOR OF HARVEY E. PETERSON AND EDNA P. PETERSON FOR ROAD PURPOSES RECORDED APRIL 23, 1947 IN BOOK 832, PAGE 53 O.R. AFFECTS PARCELS 1 AND 6.

△7 7. EASEMENTS IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY FOR UTILITIES PURPOSES RECORDED MARCH 23, 1948 IN BOOK 899, PAGE 277 O.R. AFFECTS PARCEL 6. (CENTERLINE OF UNDISCLOSED WIDTH)

△8 8. EASEMENT IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY FOR THE TRANSMISSION OF ELECTRIC ENERGY PURPOSES RECORDED JANUARY 26, 1949 IN BOOK 1047, PAGE 72 O.R.
AFFECTS: PARCELS 2 AND 5

△9 9. EASEMENTS IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY FOR THE TRANSMISSION OF ELECTRIC ENERGY PURPOSES RECORDED APRIL 25, 1950 IN BOOK 1167, PAGE 229 O.R.
AFFECTS: PARCELS 1, 2, AND 5. (CENTERLINE OF UNDISCLOSED WIDTH)

10. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT ENTITLED "AGREEMENT" RECORDED AUGUST 10, 1950 IN BOOK 1196, PAGE 186 O.R.

△11 11. EASEMENTS FOR FLOOD CONTROL PURPOSES RECORDED APRIL 11, 1951 IN BOOK 1261, PAGE 183 O.R. AFFECTS: PARCELS 2, 4, AND 5

△12 12. EASEMENTS IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY FOR UTILITIES PURPOSES RECORDED NOVEMBER 30, 1951 IN BOOK 1323, PAGE 415 O.R.
AFFECTS: PARCEL 6 (CENTERLINE OF UNDISCLOSED WIDTH)

13. EASEMENTS IN FAVOR OF FLOYD ALTON GILES FOR UNDERGROUND PIPELINES PURPOSES, RECORDED NOVEMBER 13, 1958 IN BOOK 2363, PAGE 7 O.R.
LOCATED FROM THE WELL PUMPING PLANT TO THE NORTH LINE OF SAID LAND.
AFFECTS: PARCELS 2, 3, 4, 5, AND 6
(THE LOCATION CANNOT BE DETERMINED FROM THE RECORD DOCUMENT)

△14 14. EASEMENTS FOR ROAD AND PUBLIC UTILITIES PURPOSES RECORDED JUNE 22, 1959 AS INSTRUMENT NO. 53997 O.R., ALSO RECORDED JUNE 22, 1959 AS INSTRUMENT NO. 53998 O.R.

△15 15. EASEMENTS IN FAVOR OF FLOYD A. GILES FOR UNDERGROUND PIPELINES PURPOSES RECORDED NOVEMBER 09, 1959 AS INSTRUMENT NO. 95489 O.R.

△16 16. EASEMENTS IN FAVOR OF GENERAL TELEPHONE COMPANY OF CALIFORNIA FOR THE TRANSMISSION OF ELECTRIC ENERGY FOR COMMUNICATION PURPOSES RECORDED OCTOBER 31, 1980 AS INSTRUMENT NO. 203643 O.R.

△17 17. EASEMENTS IN FAVOR OF GENERAL TELEPHONE COMPANY OF CALIFORNIA FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 15, 1981 AS INSTRUMENT NO. 7907 O.R.

18. DOCUMENT RECORDED MAY 01, 1981 IN 79588 O.R.
(IT IS NOT ON, OR DOES NOT TOUCH, THE SURVEYED PROPERTY)

△19 19. EASEMENTS IN FAVOR OF: THE CITY OF RANCHO MIRAGE FOR FLOOD CONTROL FACILITIES PURPOSES RECORDED MARCH 30, 1983 AS INSTRUMENT NO. 59319 O.R.

△20 20. EASEMENTS IN FAVOR OF: THE CITY OF RANCHO MIRAGE FOR STORM WATER CONTROL FACILITIES PURPOSES RECORDED AUGUST 03, 1984 AS INSTRUMENT NO. 169692 O.R.

21. THE LAND DESCRIBED HEREIN IS INCLUDED WITHIN A PROJECT AREA OF THE REDEVELOPMENT AGENCY SHOWN BELOW, AND THAT PROCEEDINGS FOR THE REDEVELOPMENT OF SAID PROJECT HAVE BEEN INSTITUTED UNDER THE REDEVELOPMENT LAW (SUCH REDEVELOPMENT TO PROCEED ONLY AFTER THE ADOPTION OF THE REDEVELOPMENT PLAN) AS DISCLOSED BY A DOCUMENT.
REDEVELOPMENT AGENCY: RANCHO MIRAGE REDEVELOPMENT AGENCY
RECORDING DATE: FEBRUARY 27, 2004
RECORDING NO: 2004-0134828 OF OFFICIAL RECORDS

△22 22. EASEMENTS IN FAVOR OF: SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO. 2009-0017714 O.R.

△23 23. EASEMENTS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO: 2009-0017715 O.R.

△24 24. EASEMENTS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO: 2009-0017716 O.R.

△25 25. EASEMENTS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO: 2009-0017717 O.R.

△26 26. EASEMENTS IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY AND VERIZON CALIFORNIA INC. FOR PUBLIC UTILITIES PURPOSES RECORDED JANUARY 14, 2009 AS INSTRUMENT NO: 2009-0017718 O.R.

31. ANY RIGHTS OF THE PARTIES IN POSSESSION OF A PORTION OF, OR ALL OF, SAID LAND, WHICH RIGHTS ARE NOT DISCLOSED BY THE PUBLIC RECORDS.

OWNER/APPLICANT

HORTI CAESARIS LLC.
9401 WILSHIRE BLVD. 12TH FLOOR
BEVERLY HILLS, CA 90212-2928

CONTACT:
KONSTANTINOS PATIS
CICD LAX
OFFICE: +302108128242
MOBILE: +306947378121
KPATIS@CENTRALICD.CH

VANJA HABEKOVIC
ERVIN COHEN & JESSUP LLP.
OFFICE: (310) 281-6377
FAX: (310) 877-6816

ENGINEER/SURVEYROR

FOMOTOR ENGINEERING
225. S. CIVIC DR. SUIT 1-5
PALM SPRINGS, CA 92262
PHILLIP FOMOTOR, CIVIL ENGINEER
EMAIL: SURVEY@FOMOTOR.COM
TEL: (760) 323-1842

BASIS OF BEARINGS

THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTER SECTION LINE OF SECTION 2, BEING N00°10'53"W PER RS 152/51.

FEMA ZONE

ZONE X (0.2% ANNUAL CHANCE FLOOD HAZARD OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREA OF LESS THAN ONE SQUARE MILE) PER FEMA MAP NO. 06065C1595G EFFECTIVE 08/28/2008.

ASSESSOR PARCEL NUMBER(S)

689-090-003, 689-130-004, 689-130-005, 689-130-013, 689-130-014, 689-130-017, 689-130-018, 689-140-022

EXISTING ZONING

RESIDENTIAL – ESTATE (R-E)
OPEN SPACE – FLOODWAYS & DRAINAGE CHANNELS (OS-W)

PROPOSED ZONING

RESIDENTIAL – ESTATE (RE)

BUILDING SETBACK

FRONT – 25'
REAR – 25'
SIDE (INTERIOR) – 10'
SIDE (STREET) – 15'

SCHOOL DISTRICT

RANCHO MIRAGE SCHOOL DISTRICT

LOT TABULATION

NO.	TYPE	GROSS ACRES
LOT(S) 1-16	RESIDENTIAL LOTS	17.67 AC.
LOT A	PUBLIC STREET	0.27 AC.
LOT B	PRIVATE STREET	0.21 AC.
LOT C	PRIVATE STREET	0.47 AC.
LOT D	PRIVATE STREET	0.17 AC.
LOT E	PRIVATE STREET	0.52 AC.
LOT F	PRIVATE TRAIL	0.11 AC.
LOT G	PRIVATE STREET	0.06 AC.
LOT H	PRIVATE STREET	0.33 AC.
TOTAL:	19.81 AC.	

UTILITIES:

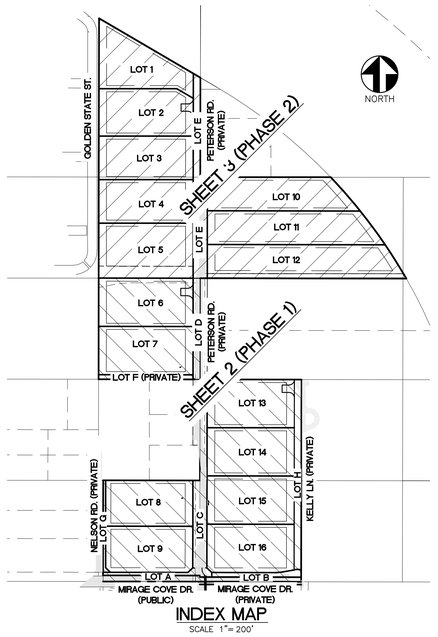
ELECTRIC: SOUTHERN CALIFORNIA EDISON
6999 OLD WOMAN SPRING RD.
YUCCA VALLEY, CA 92284
(760) 369-5413

WATER/SEWER: COACHELLA VALLEY WATER DISTRICT
51501 TYLER ST.
COACHELLA, CA 92236
(760) 398-2651

GAS: SOCAL GAS
PO BOX 1626
MONTEREY PARK, CA 91754-8626
(909) 305-8261

TELEPHONE: FRONTIER
1980 ORANGE TREE LN. STE 210
REDLANDS, CA 92374
(951) 992-1715

CABLE: CCI SYSTEMS (SPECTRUM)
105 KENT ST.
IRON MOUNTAIN, MI 49801
(800) 338-9299



INDEX MAP
SCALE 1"= 200'

DATE: 11/25/2025

DIGALERT — DIAL BEFORE YOU DIG — TOLL FREE 1-800-227-2600 — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — PHILLIP K FOMOTOR — No. 47284 — CIVIL — STATE OF CALIFORNIA

TRACT MAP NO. 38971
OWNER: HORTI CAESARIS LLC
PH. +30(210)812-8242
MAILING: 9401 WILSHIRE BLVD. 12TH FLOOR BEVERLY HILLS, CA 90212-2928
SITE: PETERSON RD. RANCHO MIRAGE, CA 92270

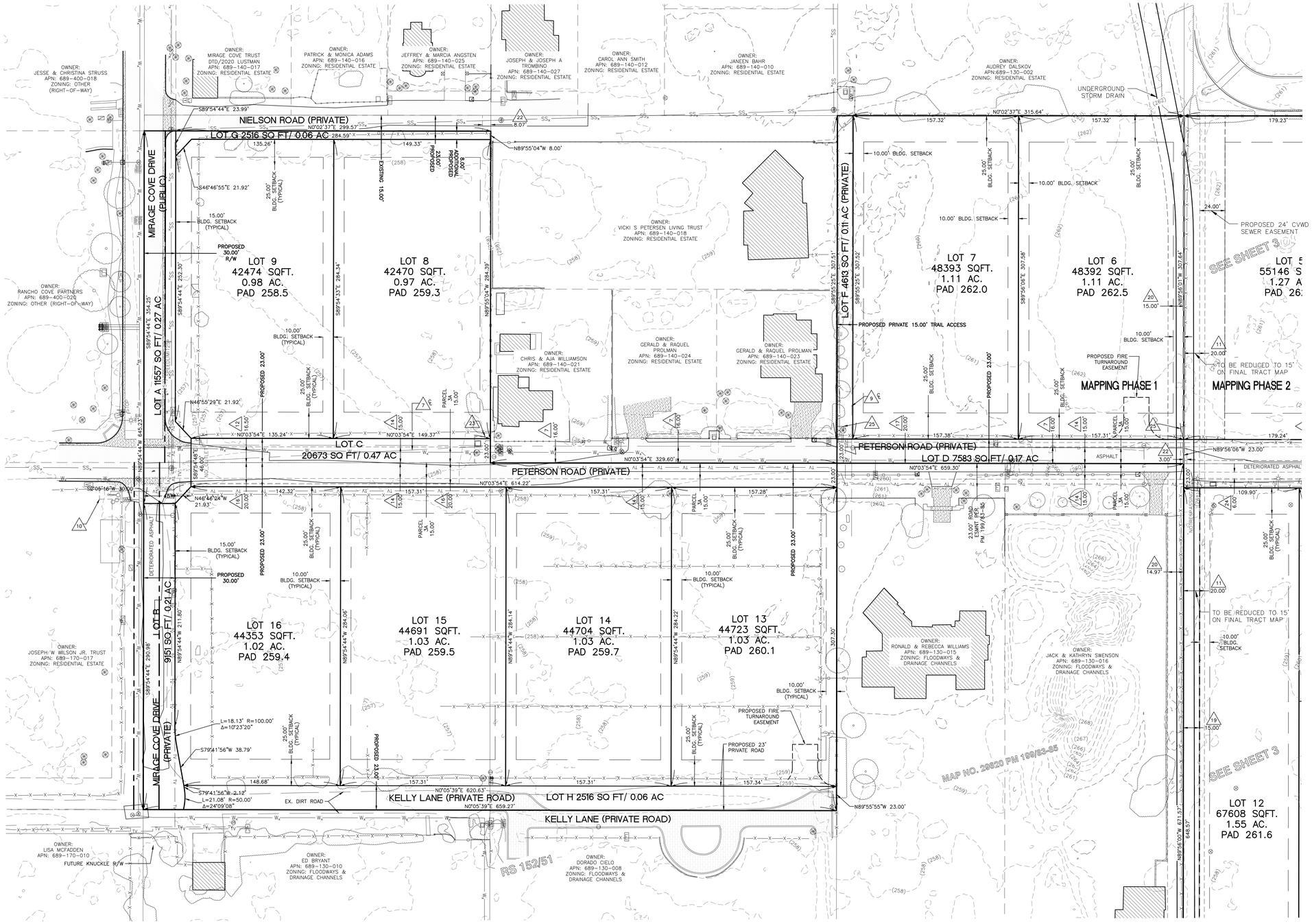
PREPARED BY:
FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1842 FAX (760) 323-1742

SHEET 1 OF 5 SHEETS

JN22106

LEGEND:

- ELECTRIC BOX
- GUY WIRE
- SIGN
- TELEPHONE PEDESTAL
- UTILITY POLE
- TELEPHONE BOX
- TV BOX
- UTILITY BOX
- GAS METER
- MAILBOX
- WATER VALVE
- PIV PRESSURE INDICATOR VALVE
- STREET LIGHT
- UTILITY RISER
- WM WATER METER
- E ELECTRICAL MANHOLE
- BUILDING
- CONCRETE
- WATER BACKFLOW PREVENTER
- TEL TELEPHONE MANHOLE
- V TELECOM STRUCTURE
- FIRE HYDRANT
- SD STORM DRAIN MANHOLE
- MH STORM DRAIN MANHOLE
- IRRIGATION VALVE
- GRATE
- E OVERHEAD UTILITY LINES
- TRACT BOUNDARY LINE
- LOT LINE / RIGHT OF WAY (RW)
- CENTERLINE
- BUILDING SETBACK LINE
- EASEMENT
- W WATER LINE
- TEL TELECOM LINE
- UE UNDERGROUND ELECTRIC LINE
- G GAS LINE
- TV CABLE LINE
- X FENCE
- SS SANITARY SEWER LINE
- SD STORM DRAIN LINE



NORTH

0 40' 80' 120' 160'

SCALE 1"= 40'

DATE: 11/25/2025

DIGALERT — DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG — TOLL FREE 1-800-227-2600 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — PHILLIP K FOMOTOR — No. 47284 — CIVIL — STATE OF CALIFORNIA

TRACT MAP NO. 38971

OWNER: HORTI CAESARIS LLC
PH. +30(210)812-8242
MAILING: 9401 WILSHIRE BLVD. 12TH FLOOR BEVERLY HILLS, CA 90212-2928

SITE: PETERSON RD. RANCHO MIRAGE, CA 92270

PREPARED BY:
FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1842 FAX (760) 323-1742

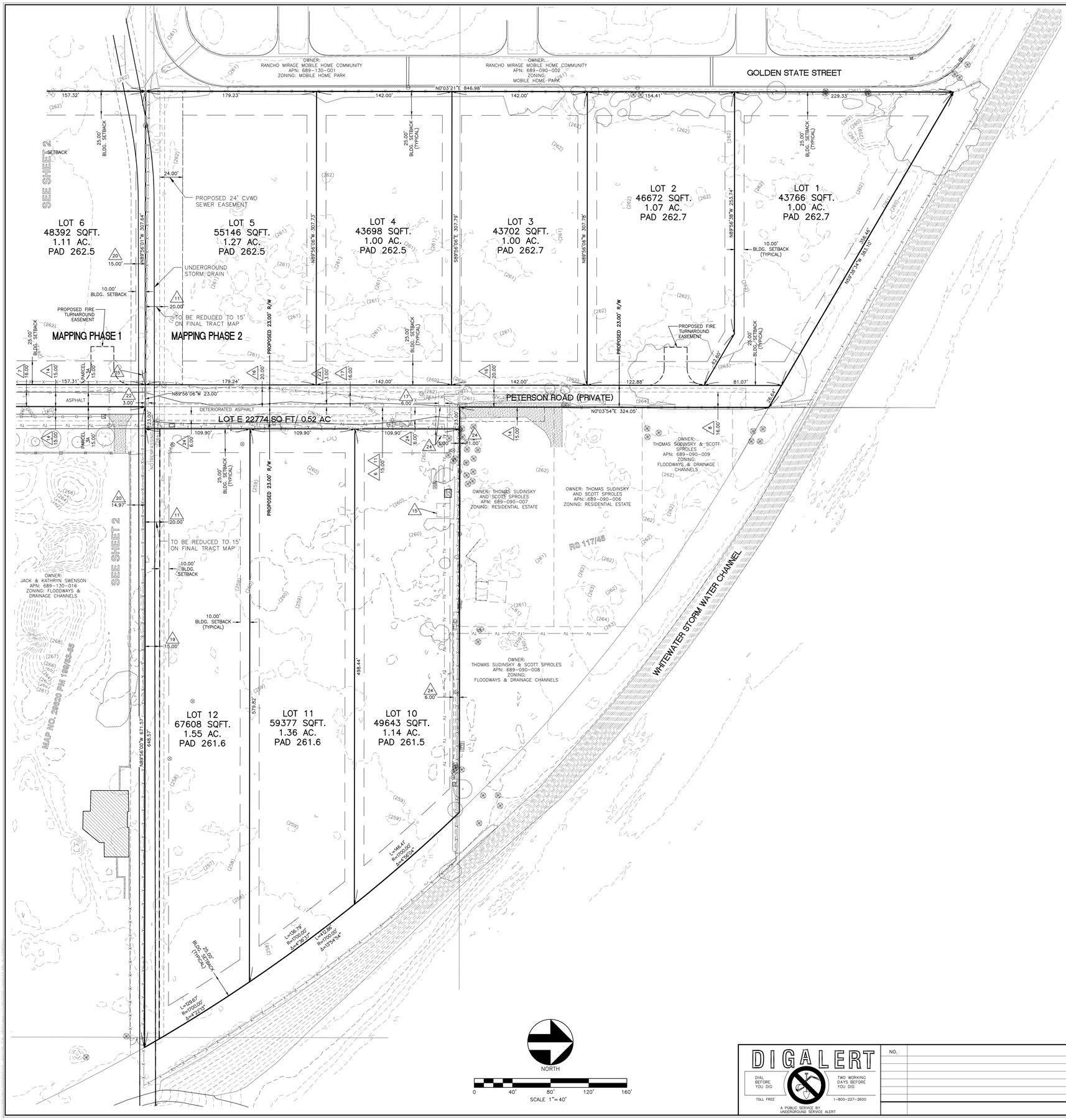
SHEET 2 OF 5 SHEETS

JN22106

TENTATIVE TRACT MAP NO. 38971

A PORTION OF THE NW QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

FOMOTOR ENGINEERING — APRIL 2024



DIGALERT — DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG — TOLL FREE 1-800-227-2600 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — WILLIS K. FOMOTOR — No. 47284 — CIVIL — STATE OF CALIFORNIA

DATE: 11/25/2025

TRACT MAP NO. 38971

OWNER: HORTI CAESARIS LLC
PH. +30(210)812-8242
MAILING: 9401 WILSHIRE BLVD. 12TH FLOOR BEVERLY HILLS, CA 90212-2928

SITE: PETERSON RD. RANCHO MIRAGE, CA 92270

PREPARED BY:

FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1842 FAX (760) 323-1742

SHEET 3 OF 5 SHEETS

JN22106

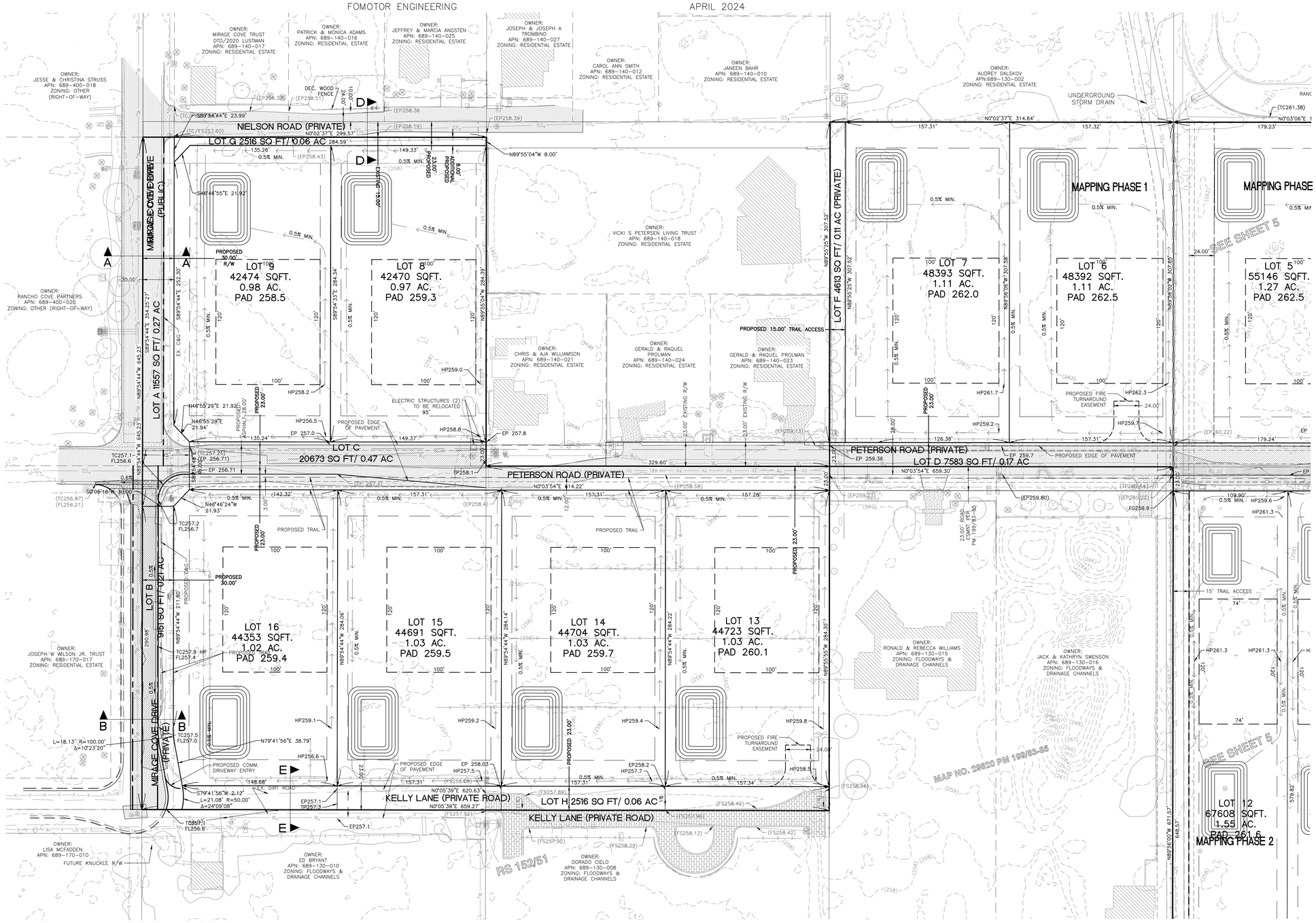
PRELIMINARY GRADING PLAN
TENTATIVE TRACT MAP NO. 38971

A PORTION OF THE NW QUARTER OF SECTION 2, TOWNSHIP 5 SOUTH, RANGE 5 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

FOMOTOR ENGINEERING — APRIL 2024

LEGEND:

- ELECTRIC BOX
- GUY WIRE
- SIGN
- TELEPHONE PEDESTAL
- UTILITY POLE
- TELEPHONE BOX
- TV BOX
- UTILITY BOX
- GAS METER
- MAILBOX
- WATER VALVE
- PRESSURE INDICATOR VALVE
- STREET LIGHT
- UTILITY RISER
- WATER METER
- ELECTRICAL MANHOLE
- BUILDING
- CONCRETE
- WATER BACKFLOW PREVENTER
- TELEPHONE MANHOLE
- TELECOM STRUCTURE
- FIRE HYDRANT
- STORM DRAIN MANHOLE
- STORM DRAIN MANHOLE
- IRRIGATION VALVE
- GRATE
- OVERHEAD UTILITY LINES
- TRACT BOUNDARY LINE
- LOT LINE / RIGHT OF WAY (RW)
- CENTERLINE
- BUILDING SETBACK LINE
- EASEMENT
- WATER LINE
- TELECOM LINE
- UNDERGROUND ELECTRIC LINE
- GAS LINE
- CABLE LINE
- FENCE
- SANITARY SEWER LINE
- STORM DRAIN LINE



NORTH

0 40' 80' 120' 160'

SCALE 1"= 40'

DATE: 11/25/2025

DIGALERT — DIAL BEFORE YOU DIG — TOLL FREE — TWO WORKING DAYS BEFORE YOU DIG — 1-800-227-2600 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL — REGISTERED PROFESSIONAL ENGINEER PHILLIP K FOMOTOR No. 47284 CIVIL STATE OF CALIFORNIA

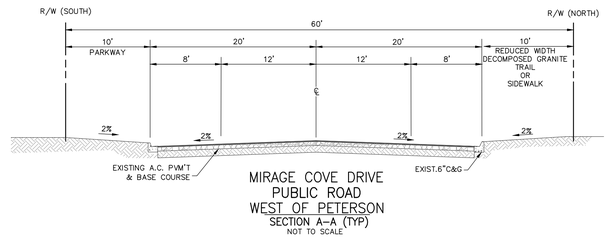
PRELIMINARY GRADING PLAN TRACT MAP NO. 38971

OWNER: HORTI CAESARIS LLC
PH. +30(210)812-8242
MAILING: 9401 WILSHIRE BLVD. 12TH FLOOR BEVERLY HILLS, CA 90212-2928
SITE: PETERSON RD. RANCHO MIRAGE, CA 92270

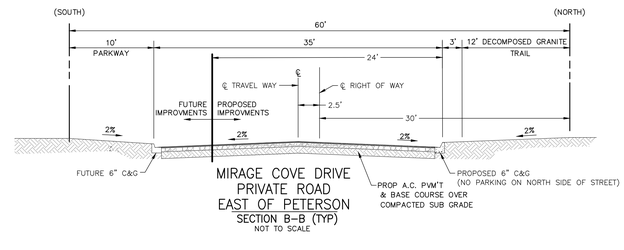
PREPARED BY:
FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1842 FAX (760) 323-1742

SHEET 4 OF 5 SHEETS

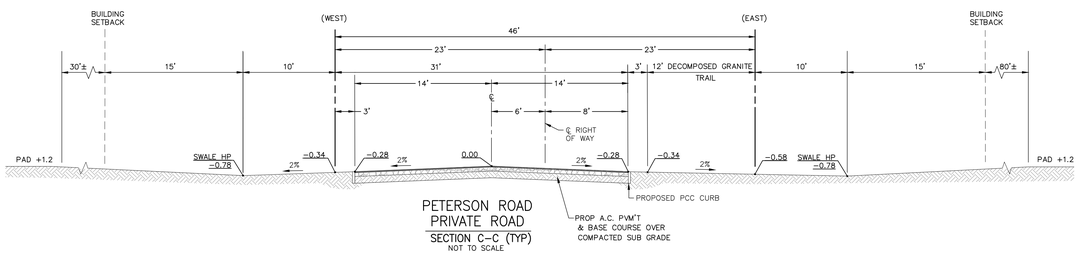
JN22106



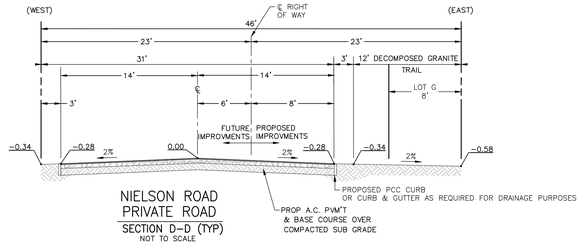
MIRAGE COVE DRIVE
PUBLIC ROAD
WEST OF PETERSON
SECTION A-A (TYP)
NOT TO SCALE



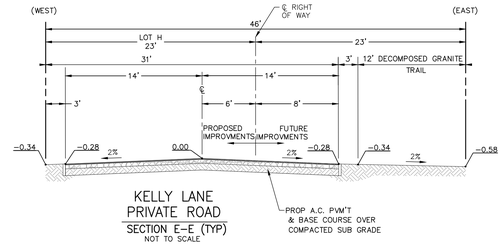
MIRAGE COVE DRIVE
PRIVATE ROAD
EAST OF PETERSON
SECTION B-B (TYP)
NOT TO SCALE



PETERSON ROAD
PRIVATE ROAD
SECTION C-C (TYP)
NOT TO SCALE



NIELSON ROAD
PRIVATE ROAD
SECTION D-D (TYP)
NOT TO SCALE



KELLY LANE
PRIVATE ROAD
SECTION E-E (TYP)
NOT TO SCALE

DATE: 11/25/2025

DIGALERT
DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG
TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.		APPROVED	DATE
		DRAWN BY:	DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — DRILLER K FOMOTOR — No. 47284 — CIVIL — STATE OF CALIFORNIA

PRELIMINARY GRADING PLAN
TRACT MAP NO. 38971
OWNER: HORTI CAESARIS LLC
PH. +30(210)812-8242
MAILING: 9401 WILSHIRE BLVD. 12TH FLOOR BEVERLY HILLS, CA 90212-2928
SITE: PETERSON RD. RANCHO MIRAGE, CA 92270

PREPARED BY:
FOMOTOR ENGINEERING
225 S. CIVIC DRIVE, SUITE 1-5
PALM SPRINGS, CA. 92262
(760) 323-1842 FAX (760) 323-1742

SHEET 5 OF 5 SHEETS

JN22106

Public Comments

Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971)

From: p.psmfon@verizon.net
To: Kristie Ramos, CMC
Subject: Environmental Assessment Case No. EA24-0009 et. Seq.
Date: Wednesday, October 29, 2025 10:49:14 AM

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

We are writing this email to support the above referenced application. However, we are suggesting that these modifications be made to the Conditions of Approval:

- Remove the Tamarisk trees, including the root structure at the north end of the property within one year of the approval of this project.
- Maintain the equestrian trails.
- Maintain the existing provisions in the zoning ordinance so that horses can be kept on these properties
- **Do not** add a new road from Nielson to Petersen
- Remove weeds and trash from the entire property (On-Going)
- **Do not** develop the street to city standards. Keep the streets as private streets that are more reflective of the rural nature of the part of our community. This is what gives the neighborhood its character and desirability.
- Require a perimeter landscape plan that softens the impact on the area while homes are being built. These early landscape improvements will improve the salability of the home and homesites and can be integrated into the long term landscape plans for the development.

Please share these comments with the Council members.

Sincerely:

Mike and Lynn Fontana
P.O. Box 2637
Rancho Mirage

Kristie Ramos, CMC

From: Joseph Wilson <docjodyps@aol.com>
Sent: Wednesday, October 29, 2025 12:55 PM
To: Kristie Ramos, CMC
Subject: Peterson Rancho Subdivision

Follow Up Flag: Follow up
Flag Status: Completed

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

City of Rancho Mirage 10-29-25

City Council Members

Re: City Council Meeting 11-6-25

Peterson Road Subdivision. 19+ acres Subdivide into 16 parcels.

Environmental Assessment Case No. EA24-0009 et. Seq.

Dear City Council Members,

Our neighborhood welcomes the proposed subdivision done with the following components. These will enhance our neighborhood and properly develop one of the last equestrian estate zoned areas in Rancho Mirage.

The neighborhood residents and supporters request the following:

CONDITIONS OF SUBDIVISION APPROVAL

1. Tamarisk Trees at North end of Peterson Road cut down and removed before January 31, 2026. Homeless people encampments around these trees have been a health and safety hazard for the past three years. Many calls to Code Enforcement and Sheriff have been made by nearby residents because of the encampments. With cool weather upon the Valley now, homeless people will again be illegally trespassing and living around the Tamarisk trees.

2. Equestrian Trails existing by deeded easement and those established by common use going back 60+ years be maintained. Rancho Mirage Planning Staff report does not require Developer to have Equestrian Trails. This was based on trails are "under-utilized" currently. However, if the trails system is not required, such would be the death knell for current and future property owners having horses. Elmwood, Peterson Road, Nielson Road, Kelley Lane and Desert Cove properties have had horses in the past. The properties in our neighborhood are zoned for horses and have connection to the Butler-Abrams Trail that goes from Country Club Drive to Wolfson Park. The one-acre parcels in the subdivision will encourage more horses in our neighborhood. Keep or require equestrian trails easements from North end of Elmwood to North end of Nielson Road and North end of Nielson Road to Peterson Road along the North boundary line of 38-752 Nielson Road and 38-775 Peterson Road.

3. Do NOT put a Road from North end of Nielson Road to Peterson Road. This area for an equestrian trail.

4. Cut weeds, remove trash on the 19+ acres. Mitigate blow sand with approved methods.

5. Entry and Exit. New parcels entry and exit onto Peterson Road not Nielson Road or Kelley Lane.

Desired By Neighborhood Consensus

1. Peterson Road North of Mirage Cove and Mirage Cove East of Peterson Road Private not Public streets. Gates are not necessary, but property owners, developer too, could decide to include. Where no gate, erect a "monument" that clearly defines a Private street. With private streets, No curb and gutters.

2. Private streets would be open for horses, pedestrians, bicycles, people walking their dogs and wildlife which is common in area.

3. Future Houses Architecture. Modern, Contemporary, flat roof "white box" houses do not fit in the neighborhood. Architectural styles that enhance the area include Spanish, Mediterranean, Ranch, Farmhouse, Modern Farmhouse, and similar.

4. House construction may/could be 3+ years in future. Plant trees on perimeters of parcels at Northwest corner and Northeast corner of Peterson Road and Mirage Cove. This would improve this area visually, help block wind and create value for the Developer and neighborhood properties.

JOSEPH WILSON

70300 Desert cove Ave

Rancho Mirage,CA

direct neighbor to development

From: chris willcorpengineering.com
To: Kristie Ramos, CMC
Subject: Peterson Road Resident
Date: Wednesday, October 29, 2025 7:57:22 PM
Attachments: City Council Notes 10-18-25.docx

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

Sent from my iPhone

To: City of Rancho Mirage Draft: 10-27-25 9:30 AM

City Council Members

Re: City Council Meeting 11-6-25

Peterson Road Subdivision. 19+ acres Subdivide into 16 parcels.

Environmental Assessment Case No. EA24-0009 et. Seq.

Dear City Council Members,

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Road to Peterson Road along the North boundary line of 38-752 Nielson Road and 38-775 Peterson Road.

3. Do NOT put a Road from North end of Nielson Road to Peterson Road. This area for an equestrian trail.
4. Cut weeds, remove trash on the 19+ acres. Mitigate blow sand with approved methods.
5. Entry and Exit. New parcels entry and exit onto Peterson Road not Nielson Road or Kelley Lane.

Desired By Neighborhood Consensus

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4. House construction may/could be 3+ years in future. Plant trees on perimeters of parcels at Northwest corner and Northeast corner of Peterson Road and Mirage Cove. This would improve this area visually, help block wind and create value for the Developer and neighborhood properties.

From: LIS McF
To: Kristie Ramos, CMC
Cc: lm_vvs1@hotmail.com
Subject: Peterson Road Subdivision
Date: Friday, October 31, 2025 2:17:50 PM

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

To: City of Rancho Mirage 10/30/25
City Council Members

Re: City Council Meeting 11-6-25
Peterson Road Subdivision. 19+ acres Subdivide into 16 parcels.
Environmental Assessment Case No. EA24-0009 et. Seq.

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perimeters of parcels at Northwest corner and Northeast corner of Peterson Road and Mirage Cove.

This would improve this area
visually, help block wind and create value for the Developer and neighborhood properties.

Thank you very much.

Lisa McFadden
38900 Kelley Lane
Rancho Mirage, CA. 92270
lmvvs1@gmail.com
760-992-6500

“Do not be overcome by evil,
but overcome evil with good.”
Romans 12:21

"When someone shows you who they are, believe them the first time."

Maya Angelou

From: HOWARD TABACKMAN
To: Kristie Ramos, CMC
Subject: City council meeting 11/16
Date: Friday, October 31, 2025 3:30:34 PM
Attachments: City Council Notes 10-30-25.pdf

CAUTION: This email originated from outside The City of Rancho Mirage. DO NOT CLICK links or open attachments unless you recognize the sender and know the content is safe.

please see attached letter for 11/16 city council meeting

Howard Tabackman
10 Ridgeline Way
Rancho Mirage
310-606-1491

To: City of Rancho Mirage 10/30/25

City Council Members

Re: City Council Meeting 11-6-25

Peterson Road Subdivision. 19+ acres Subdivide into 16 parcels.

Environmental Assessment Case No. EA24-0009 et. Seq.

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From: Kay Williams
To: Kristie Ramos, CMC
Subject: City Council Meeting 11-06-25
Date: Saturday, November 1, 2025 1:31:23 PM

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

From: Mr. Ronald Williams
Resident @ 38600 Peterson Road

To: City of Rancho Mirage 10/30/25
City Council Members

Re: City Council Meeting 11-6-25

Peterson Road Subdivision. 19+ acres Subdivide into 16 parcels.
Environmental Assessment Case No. EA24-0009 et. Seq.

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Thank you for your considerations to this development,

Mr. Ronald Williams
38600 Peterson Road
Rancho Mirage, CA. 92270

From: JANEEN BAHR
To: Kristie Ramos, CMC
Subject: City Council Meeting Thursday 1PM
Date: Tuesday, November 4, 2025 5:08:47 PM
Attachments: City Council Notes 10-30-25.pdf

CAUTION: This email originated from outside The City of Rancho Mirage. DO NOT CLICK links or open attachments unless you recognize the sender and know the content is safe.

Please see the attached for the meeting Thursday at 1PM. Thank you

Janeen C. Bahr
38701 Nielson Road

To: City of Rancho Mirage 10/30/25

City Council Members

Re: City Council Meeting 11-6-25

Peterson Road Subdivision. 19+ acres Subdivide into 16 parcels.

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From: Vicki Petersen
To: City Clerk
Subject: Peterson Rd. Subdivision
Date: Wednesday, November 5, 2025 11:38:01 AM
Attachments: City Council Notes 10-30-25 (1).pdf
Horse Trail Elmwood - Nielson.jpg
Unlawful Fence.jpeg

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

Dear City Council members,

Attached please find a letter addressing this new subdivision, in which I have been residing for over 35 years, & wholeheartedly agree with.

Also, attached please find a picture of the common use horse trail on the north side from Elmwood to Nielson Rd., of which there is a 15' easement. The 2nd picture is of an unauthorized chain link fence taking this common use horse trail that was used for some 60 plus years.

Please take into consideration the preservation of this last equestrian surviving area in Rancho Mirage. The north sides between Elmwood & Nielson, Nielson Rd & Peterson Rd. are necessary trails, native to the area.

Sincerely,

Steve and Vicki Petersen

To: City of Rancho Mirage 10/30/25

City Council Members

Re: City Council Meeting 11-6-25

Peterson Road Subdivision. 19+ acres Subdivide into 16 parcels.

Environmental Assessment Case No. EA24-0009 et. Seq.

Dear City Council Members,

Our neighborhood welcomes the proposed subdivision done with the following components. These will enhance our neighborhood and properly develop one of the last equestrian estate zoned areas in Rancho Mirage.

The neighborhood residents and supporters request the following:

CONDITIONS OF SUBDIVISION APPROVAL

1. Tamarisk Trees at North end of Peterson Road cut down and removed before January 31, 2026. Homeless people encampments around these trees have been a health and safety hazard for the past three years. Many calls to Code Enforcement and Sheriff have

been made by nearby residents because of the encampments. With cool weather upon the Valley now, homeless people will again be illegally trespassing and living around the Tamarisk trees.

2. Equestrian Trails existing by deeded easement and those established by common use going back 60+ years be maintained. Rancho Mirage Planning Staff report does not require Developer to have Equestrian Trails. This was based on trails are "under-utilized" currently. However, if the trails system is not required, such would be the death knell for current and future property owners having horses. Elmwood, Peterson Road, Nielson Road, Kelley Lane and Desert Cove properties have had horses in the past. The properties in our neighborhood are zoned for horses and have connection to the Butler-Abrams Trail that goes from Country Club Drive to Wolfson Park. The one-acre parcels in the subdivision will encourage more horses in our neighborhood. Keep or require equestrian trails easements from North end of Elmwood to North end of Nielson Road and North end of Nielson

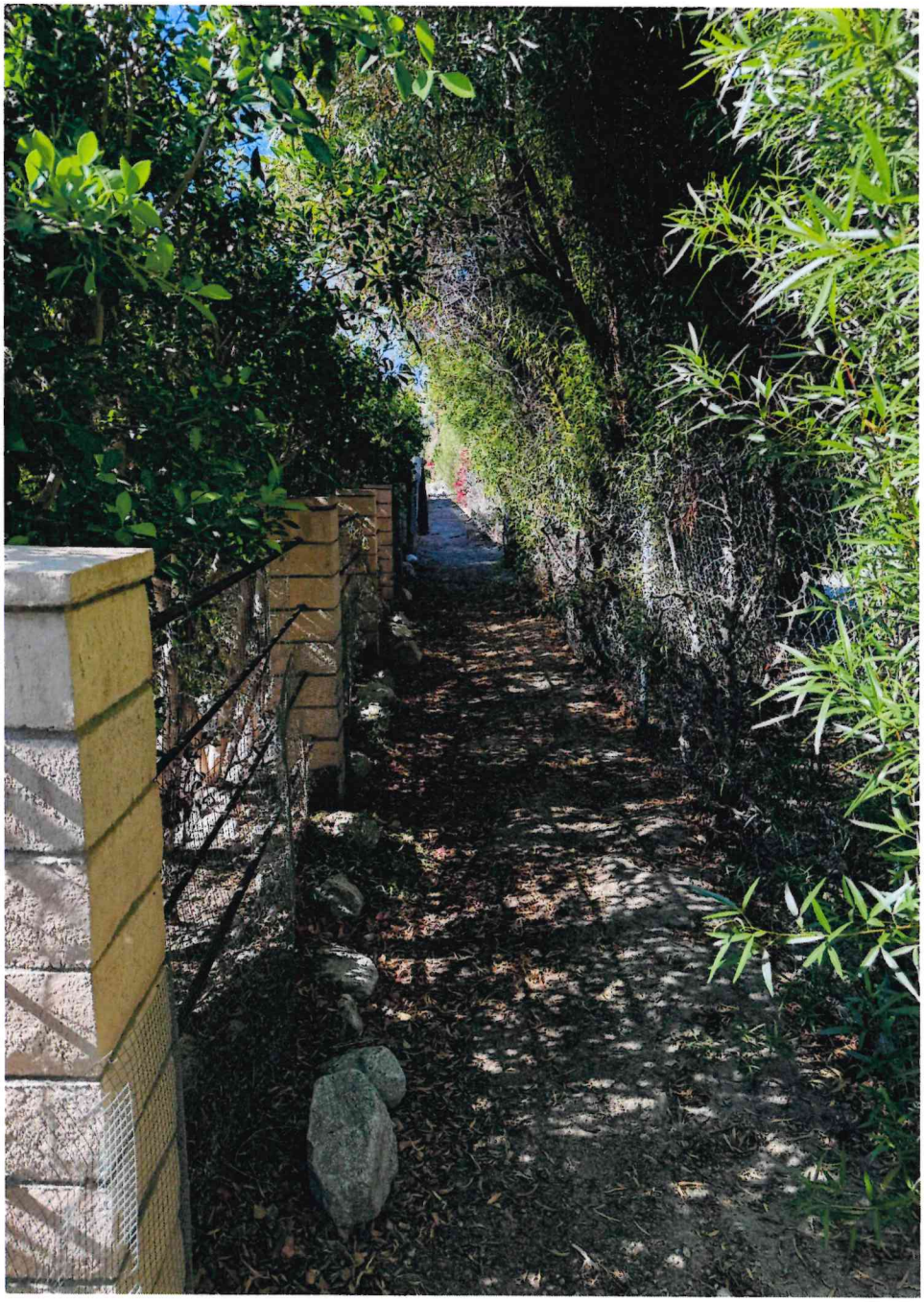
Road to Peterson Road along the North boundary line of 38-752 Nielson Road and 38-775 Peterson Road.

3. Do NOT put a Road from North end of Nielson Road to Peterson Road. This area for an equestrian trail.
4. Cut weeds, remove trash on the 19+ acres. Mitigate blow sand with approved methods.
5. Entry and Exit. New parcels entry and exit onto Peterson Road not Nielson Road or Kelley Lane.

Desired By Neighborhood Consensus

1. Peterson Road North of Mirage Cove and Mirage Cove East of Peterson Road Private not Public streets. Gates are not necessary, but property owners, developer too, could decide to include. Where no gate, erect a "monument" that clearly defines a Private street. With private streets, No curb and gutters.
2. Private streets would be open for horses, pedestrians, bicycles, people walking their dogs and wildlife which is common in area.

3. Future Houses Architecture. Modern, Contemporary, flat roof "white box" houses do not fit in the neighborhood. Architectural styles that enhance the area include Spanish, Mediterranean, Ranch, Farmhouse, Modern Farmhouse, and similar.
4. House construction may/could be 3+ years in future. Plant trees on perimeters of parcels at Northwest corner and Northeast corner of Peterson Road and Mirage Cove. This would improve this area visually, help block wind and create value for the Developer and neighborhood properties.



From: Monica Adams
To: City Clerk
Subject: FW: Fw: peterson road subdivision
Date: Wednesday, November 5, 2025 12:02:58 PM
Attachments: Fwd Fw peterson road subdivision.msg

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

Hello,

I totally agree with the subdivision and oppose any road easement. We've been homeowners for over 25 years, here on Elmwood Dr.

Sincerely,

Patrick and Monica Adams

Kristie Ramos, CMC

From: Vicki Petersen <petersenvicki1@gmail.com>
Sent: Wednesday, November 5, 2025 11:52 AM
To: Monica5299@msn.com
Subject: Fwd: Fw: peterson road subdivision
Attachments: City Council Notes 10-30-25.pdf

---------- Forwarded message ---------
From: **Vicki Petersen** <petersenvicki1@gmail.com>
Date: Mon, Nov 3, 2025 at 6:03 PM
Subject: Fwd: Fw: peterson road subdivision
To: Monica5299@msn.com <Monica5299@msn.com>

---------- Forwarded message ---------
From: **npcvv** <mbryant4knbr@aol.com>
Date: Mon, Nov 3, 2025 at 3:23 PM
Subject: Fw: peterson road subdivision
To: Vicki Petersen <petersenvicki1@gmail.com>

vicki, this is the final. murray

----- Forwarded Message -----
From: npcvv <mbryant4knbr@aol.com>
To: jack swenson <slickswenson@gmail.com>; Kay Williams <psfilly@gmail.com>; gerald prolman <gprolman@cs.com>; racquel bitton <rbitton@aol.com>; chris@willcorpengineering.com <chris@willcorpengineering.com>; chris williamson <cacwilliamson00@gmail.com>; Jody Wilson <docjodyps@aol.com>; McF LIS <lmvvs1@gmail.com>; dptompkins@aol.com <dptompkins@aol.com>; Joe Trombino <jbino3@yahoo.com>; petersenvicki1@gmail.com <petersenvicki1@gmail.com>; Jim Walker <ranchomiragejim@gmail.com>; Laura Jessup <lljessup@dc.rr.com>; tom sudinsky <sudinsky@gmail.com>; Moises Aguirre <elchabo22@gmail.com>; monica5229@msn.com <monica5229@msn.com>; debbie53pickitt@gmail.com <debbie53pickitt@gmail.com>; jeffangsten@gmail.com <jeffangsten@gmail.com>; cs030sbm@yahoo.com <cs030sbm@yahoo.com>
Sent: Friday, October 31, 2025 at 01:33:04 PM PDT
Subject: peterson road subdivision

dear neighbors , attached is consensus letter of neighborhood to the city council. please email it to the rancho mirage city clerk kristier@ranchomirageca.gov . please attend the meeting if you can. bring any friends who support our neighborhood . will need 3-4 people to speak. . best . murray bryant

To: City of Rancho Mirage 10/30/25

City Council Members

Re: City Council Meeting 11-6-25

Peterson Road Subdivision. 19+ acres Subdivide into 16 parcels.

Environmental Assessment Case No. EA24-0009 et. Seq.

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Road to Peterson Road along the North boundary line of 38-752 Nielson Road and 38-775 Peterson Road.

3. Do NOT put a Road from North end of Nielson Road to Peterson Road. This area for an equestrian trail.
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From: Jamie Bayard
To: City Clerk
Subject: Subdivision on Peterson Rd.
Date: Wednesday, November 5, 2025 12:13:50 PM

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

Hello,

I am on the side of preservation of equestrian land. I love the ranch style environment and have felt safe and secure, in our little Country neighborhood; since, I was a kid. Please don't turn our community into a concrete jungle.

Sincerely,

Jamie Bayard

619) 981- 2338

38752 Nielson rd.,
Rancho Mirage, CA
92270

From:	Cheriss Nunez
To:	Kristie Ramos, CMC
Cc:	City Clerk
Subject:	A Heartfelt Request to Preserve the Equestrian Trails of Rancho Mirage
Date:	Thursday, November 6, 2025 9:37:03 AM
Attachments:	Heartfelt Request to Preserve Equestrian Trails in Rancho Mirage.pdf

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

A Heartfelt Request to Preserve the Equestrian Trails of Rancho Mirage

Cheriss Nunez
38752 Nielson Road. Rancho Mirage, CA 92270
Cheriss@wcfireprotection.com
11/06/2025

Dear Honorable Members of the Rancho Mirage City Council,

I am writing to you not just as a resident, but as someone who grew up surrounded by the peace, beauty, and rhythm of Rancho Mirage's open spaces. I am writing as a parent who wants my children to experience what I was blessed to have—a childhood where quiet mornings were filled with the soft sounds of horses on the trail, where neighbors waved instead of hurried by, and where the desert breeze carried the scent of creosote instead of car exhaust.

The equestrian trails and property of Rancho Mirage are woven into our city's story. They are more than pathways for horses—they are living threads of history, community, and peace. These trails remind us of who we are and what this place once was: a sanctuary of simplicity amid the desert's golden light.

I walk these trails with my children now, watching their imaginations bloom as they look for lizards darting between the brush or listen for the rhythmic clip-clop of hooves in the distance. On those trails, they aren't just outdoors—they are connected to something pure, timeless, and deeply grounding. I want them to grow up with that same sense of belonging, of calm, and of respect for nature that shaped me.

Replacing these trails with more pavement would erase something you cannot rebuild. Roads lead us somewhere, but trails remind us where we've been. In a world that seems to move faster every day, these last equestrian trails stand as a refuge—a place where stillness and community still exist.

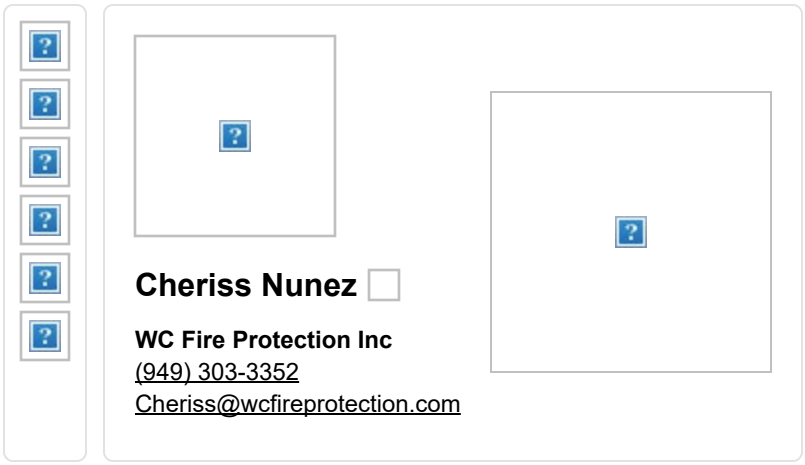
Please, I ask with all sincerity, let Rancho Mirage remain a place where open space and history are protected, where children can ride, walk, and dream freely, and where the spirit of the desert remains untamed. To preserve these trails is to preserve a part of our collective heart.

Thank you for your time, your service, and your thoughtful care for the city we love. I am profoundly grateful for your consideration and hopeful that together we can protect what makes Rancho Mirage truly special.

With heartfelt appreciation,

Cheriss Nunez

Resident, Rancho Mirage



Cheriss Nunez

WC Fire Protection Inc
(949) 303-3352
Cheriss@wcfireprotection.com

A Heartfelt Request to Preserve the Equestrian Trails of Rancho Mirage

Cheriss Nunez
38752 Nielson Road. Rancho Mirage, CA 92270
Cheriss@wcfireprotection.com
11/06/2025

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With heartfelt appreciation,

Cheriss Nunez
Resident, Rancho Mirage

From:	HOWARD TABACKMAN
To:	Kristie Ramos, CMC
Cc:	Eric Peterson
Subject:	City council meeting 11/16
Date:	Thursday, November 6, 2025 10:57:04 AM
Attachments:	City Council Notes 10-30-25.pdf

CAUTION: This email originated from outside The City of Rancho Mirage. DO NOT CLICK links or open attachments unless you recognize the sender and know the content is safe.

Please see attached

Eric Peterson
10 Ridgeline Way
562-324-0667
>
>
>
>
>
> Howard Tabackman
> 10 Ridgeline Way
> Rancho Mirage
> 310-606-1491
>

To: City of Rancho Mirage 10/30/25

City Council Members

Re: City Council Meeting 11-6-25

Peterson Road Subdivision. 19+ acres Subdivide into 16 parcels.

Environmental Assessment Case No. EA24-0009 et. Seq.

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Deanna Mendoza, MBA

From: Kristie Ramos, CMC
Sent: Thursday, October 9, 2025 10:51 AM
To: Planning Division
Subject: FW: Document shared with you: "Peterson Subdivision"

Good morning,

Please see public comment below.

Best,

Kristie Ramos, CMC
City Clerk
Phone: 760-324-4511 Ext. 488
E-mail: kristier@RanchoMirageCA.gov
69-825 Highway 111, Rancho Mirage, California, 92270
www.RanchoMirageCa.gov

TRANSPARENCY NOTICE
Some or all of the content of this e-mail and its attachments may be subject to disclosure pursuant to the California Public Records Act (Government Code section 7920-7931, et seq.)

From: Kay Williams (via Google Docs) <psfilly@gmail.com>
Sent: Thursday, October 9, 2025 10:10 AM
To: City Clerk <cityclerk@ranchomirageca.gov>
Subject: Document shared with you: "Peterson Subdivision"

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

Kay Williams shared a document

Kay Williams (psfilly@gmail.com) has invited you to **edit** the following document:

Hi! This is a letter that I will read aloud at the planning commission meeting today.
Thank you,
Kay Williams

Peterson Subdivision

This email grants access to this item without logging in. Only forward it to people you trust.

Open Open

Google LLC, 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA
You have received this email because psfilly@gmail.com shared a document with you from Google Docs.

City Clerk of Rancho Mirage, CA
October 9, 2025

Subject: Environmental Assessment Case No. EA24-0009, Minor Variance Case No. VAR24-0005, and Tentative Tract Map Case No. TTM24-0003 (TTM 38971)

Dear Members of Rancho Mirage Planning Commission,

My name is Kay Williams. My husband, Ron, and I live within the proposed subdivision under discussion today. We built our home on Peterson Road, and moved in August of 2001. We enjoy living in our area and look forward to homes being built on these residential estate lots.

As members of the community, we appreciate the planning commission's work to implement standards that benefit the whole area. With that said, I only have a few items with which I hope the commission will consider when cooperating with the developer.

1) The tamarisk trees at the north end of Peterson must be taken out. They are overgrown and over the past few winters, the homeless have found it a desirable location. This has led to trash in the area, outright damage of local property, and altercations with individuals with mental health issues. For the proposed homes to be built safely, the tamarisk trees MUST be removed.
2) The lots in the proposed area must be cleaned of dead brush for fire prevention. (I have emails with code enforcement promising action over the years.) The lots should also be treated with a covering to mitigate the blowsand that this creates.
3) Peterson is a quiet street. However, when there are accidents or delays on HWY 111, travelers unfamiliar with the area, drive speedily down Peterson or Mirage Cove. They think they are able to get through to other major streets even though there are signs posted contradicting this belief. We desire that the developer consider placing a structure at key points to give drivers a visual clue that they are entering private areas and the roads dead end.
4) While researching the many particulars of this development, I noticed there is no mention of the "equestrian trail". There is an equestrian easement near the north end of Peterson on the east side to allow horses to be ridden from Peterson to the Butler Trail. When we built, we were **required** to put in an "equestrian trail" split rail fence, as did our neighbor to the north. I do not see a trail designated on any of the maps in attachment 6. For the continuity of the area, it seems this needs to be added or otherwise what was the point of the requirement?

**This is just a general question regarding point #4. We also had to put in split rail fencing at the back of our property along Butler Trail. Our split rail is significantly further back than the trail and looks quite ridiculous like an afterthought. At the time, we questioned the distance as we gave up a sizeable part of our lot. A person within planning agreed that it was not appropriate, but that was the rule to be followed. Maybe you can come out and rethink it sometime. It truly distracts from the feel of the trail.

Thank you for your considerations regarding the above statements

Sincerely,
Kay & Ron Williams
38600 Peterson Road
Rancho Mirage
psfilly@gmail.com

Deanna Mendoza, MBA

From: Kristie Ramos, CMC
Sent: Tuesday, October 7, 2025 1:02 PM
To: Planning Division
Subject: FW: Peterson Ranch Subdivision

Good afternoon,

Please see public comment below.

Best,

Kristie Ramos, CMC
City Clerk
Phone: 760-324-4511 Ext. 488
E-mail: kristier@RanchoMirageCA.gov
69-825 Highway 111, Rancho Mirage, California, 92270
www.RanchoMirageCa.gov

TRANSPARENCY NOTICE
Some or all of the content of this e-mail and its attachments may be subject to disclosure pursuant to the California Public Records Act (Government Code section 7920-7931, et seq.)

From: LIS McF <lmvvs1@gmail.com>
Sent: Monday, October 6, 2025 6:25 PM
To: City Clerk <cityclerk@ranchomirageca.gov>
Subject: Peterson Ranch Subdivision

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

October 6, 2025

City of Rancho Mirage
Planning Department
Rancho Mirage, CA. 92270

Dear Members of the Planning Division,

I am writing as a concerned resident regarding the proposed Peterson Ranch development. I respectfully request that the following concerns be thoroughly addressed during the planning and approval process to ensure the project aligns with the best interests of the neighborhood and its residents:

The proposed development should complement the existing character of our neighborhood. Concerns include the scale, design, and density of the project, which could alter the aesthetic and functional cohesion of the area.

The construction phase can cause significant disruption, including noise, dust, and road closures. I request that the planning division establish clear guidelines for construction hours, noise mitigation, brush/tree cleanup and removal, and communication with residents to minimize disturbances and ensure transparency throughout the process.

To foster trust and collaboration, I urge the planning division to provide regular updates and opportunities for meaningful public input. This includes clear communication about the project timeline, scope, and any changes to the original plan. Ensuring that residents' voices are heard will help create a development that benefits the entire community.

I appreciate the opportunity to provide input in lieu of attending the upcoming meeting. I trust that the planning division will carefully consider the potential impacts of this development and implement measures to address them responsibly.

Please feel free to contact me at (760) 992-6500 or lmvvs1@gmail.com if additional feedback or clarification is needed.

Thank you for your time and commitment to our community's well-being.

Sincerely,

Lisa McFadden
38900 Kelley Lane
Rancho Mirage, CA. 92270
lmvvs1@gmail.com
760-992-6500

"Do not be overcome by evil,
but overcome evil with good."
Romans 12:21

"When someone shows you who they are, believe them the first time."
Maya Angelou

Ben Torres

From: Kristie Ramos, CMC
Sent: Wednesday, October 29, 2025 1:05 PM
To: Planning Division
Subject: Fwd: Peterson Rancho Subdivision

Good afternoon,

Please see below.

Best,
Kristie

Kristie Ramos, CMC
City Clerk
Phone: 760-324-4511 Ext. 488
E-mail: kristier@RanchoMirageCA.gov
69-825 Highway 111, Rancho Mirage, California, 92270
www.RanchoMirageCa.gov

TRANSPARENCY NOTICE
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Begin forwarded message:

From: Joseph Wilson <docjodyps@aol.com>
Date: October 29, 2025 at 12:55:04 PM PDT
To: "Kristie Ramos, CMC" <kristier@ranchomirageca.gov>
Subject: Peterson Rancho Subdivision

CAUTION: This email originated from outside The City of Rancho Mirage. **DO NOT CLICK links** or open **attachments** unless you recognize the sender and know the content is safe.

City of Rancho Mirage 10-29-25

City Council Members

Re: City Council Meeting 11-6-25

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Environmental Assessment Case No. EA24-0009 et. Seq.

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Road and Mirage Cove. This would improve this area visually, help block wind and create value for the Developer and neighborhood properties.

JOSEPH WILSON

70300 Desert cove Ave

Rancho Mirage,CA

direct neighbor to development

City Council Staff Report

2025 Building Code Adoption

DATE	ITEM #
December 4, 2025	ACTION CALENDAR - 6A.
Presented To	**Presented By**
Mayor and City Council	Michael Stitt , Building Official

RECOMMENDED ACTION

1) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.02 “Adopted California and Uniform Codes” of Title 15 “Buildings and Construction” of the Rancho Mirage Municipal Code to Adopt the 2025 California Energy Code, 2025 California Historical Building Code, 2025 California Existing Building Code, and 2025 California Green Building Standards Code;

2) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.04 “California Building Code, 2022 Edition” of Title 15 “Buildings and Construction” of the Rancho Mirage Municipal Code to Adopt the 2025 California Building Code;

3) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.08 “California Mechanical Code, 2022 Edition and California Plumbing Code, 2022 Edition” and adding Chapter 15.06 “California Plumbing Code, 2025 Edition” to Title 15 “Buildings and Construction” of the Rancho Mirage Municipal Code to Adopt the 2025 California Mechanical Code and 2025 California Plumbing Code;

4) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.10 “California Electrical Code, 2022 Edition” of Title 15 “Buildings and Construction” of the Rancho Mirage Municipal Code to Adopt the 2025 California Electrical Code;

5) Introduce Ordinance No. (Next-in-Order), 1st Reading, Amending Chapter 15.14 “California Residential Code, 2022 Edition” to Title 15 “Buildings and Construction” of the Rancho Mirage Municipal Code to Adopt the 2025 California Residential Code; and

6) Introduce Ordinance No. (Next-in-Order), 1st Reading, Repealing and Replacing Chapter 15.12 “2022 California Fire Code” and adding Chapter 15.13 “California Wildland-Urban Interface Code ,2025 Edition to Title 15 “Buildings and Construction” of the Rancho Mirage Municipal Code to Adopt the 2025 California Fire Code.

BACKGROUND

The California Building Standards Code (“BSC”), which is set forth in Title 24 of the California Code of Regulations, is a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;

- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and

- Building standards, authorized by the California Legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

The BSC is updated by the State of California on a triennial basis, and the 2025 Edition of the BSC was published on July 1, 2025. The BSC will go into effect on January 1, 2026 and will become applicable to all building permits submitted after that date. The BSC applies throughout California, and each "Part" of the BSC constitutes a separate California Code. The Parts include the California Building Code, Plumbing Code, Mechanical Code, Electrical Code, Fire Code, and others. Each of these codes is based on corresponding national or uniform model code standardThe City is permitted to adopt amendments to the BSC that are more stringent than the State-adopted standards, provided the amendments are based on findings that the amendments are necessary due to local climatic, topographic or geological conditions.

Any amendments adopted by the City are not effective until copies of both the express findings and the amendments, with the amendments expressly marked and identified as to the applicable findings, have been filed with the California Building Standards Commission.

Amendments may not become effective until the effective date of the 2025 Edition of the BSC (January 1, 2026). If the City does not make amendments to the BSC, its provisions, without amendment, will become applicable to the City and will become effective 180 days after publication by the California Building Standards Commission.

The City's Building and Fire Officials are recommending certain amendments due to specific conditions as explained below. Although the State has altered some of the standards from the last time the Codes were updated in 2022, the local amendments being recommended by the Building Division remain largely unchanged from those currently in effect.

DISCUSSION

The purpose of all five ordinances is to effectuate adoption of the 2025 Edition of the BSC subject to certain local amendments. All of the ordinances, if adopted, will go into effect on the same date as the 2025 Edition of the BSC: January 1, 2026.

1. Ordinance Amending Rancho Mirage Municipal Code Chapter 15.02

Rancho Mirage Municipal Code ("RMMC") Chapter 15.02 provides for adoption of those parts of the BSC for which no local amendments are necessary to the State-adopted standards. The parts of the 2025 BSC that the City sees fit to adopt without amendment are as follows:

- 2025 California Energy Code, BSC Part 6;
- 2025 California Historical Buildings Code, BSC Part 8;
- 2025 California Existing Buildings Code, BSC Part 10; and
- 2025 California Green Building Standards Code, BSC Part 11.

The foregoing codes are the same codes that the City adopted without amendment from the 2022 Edition of the BSC, and therefore Chapter 15.02 is merely being revised to provide for adoption of the 2025 Editions rather than the 2022 Editions.

2. Ordinance Amending Rancho Mirage Municipal Code Chapter 15.04

RMMC Chapter 15.04 currently provides for the adoption of the 2022 California Building Code, Part 2 of the BSC. The main purpose of the proposed ordinance is to effectuate the City's adoption of the 2025 California Building Code, subject to certain local amendments proposed by the City's Building Official (and carried over from the City's amendments to the 2022 California Building Code) that are more stringent than the State-adopted standards. Specifically, the City currently requires, and proposes to continue to require, that automatic sprinkler systems be installed in fire areas of over 3,600 square feet.

Because the foregoing requirement is more stringent than the corresponding State-adopted standards, findings supporting it on the basis of local climatic, topographic or geological conditions are required. The requirement is related to fire safety and is necessitated by the climatic conditions of the Coachella Valley, which are conducive to extreme fire danger. Therefore, the amendments are supported by findings pertaining to local climatic conditions as set forth in section 2 of the ordinance.

The ordinance also carries over other amendments from the 2022 edition that are administrative in nature, and thus need not be supported by findings. A table listing the findings which support each of the proposed amendments to the 2025 California Building Code is set forth in section 4 of the ordinance.

3. Ordinance Amending Rancho Mirage Municipal Code Chapter 15.08 and Adding Chapter 15.06

RMMC Chapter 15.08 currently provides for adoption of the 2022 California Mechanical Code (Part 4 of the BSC) and the 2022 California Plumbing Code (Part 5 of the BSC), subject only to certain administrative amendments. The main purpose of the proposed ordinance is to effectuate the City's adoption of the 2025 Editions of these codes as opposed to the 2022 Editions and to separate the plumbing and mechanical code into separate chapters.

As was the case in 2022, the Building Official has not proposed any local amendments to the 2025 Editions of either the California Mechanical Code or the California Plumbing Code that set standards which are more stringent than the State-adopted standards. The only proposed City amendments to the 2025 California Mechanical and Plumbing Codes are administrative in nature, relating to issues such as enforcement of the codes, penalties for violations, and payment of fees. Therefore, no findings are necessary to support the amendments proposed by the ordinance.

The proposed amendments to the 2025 California Mechanical and Plumbing Codes are essentially the same as the amendments that were made to the corresponding 2022 editions, adjusted to account for renumbering and deletion of provisions of the administrative chapters of each of the codes made by the State in the process of adopting the 2025 codes. An administrative revision has been proposed, separating the Plumbing and Mechanical Codes into individual Chapters, rather than combined in a single Chapter.

4. Ordinance Amending Rancho Mirage Municipal Code Chapter 15.10

RMMC Chapter 15.10 currently provides for adoption of the 2022 California Electrical Code (Part 3 of the BSC), subject only to certain administrative amendments. The main purpose of the proposed ordinance is to effectuate the City's adoption of the 2025 Edition of the California Electrical Code as opposed to the 2022 Edition.

The Building Official has not proposed any local amendments to the 2025 California Electrical Code that set standards which are more stringent than the State-adopted standards. The only proposed City amendments to the 2025 California Electrical Code are administrative in nature, relating to issues such as enforcement of the code, penalties for violations, and payment of fees. Therefore, no findings are necessary to support the amendments proposed by the ordinance.

The proposed administrative amendments to the 2025 California Electrical Code are essentially the same as those that were made to the corresponding 2022 edition, adjusted to account for renumbering of provisions of the administrative chapter made by the State in the process of adopting the 2025 code.

5. Ordinance Amending Chapter 15.14 in the Rancho Mirage Municipal Code

RMMC Chapter 15.14 currently provides for adoption of the 2022 California Residential Code. The main purpose of the proposed ordinance is to effectuate the City's adoption of the 2025 Edition of the California Residential Code as opposed to the 2022 edition.

The Building Official has not proposed any local amendments to the 2025 California Residential Code that set standards which are more stringent than the State-adopted standards. The only proposed City amendments to the 2025 California Residential Code are administrative in nature. Therefore, no findings are necessary to support the amendments proposed by the ordinance.

6. Ordinance Amending Rancho Mirage Municipal Code Chapter 15.12

RMMC Chapter 15.12 currently provides for the adoption of the 2022 California Fire Code, Part 9 of the BSC. The main purpose of the proposed ordinance is to effectuate the City's adoption of the 2025 California Fire Code, subject to a number of local amendments proposed by the City's Fire Officials (from the Office of the Fire Marshall of the California Department of Forestry and Fire Protection or "Cal Fire" and the Riverside County Fire Department) that are more stringent than the State-adopted standards. As a result, findings supporting the amendments on the basis of local climatic, topographic or geological conditions are required.

The findings supporting the local amendments to the 2025 California Fire Code are set forth in section 2 of the ordinance, and a table of the specific findings which support each of the proposed amendments is set forth in section 4 of the ordinance. As detailed in the findings, the local amendments are necessitated by the conditions of the Coachella Valley, which are conducive to extreme fire danger and which pose challenges in responding to and fighting fires.

Due to the substantial nature of the changes between the 2022 Edition, as adopted with amendments, and the 2025 editions, as adopted with proposed amendments, the ordinance provides for a complete repeal and replacement of Chapter 15.12. A representative of the Cal Fire/Riverside County Fire Department's Office of the Fire Marshall will be available to answer any questions regarding the local amendments being proposed in connection with adoption of the 2025 California Fire Code.

Attachments

Attachment 1 - Draft Ordinance Amending 15 02

Attachment 2 - Draft Ordinance Amending 15 04

Attachment 3 - Draft Ordinance Amending 15 08

Attachment 4 - Draft Ordinance Amending 15 10

Attachment 5 - Draft Ordinance Amending 15 14

Attachment 6 - Draft Ordinance Fire Code

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE, CALIFORNIA, AMENDING CHAPTER 15.02 "ADOPTED CALIFORNIA AND UNIFORM CODES" OF TITLE 15 "BUILDINGS AND CONSTRUCTION" OF THE RANCHO MIRAGE MUNICIPAL CODE ADOPTING THE 2025 CALIFORNIA ENERGY CODE, 2025 CALIFORNIA HISTORICAL BUILDING CODE, 2025 CALIFORNIA EXISTING BUILDING CODE, AND 2025 CALIFORNIA GREEN BUILDING STANDARDS CODE

WHEREAS, the City of Rancho Mirage ("City") is a charter city and recognized for certain purposes as a political subdivision of the State of California; and

WHEREAS, the State of California approved the 2025 edition of the California Building Standards Code (BSC), which is published in Title 24 of the California Code of Regulations and is based on the latest national and international model building codes; and

WHEREAS, the BSC shall become effective on January 1, 2026; and

WHEREAS, Government Code section 50022.2 and Health and Safety Code 17922 authorize the City to enact ordinances adopting said codes by reference; and

WHEREAS, in order to protect the public health, safety and welfare and to remain up-to-date with current state regulations, the City wishes to adopt the 2025 editions of the California Energy Code, set forth in Part 6 of the BSC, California Historical Building Code, set forth in Part 8 of the BSC, California Existing Building Code, set forth in Part 10 of the BSC, and California Green Building Standards Code, set forth in Part 11 of the BSC, without any local amendments.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE DOES ORDAIN AS FOLLOWS:

Section 1. RECITALS

That the above recitals are true and correct and are incorporated as though fully set forth herein.

Section 2. AMENDMENT TO CHAPTER 15.02 OF TITLE 15 OF THE RANCHO MIRAGE MUNICIPAL CODE

That Chapter 15.02 ("Adopted California and Uniform Codes") of Title 15 ("Buildings and Construction") of the Rancho Mirage Municipal Code is hereby amended to read entirely as follows:

Chapter 15.02 ADOPTED CALIFORNIA AND UNIFORM CODES

15.02.010 Codes of ***2025*** Edition of the California Building Standards Code adopted without local amendments.

The following codes of the 2025 Edition of the California Building Standards Code shall be applicable within the city, without local amendments:

A. ***2025*** California Energy Code as set forth in Part 6 of Title 24 of the California Code of Regulations.

B. ***2025*** California Historical Building Code as set forth in Part 8 of Title 24 of the California Code of Regulations.

C. ***2025*** California Existing Building Code as set forth in Part 10 of Title 24 of the California Code of Regulations.

D. ***2025*** California Green Building Standards Code as set forth in Part 11 of Title 24 of the California Code of Regulations.

15.02.020 Codes of ***2025*** Edition of the California Building Standards Code adopted with local amendments and/or appendices.

The following codes of the 2025 Edition of the California Building Standards Code shall be applicable within the city, subject to certain local amendments and/or appendices, as follows:

A. ***2025*** California Building Code subject to the amendments and appendices set forth in Chapter 15.04.

B. ***2025*** California Mechanical Code and 2025 California Plumbing Code subject to the amendments and appendices set forth in Chapter 15.06 & 15.08.

C. ***2025*** California Electrical Code subject to the amendments and appendices set forth in Chapter 15.10.

D. ***2025*** California Fire Code subject to the amendments and appendices set forth in Chapter 15.12.

E. ***2025*** California Residential Code subject to amendments and appendices set forth in Chapter 15.14.

Section 3. SEVERABILITY

That the City Council declares that, should any provision, section, paragraph, sentence or word of this ordinance be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this ordinance as hereby adopted

shall remain in full force and effect.

Section 4. REPEAL OF CONFLICTING PROVISIONS

That all the provisions of the Rancho Mirage Municipal Code as heretofore adopted by the City of Rancho Mirage that are in conflict with the provisions of this ordinance are hereby repealed.

Section 5. EFFECTIVE DATE

That this ordinance shall take effect on January 1, 2026.

Section 6. CITY ATTORNEY REVIEW

That the City Attorney prepared and framed this ordinance pursuant to Section 1.04.010 of the Rancho Mirage Municipal Code and finds that the City Council has the authority to adopt this ordinance, that the ordinance is constitutionally valid and that the ordinance is consistent with the general powers and purposes of the City as set forth in Section 1.04.031 of the Rancho Mirage Municipal Code.

Section 7. NECESSARY ACTIONS

That the Development Services Director or designee is authorized to take any and all further actions necessary to effectuate the adoption of this Ordinance and implementation of the adopted codes.

Section 8. CERTIFICATION

That the City Clerk shall certify to the passage of this ordinance and shall cause the same to be published according to law.

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The foregoing Ordinance was approved and adopted at a meeting of the City Council held on _____, 2025, by the following vote:

Ayes:
Noes:
Abstain:
Absent:

_____
Lynn Mallotto, Mayor

ATTEST:

_____
Kristie Ramos, City Clerk

APPROVED AS TO FORM:

_____
Colin Kirkpatrick, City Attorney

ATTACHMENT 2

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE, CALIFORNIA, AMENDING CHAPTER 15.04 "CALIFORNIA BUILDING CODE, 2022 EDITION" OF TITLE 15 "BUILDINGS AND CONSTRUCTION" OF THE RANCHO MIRAGE MUNICIPAL CODE TO ADOPT THE 2025 CALIFORNIA BUILDING CODE

WHEREAS, the City of Rancho Mirage ("City") is a charter city and a political subdivision of the State of California; and

WHEREAS, the State of California adopted and approved the 2025 edition of the California Building Standards Code (BSC), which is published in Title 24 of the California Code of Regulations and includes the 2022 California Building Code which is based on the latest national and international model building codes; and

WHEREAS, the BSC shall become effective on January 1, 2026; and

WHEREAS, the City wishes to adopt the 2025 edition of the California Building Code, as set forth in Part 2 of the BSC, along with local administrative amendments; and

WHEREAS, Government Code section 50022.2 and Health and Safety Code 17922 authorize the City to enact ordinances adopting the BSC by reference; and

WHEREAS, pursuant to California Health & Safety Code sections 17958.7 and 18941.5(b), the City is permitted to adopt amendments to the BSC provided the amendments are more restrictive than the State-adopted standards and are supported by findings of the City Council that the amendments are necessary due to local climatic, topographical or geological conditions; and

WHEREAS, the City Council considered adoption of, and amendments to, the 2025 California Building Code, as set forth in Part 2 of the BSC, which amendments were proposed by the City's Building Official as more stringent than the standards established by the BSC and reasonably necessary to protect the health, welfare and safety of the citizens of Rancho Mirage because of local climatic and geological conditions; and

WHEREAS, as detailed in Section 2 of this Ordinance, the City Council finds that the amendments recommended by the Building Official are reasonably necessary to protect the health, safety and welfare of the citizens of Rancho Mirage because of local climatic, topographical, and geological conditions.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE DOES ORDAIN AS FOLLOWS:

Section 1. RECITALS

That the above recitals are true and correct and are incorporated as though fully set forth herein.

Section 2. FINDINGS

That the City Council hereby adopts the following findings:

I. Climatic Conditions:

A. The City of Rancho Mirage located in Riverside County is located in Southern California and covers a vast and varied geographic area. The base climate in western Riverside County consists of semi-arid Mediterranean weather patterns. Eastern Riverside County is a desert area with Mohave Desert temperatures and weather patterns. Those two primary areas are divided by the San Bernardino Mountain Range. Both areas outside of the mountain terrain annually experience extended periods of high temperatures with little or no precipitation. Hot, dry winds, which may reach speeds of 70 M.P.H. or greater, are common to the area. Examples are: Santa Ana/ Foehn winds, afternoon surface-heating generated winds, and prevailing desert winds.

These climatic conditions cause extreme drying of vegetation and common building materials. Frequent periods of drought and low humidity add to the fire danger. This predisposes the area to large destructive fires (conflagration) which necessitates rapid identification, locating and extinguishment of all fires in the smallest stage possible. In addition to directly damaging or destroying buildings, these fires are also prone to disrupt utility services throughout the County. Obstacles generated by a strong wind, such as fallen trees, street lights and utility poles, will greatly impact the response time to reach an incident scene. During these winds, the inability to use aerial type firefighting apparatus would further decrease our ability to stop fires in large buildings and place rescue personnel at increased risk of injury.

B. Although Riverside County and the City of Rancho Mirage occasionally experience periods of significant drought, the County can also experience periods of substantial rainfall. Annual rainfall varying from three (3) inches in Blythe to over thirty three (33) inches in Pine Cove. When Riverside County does experience heavy rain, or rain over a period of days or weeks, many areas of the County are subject to flooding. Runoff from rain drains either naturally into rivers, washes, and creeks or into flood control facilities. Flash flooding is also a common problem, especially in the Coachella Valley and the easterly portions of the County. Flash flooding is typically associated with short duration, high intensity precipitation events often associated with summer thunderstorms. Such events can occur even during a drought.

C. Water demand in densely populated Southern California far exceeds the quantity supplied by natural precipitation; and although the population continues to grow, the already-taxed water supply does not. California is projected to increase in population by nearly 10 million over the next quarter of a century with 50 percent of that growth centered in Southern California. Due to storage capacities and consumption, and a limited amount of rainfall future water allocation is not fully dependable. This necessitates the need for additional and on-site fire protection features. It would also leave tall buildings vulnerable to uncontrolled fires due to a lack of available water and an inability to pump sufficient quantities of available water to floors in a fire.

D. These dry climatic conditions and winds contribute to the rapid spread of even small fires originating in high-density housing or vegetation. These fires spread very quickly and create a need for increased levels of fire protection. The added protection of fire sprinkler systems and other fire protection features such as identification and notification will supplement normal fire department response by providing immediate protection for the building occupants and by containing and controlling the fire spread to the area of origin. Fire sprinkler systems will also reduce the use of water for firefighting by as much as 50 to 75 percent.

Section 3. AMENDMENT TO CHAPTER 15.04 OF TITLE 15 OF THE RANCHO MIRAGE MUNICIPAL CODE

Chapter 15.04 “California Building Code, 2022 Edition” of Title 15 “Buildings and Construction” of the Rancho Mirage Municipal Code is hereby amended to read entirely as follows:

Chapter 15.04 CALIFORNIA BUILDING CODE, 2025 EDITION
15.04.010 California Building Code adopted with amendments.

A. Except for the local amendments set forth herein, there is adopted by reference the California Building Code 2025 Edition, which is published by the California Building Standards Commission as Part 2 of Title 24 of the California Code of Regulations. A copy of the Code together with the local amendments is on file with the division of building and safety.

B. The California Building Code, 2025 Edition (hereinafter “Building Code”) shall be the building code for the city and said Code together with the adopted appendices and the amendments set forth in this chapter shall regulate and govern the conditions and maintenance of all property, buildings and structures within the city by providing the standards for supplied utilities and facilities and other physical things and conditions essential to ensure that structures are safe, sanitary and fit for occupation and use and providing for the condemnation and demolition of buildings and structures that are unfit for

human occupancy and use, and the issuance of permits and collection of permit fees.

15.04.020 Modifications, amendments and deletions to the Building Code.

1.Section 903.2 of the California Fire Code is deleted in its entirety and replaced with the following:

903.2 Where Required.

1. In all new buildings and structures which are 3,600 square feet or greater, an approved automatic sprinkler system shall be provided regardless of occupancy classification. Where the Sections 903.2.1 – 903.2.21 of the California Fire Code require more restrictive requirements than those listed below, the more restrictive requirement shall take precedence.
2. All existing buildings, except for one- and two-family dwellings, shall be retrofitted with automatic fire sprinklers when a structure exceeds 3,600 square feet and changes are made to the building including any of the following: change of use/occupancy, removal of an existing fire wall as defined by the California Building Code, or additions of 50% or more are made to the original building area and the resulting square footage exceeds 5,000 square feet.
3. One- and two-family dwellings shall have an automatic fire sprinkler system regardless of square footage in accordance with the California Residential Code. Fire sprinkler systems shall be installed in mobile homes, manufactured homes and multifamily manufactured homes with two dwelling units in accordance with Title 25 of the California Code of Regulations.

Exception: Unless required elsewhere in this code or the California Building Code, automatic fire sprinkler systems shall not be required for the following:

1. Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries not required to have an automatic sprinkler system by Section 1207 for energy storage systems and standby engines, provided that those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 of the California Building Code or not less than 2-hour horizontal assemblies constructed in accordance with Section 711 of the California Building Code, or both.
2. Detached Group U occupancies used for agricultural purposes.
3. Detached non-combustible equestrian arena shade canopies that are open on all sides and used for riding only - no commercial, assembly or storage uses.
4. Non-combustible fueling station canopies not exceeding 10,000 square

feet when separated from other buildings by a distance of not less than 50 feet.

5. Detached fabric or non-combustible shade structures that are open on all sides and used to shade playground equipment, temporary storage of vehicles and dining areas with no cooking.

6. Where determined by the Fire Chief that no major life safety hazard exists, and the fuel load does not pose a significant threat to firefighter safety or to other structures or property, automatic fire sprinklers may be exempted.

The following exceptions in the California Fire Code shall not be allowed:

a. Exceptions in Section 903.2.3.
b. Exception 2 in Section 903.2.11.3.

15.04.030 Adoption, modifications, amendments and deletions to Chapter 1 of the Building Code.

A. Except as otherwise provided in this Chapter, the California Building Code, Title 24, California Code of Regulations, Part 2, Volume 1, Chapter 1, Division II, "Scope and Administration," including any and all amendments thereto that may hereafter be made and adopted by the State of California, is hereby adopted as the Administrative Code of the City. This administrative chapter shall apply to all codes listed in this title.

~~1. Section 101.1 is deleted in its entirety.~~

~~2. Section 101.5 is added to define the term "Holiday" and shall read as follows:~~

~~3~~***1***. Section 102.2 is amended to read as follows:

102.2 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law. In the event of discrepancies between this Chapter ***15.04 of the Rancho Mirage Municipal Code*** and Chapter 1, General Code Provision, the ~~latter~~ former shall take precedence**.**

4***2***. Section 103.1 is amended to read as follows:

103.1 Creation of enforcement agency. There is established within the City, a division of the Administrative Services Department to be known as the "Building and Safety Division", ***whose function includes the implementation, administration and enforcement of the***

provisions of this code, which shall be under the administrative and operational control of the City Building Official hereinafter referred to as the building official.

~~6. Section 105.5 is amended to read as follows:~~

~~105.5 Expiration. Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than180 days each. The extension shall be requested in writing and justifiable cause demonstrated.~~

~~Exception: For residential occupancies a permit shall remain valid for the purposes of this part if the work on the site authorized by that permit is commenced within 12 months after its issuance, unless the permittee has abandoned the work authorized by the permit.~~

~~76. Section 109.1 is amended to read as follows:~~

~~109.1 Payment of fees. On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit under this Building Code, a fee for each permit shall be paid as required, in accordance with the fees set forth in the City of Rancho Mirage Master Fee Schedule. Building Permit Fee Table 3A of the California Building Code, 1991 Edition, a copy of which is on file with the Division of Building and Safety.~~

4~~8~~***5*** Section ~~113.4~~ ***113.5*** is added to provide for the filing of appeals and shall read as follows:

~~***113.4***~~ ***113.5*** Filing of appeals. All appeals shall be made in writing and shall specify the order, decision or determination made by the building official which is being appealed and wherein the building official erred in making the order, decision or determination. The appeal shall be accompanied by a fee as established by the City Council. If, after reviewing the information submitted, the building official determines the appeal does not merit a change in his or her order, decision, or determination, the building official shall schedule a hearing by the Appeals Board and the appellant shall be notified in writing of the date and time of the hearing.

~~9~~***57*** Section 114 is amended to read as follows:

Section 114 VIOLATIONS.

114.1 Unlawful acts. It shall be unlawful for any person, firm, or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or equipment regulated by this code, or to cause the same to be done, in conflict with or in violation of any provisions of this code. It shall be unlawful for any person to erect, construct, alter or repair a building or structure in violation of the approved construction documents or directive of the building official or of a permit or certificate issued under the provisions of this code.

~~1~~**~~14.2~~ 114.5 Public nuisance; Abatement.** Any violation of this Building Code, including the adopted appendices, is a public nuisance and may be abated in accordance with Title 14 of the City's Municipal Code.

114.~~3~~ 6 Penalties. Any person who violates a provision of this Building Code, including the adopted appendices, or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this Building Code shall be ***subject to penalties as prescribed by law, including but not limited to,*** guilty of an infraction violation, and the violator shall be subject to the provisions set forth in Chapter 14.100 (Infractions) of the City's Municipal Code, including, but not limited to, the imposition of any and all civil and criminal penalties set forth therein.

6~~9~~. Section 116 is amended to ***add 116.1.1 (Unlawful Acts)*** ~~read~~ as follows:

Section 116 UNSAFE STRUCTURES AND EQUIPMENT.

~~**116.1 Conditions.** Structures or existing equipment that are or hereafter become unsafe, unsanitary or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance shall be deemed an unsafe condition.~~

116.1.1 Unlawful acts. It shall be unlawful for any person, firm, or corporation to maintain as unsafe structures or equipment regulated by this code, or cause the same to be done in conflict with or in violation of any provisions of this code.

7~~11~~***910***. Section 117 is added to limit the hours of construction work and shall read as follows:

Section 117 HOURS OF WORK.

117.1. Restricted hours; Construction work. Except as otherwise provided herein, no person other than the person actually occupying any buildings to be altered, repaired or improved, shall be engaged or employed, nor shall any person cause any other person to be engaged or employed in any work of construction, erection, alteration, repair, addition to or improvement of any building, structure, road or improvement to realty, between the hours of seven p.m. of each day and seven a.m. of the next succeeding day or on Sundays and holidays, without written permission of the Building Official being first obtained. The Building Official may grant permission to work during those periods under appropriate circumstances after first having determined that such work will not unduly or unreasonably interfere with the peaceful enjoyment of property adjacent to such work.

117.2 Restricted hours; Landscape maintenance. Within gated communities, shopping centers, commercial centers, vacant residential or commercial parcels, or developed residential or commercial parcels, landscape activities such as leaf blowing, tree trimming, re-seeding, or mowing of grass as associated with the re-seeding process and any other landscaping activities which generate unusual noise, are prohibited between the hours of ~~seven~~ ***six*** p.m. of each day and seven a.m. of the next succeeding day or on Sundays or on holidays.

117.3 Restricted hours; Golf courses. In order to assure the excellence and readiness of golf courses within the City, mowing and green preparation of golf courses is permitted between 5:30 a.m. and 7 p.m., seven days per week and during all seasons of the year.

8 ~~12~~***1011***. Section 118 is added to require removal and disposal of trash and debris at building sites and shall read as follows:

Section 118 REMOVAL AND DISPOSAL OF TRASH AND DEBRIS.

118.1 Required removal. Any person to whom a building permit has been issued shall keep the building site free and clear of trash and debris. As used in this section, trash and debris shall include papers, cartons, bottles, cans, garbage, roofing materials, plaster, concrete and other substances that may accumulate as a result of construction activities.

118.2 Container. A trash container shall be located on every construction site and shall remain in place until construction is completed. The container shall be adequate in size to store the trash and debris generated on the building site until it can be removed.

118.3 Disposal. Trash and debris shall be removed from the site and transported to a legally established dump site either by the City's refuse contractor or the permittee.

15.04.035 Amendments to Chapter 2 of the Building Code.

A. Except as otherwise provided in this Chapter, the California Building Code, Title 24, California Code of Regulations, Part 2, Volume 1, Chapter 2, Division II, "Definitions," including any and all amendments thereto that may hereafter be made and adopted by the State of California, is hereby adopted as the Administrative Code of the City. This administrative chapter shall apply to all codes listed in this title.

Section 202 is amended to define the term "Holiday" and shall read as follows:

"Holiday" as used in the Building Code shall mean New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas.

~~**15.04.040 Adoption of other appendices of the Building Code without amendments**.~~

~~There is adopted by reference and without amendment, the following appendices to the Building Code:~~

~~Appendix I: Patio Covers.~~

Section 4. TABLE OF FINDINGS SUPPORTING SPECIFIC AMENDMENTS TO 2025 CALIFORNIA BUILDING CODE

California Health and Safety Code Sections 17958.7 and 18941.5 require that each local amendment to the ***2025*** California Building Code be expressly marked and identified as to the local finding upon which it is based. In accordance with the foregoing requirement, the following table sets forth the ***2025*** California Building Code sections that have been modified and the associated local climatic, geological and/or topographical findings described in section 2 of this Ordinance which support the modification.

2025 BUILDING CODE SECTION	TITLE/SUBJECT	FINDINGS
903.2	**Where required**	
		I
		I
		I
		I
		I
		I
		I
		I
		I
		I
		I
		I
102.2	Other laws	Administrative
103.1	Creation of enforcement agency	Administrative
105.2	Work exempt from permit	Administrative
113.5	Filing of appeals	Administrative
114	Violations	Administrative
116	Unsafe structures and equipment	Administrative
117	Hours of work	Administrative
118	Removal and disposal of trash and debris	Administrative
202	Holidays	Administrative

Section 5. SEVERABILITY

That the City Council declares that, should any provision, section, paragraph, sentence or word of this ordinance be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this ordinance as hereby adopted shall remain in full force and effect.

Section 6. REPEAL OF CONFLICTING PROVISIONS

That all the provisions of the Rancho Mirage Municipal Code as heretofore adopted by the City of Rancho Mirage that are in conflict with the provisions of this ordinance are hereby repealed.

Section 7. EFFECTIVE DATE

That this ordinance shall take effect on January 1, 2026.

Section 8. CITY ATTORNEY REVIEW

That the City Attorney prepared and framed this ordinance pursuant to Section 1.04.010 of the Rancho Mirage Municipal Code and finds that the City Council has the authority to adopt this ordinance, that the ordinance is constitutionally valid and that the ordinance is consistent with the general powers and purposes of the City as set forth in Section 1.04.031 of the Rancho Mirage Municipal Code.

Section 9. NECESSARY ACTIONS

That the Development Services Director or designee is authorized to take any and all further actions necessary to effectuate the adoption of this Ordinance and implementation of the adopted codes.

Section 10. CERTIFICATION

That the City Clerk shall certify to the passage of this ordinance and shall cause the same to be published according to law.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

The foregoing Ordinance was approved and adopted at a meeting of the City Council held on _____, 2025, by the following vote:

Ayes:
Noes:
Abstain:
Absent:

_____
Lynn Mallotto, Mayor

ATTEST:

_____
Kristie Ramos, City Clerk

APPROVED AS TO FORM:

_____
Colin Kirkpatrick, City Attorney

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE, CALIFORNIA, AMENDING CHAPTER 15.08 "CALIFORNIA MECHANICAL CODE, 2019 EDITION; CALIFORNIA PLUMBING CODE, 2022 EDITION" AND ADDING CHAPTER 15.06 "CLAIFORNIA PLUMBING CODE, 2022 EDITION" TO TITLE 15 "BUILDINGS AND CONSTRUCTION" OF THE RANCHO MIRAGE MUNICIPAL CODE TO ADOPT THE 2025 CALIFORNIA MECHANICAL CODE AND 2025 CALIFORNIA PLUMBING CODE

WHEREAS, the City of Rancho Mirage ("City") is a charter city and recognized for certain purposes as a political subdivision of the State of California; and

WHEREAS, the State of California adopted and approved the 2025 edition of the California Building Standards Code (BSC), which is published in Title 24 of the California Code of Regulations and which is based on the latest national and international model building codes; and

WHEREAS, the BSC will become effective on January 1, 2026; and

WHEREAS, the City wishes to adopt the 2025 edition of the California Mechanical Code, as set forth in Part 4 of the BSC, and California Plumbing Code, as set forth in Part 5 of the BSC, along with local administrative amendments; and

WHEREAS, Government Code section 50022.2 and Health and Safety Code 17922 authorize the City to enact ordinances adopting said codes by reference; and

WHEREAS, pursuant to California Health & Safety Code sections 17958.7 and 18941.5(b), the City is permitted to adopt amendments to the BSC provided the amendments are more restrictive than the State-adopted standards and are supported by findings of the City Council that the amendments are necessary due to local climatic, topographical or geological conditions; and

WHEREAS, the City's Building Official has not proposed any substantive amendments to either the 2025 California Mechanical Code or the 2025 California Plumbing Code, which are more stringent than the standards established by the BSC; and

WHEREAS, the City Council finds that the local amendments to the 2025 California Mechanical Code, as set forth in Part 4 of the BSC, and the 2025 California Plumbing Code, as set forth in Part 5 of the BSC, are administrative in nature and do not set standards more restrictive than the State-adopted standards.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE DOES ORDAIN AS FOLLOWS:

Section 1. RECITALS

That the above recitals are true and correct and are incorporated as though fully set forth herein.

Section 2. AMENDMENT TO CHAPTER 15.08 OF TITLE 15 OF THE RANCHO MIRAGE MUNICIPAL CODE

Chapter 15.08 ("California Mechanical Code, 2022 Edition; California Plumbing Code, 2022 Edition") of Title 15 ("Buildings and Construction") of the Rancho Mirage Municipal Code is hereby amended to separate the Plumbing and Mechanical Code into separate chapters, and shall read entirely as follows:

Chapter 15.08 CALIFORNIA MECHANICAL CODE, ***2025***

15.08.010 California Mechanical Code adopted.

A. There is adopted by reference the California Mechanical Code, ***2025*** Edition, which is published by the California Building Standards Commission as Part 4 of Title 24 of the California Code of Regulations. A copy of the Code together with the local amendments is on file with the division of building and safety.

B. The California Mechanical Code, ***2025*** Edition (hereinafter "Mechanical Code") shall be the mechanical code for the city and said Code together with the adopted appendices and the additions, deletions and amendments set forth in this chapter shall regulate and govern the requirements for the installation and maintenance of heating, ventilating, cooling, and refrigeration systems within the city as well as the issuance of permits and the collection of permit fees.

15.08.020 Modifications, amendments and deletions to Chapter 1, Division II Administration of the Mechanical Code.

A. There is adopted by reference and with the following additions, deletions and amendments Chapter 1, Division II Administration, which is a part of the Mechanical Code:

1. Section 101.6 is added ***in its entirety*** to provide for the filing of appeals and shall read as follows:

101.6 Filing of appeals. All appeals shall be made in writing and shall specify the order, decision or determination made by the building official which is being appealed and wherein the building official erred in making the order, decision or determination. The appeal shall be accompanied by a fee as established by the City Council. If, after reviewing the information submitted, the building official determines the appeal does not merit a change in his or her order, decision, or determination, the building official shall schedule a hearing by the Appeals Board and the appellant shall be notified in writing of the date and time of the hearing.

2. ***Section 104.5 is amended to read as follows:***

104.5 Fees. On buildings, structures, and mechanical systems or alterations requiring a permit under this code, a fee for each permit shall be paid as required, in accordance with the fees set forth in the City of Rancho Mirage Master Fee Schedule.

3. Section 106.1 is amended to read as follows:

Section 106.1 VIOLATIONS.

106.1 Unlawful acts. It shall be unlawful for any person, firm, or corporation to erect, construct, alter, extend, repair, move, improve, remove, convert or demolish, equip, use or maintain mechanical systems or equipment regulated by this Mechanical Code or cause or permit the same to be done in violation of this code. It shall be unlawful for any person to erect, construct, alter or repair a mechanical system in violation of the approved construction documents or directive of the building official or of a permit or certificate issued under the provisions of this code.

106.1.1 Public nuisance; Abatement. Any violation of this Mechanical Code, including the adopted appendices, is a public nuisance and may be abated in accordance with Title 14 of the City's Municipal Code.

4. Section 106.3 is amended to read as follows:

106.3 Penalties. Any person who violates a provision of this Mechanical Code, including the adopted appendices, or fails to comply with any of the requirements thereof or who erects, constructs, alters, extends, repairs, moves, improves, removes, converts or demolishes, equips, uses or maintains mechanical systems or equipment in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code shall be guilty of an infraction violation, and the violator shall be subject to the provisions set forth in Chapter 14.100 (Infractions) of the City's Municipal Code, including, but not limited to, the imposition of any and all civil and criminal penalties set forth therein.

15.08.030 Adoption of other appendices of the Mechanical Code without amendments.

There is adopted by reference and without amendment, the following appendices to the Mechanical Code:

Appendix B: Procedures to be Followed to Place Gas Equipment in Operation.

Appendix C: Installation and Testing of Oil (Liquid) Fuel-Fired Equipment.

~~Distribution.~~

Section 3. ADDING CHAPTER 15.06 TO TITLE 15 OF THE RANCHO MIRAGE MUNICIPAL CODE

Chapter 15.06 ("California Plumbing Code, 2025 Edition") is hereby added to Title 15 ("Buildings and Construction") of the Rancho Mirage Municipal Code, to read entirely as follows (the Plumbing Code is hereby made a separate Chapter of the Municipal Code, and while the Chapter is entirely new, a blackline version is provided to reflect changes proposed to the Plumbing Code previously incorporated in Chapter 15.08):

Chapter 15.06 CALIFORNIA PLUMBING CODE, ***2025*** EDITION

15.08.040 California Plumbing Code adopted.

A. There is adopted by reference the California Plumbing Code, ***2025*** Edition, which is published by the California Building Standards Commission as Part 5 of Title 24 of the California Code of Regulations. A copy of the Code together with the local amendments is on file with the division of building and safety.

B. The California Plumbing Code, 2025 Edition (hereinafter "Plumbing Code") shall be the plumbing code for the city and said Code together with the additions, deletions and amendments set forth in this chapter shall regulate and govern the requirements for the installation and maintenance of plumbing and the issuance of permits and collection of permit fees.

15.08.050 Modifications, amendments and deletions to Chapter 1, Division II Administration of the Plumbing Code.

A. There is adopted by reference and with the following additions, deletions and amendments, Chapter 1, Division II Administration, which is a part of the Plumbing Code:

1. Section ~~107.3~~ ***107.2*** is added to provide for the filing of appeals and shall read as follows:

107.2 Filing of appeals. All appeals shall be made in writing and shall specify the order, decision or determination made by the building official which is being appealed and wherein the building official erred in making the order, decision or determination. The appeal shall be accompanied by a fee as established by the City Council. If, after reviewing the information submitted, the building official determines the appeal does not merit a change in his or her order, decision, or determination, the building official shall schedule a hearing by the Appeals Board and the appellant shall be notified in writing of the date and time of the hearing.

2. Section 106.1 is amended to read as follows:

~~106.1 Violations.~~

106.1 Unlawful acts. It shall be unlawful for any person, firm, or corporation to erect, construct, alter, extend, repair, move, improve, remove, convert or demolish, equip, use or maintain plumbing systems or equipment regulated by this Plumbing Code or cause or permit the same to be done in violation of this code. It shall be unlawful for any person to erect, construct, alter or repair plumbing in violation of the approved construction documents or directive of the building official or of a permit or certificate issued under the provisions of this code.

106.1.1 Public nuisance; Abatement. Any violation of this Plumbing Code, including the adopted appendices, is a public nuisance and may be abated in accordance with Title 14 of the City's Municipal Code.

3. Section 106.3 is amended to read as follows:

106.3 Penalties. Any person who violates a provision of this Plumbing Code, including the adopted appendices, or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs plumbing in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this Code shall be guilty of an infraction violation, and the violator shall be subject to the provisions set forth in Chapter 14.100 (Infractions) of the City's Municipal Code, including, but not limited to, the imposition of any and all civil and criminal penalties set forth therein.

4. Section 104.5 is amended to read as follows:

104.5 Permit fees. On buildings, structures, and plumbing systems or alterations requiring a permit under this code, a fee for each permit shall be paid as required, in accordance with the fees set forth in the City of Rancho Mirage Master Fee Schedule.

15.08.060 Adoption of other appendices of the Plumbing Code without amendments.

There is adopted by reference and without amendment, the following appendices to the Plumbing Code:

Appendix A: Recommended Rules for Sizing the Water Supply System.

Appendix B: Explanatory Notes on Combination Waste and Vent Systems.

Appendix D: Sizing Storm Water Drainage Systems.

Appendix H: Private Sewage Disposal Systems.

Appendix I: Installation Standards ~~for PEX Tubing Systems for Hot- and Cold-Water~~

~~Distribution~~.

Section 4. SEVERABILITY

That the City Council declares that, should any provision, section, paragraph, sentence or word of this ordinance be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this ordinance as hereby adopted shall remain in full force and effect.

Section 4. REPEAL OF CONFLICTING PROVISIONS

That all the provisions of the Rancho Mirage Municipal Code as heretofore adopted by the City of Rancho Mirage that are in conflict with the provisions of this ordinance are hereby repealed.

Section 5. EFFECTIVE DATE

That this ordinance shall take effect on January 1, 2026.

Section 6. CITY ATTORNEY REVIEW

That the City Attorney prepared and framed this ordinance pursuant to Section 1.04.010 of the Rancho Mirage Municipal Code and finds that the City Council has the authority to adopt this ordinance, that the ordinance is constitutionally valid and that the ordinance is consistent with the general powers and purposes of the City as set forth in Section 1.04.031 of the Rancho Mirage Municipal Code.

Section 7. NECESSARY ACTIONS

That the Development Services Director or designee is authorized to take any and all further actions necessary to effectuate the adoption of this Ordinance and implementation of the adopted codes.

Section 8. CERTIFICATION

That the City Clerk shall certify to the passage of this ordinance and shall cause the same to be published according to law.

The foregoing Ordinance was approved and adopted at a meeting of the City Council held on _____, 2025, by the following vote:

Ayes:
Noes:
Abstain:
Absent:

_____
Lynn Mallotto, Mayor

ATTEST:

_____
Kristie Ramos, City Clerk

APPROVED AS TO FORM:

_____
Colin Kirkpatrick, City Attorney

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE, CALIFORNIA, AMENDING CHAPTER 15.10 "CALIFORNIA ELECTRICAL CODE, 2022 EDITION" OF TITLE 15 "BUILDINGS AND CONSTRUCTION" OF THE RANCHO MIRAGE MUNICIPAL CODE TO ADOPT THE 2025 CALIFORNIA ELECTRICAL CODE

WHEREAS, the City of Rancho Mirage ("City") is a charter city and recognized for certain purposes as a political subdivision of the State of California; and

WHEREAS, the State of California adopted and approved the 2025 edition of the California Building Standards Code (BSC), which is published in Title 24 of the California Code of Regulations and includes the 2025 California Electrical Code, and which is based on the latest national and international model building codes; and

WHEREAS, the BSC shall become effective on or after January 1, 2026; and

WHEREAS, the City wishes to adopt the 2025 edition of the California Electrical Code, as set forth in Part 3 of the BSC, along with certain local administrative amendments; and

WHEREAS, Government Code section 50022.2 and Health and Safety Code 17922 authorize the City to enact ordinances adopting the California Electrical Code by reference; and

WHEREAS, pursuant to California Health & Safety Code sections 17958.7 and 18941.5(b), the City is permitted to adopt amendments to the BSC provided that amendments that are more restrictive than the State-adopted standards are supported by findings of the City Council that the amendments are necessary due to local climatic, topographical or geological conditions; and

WHEREAS, the City's Building Official has not proposed any substantive amendments to the 2025 California Electrical Code, as set forth in Part 3 of the BSC, which are more stringent than the standards established by the BSC; and

WHEREAS, the City Council finds that adoption of, and amendments to, the 2025 California Electrical Code, as set forth in Part 3 of the BSC, are administrative in nature and do not set standards more restrictive than the State-adopted standards.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE DOES ORDAIN AS FOLLOWS:

Section 1. RECITALS

That the above recitals are true and correct and are incorporated as though fully set

forth herein.

Section 2. AMENDMENT OF CHAPTER 15.10 OF TITLE 15 OF THE RANCHO MIRAGE MUNICIPAL CODE

That Chapter 15.10 ("California Electrical Code, 2022 Edition") of Title 15 ("Buildings and Construction") of the Rancho Mirage Municipal Code is hereby amended to read entirely as follows:

Chapter 15.10 CALIFORNIA ELECTRICAL CODE, ***2025*** EDITION

15.10.010 California Electrical Code adopted with amendments.

A. Except for the local amendments set forth herein, there is adopted by reference the California Electrical Code, ***2025*** Edition, which is published by the California Building Standards Commission as Part 3 of Title 24 of the California Code of Regulations. A copy of the Code together with the local amendments is on file with the division of building and safety.

B. The California Electrical Code, ***2025*** Edition (hereinafter "Electrical Code") shall be the electrical code for the city of Rancho Mirage and said Code together with the adopted appendices and the amendments set forth in this chapter shall regulate and govern the design, construction, reconstruction, installation, quality of materials, location, operation, and maintenance or use of electrical equipment, wiring and systems within the city as well as the issuance of permits and the collection of permit fees.

15.10.030 Adoption, modifications, amendments and deletions to Annex H of the Electrical Code.

A. There is adopted by reference and with the following additions, deletions and amendments, Annex H (Administration and Enforcement), which is a part of the Electrical Code.

1. Section 80.3 is amended to read as follows:

80.3 Purpose. The purpose of this article shall be to provide requirements for administration and enforcement of this Electrical Code.

2. Section 80.5 is deleted.

3. Section 80.7 is deleted.

4. Section 80.9 is deleted.

5. Section 80.13 is amended to read as follows:

80.13 Authority. There is established within the City, a division of the Administrative Services Department to be known as the "Building and Safety Division" which shall be under the administrative and operational control of the City Building Official hereinafter referred to as the building official. Where used in this article, the term authority shall be construed to mean the City Building Official. This code shall be administered and enforced by the City Building Official as follows:

Subsections 1 through 16 of this section remain the same.

Subsection (17) is added to Section 80.13, and shall read as follows:

(17) A written application shall be submitted for a proposed alternate material or method of construction together with a fee established by the City Council. The details of any action granting an alternate material or method of construction shall be noted in the files of the Building and Safety Division.

6. Section 80.15 is amended to read as follows:

80.15 Electrical Board. The electrical board shall be the Appeals Board established under the provisions of Section 113 of the General Provisions of the Building Code, and any amendments adopted thereto, hereinafter designated as the "Board."

80.15.G Appeals. The administration of appeals under this code shall be governed by the provisions of Section 89.108.8 of the General Code Provisions of this Electrical Code together with Section 113 of the Administration Provisions of the Building Code, and any amendments adopted thereto.

7. Section 80.19 is amended to read as follows:

80.19 Permits. The administration of permits under this code shall be governed by Section 89.108.4 of the General Code Provisions of this Electrical Code, together with Sections 104.3, 104.4, 104.4.1, 104.5, 105.3, 105.2.2 and 105.2.3 of the Administration Provisions of the Mechanical Code, and any amendments adopted thereto. When necessary, provisions specifically pertaining to mechanical systems are deleted, and provisions which refer to mechanical systems which can be made applicable to electrical systems and connections are hereby amended accordingly.

8. Section 80.23 is amended to read as follows:

80.23 Violations.

80.23.A.1 Unlawful acts. It shall be unlawful for any person, firm, or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or equipment regulated by this Electrical Code, or to cause the same to be done, in conflict with or in violation of any provisions of this code. It shall be unlawful for any person to erect, construct, alter or repair a building or structure in violation of the approved construction documents or directive of the building official or of a permit or certificate issued under the provisions of this code.

80.23.A.2 Public nuisance; Abatement. Any violation of this Electrical Code, including the adopted appendices, is a public nuisance and may be abated in accordance with Title 14 of the City's Municipal Code.

80.23.B Penalties. Any person who violates a provision of this Electrical Code, including the adopted appendices, or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code shall be guilty of an infraction violation, and the violator shall be subject to the provisions set forth in Chapter 14.100 (Infractions) of the City's Municipal Code, including, but not limited to, the imposition of any and all civil and criminal penalties set forth therein.

9. Section 80.27 is deleted.

10. Section 80.29 is deleted.

11. Section 80.33 is deleted.

12. Section 80.35 is deleted.

13. Section 80.37 is added to provide for fees, and shall read as follows:

80.37 Fees.

80.37.1 Payment of fees. On buildings, structures, and electrical systems or alterations requiring a permit under this Electrical Code, a fee for each permit shall be paid as required, in accordance with the fees set forth in the City of Rancho Mirage Master Fee Schedule, a copy of which is on file with the Division of Building and Safety.

80.37.2 Fee refunds. The administrative provisions for the refunding of fees paid under this code shall be governed by subsection 104.5.3 of the Administration provisions of the Mechanical Code, with the adopted amendments thereto. When necessary, provisions specifically pertaining to mechanical systems are deleted, and provisions which refer to mechanical systems which can be made applicable to electrical systems and connections are hereby amended accordingly.

14. Section 80.39 is added to provide for inspections, and shall read as follows:

80.39 Inspections. The administration of inspections under this code shall be governed by subsection 89.108.4.4 of the General Code Provisions of this Electrical Code together with Section 105.4 of the Administration Provisions of the Mechanical Code, and any adopted amendments thereto. When necessary, provisions specifically pertaining to mechanical systems are deleted, and provisions which refer to mechanical systems which can be made applicable to electrical systems and connections are hereby amended accordingly.

15. Section 80.41 is added to provide for connection approvals, and shall read as follows:

80.41 Connection approval. The administration of connection approvals under this code shall be governed by Section 101.4 of the Administration provisions of the Mechanical Code, with the adopted amendments thereto. When necessary, provisions specifically pertaining to mechanical systems are deleted, and provisions which refer to mechanical systems which can be made applicable to electrical systems and connections are hereby amended accordingly.

16. Section 80.43 is added to provide for enforcement authority, and shall read as follows:

80.43 Enforcement Authority.

80.43.1 Right of entry. The right to make entry onto property under this code shall be governed by Section 89.108.5 of the General Code Provisions of this Electrical Code and subsection 103.4 of the Administration Provisions of the Mechanical Code, and any adopted amendments thereto.

80.43.2 Stop orders. Authority for stop orders under this code shall be governed by subsection 106.4 of the Administration provisions of the Mechanical Code, and any adopted amendments thereto.

80.43.3 Authority to disconnect utilities in emergencies. Authority to disconnect utilities in emergencies under this code shall be governed by subsection 106.5 of the Administration provisions of the Mechanical Code, and any adopted amendments thereto.

80.43.4 Authority to condemn equipment. Authority to condemn equipment under this code shall be governed by subsection 106.6 of the Administration provisions of the Mechanical Code, and any adopted amendments thereto.

15.10.040 Adoption of other annex chapters of the Electrical Code without amendments.

There is adopted by reference and without amendment, the following annex chapters to the Electrical Code:

Annex A: Product Safety Standards.

Annex B: Application Information for Ampacity Calculations.

Annex C: Conduit and Tubing Fill Tables for Conductors and Fixture Wires of the Same Size.

Annex D: Examples.

Annex E: Types of Construction.

Section 3. SEVERABILITY

That the City Council declares that, should any provision, section, paragraph, sentence or word of this ordinance be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this ordinance as hereby adopted shall remain in full force and effect.

Section 4. REPEAL OF CONFLICTING PROVISIONS

That all the provisions of the Rancho Mirage Municipal Code as heretofore adopted by the City of Rancho Mirage that are in conflict with the provisions of this ordinance are hereby repealed.

Section 5. EFFECTIVE DATE

That this ordinance shall take effect January 1, 2026.

Section 6. CITY ATTORNEY REVIEW

That the City Attorney prepared and framed this ordinance pursuant to Section 1.04.010 of the Rancho Mirage Municipal Code and finds that the City Council has the authority to adopt this ordinance, that the ordinance is constitutionally valid and that the ordinance is consistent with the general powers and purposes of the City as set forth in Section 1.04.031 of the RMMC.

Section 7. NECESSARY ACTIONS

That the Development Services Director or designee is authorized to take any and all further actions necessary to effectuate the adoption of this Ordinance and implementation of the adopted codes.

Section 8. CERTIFICATION

That the City Clerk shall certify to the passage of this ordinance and shall cause the same to be published according to law.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

The foregoing Ordinance was approved and adopted at a meeting of the City Council held on _____, 2025, by the following vote:

Ayes:
Noes:
Abstain:
Absent:

_____
Lynn Mallotto, Mayor

ATTEST:

_____
Kristie Ramos, City Clerk

APPROVED AS TO FORM:

_____
Colin Kirkpatrick, City Attorney

ORDINANCE NO. ___

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE, CALIFORNIA, AMENDING CHAPTER 15.14 "CALIFORNIA RESIDENTIAL CODE, 2025 EDITION" TO TITLE 15 "BUILDINGS AND CONSTRUCTION" OF THE RANCHO MIRAGE MUNICIPAL CODE TO ADOPT THE 2025 CALIFORNIA RESIDENTIAL CODE

WHEREAS, the City of Rancho Mirage ("City") is a charter city and recognized for certain purposes as a political subdivision of the State of California; and

WHEREAS, the State of California adopted and approved the 2025 edition of the California Building Standards Code ("BSC"), which is published in Title 24 of the California Code of Regulations and includes the 2025 California Residential Code which is based on the latest national and international model building codes; and

WHEREAS, the BSC shall become effective on January 1, 2026; and

WHEREAS, the City wishes to adopt the 2025 edition of the California Residential Code, as set forth in Part 2.5 of the BSC, along with certain local administrative amendments as set forth herein; and

WHEREAS, Government Code section 50022.2 and Health and Safety Code 17922 authorize the City to enact ordinances adopting the Residential Code by reference; and

WHEREAS, pursuant to California Health & Safety Code sections 17958.7 and 18941.5(b), the City is permitted to adopt amendments to the BSC provided that amendments that are more restrictive than the State-adopted standards are supported by findings of the City Council that the amendments are necessary due to local climatic, topographical or geological conditions; and

WHEREAS, the City's Building Official has not proposed any substantive amendments to the 2025 California Residential Code which are more stringent than the standards established by the BSC; and

WHEREAS, the City Council finds that the local amendments to the 2025 California Residential Code recommended by the Building Official are administrative in nature and do not set standards more restrictive than the State-adopted standards.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE DOES ORDAIN AS FOLLOWS:

Section 1. RECITALS

That the above recitals are true and correct and are incorporated as though fully set forth herein.

Section 2. AMENDING CHAPTER 15.14 (CALIFORNIA RESIDENTIAL CODE, 2022 EDITION) OF TITLE 15 (BUILDINGS AND CONSTRUCTION) OF THE RANCHO MIRAGE MUNICIPAL CODE

Chapter 15.14 "California Residential Code, 2022 Edition" of Title 15 "Buildings and Construction" of the Rancho Mirage Municipal Code is hereby amended to read entirely as follows:

Chapter 15.14 CALIFORNIA RESIDENTIAL CODE, ~~2019~~ ***2025*** EDITION

15.14.010 California Residential Code adopted with amendments.

A. Except for the local amendments set forth herein, there is adopted by reference the California Residential Code ***2025*** Edition, which is published by the California Building Standards Commission as Part 2.5 of Title 24 of the California Code of Regulations. A copy of the Code together with the local amendments is on file with the division of building and safety.

B. The California Residential Code, ***2025*** Edition (hereinafter "Residential Code") shall be the residential code for the city and said Residential Code together with the adopted appendices and the amendments set forth in this chapter shall regulate and govern the conditions and maintenance of every detached one- and two-family dwelling and townhouse not more than three stories above plane grade in height with a separate means of egress and structures accessory thereto.

15.14.020 Modifications, amendments and deletions to the Residential Code.

~~1. Section R105.5 is amended to read as follows:~~

~~R105.5 Expiration. Every permit shall remain valid for the purposes of this part if the work on the site authorized by that permit is commenced within 12 months after its issuance, unless the permittee has abandoned the work authorized by the permit.~~

~~A permittee may request an extension of a permit. The building official may grant, in writing, one or more extensions of time for periods of not more than 180 days per extension. The permittee shall request an extension pursuant to this subdivision in writing and demonstrate justifiable cause for the extension.~~

A. Section R113 is amended to read as follows:

R113.4 Violation Penalties

Any person who violates a provision of this Residential Code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repair a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this Residential Code, ~~**shall be guilty of**~~ shall be guilty of an infraction violation, and the violator shall be subject to the provisions set forth in Chapter 14.100 (Infractions) of the City's Municipal Code, including, but not limited to, the imposition of any and all civil and criminal penalties set forth therein.

Section 3. SEVERABILITY

That the City Council declares that, should any provision, section, paragraph, sentence or word of this ordinance be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this ordinance as hereby adopted shall remain in full force and effect.

Section 4. REPEAL OF CONFLICTING PROVISIONS

That all the provisions of the Rancho Mirage Municipal Code as heretofore adopted by the City of Rancho Mirage that are in conflict with the provisions of this ordinance are hereby repealed.

Section 5. EFFECTIVE DATE

That this ordinance shall take effect on January 1, 2026.

Section 6. CITY ATTORNEY REVIEW

That the City Attorney prepared and framed this ordinance pursuant to Section 1.04.010 of the Rancho Mirage Municipal Code and finds that the City Council has the authority to adopt this ordinance, that the ordinance is constitutionally valid and that the ordinance is consistent with the general powers and purposes of the City as set forth in Section 1.04.031 of the Rancho Mirage Municipal Code.

Section 7. NECESSARY ACTIONS

That the Development Services Director or designee is authorized to take any and all further actions necessary to effectuate the adoption of this Ordinance and implementation of the adopted codes.

Section 8. CERTIFICATION

That the City Clerk shall certify to the passage of this ordinance and shall cause the same to be published according to law.

The foregoing Ordinance was approved and adopted at a meeting of the City Council held on _____, 2025, by the following vote:

Ayes:
Noes:
Abstain:
Absent:

_____
Lynn Mallotto, Mayor

ATTEST:

_____
Kristie Ramos, City Clerk

APPROVED AS TO FORM:

_____
Colin Kirkpatrick, City Attorney

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE, CALIFORNIA REPEALING AND REPLACING CHAPTER 15.12 (CALIFORNIA FIRE CODE, 2022 EDITION), AND ADDING CHAPTER 15.13 (CALIFORNIA WILDLAND-URBAN INTERFACE CODE, 2025 EDITION) TO TITLE 15 (BUILDINGS AND CONSTRUCTION) OF THE RANCHO MIRAGE MUNICIPAL CODE TO ADOPT THE 2025 CALIFORNIA FIRE CODE AND 2025 CALIFORNIA WILDLAND-URBAN INTERFACE CODE

WHEREAS, the City of Rancho Mirage ("City") is a charter city and recognized for certain purposes as a political subdivision of the State of California; and

WHEREAS, the State of California recently adopted and approved the 2025 edition of the California Building Standards Code (BSC), which is published in Title 24 of the California Code of Regulations and which is based on the latest national and international model building codes; and

WHEREAS, the BSC will become effective on January 1, 2026; and

WHEREAS, the 2025 California Fire Code and California Wildland-Urban Interface Code are included within the BSC and published as Part 9 and Part 7, respectively, of Title 24 of the California Code of Regulations; and

WHEREAS, California Government Code section 50022.2 and Health and Safety Code 17922 authorize the City to adopt this ordinance adopting the Fire Code and California Wildland-Urban Interface Code by reference; and

WHEREAS, pursuant to California Health & Safety Code sections 17958.7 and 18941.5(b), the City is permitted to adopt amendments to the BSC provided the amendments are more restrictive than the State-adopted standards and are supported by findings of the City Council that the amendments are necessary due to local climatic, topographic or geological conditions; and

WHEREAS, the City Council adopted this Ordinance at a duly noticed public meeting to adopt the 2025 California Fire Code set forth as Part 9 of the BSC, and California Wildland-Urban Interface Code as set forth in Part 7 of BSC, and local amendments, which were proposed by the City's Fire Officials and deemed more stringent than the standards adopted by the BSC and reasonably necessary to protect the health, safety and welfare of the citizens of Rancho Mirage because of local climatic, topographic or geological conditions; and

WHEREAS, as detailed in Section 2 of this Ordinance, the City Council finds that the amendments recommended by the City's Fire Officials are reasonably necessary to protect the health, safety and welfare of the residents of the City of Rancho Mirage because of local climatic, topographic or geological conditions.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO MIRAGE DOES ORDAIN AS FOLLOWS:

Section 1. RECITALS

That the above recitals are true and correct and are incorporated as though fully set forth herein.

Section 2. FINDINGS

That Changes and modifications to the California Building Standards Code adopted by the City of Rancho Mirage, as recommended by the Building Official, the Development Services Director, and the Riverside County Fire Marshal are hereby found to be reasonably necessary due to the following general findings of local conditions:

I. Climatic Conditions:
   A. Rancho Mirage has an arid desert climate with rainfall averaging just over three inches annually, reducing the moisture content of combustible materials. Frequent periods of drought and low humidity contribute to the probability of a year-round fire season.
   B. For nearly four months each year, average daily high temperatures in Rancho Mirage reach 100 degrees or higher, reducing the amount of added heat required to bring combustible materials to their ignition point.
   C. Rancho Mirage is subject to hot, dry winds that further dry combustible materials, adding to the intensity of fires and their potential to spread rapidly. During the summer months the dry winds and existing vegetation mix to create a hazardous fuel condition which has resulted in large loss in vegetation and structure fires. Severe “Santa Ana” winds frequently occur and can move a fire quickly throughout areas of the City. Multiple shifting wind patterns throughout the canyon areas add to the difficulty in suppressing fires.
   D. High winds cause failures of electrical supply and telephone communication, reducing the reliability of water supply pumps and timely emergency notification.
   E. Because of weather patterns, water is a scarce commodity in desert environments, and Rancho Mirage and its neighboring areas draw more water from the underground aquifer than is replenished naturally. As a result, the area is dependent upon imported water to reduce the effects of over-drafting from the aquifer. Limited storage capacities, high consumption, and droughts reduce the dependability of future water allocations. Scarcity of water necessitates reducing the need for large volumes of water for firefighting efforts by early suppression through the installation of fire sprinklers in buildings that would otherwise be exempt from sprinkler requirements.
   F. Under desert conditions, aluminum wiring is more likely than copper to fail mechanically. Aluminum is more reactive than copper to ambient temperature changes as well as normal heating produced from the flow of electricity. It expands and contracts when subjected to heating and cooling, respectively,

more so than copper does. Compared to copper, its lower electrical conductivity generates more heat. Aluminum is also more brittle than copper and is more likely to break or crimp. Arcing can occur if a wire breaks or crimps, causing very high temperatures inside concealed building spaces. Aluminum is more likely to corrode (i.e., oxidize) than copper. When excessive corrosion occurs, it increases the resistance in the circuit and causes overheating. All of these mechanisms of failure increase the risks of fire associated with the use of aluminum wire.

II. Topographical Conditions:
   A. Riverside County is separated from Los Angeles to the west and Phoenix to the east by mountainous terrain, isolating it from media broadcasts of news and emergency information originating from major metropolitan areas.
   B. Major roadways, highways, and flood control channels create barriers that increase Fire Department response times. Undulating terrain incorporated into large country clubs also increases these response times.
   C. Streets designed for limited residential traffic and streets designed as storm drains impede emergency vehicle access and evacuation routes.

III. Geological Conditions:
   A. Rancho Mirage is situated near several significant sources capable of producing moderate to large earthquakes, including the San Andreas, Garnet Hill, Banning, Eureka Peak, Burnt Mountain, Pinto Mountain, San Gorgonio Pass, and San Jacinto Faults.
   B. Faults near Rancho Mirage are capable of producing earthquakes of Magnitude 7.8 or greater, accompanied by intense shaking, liquefaction, and permanent ground displacement, increasing the risk of property damage, or personal injury or death, caused by the failure of structures, necessitating the permitting and inspection of structures that would otherwise be exempt from permit requirements.
   C. Seismic activity within the area occurs yearly. As a result, existing structures and planned new development are subject to serious risks, including fire and collapse, disruption of the water supply for firefighting purposes, and isolation from emergency response as a result of bridge, overpass, road damage and debris.
   D. Severe ground shaking during a seismic event increases the probability that above- ground structures will fail. The inherent danger to the public is increased when power lines are installed above ground because of the danger from falling or fallen power poles and the possibility of contacting live power lines.

IV. Other Conditions:
   A. Additional amendments are found to be either administrative or procedural in nature or concern themselves with subjects not covered in the California Building Standards Code. These changes include provisions making the

California Building Standards Code compatible with other codes enforced by the City.

2025 California Fire Code (CFC) Amendments

California Health and Safety Code Sections 17958.7 and 18941.5 require that the modification or change be expressly marked and identified as to which each finding refers. Therefore, the City Council finds that the following table sets forth the 2025 California Fire Code sections that have been modified and the associated local climatic, geological and/or topographical conditions described above supporting the modification.

2025 FIRE CODE SECTION	TITLE/SUBJECT	FINDINGS I, II, III
101.1	Title	Administrative
101.4	Severability	Administrative
102.5	Application of the residential code	I, II & III
102.13.1	Application of the California Wildland-Urban Interface Code	Administrative
104.1.1	Authority of the Fire Chief and Fire Department	Administrative
104.2	Determination of Compliance	Administrative
104.8 and 104.8.1	Liability	Administrative
104.12	Authority of the Fire Chief to close hazardous fire areas	Administrative
108.2	Fees	Administrative
108.7	Cost Recovery	Administrative
112.1	Board of Appeals established	Administrative
113.4	Violation and Penalties	Administrative
202	Fire Chief	Administrative
308.1.7	Sky Lanterns and similar devices	I, II & III
503.1.2.1	Remoteness	I, II, & III
503.2.1	Dimensions	Administrative
503.2.2	Authority	Administrative
503.6.1	Automatic opener	Administrative
503.7	Loading areas and passenger drop-offs	Administrative
507.5.7	Fire hydrant size and outlets	I & III
507.5.8	Fire hydrant street marker	I, II & III
508.1	Fire command center – General	I, II & III
508.1.1	Fire command center – Location and access	I, II & III
508.1.3	Fire command center - Size	I, II & III
509.2.1	Minimum clearances	I & III
608.11.1.2	Manual operation	II & III
903.2	Where required (automatic sprinkler systems)	I, II & III
903.3.5.3	Hydraulically calculated systems	I & II
904.2.2.1	Activation of the Fire Alarm System	I, II & III
3206.4.2	General Fire Protection and Life Safety Features	Administrative

2025 FIRE CODE SECTION	TITLE/SUBJECT	FINDINGS I, II, III
4107	Mobile Food Preparation Vehicles	I, II & III
4107.1	Mobile Food Preparation Vehicles - General	I, II & III
4107.2	Maintenance	I, II & III
4107.2.1	Exhaust system	I, II & III
4107.2.2	Fire protection systems and devices	I, II & III
4107.2.3	Fuel gas systems	I, II & III
5608.1.2	Fireworks Display – Application for Permit	Administrative
5608.2	Fallout Area	I, II & III
B103.2.1	Wildland-Urban Interface Area Subdivisions	I, II & III
Table B105.2	Buildings other than one- or two-family dwellings	I, II & III
C103.1	Fire hydrant location	I, II & III

2025 CFC Local Amendment Justification/Statement of Reason

Building Standards Law allows local amendments in accordance with the following:

For purposes of this subdivision, a city may make reasonably necessary modifications to the requirements, adopted pursuant to Health and Safety Code Section 17958, 17958.5, 17958.5, 17958.7, and 18941.5, contained in the provisions of the code and regulations on the basis of local conditions.

CFC Chapter 1 – Scope and Administration:

Section 101.1: This section is carried over from the existing Ordinance. This section identifies the “Rancho Mirage Fire Code”

Section 101.4: This section is carried over from the existing Ordinance. This section resolves any conflict with the fire code provisions. v maintains its own severability clause and does not adopt the fire code text.

Section 102.5: This section is carried over from the existing Ordinance. The scope and application of the fire code needs to be expanded to apply to the fire sprinkler systems for accessory structures constructed under the 2025 California Residential Code (CRC) which are permitted to exceed 3,600 square feet in area. This existing modification maintains the applicability of the 2025 California Fire Code (CFC) Section 903.2 amendment to those accessory structures greater than or equal to 3,600 square feet in area. This has no change in intent for Ordinance and maintains the protection offered.

Section 102.13.1: New section added to Section 102.13 to clarify Where a conflict exists between the provisions of the Rancho Mirage Fire Code and the California Wildland-Urban Interface Code, the provisions of the Fire Code shall apply.

Section 104.1.1: This section is carried over from the existing Ordinance. It is imperative that enforcement capability be disseminated to other law enforcement entities within the Rancho

Mirage area because of its vast topography and diversity. This gives the Riverside County Fire Department greater enforcement capabilities due to the presence of these other agencies across the County of Riverside and City of Rancho Mirage.

Section 104.2: New amendment to Section 104.2 to clarify that “Guidelines” may be created to render interpretations of the Fire Code and shall be enforceable as part of the code.

Section 104.8 and 104.8.1: This section is carried over from the existing Ordinance to resolve any conflict between state law and the fire code provisions.

Section 104.12: This section is carried over from the existing Ordinance and grants authority to the Fire Chief, in cooperation with the City Council, to close hazardous fire areas.

Section 108.2: This section is carried over from the previous Ordinance and relocated to the fees section of the Fire Code Section 108.2. This amendment is necessary to identify that fees are in accordance with Rancho Mirage fee schedules.

Section 108.7: This section is carried over from the previous Ordinance and relocated to the fees section of the fire code. Language has been updated to be more consistent throughout the services of the Riverside County Fire Department. This section is maintained in accordance with California Health and Safety Code 13009 and 13009.1, and Government Code 53150, et seq. for cost recovery.

Section 112.1: This section is carried over from the existing Ordinance to identify the board of appeals and additional criteria for clarification and implementation. The existing modifications to this section are consistent with California Health and Safety Code 17920.5 where no board of appeals exists. This section provides for the ability to create a Board of Appeals as needed.

Section 113.4: This section is carried over from the existing Ordinance section 112.4 and relocated to this section to resolve any conflict with the fire code provisions. The Ordinance requires punishments and penalties for violations to be in accordance with Health and Safety Code Sections 17995 through 17995.5.

CFC Chapter 2 – Definitions:

Fire Chief: This definition is carried over from the previous Ordinance. This definition was added to designate that this term means the Fire Chief of Riverside County whenever the wording appears in the California Fire Code or this Ordinance. This is to distinguish obligatory authority to the Fire Chief or any of the designated representatives for fire prevention measures and declarations in enforcing this Ordinance.

CFC Chapter 3 - General Requirements

Section 308.1.7: This section is carried over from previous Ordinance. This section is amended to prohibit sky lanterns and similar devices. The California State Fire Marshal's

office issued Information Bulletin 12-005 indicating that there is a serious fire and safety hazard associated with sky lanterns, which include the potential to start an unintended fire on or off the property from which they are released. They are known to travel significant distances from the point of release. The National Association of State Fire Marshals Resolution 2013-3 recommends imposing State level bans on their sale and use. Multiple fires have been reported to be linked to the use of sky lanterns including, but not limited to, a recycling plant fire in Smethwick, England which caused approx. $9M in damage and a wildfire in Shell Beach on the mountain above Pirates Code in San Luis Obispo County, CA. This is similar to the existing amendment by Orange County Fire Authority.

CFC Chapter 5 – Fire Service Features

Section 503.1.2.1: This is a new section added to be consistent with the operational needs where two points of fire access are required as identified in the Riverside County Fire Department – Commercial Access Guidelines and is consistent with Appendix D of the International Fire Code.

Section 503.2.1: This section is carried over from the previous Ordinance. This correlation of the fire code is necessary for minimum fire apparatus access widths for firefighter operations and consistency throughout Rancho Mirage. This modification has no change in regulatory effect.

Section 503.2.2: This section is carried over from the previous Ordinance. This section is enhanced to specify who has the authority to designate Fire Lanes/Fire Apparatus Access Roads and modify minimum widths.

Section 503.6.1: This section is carried over from the previous Ordinance. This section provides fire department and other emergency responders with rapid access to facilities with motorized gates. Underwriters Laboratory (UL) determined that fires today are more dangerous and pose more risks than in the past. Fire propagation is faster, and time to flashover, escape times and collapse times are all shorter" (UL Fire Safety Journal Issue 1). Placing our first responders on scene sooner or without disruption will provide for greater occupant and firefighter safety and assist in property protection and medical emergencies.

Section 503.7: This section is carried over from the previous Ordinance. This section provides additional width for apparatus access roads where utilized for loading/unloading or passenger drop off/pick up to prevent interference with operational access needs.

Section 507.5.7: This section is carried over from the previous Ordinance. This section provides for the size and quantities of outlets for residential standard, super hydrant standard, and super hydrant enhanced fire hydrants and that they shall be required as determined by the Fire Code Official.

Section 507.5.8: This section is carried over from the previous Ordinance. The section provides direct references to Riverside County Fire Department Guidelines for specific requirements for the installation of blue reflective markers for fire hydrants.

Sections 508.1, 508.1.1, and 508.1.3: These sections are carried over from the previous Ordinance. These sections have been amended to require fire command centers for structures larger than 300,000 square feet in size. To put into context, the Fire Command Center would be triggered when the buildings are approximately 2.5 times the typical Costco Warehouse store and approximately two times the size of a typical Walmart Supercenter. Large structures of this size pose numerous challenges to emergency responders due to the large amounts of fuel loads from the storage, manufacturing and/or processing of flammable/combustible commodities and other processes within the building. Challenges include wide distribution of smoke throughout the structure, difficulty for firefighters to locate and reach the fire and difficulty in search and evacuation of the public, employees and firefighters. These structures typically require numerous fire protection, early suppression and detection systems that may include, but are not limited to, fire pumps, multiple fire sprinkler systems, advanced fire alarm systems, smoke control systems, and refrigeration gas detection system(s). During a fire, the incident commander must have the ability to readily identify the status of the various suppression and detection systems and have access to other building information details that may include, but are not limited to, building floor plans, high-pile/rack storage details, smoke control/ventilation systems, fire sprinkler zoning details, mechanical refrigeration equipment and piping details, and hazardous materials data sheets along with quantities and storage/use locations. A fire command center provides a centralized location for the incident commander to review details about the building and the incident and to effectively coordinate emergency responders and suppression activities with increased efficiency and speed. The Riverside County Fire Department has experienced several incidents in buildings with and without Fire Command Centers. Incident Commanders found that having detailed information on built in fire protection systems and controls, building schematics and hazardous materials storage plans were vital towards mitigating the event. When this information was not available, firefighting personnel were forced to operate upon assumptions and much less information. In addition, this increased efficiency and speed results in facilities returning to operation more expeditiously after incidents or false alarms thereby reducing loss of revenue for the business.

Section 509.2.1: This section is carried over from the previous Ordinance. This section encompasses other exterior fire protection water supply appliances such as Fire Department connections, and other exterior fire protection system control valves, or any other exterior fire protection system component that may require immediate access.

CFC Chapter 6 – Building Services and Systems

Section 608.11.1.2: This section is carried over from the previous Ordinance. This section specifies the location of manual crossover valves when manual operation is required by the Fire Code Official. The amendment specifies that the manual valves shall be located in an approved location immediately outside of the machinery room, in a secure metal box or equivalent and marked as Emergency Controls. This is to ensure that the valves are in readily accessible location(s) for access during an emergency.

CFC Chapter 9 – Fire Protection and Life Safety Systems

Section 903.2: This section is carried over from the previous Ordinance with modification. Modifications have been made to provide certain exemptions including, but not limited to, fueling canopies and agricultural and greenhouse Group U structures constructed in accordance with the California Building Code and specific shade structures. An additional sprinkler requirement has been added to include changes in use to existing structures greater than 3,600 sq. ft., and additions to existing structures where the new square footage is greater than 3,600 sq. ft.

The existing amendment provides a base square footage requirement for all new commercial, industrial, and residential occupancies other than one- and two-family dwellings. Though the amendment includes a reference to the requirement for one- and two-family dwellings, the authority for residential fire sprinkler requirements for these occupancies resides in Title 24, Part 2.5 [2025 California Residential Code].

Automatic sprinkler systems have been successfully used to protect industrial and commercial buildings and their occupants for more than 100 years. Historically the place which has offered the least amount of fire protection to occupants was and still is their own home. This was brought to light in 1973 by the Report of the National Commission on Fire Prevention and Control, America Burning. At the time of the report approximately 8,000 people died in structure fires every year in the United States. Nine out of ten of those victims died in their home.

However, the U.S. Fire Administration report “Fire in the United States 2004–2013 17th edition” reflects that nonresidential fire losses are costly. “National estimates of nonresidential building fires and losses, from 2004 to 2013, annually accounted for only 7 percent of fires, 2 percent of deaths, and 8 percent of injuries. These properties, however, accounted for a disproportionately large annual dollar loss, 21 percent. Trends in nonresidential buildings showed a 14 percent decrease in fires, a 9 percent increase in deaths, a 7 percent increase in injuries, and a 10 percent decrease in dollar loss from 2004 to 2013.”

The same report concluded “…that, overall, the fire problem in the U.S. continues to improve. Ten-year fire loss rates are down. It is likely that several factors continue to contribute to these trends…” which includes; "fire sprinklers, which quickly combat incipient fires, especially in nonresidential and multifamily buildings, and fire codes, which have been strengthened.” Furthermore, the report reflects that the nonresidential building category includes industrial and commercial properties, institutions (such as hospitals, nursing homes and prisons), educational establishments (from preschool through university), mobile properties, and storage properties. On average, about 89 percent of nonresidential structure fires, 88 percent of deaths, 91 percent of injuries, and 92 percent of dollar losses reported to National Fire Incident Reporting System from 2004 to 2013 occurred in nonresidential buildings.

Aside from firefighter and explosion fatalities, there has never been a multiple loss of life in a fully sprinklered building due to fire or smoke. All fire protection features have a reliability

factor. Walls and shafts can be breached by means of poke-throughs and building alterations. Exit doors can be blocked or locked.

The California Residential Code requires that all one and two family dwellings be protected by sprinklers. It is still imperative, based on the geographical, topographical, climatic diversity of Rancho Mirage, to continue to protect all structures greater than 3,600 sq. ft. by fire sprinklers, to ensure faster fire suppression/control to those occupancies that would not normally be required to be protected which would exhaust a number resources including water which climatically is so precious to our environment as a whole. It will provide for less run off into ground water due to suppression activities and less pollutants into the environment. It will reduce the risk of a structure fire extending outside of the structure and potentially igniting a wildland fire.

Mobile homes are a part of the American landscape. In 2007 alone, more than 95,000 manufactured homes were shipped nationwide. Manufactured housing also accounts for approximately 10 percent of the single-family structures in the United States. The National Fire Protection Association reports in 2007-2011, 11,400 structure fires per year were reported in manufactured homes, with associated losses of; 206 civilian deaths, 434 civilian injuries, and $179 million in direct damage per year nationally. Despite the fact that we drive by them, respond to medical calls in them, and sometimes live in them, we often overlook mobile homes when it comes to training and pre-fire planning. However, as the deaths of two firefighters in Craigsville, West Virginia, showed, mobile homes can pose significant, and sometimes deadly, challenges. The burning mobile home is a less-than-stable platform, making search and possible rescue of occupants even more dangerous. The exterior walls are not as structurally sound when compared with those of most site-built homes. The narrow halls complicate search. The roof burns through more quickly than a typical residential roof and is not safe for firefighters. Mobile home fires can quickly grow out of control, because there's not as much wallboard and drywall, and there are fewer walls to keep the fire from spreading. If the first-due engine pulls up and the mobile home is burning from end to end, the firefighting strategy has already been decided. The fire must be knocked down in order to move in. If the home is in a mobile home park, again, protecting exposures is vital. Radiant heat can ignite the homes nearby. Fire sprinklers can prevent the flashover from occurring and in many cases put the fire out and save valuable resources in the process, such as water, personnel, and environmental cleanup, limited displacement into City and County shelter(s), and less inconvenience to the family. The mobile home, because of its construction, requires fast water.

The record for automatic fire sprinklers is based on the simple fact that there has never been a multiple death of building occupants from a fire developing in a building protected by an automatic fire sprinkler system properly installed and maintained in accordance with nationally recognized standards (NFPA 13, 13D, 13R, and NFPA 25).

AWWA Research Foundation has published the following report: Impact of Fire Flow on Distribution System Water Quality, Design, and Operation. This report concludes the following:

“Water-efficient fire suppression technologies exist that use less water than conventional standards. In particular, the universal application of automatic sprinkler systems provides the most proven method for reducing loss of life and property due to fire, while at the same time providing faster response to the fire and requiring significantly less water than conventional fire-fighting techniques. It is recommended that the universal application of automatic fire sprinklers be adopted by local jurisdictions.”

Consider the benefits: a single firefighter using a normal 1-1/2” fire hose can be applying between 175-400 gallons of water per minute when attempting to extinguish a fire. On the other hand, a single fire sprinkler will be flowing only 18- to 40- gallons of water per minute. This means that over a 5-minute period, the following quantities of water are used:

Fire-fighter with 1-1/2” hose:
175 gpm x 5 minutes = 875 gallons of water
400 gpm x 5 minutes = 2,000 gallons of water
Fire sprinkler system:
18 gpm x 5 minutes = 90 gallons of water
40 gpm x 5 minutes = 200 gallons of water

Section 903.3.5.3: This section is carried over from the previous Ordinance. The section limits all hydraulically calculated fire sprinkler systems to not exceed 90% of the water supply capacity. The 10% buffer in hydraulic calculation is a common engineering business practice that gives some flexibility to account for system water pressures that may decrease as additional demands are placed on the water system from additional construction or as the system ages.

Section 904.2.2.1: This is a new section added to the Fire Code to require that all new hood and duct commercial kitchen extinguishing systems are monitored by a central station or remote supervising station to ensure that the fire department is notified and able to respond to a fire.

CFC Chapter 32 – High-Piled Combustible Storage

Section 3206.4.2: This section is carried over from the previous Ordinance and relocated to the automatic sprinkler section within Chapter 32 of the Fire Code. By requiring client leased or occupant owned warehouses to have a technical report completed by a registered engineer, it will minimize problems concerning commodity and sprinkler protection. By having an engineer complete a technical report for the proposed or existing building it will provide greater certainty that adequate protection for the commodities that are proposed will be sufficient. By not having adequate sprinkler protection, it could be detrimental to the building and could also cause loss of life in the event of a fire. Geographically this can be a significant problem due to the seismic activity that Rancho Mirage experiences. The Engineer can assess the adequate protection for the correct commodity classifications, ensure the correct seismic provisions are in place for the type of system to be installed, and provide a professional assurance to a very volatile type of occupancy. It takes a vast number of resources to extinguish a fire of this type. By adding this requirement, it will ensure an

added level of safety. Modifications have been made to provide clarification that certain reference documents are not required.

CFC Chapter 49 - Requirements for Wildland-Urban Interface Fire Areas

Section 4904.2.1: This section has been deleted and is covered by the provisions of the California Wildland-Urban Interface Code as adopted and amended.

CFC Chapter 41 – Temporary Heating and Cooking Operations

Section 4107: A new Section 4107, including Sections 4107.1 through 4107.2.3 is added to the Fire Code to provide the fire department with the authority to inspect Mobile Food Preparation Vehicles during special events. This section was removed from the CFC due to conflict in regulations, however HCD agrees that there would be an expectation for fire marshals to have jurisdiction over safety inspections (especially for fire protection equipment and systems' inspections, testing and maintenance), for participating SPCM MFF during special events requiring CFC 105.6 operational permits (such as Carnivals and Fairs, Exhibits and Trade Shows, or local codified "Special Events" …). See BSC TP-106 (Rev. 10/20) Initial Statement of Reasons June 21, 2021 Rulemaking File SFM 06/21 – Part 9 – 2021 Triennial Code Cycle.

CFC Chapter 56 – Explosives and Fireworks

Section 5608.1.2: This amendment is carried over from the previous Ordinance. It establishes a requirement for Pyrotechnic Operators to submit a complete application for a proposed public/private firework show, far enough in advance to allow Fire and City staff to review, approve and provide community notification.

Section 5608.2: A new Section 5608.2 is added to the Fire Code to establish a minimum required radius of the fallout area for aerial shells to be 100 ft/in. (22 m/25 mm) of the internal mortar diameter of the largest aerial shell to be fired, unless otherwise approved. This is necessary due to the climatic wind conditions within Rancho Mirage.

CFC Appendix B – Fire-Flow Requirements for Buildings

Section B103.2.1: A new Section B103.2.1 is added to the Fire Code to establish the minimum fire flow for any new subdivision or tract constructed within a Wildland-Urban Interface Area to be 1,500 gallons per minute to ensure that adequate fire-flow is provided.

Table B105.2 of Appendix B: This amendment is carried over from the previous Ordinance. This allows the fire department to still have adequate fire flow mitigation with sprinkler protection and not jeopardize main distribution systems by inadequately under sizing them and have costly upgrades for future projects. With the geographical diversity that Rancho Mirage has it is important that this requirement be added to ensure adequate water in the event of a fire.

CFC Appendix C – Fire Hydrant Locations and Distribution

Section C103.1 of Appendix C: This provision is carried over from the previous Ordinance. This provision is to clarify the additional location of fire hydrants to be at intersections. This requirement has been standard policy within Rancho Mirage and Riverside County.

2025 California Wildland-Urban Interface Code (CWUIC) Amendments

That California Health and Safety Code Sections 17958.7 and 18941.5 require that the modification or change be expressly marked and identified as to which each finding refers. Therefore, the City Council finds that the following table sets forth the 2025 California Wildland-Urban Interface Code sections that have been modified and the associated local climatic, geological and/or topographical conditions described above supporting the modification.

2025 CWUIC CODE SECTION	TITLE/SUBJECT	FINDINGS I, II, III
102.4.1.1	Application of the California Wildland-Urban Interface Code	Administrative
104.1.1	Authority of the Fire Chief and Fire Department	Administrative
104.2	Determination of Compliance	Administrative
104.8 and 104.8.1	Liability	Administrative
105.2	Permits Required	Administrative
108.2	Schedule of Permit fees	Administrative
108.7	Cost Recovery	Administrative
109.3.7	Violation and Penalties	Administrative
202	Fire Chief	Administrative
302.1.1	Designation of Fire Hazard Severity Zones.	Administrative
501.1	Scope	I, II, & III
602.1	General	I, II, & III
602.3.2	Final Fire Protection Plan	I, II, & III
603.1	General	I, II, & III
603.3	Landscape and Fuel Modification plans	I, II, & III
603.3.1	Contents	I, II, & III
604.1	General	I, II, & III
604.3	Requirements	I, II, & III
604.3.1	Retroactivity	I, II, & III
604.6	Clearance of brush, vegetative growth, and combustible material from improved parcels	I, II, & III
604.7	Clearance of fuels or vegetative growth from structures	I, II, & III
604.7.1	Structures	I, II, & III
604.7.2	Timing for New Buildings and additions to Existing Buildings	I, II, & III
604.7.3	Photovoltaic Systems	I, II, & III

2025 CWUIC CODE SECTION	TITLE/SUBJECT	FINDINGS I, II, III
604.8	Defensible Space clearance zones and requirements	I, II, & III
604.8.1	Requirements	I, II, & III
604.8.2	Zone 0 purpose and location	I, II, & III
604.8.2.1	Non-Combustible Zone 0 for New Buildings, additions to Existing Buildings, and new or replacement landscape	I, II, & III
604.8.2.2	Additional requirements in Zone 0	I, II, & III
604.8.2.3	Zone 0 requirements for Existing Buildings	I, II, & III
604.8.2.3.1	Zone 0 restrictions	I, II, & III
604.8.3	Zone 1 purpose and location	I, II, & III
604.8.3.1	Requirements and allowable items	I, II, & III
604.8.4	Zone 2 purpose and location	I, II, & III
604.8.4.1	Requirements and allowable items	I, II, & III
604.8.4.2	Spacing	I, II, & III
604.8.5	General requirements for Zone 0, 1, and 2	I, II, & III
604.8.5.1	Dead and dying vegetation	I, II, & III
604.8.5.2	Mulch and wood chips within Zones 1 and 2	I, II, & III
604.8.5.3	Firewood	I, II, & III
604.8.5.4	Clearance from chimney, stovepipe	I, II, & III
604.8.5.5	Trees	I, II, & III
604.8.5.5.1	Tree spacing	I, II, & III
604.8.5.5.2	Ground clearance of trees	I, II, & III
604.8.5.5.3	Ground cover under tree canopy	I, II, & III
604.8.5.6	Continuous tree canopies	I, II, & III
604.8.5.6.1	New Structures	I, II, & III
604.8.5.6.2	Existing Structures	I, II, & III
604.8.5.7	Grasses	I, II, & III
604.9	Fire protection equipment and utilities	I, II, & III
604.10	Planting vegetation under or adjacent to energized electrical lines	I, II, & III
604.11	Fencing	I, II, & III
604.11.1	Scope	I, II, & III
604.11.2	New Fencing	I, II, & III
604.11.3	Existing Fencing	I, II, & III
607.1	General	I, II, & III
607.1.1	Combustible Materials	I, II, & III
607.2	Storage for off-site use	I, II, & III
608.1.1	Restricted development setbacks	I, II, & III
608.2	General	I, II, & III
608.2.1	Setback reduction	I, II, & III
609.2.7.1	Greenbelts	I, II, & III
609.2.7.2	Access to Greenbelts	I, II, & III

2025 CWUIC CODE SECTION	TITLE/SUBJECT	FINDINGS I, II, III
A102.1	General	I, II, & III
A105.1	General	I, II, & III
A105.4	Combustible Materials	I, II, & III

2025 CWUIC Local Amendment Justification/Statement of Reason

Building Standards Law allows local amendments in accordance with the following:

For purposes of this subdivision, a city may make reasonably necessary modifications to the requirements, adopted pursuant to the Health and Safety Code Section 17958, 17958.5, 17958.7, and 18941.5, contained in the provisions of the code and regulations on the basis of local conditions.

CWUIC Chapter 1 – Administration:

Section 102.4.1.1: A new section added to the CWUIC to clarify that where a conflict exists between the provisions of the Riverside County Fire Code and the California Wildland-Urban Interface Code, the more restrictive provisions shall apply.

Section 104.1.1: Similar to the existing Ordinance amendment to the Fire Code, this section ensures that enforcement capability be disseminated to other law enforcement entities within the Riverside County area because of its vast topography and diversity. This gives the Riverside County Fire Department greater enforcement capabilities due to the presence of these other agencies across the County of Riverside and City of Rancho Mirage.

Section 104.2: New amendment to Section 104.2 to clarify that “Guidelines” may be created to render interpretations of the Wildland-Urban Interface Code and shall be enforceable as part of the code.

Section 104.8 and 104.8.1: This amended section is the same as in the Fire Code carried over from the existing Ordinance to resolve any conflict between state law and the fire code provisions.

Section 105.2: This new amendment to CWUIC Section 105.2 adds an additional permit item for “Landscape and Fuel Modification Zones.”

Section 108.2: This amended section is similar to the previous Ordinance for the Fire Code. This amendment is necessary to identify that fees are in accordance with Rancho Mirage fee schedule.

Section 108.7: This new section is similar to the previous Ordinance for the fire code. This section is maintained in accordance with the Health and Safety Code 13009 and 13009.1, and Government Code 53150, et seq. for cost recovery.

Section 109.3.7: This amended section is similar to the previous Ordinance for the fire code provisions. Ordinance requires punishments and penalties for violations to be in accordance with Health and Safety Code Sections 17995 through 17995.5.

CWUIC Chapter 2 – Definitions:

Section 202: This new amendment is similar to the previous Ordinance for the Fire Code. This definition was added to designate that this term means the Fire Chief of Riverside County whenever the wording appears in the California Fire Code or this Ordinance. This is to distinguish obligatory authority to the Fire Chief or any of the designated representatives for fire prevention measures and declarations in enforcing this Ordinance.

CWUIC Chapter 3 – Wildland-Urban Interface Areas:

Section 302.1.1: New amendment designating the Fire Hazard Severity Zones. The Rancho Mirage City Council has adopted the recommendations of the State Fire Marshal made pursuant to Government Code section 51178 and designated those areas within Rancho Mirage as moderate, high, and very high fire hazard severity zones as shown on the Local Responsibility Area Fire Hazard Severity Zones Maps published by the Office of the State Fire Marshal. The Maps have been adopted by Rancho Mirage as required by statute.

CWUIC Chapter 5 – Special Building Construction Requirements:

Section 501.1: A new amendment clarifying that for the purpose of the special building construction requirements in Chapter 5, a wildland-urban interface area shall be defined as a geographical area identified by the state as a “Fire Hazard Severity Zone” in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, and other areas designated by the enforcing agency to be at a significant risk from wildfires, and shall include those areas designated as moderate, high, and very high fire hazard severity zones based on recommendations from the State Fire Marshal pursuant to Government Code Section 51178. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

CWUIC Chapter 6 – Fire Protection Requirements:

Section 602.1: A new amendment to Section 602.1 to clarify when a Fire Protection Plan is required. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 602.3.2: A new amendment to Section 602.3.2 to clarify the items required in a Final Fire Protection Plan. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 603.1: A new amendment to Section 603.1 to include a reference to replacement landscaping. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 603.3: A new amendment to Section 603.1 to require Landscape and Fuel Modification Plans for any project in a Wildland-Urban Interface Area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 603.3.1: A new amendment to Section 603.3.1 adding the requirement for the delineation of the 5-foot (1524 mm) (Zone 0), 30-foot (9144 mm) (Zone 1) and 100-foot (30 480 mm) (Zone 2) fuel management zones from all structures as part of the landscape plans. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.1: A new amendment to Section 604.1 to delete references to State Responsibility Areas (SRA) to include the defensible space requirements within the local responsibility area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.3: A new amendment to Section 604.3 to include a reference to Appendix A of the CWUIC and Riverside County Fire Department Guidelines. *Additionally, Item 4 was updated to correctly reflect the applicable CCR section as the base code was observed to have a misprint.

Section 604.3.1: A new Section 604.3.1 is added to the CWUIC to add a requirement that when required, by the Fire Code Official, or State Law, existing Defensible Space/Fuel Modification Zones (FMZ) shall require retrofitting, including thinning and/or removal of plants, trees, and vegetation, to meet this Code or State Law. Upon notification by the Fire Code Official, and when approved, work to bring an existing Defensible Space and FMZ into compliance with this Code, may be done over a two to four (2-4) year period as determined by the Fire Code Official. A compliance plan prepared by the property owner may be requested for review and approval by the Fire Code Official. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.6: A new Section 604.6 is added to the CWUIC requiring that all improved parcels declared a Public Nuisance shall be cleared entirely of combustible material. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.7: A new Section 604.7 is added to the CWUIC to require clearance of fuels or vegetative growth from structures. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.7.1: A new Section 604.7.1 is added to the CWUIC to specify the requirements for clearance of vegetation around structures located in a Fire Hazard Severity Zone. This

amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.7.2: A new Section 604.7.2 is added to the CWUIC to provide a timeline for the clearance of fuels or vegetative growth from structures. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.7.3: A new Section 604.7.3 is added to the CWUIC to delineate the vegetation clearance requirements around freestanding photovoltaic systems in the wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8: A new Section 604.8 is added to the CWUIC to indicate the three defensible space zones. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.1: A new Section 604.8.1 is added to the CWUIC to indicate the code sections for the defensible space requirements. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.2: A new Section 604.8.2 is added to the CWUIC to clarify the purpose and location of Zone 0. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.2.1: A new Section 604.8.2.1 is added to the CWUIC to delineate the Zone 0 requirements for all new buildings, additions to existing buildings, installation of new landscape, and refurbishment of existing landscape areas. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.2.2: A new Section 604.8.2.2 is added to the CWUIC to clarify the vegetation and landscape requirements in Zone 0. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.2.3: A new section heading 604.8.2.3 is added to the CWUIC for the Zone 0 requirements for existing buildings. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.2.3.1: A new Section 604.8.2.3.1 is added to the CWUIC to clarify the Zone 0 requirements applicable to existing buildings with landscape installed prior to January 1, 2026. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.3: A new Section 604.8.3 is added to the CWUIC to indicate the purpose and location of Zone 1. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.3.1: A new Section 604.8.3.1 is added to the CWUIC to indicate the requirements and allowable vegetation in Zone 1. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.4: A new Section 604.8.4 is added to the CWUIC to indicate the purpose and location of Zone 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.4.1: A new Section 604.8.4.1 is added to the CWUIC to indicate the requirements and allowable vegetation in Zone 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.4.2: A new Section 604.8.4.2 is added to the CWUIC to indicate the spacing requirements for trees and vegetation in Zone 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5: A new section heading 604.8.5 is added to the CWUIC for the general requirements for Zone 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.1: A new Section 604.8.5.1 is added to the CWUIC requiring the removal of all dead or dying grass, plants, shrubs, trees, branches, leaves, weeds, and tree needles within Zone 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.2: A new Section 604.8.5.2 is added to the CWUIC requiring the use of combustible mulch and wood chips shall be in accordance with the requirements of Riverside County Fire Department Guidelines within Zones 1 and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.3: A new Section 604.8.5.3 is added to the CWUIC indicating the requirements for firewood within Zones 0, 1, and 2 are found in Section 607 of the code. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.4: A new Section 604.8.5.4 is added to the CWUIC requiring that any portion of a tree or shrub that extends within 10 feet horizontally or vertically of a chimney outlet or stovepipe outlet shall be removed within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.5: A new Section 604.8.5.5 is added to the CWUIC requiring that new trees shall be planted and maintained so that the tree's drip line at maturity is a minimum of 10 feet from any combustible structure within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.5.1: A new Section 604.8.5.5.1 is added to the CWUIC requiring the

horizontal distance between crowns of new trees and crowns of adjacent trees shall not be less than 20 feet in Zone 1 and not less than 10 feet in Zone 2 and separation distance may be increased for slopes exceeding 20 percent with the required spacing measured between trees at maturity. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.5.2: A new Section 604.8.5.5.2 is added to the CWUIC addressing the ground clearance requirements for trees within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.5.3: A new Section 604.8.5.5.3 is added to the CWUIC addressing the ground cover under tree canopies within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.6: A new section heading 604.8.5.6 is added to the CWUIC to address continuous tree canopies within Zone 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.6.1: A new Section 604.8.5.6.1 is added to the CWUIC prohibiting continuous tree canopies adjacent to new structures within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.6.2: A new Section 604.8.5.6.2 is added to the CWUIC to address the requirements for continuous tree canopies adjacent to existing structures within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.8.5.7: A new Section 604.8.5.7 is added to the CWUIC requiring that natural or annual grasses shall be mowed to a maximum height of 4-inch stubble with clippings removed within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.9: A new Section 604.9 is added to the CWUIC addressing defensible space requirements around communication site towers and their support buildings; required fire protection water supplies, including water tanks, water supply pumps, and pump houses; and any other utility structure as required by the Fire Code Official within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.10: A new Section 604.10 is added to the CWUIC prohibiting vegetation planted under or adjacent to energized power lines that, at maturity, will grow within 10 feet of the energized conductors within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.11: A new section heading 604.11 is added to the CWUIC to address fencing requirements within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.11.1: A new Section 604.11.1 is added to the CWUIC to address fencing requirements within Zone 0 in a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.11.2: A new Section 604.11.2 is added to the CWUIC to require new fencing and gates to be constructed of a non-combustible material in a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 604.11.3: A new Section 604.11.3 is added to the CWUIC to allow fencing installed prior to January 1, 2026 in a wildland-urban interface area to remain, except the entire fencing not parallel and within 5 feet of the building, including gates within the fencing, shall be constructed of a non-combustible material when any portion of the existing fencing within 5 feet is replaced. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 607.1: A new amendment to Section 607.1 of the CWUIC to prohibit the storage of firewood within Zone 0. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 607.1.1: A new Section 607.1.1 is added to the CWUIC requiring combustible materials, other than vegetation, stored within Zones 1 and 2 shall not be stored so as to pose a hazard to any building and that piles shall not exceed 100 square feet of area and a maximum height of 10 feet and shall be separated by a minimum of 20-foot clear area when located within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 607.2: A new amendment to Section 607.2 of the CWUIC to prohibit the storage of firewood and combustible materials not for consumption on the premises within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 608.1.1: A new Section 608.1.1 is added to the CWUIC with restricted development setbacks for new structures and additions to existing structures located less than 100 feet from any protected habitat within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 608.2: A new amendment to Section 608.2 of the CWUIC expanding the applicability of the required 30-foot setback to new tract and parcel maps, new buildings, and additions to existing buildings within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 608.2.1: A new amendment to Section 608.2.1 of the CWUIC deleting the exception of complying with the special building construction requirements as a setback reduction within a wildland-urban interface area, since the structures would already be subject to those requirements. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 609.2.7.1: A new amendment to Section 608.2.7.1 of the CWUIC addressing the approval of greenbelt locations within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 609.2.7.2: A new amendment to Section 608.2.7.2 of the CWUIC addressing the access points to proposed greenbelt locations for subdivisions and other developments within a wildland-urban interface area to allow for on-going maintenance and firefighter access. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

CWUIC Appendix A – General Requirements:

Section A102.1: A new amendment to Section A102.1 of the CWUIC adding a reference for vegetation control to Chapter 6 of the Wildland-Urban Interface Code. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section A105.1: A new amendment to Section A105.1 of the CWUIC adding a reference for the storage and use of materials to Chapter 6 of the Wildland-Urban Interface Code. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section A105.4: A new amendment to Section A105.4 of the CWUIC adding a reference for the outside storage and use of combustible materials to the applicable fire code sections. This amendment is necessary due to climatic, topographical, and geological conditions in Rancho Mirage.

Section 3. REPEAL AND REPLACEMENT OF CHAPTER 15.12 OF TITLE 15 OF THE RANCHO MIRAGE MUNICIPAL CODE

That Chapter 15.12 ("California Fire Code, 2019 Edition") of Title 15 ("Buildings and Construction") of the Rancho Mirage Municipal Code is hereby repealed and replaced with new Chapter 15.12 ("California Fire Code, 2022 Edition") to read in its entirety as follows:

Chapter 15.12
California Fire Code, ~~2022~~ *2025* Edition.

§ 15.12.010 ~~California Fire Code adopted with amendments~~ Adoption by reference.

A. Except as stated in this section or as amended in Section ~~8.08.020 of this chapter~~ 15.12.020; all of the provisions and appendices of the ~~2022~~2025 California Fire Code, inclusive of all of the inclusions and exclusions set forth in each chapter's matrix, are hereby adopted and shall apply to the ~~unincorporated areas of Riverside County~~ City of Rancho Mirage. In addition, the following provisions that are excluded in the ~~2022~~2025 California Fire Code are hereby adopted – Chapter 1, Division II of the California Fire Code is hereby adopted, (except that Sections 103.2 and ~~111.3~~112.3 are not adopted); and Chapters 3, 25, and Sections ~~403.11,~~ 503, 510.2, 1103.2 and 5707, of the California Fire Code published by the California Building Standards Commission are adopted for the purpose of establishing the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety to firefighters and emergency responders during emergency operations within the city.

B. Each and all of the regulations, provisions, conditions and terms therein, on file with the building official, are referenced and made a part hereof as if fully set out in this chapter, except as otherwise provided in this chapter.

§ 15.12.020 Amendments to the California Fire Code.

A. Scope and ~~General Requirements~~ Administration.

1) Section 101.1 of the California Fire Code is amended as follows:
101.1 Title. These regulations shall be known as the Rancho Mirage Fire Code, hereinafter referred to as "this code."

2) Section 101.4 of the California Fire Code is deleted in its entirety and replaced with the following:
101.4 Severability. If any provision, clause, sentence or paragraph of this code or the application thereof to any person or circumstances shall be held invalid, such invalidity shall not affect the other provisions of this code which can be given effect without the invalid provision or application, and to this end, the provisions of this code are hereby declared to be severable.

B. Applicability.

1) Section 102.5 of the California Fire Code is amended as follows:
102.5 Application of Residential Code. Where structures are designed and constructed in accordance with the California Residential Code, the provisions of this code shall apply as follows:

1. Construction and design provisions of this code pertaining to the exterior of the structure shall apply including, but not limited to, premises identification, fire apparatus access and water supplies. Where interior or exterior systems or devices are installed, construction permits required by Section ~~105.5~~105.6 of this code shall apply.
2. Administrative, operational and maintenance provisions of this code shall apply.

3. Automatic fire sprinkler system requirements of this code shall apply to detached accessory buildings 3,600 square feet or greater in accordance with Section 903.2. The provisions contained in Section 903.2.18 of the California Fire Code or Section ~~R309.6~~ R317.5.1 of the California Residential Code may be used for the design of the automatic fire sprinkler system for detached private garages.

2) A new Section 102.13.1 is added to Section 102.13 of the California Fire Code to read as follows:

102.13.1 Application of the California Wildland-Urban Interface Code.
Where a conflict exists between the adopted provisions of the California Fire Code and the California Wildland-Urban Interface Code, the more restrictive provisions shall apply.

C. Duties and Powers of the Fire Code Official

1) A new Section 104.1.1 is added to Section 104.1 of the California Fire Code to read as follows:

104.1.1 Authority of the Fire Chief and Fire Department.

1. The Fire Chief, Chief Deputy, or their designee, is authorized and directed to enforce all applicable State fire laws and provisions of this code and to perform such duties as directed by the City Council.
2. The Fire Chief, Chief Deputy, or their designee, is authorized to administer, interpret and enforce this code. Under the Fire Chief, Chief Deputy, or their designee's, direction, the Riverside County Fire Department is authorized to enforce ordinances of City of Rancho Mirage pertaining to the following:
   2.1. The prevention of fires.
   2.2. The suppression or extinguishment of dangerous or hazardous fires.
   2.3. The storage, use and handling of hazardous materials.
   2.4. The installation and maintenance of automatic, manual and other private fire alarm systems and fire extinguishing equipment.
   2.5. The maintenance and regulation of fire escapes.
   2.6. The maintenance of fire protection and the elimination of fire hazards on land, in buildings, structures and other property, including those under construction.
   2.7. The maintenance of means of egress.
   2.8. The investigation of the cause, origin and circumstances of fire and unauthorized releases of hazardous materials.
3. The following persons are hereby authorized to interpret and enforce the provisions of this code and to make arrests and issue citations as authorized by law:
   3.1. The Unit Chief, Peace Officers and Public Officers of the California Department of Forestry and Fire Protection.
   3.2. The Fire Chief, Peace Officers and Public Officers of the Riverside County Fire Department.
   3.3. The Riverside County Sheriff and any deputy sheriff.

3.4. The Police Chief and any police officer of any city served by the Riverside County Fire Department.
3.5. Officers of the California Highway Patrol.
3.6. Code Officers of the City of Rancho Mirage.
3.7. Peace Officers of the California Department of Parks and Recreation.
3.8. The law enforcement officer of the Federal Bureau of Land Management.

2) Section 104.2 of the California Fire Code is deleted and replaced with the following:

104.2 Determination of compliance. The fire code official shall have the authority to determine compliance with this code, to render interpretations of this code and to develop policies, procedures, guidelines, standards, and information bulletins in order to clarify the application of its provisions. Such interpretations, policies, procedures:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.
3. Shall be enforceable as part of this code.

3) Sections ~~104.7~~ 104.8 and ~~104.7.1~~ 104.8.1 of the California Fire Code are deleted in their entirety and replaced with the following:

~~104.7~~ 104.8 Liability. Any liability against Riverside County and City of Rancho Mirage or any officer or employee for damages resulting from the discharge of their duties shall be as provided by law.

4) A new Section 104.13 is added to Section 104 of the California Fire Code to read as follows:

~~104.13~~ 104.12 Authority of the Fire Chief to Close Hazardous Fire Areas. Except upon National Forest Land, the Fire Chief is authorized to determine and announce the closure of any hazardous fire area or portion thereof. Any closure by the Fire Chief for a period of more than fifteen (15) calendar days must be approved by the Riverside County Board of Supervisors and/or the City Council within fifteen (15) calendar days of the Fire Chief's original order of closure. Upon such closure, no person shall go in or be upon any hazardous fire area, except upon the public roadways and inhabited areas. During such closure, the Fire Chief shall erect and maintain at all entrances to the closed area sufficient signs giving notice of closure. This section shall not prohibit residents or owners of private property within any closed area, or their invitees, from going in or being upon their lands. This section shall not apply to any entry, in the course of duty, by a peace officer, duly authorized public officer or fire department personnel. For the purpose of this section, "hazardous fire area" shall mean public or private land that is covered with grass, grain, brush or forest and situated in a location that makes suppression difficult resulting in great damage. Such areas are designated on Hazardous Fire Area maps filed with the office of the Fire Chief.

D. Fees.

1) Section ~~107.2~~ 108.2 of the California Fire Code is deleted in its entirety and replaced with the following:
~~107.2~~ 108.2 Schedule of Permit Fees. Fees for services and permits shall be as set forth in the City of Rancho Mirage Fee Schedule.

2) A new Section ~~107.7~~ 108.7 is added to Section ~~107~~ 108 of the California Fire Code to read as follows:
~~107.7~~ 108.7 Cost Recovery. ~~Fire suppression, investigation, rescue or emergency medical costs are recoverable in accordance with Health and Safety Code Sections 13009 and 13009.1, as may be amended from time to time. Additionally, any person who negligently, intentionally or in violation of law causes an emergency response, including, but not limited to, a traffic accident, spill of toxic or flammable fluids or chemicals is liable for the costs of securing such emergency, including those costs pursuant to Government Code Section 53150, et seq., as may be amended from time to time. Any expense incurred by the Riverside County Fire Department for securing such emergency shall constitute a debt of such person and shall be collectable by Riverside County in the same manner as in the case of an obligation under contract, express or implied.~~ Pursuant to California Health and Safety Code sections 11374.5(b)(1), 13009 et seq., 25259.4, 25515(a), 25540(a), 25541 (a), California Government Code sections 53150 et seq, and all other provisions of law, all costs incurred by the Riverside County Fire Department for the inspection and enforcement of any provision of these Codes, the investigation of any fire, explosion or other hazardous condition, the suppression of fire, the response to a traffic collision or accident, the containment and/or mitigation of a hazardous materials release, and any rescue or rendering of medical or physical aid or assistance, may be charged to any responsible party, any person who violates these Codes or any person who, due to a negligent or unlawful act or omission, is responsible for or requires or causes the emergency response of Riverside County Fire Department. Any expense incurred by the Riverside County Fire Department for such an emergency response shall constitute a debt of such person and shall be collectible by the County and City of Rancho Mirage in the same manner as in the case of an obligation under contract, express or implied. These provisions shall be applied uniformly against all such persons in violation of a Penal Code, Vehicle Code, Health and Safety Code or other state law statutory violation; only a county or city official (as applicable) shall have authority to reduce or cancel the debt obligation arising from the incident.

E. Means of Appeals.

1) Section ~~111.1~~ 112.1 of the California Fire Code is deleted in its entirety and replaced with the following:
~~111.1~~ 112.1 Board of Appeals Established. The Board of Appeals shall be the City Manager. If he or she determines an outside board is needed, he or she shall designate an outside hearing officer to hear the appeal. The Fire Chief and Chief Deputy shall be notified of any appeal and the Fire Chief, Chief Deputy or their designee(s) shall be in attendance at the appeal hearing. Depending on the subject of the appeal, specialized expertise may be solicited, at the expense of

the applicant, for the purpose of providing input to the Appeals Board.

F. Violations.

1) Section ~~112.4~~ 113.4 of the California Fire Code is deleted in its entirety and replaced with the following:

~~112.4~~ 113.4 Violations and Penalties. It shall be unlawful for any person, firm, corporation or association of persons to violate any provision of this ordinance, or to violate the provisions of any permit granted pursuant to this Code or ordinance. Punishments and penalties for violations shall be in accordance with Title 4 of the City of Rancho Mirage Municipal Code, Fee Schedule and California Health and Safety Code Sections 17995 through 17995.5.

G. Definitions.

1) Section 202, definition of "Fire Chief" in the California Fire Code is deleted in its entirety and replaced with the following:

FIRE CHIEF. The Fire Chief of Riverside County or the Fire Chief's designee.

H. Open Flames.

1) Section ~~308.1.6.3~~ 308.1.7 of the California Fire Code is deleted in its entirety and replaced with the following:

~~308.1.6.3~~ 308.1.7 Sky Lanterns or Similar Devices. A person shall not release or cause to be released a sky lantern or similar device.

I. Fire Apparatus Access Roads.

1) A new Section 503.1.2.1 is added to Section 503.1.2 of the California Fire Code to read as follows:

503.1.2.1 Remoteness. Unless otherwise approved, where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

2) Section 503.2.1 of the California Fire Code is deleted in its entirety and replaced with the following:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 24 feet (7,315 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4,115 mm). For additional requirements or alternatives see Riverside County Fire Department Standards and Policies, as may be amended from time to time.

3) Section 503.2.2 of the California Fire Code is deleted in its entirety and replaced with the following:

503.2.2 Authority. The fire code official shall be the only authority authorized to designate fire apparatus access roads and fire lanes and to modify the minimum fire lane access widths for fire or rescue operations.

4) A new Section 503.6.1 is added to Section 503.6 of the California Fire Code to read as follows:

503.6.1 Automatic Opener. New motorized gates shall be provided with means to be automatically opened remotely by emergency vehicle in accordance with Riverside County Fire Department standards and Policies, as may be amended from time to time.

Exception: Gates serving individual one- and two-family dwelling parcels.

5) A new Section 503.7 is added to Section 503 of the California Fire Code to read as follows:

503.7 Loading Areas and Passenger Drop-Off Areas. On private properties, where fire apparatus access roads are utilized for loading or unloading or utilized for passenger drop-off or pick-up, an additional eight (8) feet of width shall be added to the minimum required width for the fire apparatus access road.

J. Fire Protection Water Supplies.

1) A new Section 507.5.7 is added to Section 507 of the California Fire Code to read as follows:

507.5.7 Fire Hydrant Size and Outlets. As determined by the fire code official, fire hydrant sizes and outlets shall be based on the following:

1. Residential Standard – one (1) four (4) inch outlet and one (1) two and one-half (2 ½) inch outlet.
2. Super Hydrant Standard – one (1) four (4) inch outlet and two (2) two and one-half (2 ½) inch outlet.
3. Super Hydrant Enhanced – two (2) four (4) inch outlet and one (1) two and one-half (2 ½) inch outlet.

2) A new Section 507.5.8 is added to Section 507 of the California Fire Code to read as follows:

507.5.8 Fire Hydrant Street Marker. Fire hydrant locations shall be visually indicated in accordance with Riverside County Fire Department ~~Technical Policy 06-11~~ Guidelines, as may be amended from time to time. Any hydrant marker damaged or removed during the course of street construction or repair shall be immediately replaced by the contractor, developer or person responsible for removal or damage.

K. Fire Command Center.

1) Section 508.1 of the California Fire Code is deleted in its entirety and replaced with the following:

508.1 General. Where required by other sections of this code and in all buildings classified as high-rise buildings by the California Building Code, in buildings greater than 300,000 square feet in area and in Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access, a fire command center for fire department operations shall be provided and comply with Sections 508.1.1 through ~~508.1.7~~ 508.1.8.

2) Section 508.1.1 of the California Fire Code is deleted in its entirety and replaced with the following:

508.1.1 Location and Access. The fire command center shall be located adjacent to the main lobby and shall be accessible from fire department vehicular access or as approved by the fire code official. The room shall have direct access from the building exterior at the lowest level of fire department access.

3) Section 508.1.3 of the California Fire Code is deleted in its entirety and replaced with the following:

508.1.3 Size. The fire command center shall be not less than 0.015 percent of the total building area of the facility served or 200 square feet (19 m2) in area, whichever is greater. The room shall have ~~, with~~ a minimum dimension of 0.7 times the square root of the room area or 10 feet (3048 mm), whichever is greater.

Where a fire command center is solely required because a building is greater than 300,000 square feet (27 870 m2), the fire command center shall have a minimum size of 96 square feet (9 m2) with a minimum dimension of 8 feet (2438 mm) where approved by the fire code official.

L. Fire Protection and Utility Equipment Identification and Location.

1) Section 509.2.1 is added to section 509.2 of the California Fire Code is added to read as follows:

509.2.1 Minimum Clearances. A 3-foot (914 mm) clear space shall be maintained around the circumference of exterior fire protection system control valves, or any other exterior fire protection system component that may require immediate access, except as otherwise required or approved.

M. Mechanical Refrigeration.

1) Section 608.11.1.2 of the California Fire Code is deleted in its entirety and replaced with the following:

608.11.1.2 Manual Operation. When required by the fire code official, automatic crossover valves shall be capable of manual operation. The manual valves shall be located in an approved location immediately outside of the machinery room in a secure metal box or equivalent and marked as Emergency Controls.

N. Automatic Sprinkler Systems.

1) Section 903.2 of the California Fire Code is deleted in its entirety and replaced with the following:

903.2 Where Required. ~~In all new buildings and structures which are 3,000 square feet or greater, an approved automatic sprinkler system shall be provided regardless of occupancy classification. Where the Sections 903.2.1—903.2.21 of the California Fire Code require more restrictive requirements than those listed below, the more restrictive requirement shall take precedence.~~

1. In all new buildings and structures which are 3,600 square feet or greater, an approved automatic sprinkler system shall be provided regardless of occupancy classification. Where the Sections 903.2.1 – 903.2.21 of the California Fire Code require more restrictive requirements than those listed below, the more restrictive requirement shall take precedence.
2. All existing buildings, except for one- and two-family dwellings, shall be retrofitted with automatic fire sprinklers when a structure exceeds 3,600 square feet and changes are made to the building including any of the following: change of use/occupancy, removal of an existing fire wall as defined by the California Building Code, or additions of 50% or more are made to the original building area and the resulting square footage exceeds 5,000 square feet.
3. One- and two-family dwellings shall have an automatic fire sprinkler system regardless of square footage in accordance with the California Residential Code. Fire sprinkler systems shall be installed in mobile homes, manufactured

homes and multifamily manufactured homes with two dwelling units in accordance with Title 25 of the California Code of Regulations.

Exception: Unless required elsewhere in this code or the California Building Code, automatic fire sprinkler systems shall not be required for the following:

1. Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries not required to have an automatic sprinkler system by Section 1207 for energy storage systems and standby engines, provided that those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 of the California Building Code or not less than 2-hour horizontal assemblies constructed in accordance with Section 711 of the California Building Code, or both.
2. Detached Group U occupancies used for agricultural purposes.
3. Detached non-combustible equestrian arena shade canopies that are open on all sides and used for riding only - no commercial, assembly or storage uses.
4. Non-combustible fueling station canopies not exceeding 10,000 square feet when separated from other buildings by a distance of not less than 50 feet.
5. Detached fabric or non-combustible shade structures that are open on all sides and used to shade playground equipment, temporary storage of vehicles and dining areas with no cooking.
6. Where determined by the Fire Chief that no major life safety hazard exists, and the fuel load does not pose a significant threat to firefighter safety or to other structures or property, automatic fire sprinklers may be exempted.

~~One- and two-family dwellings shall have an automatic fire sprinkler system regardless of square footage in accordance with the California Residential Code. Fire sprinkler systems shall be installed in mobile homes, manufactured homes and multifamily manufactured homes with two dwelling units in accordance with Title 25 of the California Code of Regulations.~~

The following exceptions in the California Fire Code shall not be allowed:

a. Exceptions in Section 903.2.3.
b. Exception 2 in Section 903.2.11.3.

2) A new Section 903.3.5.3 is added to Section 903 of the California Fire Code to read as follows:

903.3.5.3 Hydraulically Calculated Systems. The design of hydraulically calculated fire sprinkler systems shall not exceed 90% of the water supply capacity.

O. COMMERCIAL HOOD AND DUCT SYSTEMS.

1) A new Section 904.2.2.1 is added to Section 904.2.2 of the California Fire Code to read as follows:

904.2.2.1 Activation of the Fire Alarm System. Where a fire alarm signaling system, or a Dedicated Function Fire Alarm System is serving the occupancy where the extinguishing system is located, the actuation of the automatic fire-

extinguishing system shall actuate the fire alarm signaling system in accordance with the requirements of NFPA 72. If a fire alarm signaling system, or a Dedicated Function Fire Alarm System is not present, one will be required to be installed to provide monitoring for the automatic fire -extinguishing system.

P. ~~Designation of High-Piled Storage Areas.~~ HIGH-PILED STORAGE - GENERAL FIRE PROTECTION AND LIFE SAFETY FEATURES

1) A new Section 3206.4.2 is added to Section ~~3204.2~~ 3206.4 of the California Fire Code to read as follows:

~~3204.2.1~~ 3206.4.2 Minimum Requirements for Client Leased or Occupant Owned Warehouses. Designs of an automatic sprinkler system for client leased or occupant owned buildings containing high pile storage shall be based on the requirements of NFPA 13. Unless otherwise approved, a Professional Engineer, Licensed in the State of California, ~~The responsible fire protection engineer~~ shall perform a survey of the building to determine commodity classification, storage configuration, building height and other information related to the development of an appropriate sprinkler system design. The fire protection engineer shall also make reasonable efforts to meet with the building owner or operator to understand seasonal or customer related fluctuations to the stored commodities, storage height, and configuration. The sprinkler design shall be based on the most demanding requirements determined through the onsite survey and discussions with the building owner or operator. The technical report shall describe the basis for determining the commodity and sprinkler design selection, how the commodities will be isolated or separated, and include references to the design document(s). If a specific fire test is used as the basis of design, a copy of the fire test report shall be provided at the time of plan review.

Q. MOBILE FOOD PREPARATION VEHICLES.

1) A new Section 4107 is added to Chapter 41 of the California Fire Code to read as follows:

4107 MOBILE FOOD PREPARATION VEHICLES.

2) New Sections 4107.1 through 4107.2.3 are added to Section 4107 of the California Fire Code to read as follows:

4107.1 General. Mobile food preparation vehicles that are equipped with appliances that produce smoke or grease-laden vapors shall comply with this section.

4107.2 Maintenance. Maintenance of systems on mobile food preparation vehicles shall be in accordance with Sections 4107.2.1 through 4107.2.3.

4107.2.1 Exhaust system. The exhaust system, including hood, grease-removal devices, fans, ducts and other appurtenances, shall be inspected and cleaned in accordance with Section 606.3.

4107.2.2 Fire protection systems and devices. Fire protection systems and devices shall be maintained in accordance with Section 901.6.

4107.2.3 Fuel gas systems. LP-gas containers installed on the vehicle and fuel-gas piping systems shall be inspected annually by an approved

inspection agency or a company that is registered with the U.S. Department of Transportation to requalify LP-gas cylinders, to ensure that system components are free from damage, suitable for the intended service and not subject to leaking. CNG containers shall be inspected every 3 years in a qualified service facility. CNG containers shall not be used past their expiration date as listed on the manufacturer's container label. Upon satisfactory inspection, the approved inspection agency shall affix a tag on the fuel gas system or within the vehicle indicating the name of the inspection agency and the date of satisfactory inspection.

R. ~~Fire Hazard Severity Zones.~~

1) ~~A new Section 4904.2.1 is added to Section 4904 of the California Fire Code to read as follows:~~

~~4904.2.1 High Fire Hazard Severity Zone Maps.~~ ~~In accordance with Government Code Sections 51175 through 51189, Very High Fire Hazard Severity Zones (VHFHSZ), located in the Local Responsibility Areas (LRA), are designated as shown on the most recently published VHFHSZ IN LRA map, as recommended and published by the Director of the California Department of Forestry and Fire Protection (CAL FIRE), which may be revised from time to time. The most recent VHFHSZ IN LRA map is on file at the office of the Fire Chief, which supersedes other maps previously adopted designating high fire hazard areas.~~

S. FIREWORKS DISPLAY.

1) Section 5608.1.2 is added to Section 5608 of the California Fire Code to read as follows:

5608.1.2 Additional local regulations. Use and prohibitions of fireworks shall be additionally compliant with Rancho Mirage Municipal code Chapter 8.38.

2) A new Section 5608.2 is added to Section 5608 of the California Fire Code to read as follows:

5608.2 Fallout Area. For aerial shells, the minimum required radius of the fallout area shall be 100 ft/in. (22 m/25 mm) of the internal mortar diameter of the largest aerial shell to be fired, unless otherwise approved.

T. Appendix B.

1) A new Section B103.2.1 is added to Section B103.2 of the California Fire Code to read as follows:

B103.2.1 Wildland-Urban Interface Area Subdivisions. The minimum fire flow for any new subdivision or tract constructed within a Wildland-Urban Interface Area shall be 1,500 gallons per minute.

2) Table B105.2 of the California Fire Code is amended as follows:

TABLE B105.2

REQUIRED FIRE-FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

AUTOMATIC SPRINKLER SYSTEM	MINIMUM FIRE-FLOW *(gallons per minute)*	FLOW DURATION *(hours)*

(Design Standard)		
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the California Fire Code	50% of the value in Table B105.1(2)[a]	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the California Fire Code	50% of the value in Table B105.1(2)[b]	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute = 3.785 L/m.

[a] The reduced fire-flow shall be not less than 1,000 gallons per minute.

[b] The reduced fire-flow shall be not less than 1,500 gallons per minute.

U. Appendix C.

1) Section C103.1 of the California Fire Code is deleted in its entirety and replaced with the following:

C103.1 Hydrant Spacing. Fire apparatus access roads and public streets providing required access to buildings in accordance with Section 503 of the International Fire Code shall be provided with one or more fire hydrants, as determined by Section C102.1. Where more than one fire hydrant is required, the distance between required fire hydrants shall be in accordance with Sections C103.2 and C103.3. Fire hydrants shall be provided at street intersections.

Section 5. ADDING CHAPTER 15.13 (CALIFORNIA WILDLAND-URBAN INTERFACE CODE, 2025 EDITION) TO TITLE 15 (BUILDINGS AND CONSTRUCTION) TO THE RANCHO MIRAGE MUNICIPAL CODE, ADOPTING THE 2025 CALIFORNIA WILDLAND-URBAN INTERFACE CODE

That Chapter 15.13 (California Wildland-Urban Interface Code, 2025 Edition) is hereby added to the Rancho Mirage Municipal Code, as follows:

§ 15.13.000. Adoption by reference.

Except as stated in this Section or as amended below in § 15.13.010 of this Ordinance, all of the provisions and appendices of the 2025 California Wildland-Urban Interface Code, inclusive of all of the inclusions and exclusions set for in each chapter's matrix, are hereby adopted and shall apply to the City of Rancho Mirage. In addition, the following provisions that are excluded in the 2025 California Wildland-Urban Interface Code – Chapter 1, Division II of the California Wildland-Urban Interface Code is hereby adopted, except that Sections 103.2 and 112.3 are not adopted, and sections A101 through A102.2, A102.4, A104, A105.1, A105.4 through A105.4.2, A106 through A106.2 and A107 through A107.5 are adopted.

§ 15.13.010. Amendments and Additions.

AMENDMENTS TO THE CALIFORNIA WILDLAND-URBAN INTERFACE CODE:

A. APPLICABILITY,

1) A new Section 102.4.1.1 is added to Section 102.4.1 of the California Wildland-Urban Interface Code to read as follows:

102.4.1.1 Application of the California Wildland-Urban Interface Code. Where a conflict exists between the provisions of the California Fire Code and the California Wildland-Urban Interface Code, the more restrictive provisions shall apply.

B. DUTIES AND POWERS OF THE CODE OFFICIAL.

1) A new Section 104.l.l is added to Section 104.1 of the California Wildland-Urban Interface Code to read as follows:

104.1.1 Authority of the Fire Chief, Chief Deputy, and Fire Department.

1. The Fire Chief, Chief Deputy, or their designee is authorized and directed to enforce all applicable State fire laws and provisions of this code and to perform such duties as directed by the Rancho Mirage City Council.
2. The Fire Chief, Chief Deputy, or their designee is authorized to administer, interpret and enforce this code. Under the Fire Chief, Chief Deputy, or their designee's direction, the Riverside County Fire Department is authorized to enforce City of Rancho Mirage ordinances pertaining to the following:
   - 2.1. The prevention of fires.
   - 2.2. The suppression or extinguishment of dangerous or hazardous fires.
   - 2.3. The storage, use and handling of hazardous materials.
   - 2.4. The installation and maintenance of automatic, manual and other private fire alarm systems and fire extinguishing equipment.
   - 2.5. The maintenance and regulation of fire escapes.
   - 2.6. The maintenance of fire protection and the elimination of fire hazards on land, in buildings, structures and other property, including those under construction.
   - 2.7. The maintenance of means of egress.
   - 2.8. The investigation of the cause, origin and circumstances of fire and unauthorized releases of hazardous materials.

3. The following persons are hereby authorized to interpret and enforce the provisions of this code and to make arrests and issue citations as authorized by law:
    3.1. The Unit Chief, Peace Officers and Public Officers of the California Department of Forestry and Fire Protection.
    3.2. The Fire Chief, Peace Officers and Public Officers of the Riverside County Fire Department.
    3.3. The Riverside County Sheriff and any deputy sheriff.
    3.4. The Police Chief and any police officer of any city served by the Riverside County Fire Department.
    3.5. Officers of the California Highway Patrol.
    3.6. Code Compliance Officers of the City of Rancho Mirage.
    3.7. Peace Officers of the California Department of Parks and Recreation.
    3.8. The law enforcement officer of the Federal Bureau of Land Management.

2) Section 104.2 of the California Wildland-Urban Interface Code is deleted and replaced with the following:

104.2 Determination of compliance. The fire code official shall have the authority to determine compliance with this code, to render interpretations of this code and to develop policies, procedures, guidelines, standards, and information bulletins in order to clarify the application of its provisions. Such interpretations, policies, procedures:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.
3. Shall be enforceable as part of this code.

3) Sections 104.8 and 104.8.1 of the California Wildland-Urban Interface Code are deleted in their entirety and replaced with the following:

104.8 Liability. Any liability against Riverside County and City of Rancho Mirage or any officer or employee for damages resulting from the discharge of their duties shall be as provided by law.

C. PERMITS.

1) Section 105.2 of the California Wildland-Urban Interface Code is deleted in it's entirety and replaced with the following:

105.2 Permits Required. Unless otherwise exempted, buildings or structures regulated by this code shall not be erected, constructed, altered, repaired, moved, removed, converted, demolished or changed in use or occupancy unless a separate permit for each building or structure has first been obtained from the code official.

For buildings or structures erected for temporary uses, see Section A108.3.

Where required by the code official, a permit shall be obtained for the following activities, operations, practices or functions within a wildland-urban interface area:

1. Automobile wrecking yard.
2. Candles and open flames in assembly areas.
3. Explosives or blasting agents.
4. Fireworks.
5. Flammable or combustible liquids.
6. Hazardous materials.
7. Liquefied petroleum gases.
8. Landscape and fuel modification zones.
9. Lumberyards.
10. Motor vehicle fuel-dispensing stations.
11. Open burning.
12. Pallet Yards.
13. Pyrotechnical special effects material.
14. Tents, canopies and temporary membrane structures.
15. Tire storage.
16. Welding and cutting operations.

D. FEES.

1) Section 108.2 of the California Wildland-Urban Interface Code is deleted in its entirety and replaced with the following:

108.2 Schedule of permit fees. Fees for services and permits shall be as set forth by fee resolution of the City Council.

2) A new Section 108.7 is added to Section 108 of the California Wildland-Urban Interface Code to read as follows:

108.7 Cost recovery. Pursuant to California Health and Safety Code sections 11374.5(b)(1), 13009 et seq., 25259.4, 25515(a), 25540(a), 25541 (a), California Government Code sections 53150 et seq, and all other provisions of law, all costs incurred by the Riverside County Fire Department for the inspection and enforcement of any provision of these Codes, the investigation of any fire, explosion or other hazardous condition, the suppression of fire, the response to a traffic collision or accident, the containment and/or mitigation of a hazardous materials release, and any rescue or rendering of medical or physical aid or assistance, may be charged to any responsible party, any person who violates these Codes or any person who, due to a negligent or unlawful act or omission, is responsible for or requires or causes the emergency response of Riverside County Fire Department. Any expense incurred by the Riverside County Fire Department for such an emergency response shall constitute a debt of such person and shall be collectible by the County and City of Rancho Mirage in the same manner as in the case of an obligation under contract, express or implied. These provisions shall be applied uniformly against all such persons in violation of a Penal Code, Vehicle Code, Health and Safety Code or other state law statutory violation; only a county and/or city official shall have authority to reduce or cancel the debt obligation arising from the incident.

E. INSPECTION AND ENFORCEMENT

1) Section 109.3.7 of the California Wildland-Urban Interface Code is deleted in its entirety and replaced with the following:

109.3.7 Violation and penalties. It shall be unlawful for any person, firm, corporation or association of persons to violate any provision of this code, or to violate the provisions of any permit granted pursuant to this code. Punishments and penalties for violations shall be in accordance with California Health and Safety Code Sections 17995 through 17995.5 and Government Code Section 51185.

F. DEFINITIONS.

1) Section 202, definition of "Fire Chief" in the California Wildland-Urban Interface Code is deleted in its entirety and replaced with the following:

FIRE CHIEF. The Fire Chief of Riverside County or the Fire Chief's designee.

G. WILDLAND-URBAN INTERFACE AREA DESIGNATIONS.

1) Section 302.1.1 is added to Section 302.1 of the California Wildland-Urban Interface Code to read as follows:

302.1.1 Designation of Fire Hazard Severity Zones. The Rancho Mirage Council has adopted the recommendations of the State Fire Marshal made pursuant to Government Code section 51178 and designated those areas within the City as moderate, high, and very high fire hazard severity zones as shown on the Local Responsibility Area Fire Hazard Severity Zones Maps published by the Office of the State Fire Marshal.

H. SPECIAL BUILDING CONSTRUCTION REGULATIONS.

1) Section 501.1 of the California Wildland-Urban Interface shall be amended as follows:

501.1 Scope. Buildings and structures *in a wildland-urban interface area* shall be constructed in accordance with the *California Building Code* and this code. For the purpose of this Chapter, a wildland-urban interface area shall be defined as a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, and other areas designated by the enforcing agency to be at a significant risk from wildfires, and shall include those areas designated as moderate, high, and very high fire hazard severity zones based on recommendations from the State Fire Marshal pursuant to Government Code Section 51178.

Exceptions:

1. Group U accessory structures not exceeding 120 square feet (11 m^2) in floor area where located not less than 50 feet (15 240 mm) from applicable buildings.
2. Group U agricultural buildings not less than 50 feet (15 240 mm) from applicable buildings.

I. FIRE PROTECTION PLANS.

1) Section 602.1 of the California Wildland-Urban Interface Code is amended as follows:

602.1 General. A fire protection plan shall be submitted to the Fire Code Official for any proposed subdivision of land or building project. The fire protection plan shall be prepared to determine the acceptability of fire protection and life safety measures designed to mitigate wildfire hazards presented for the property under consideration.

The fire protection plan shall be prepared by a registered design professional, qualified landscape architect, qualified fire safety specialist or similar specialist acceptable to the code official and shall analyze the wildfire risk of the building, project, premises or region to recommend necessary changes.

Submittal of a preliminary fire protection plan shall be required prior to the submission of a final fire protection plan.

Exception: A single-family dwelling (Group R-3 Occupancy) when located on an existing legal parcel.

2) Section 602.3.2 of the California Wildland-Urban Interface Code is amended as follows:

602.3.2 Final Fire Protection Plan. Final fire protection plan shall include items listed in Section 602.3.1 and the following:

1. A map identifying all proposed plants in the fuel modification zones with a legend that includes a symbol for each proposed plant species. The plan shall include specific information on each species proposed, including but not limited to:
   1.1. The plant life-form;
   1.2. The scientific and common name; and
   1.3. The expected height and width for mature growth.
2. Identification of irrigated and non-irrigated zones.
3. Requirements for vegetation reduction around emergency access and evacuation routes.
4. Identification of existing vegetation proposed to remain.

5. Identification of points of access for equipment and personnel to maintain vegetation in common areas.
6. Methods and timetables for controlling, changing, or modifying areas on the property.
7. Legally binding statements regarding community responsibility for maintenance of fuel modification zones.
8. Legally binding statements to be included in covenants, conditions and restrictions regarding property owner responsibilities for vegetation maintenance.

J. VEGETATION PLAN.

1) Section 603.1 of the California Wildland-Urban Interface Code is amended as follows:

603.1 General. Planting of vegetation for new and replacement landscaping shall be selected to reduce vegetation in proximity to a structure and to maintain vegetation as it matures.

2) Section 603.3 of the California Wildland-Urban Interface Code is amended as follows:

603.3 Landscape and Fuel Modification plans. Landscape and Fuel Modification plans shall be submitted for any project located in a WUI area. The landscape and Fuel Modification plan shall include development and maintenance requirements for the vegetation management zone adjacent to structures and roadways, and to provide significant fire hazard reduction benefits for public and firefighting safety.

3) Section 603.3.1 of the California Wildland-Urban Interface Code is amended as follows:

603.3.1 Contents. Landscape plans shall contain the following:

1. Delineation of the 5-foot (1524 mm) (Zone 0), 30-foot (9144 mm) (Zone 1) and 100-foot (30 480 mm) (Zone 2) fuel management zones from all structures.
2. Identification of existing vegetation to remain and proposed new vegetation.
3. Identification of irrigated areas.

4. A plant legend with both botanical and common names, and identification of all plant material symbols.
5. Identification of ground coverings within the 30-foot (9144 mm) zone.

K. MAINTENANCE OF DEFENSIBLE SPACE.

1) Section 604.1 of the California Wildland-Urban Interface Code is amended as follows:

604.1 General. Vegetation and fuels shall be managed to reduce the severity of potential exterior wildfire exposure to buildings and to reduce the risk of fire spreading to buildings as required by applicable laws and regulations.

2) Section 604.3 of the California Wildland-Urban Interface Code is amended as follows:

604.3 Requirements. Vegetation and fuels around all buildings and structures shall be maintained in accordance with the following laws and regulations:

1. Public Resources Code, Section 4291.
2. California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3, Article 3, Section 1299.03.
3. California Government Code, Section 51182.
4. California Code of Regulations, Title 19, Division 1, Chapter 1, Subchapter 1, Article 3, Section 3.07.
5. The requirements of the California Wildland-Urban Interface Code and Riverside County Fire Department Guidelines.

3) Section 604.3.1 is added to Section 604.3 of the California Wildland-Urban Interface Code to read as follows:

604.3.1 Retroactivity. When required by the Fire Code Official, or State Law, existing Defensible Space/Fuel Modification Zones (FMZ) shall require retrofitting, including thinning and/or removal of plants, trees, and vegetation, to meet this code or State Law. Upon notification by the Fire Code Official, and when approved, work to bring an existing Defensible Space and FMZ into compliance with this code, may be done over a two to four (2-4) year period as determined by the Fire Code Official. A compliance plan prepared by the property owner may be requested for review and approval by the Fire Code Official.

4) Section 604.6 is added to the California Wildland-Urban Interface Code to read as follows:

604.6 Clearance of brush, vegetative growth, and combustible material from improved parcels. All improved parcels declared a Public Nuisance shall be cleared entirely of combustible material. If the Fire Code Official determines this impractical, the provisions of Section 604.7 may be used.

5) Section 604.7 is added to the California Wildland-Urban Interface Code to read as follows:

604.7 Clearance of fuels or vegetative growth from structures. Clearance of fuels and vegetative growth from structures shall be per sections 604.7.1 through 604.7.4 of this code.

6) Section 604.7.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.7.1 Structures. Any person owning, leasing, controlling, operating, or maintaining any building or structure in, upon, or adjoining any FHSZ, governed by this section, and any person owning, leasing, or controlling any land adjacent to such buildings, shall at all times maintain around and adjacent to such building, an effective firebreak made by removing and clearing away, all combustible material on their property for a distance not less than 100 feet from all portions of the building.

Distances may be increased by the Fire Code Official due to a site-specific analysis based on local conditions and when required, based on a Fire Protection Plan. This section shall not apply to single specimens or stands of protected species of trees, Ornamental Landscape or similar plants used in landscaping and ground covers, that are well-pruned, maintained, and spaced, and do not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation or to interrupt the advance of embers toward a structure.

7) Section 604.7.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.7.2 Timing for new buildings and additions to existing buildings. The

provisions of Section 604.7 shall be completed prior to vertical construction of any New Building or addition to an Existing Building.

8) Section 604.7.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.7.3 Photovoltaic Systems. The clearance requirements around freestanding photovoltaic systems and equipment shall comply with the following:

1. A minimum 10-foot clearance for clusters of panels not exceeding 1,500 square feet of combined panel area.
2. A minimum of 30-foot clearance for clusters of panels greater than 1,500 square feet of combined panel area.
3. Clusters shall be separated by a minimum of 20 feet.
4. Panels and clusters shall be not located within 30 feet of any Building subject to clearance requirements of Section 604 unless the clearance requirements of Section 604 are provided as measured from the perimeter of the panel or cluster.

9) Section 604.8 is added to the California Wildland-Urban Interface Code to read as follows:

604.8 Defensible Space clearance zones and requirements. The required 100-foot Defensible Space clearance is identified in three (3) distinct zones: Zone 0, 1, and 2.

10) Section 604.8.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.1 Requirements. Defensible Space shall be in accordance with the requirements of Appendix A of this code, Riverside County Fire Department Guidelines and the specific requirements for each zone listed in Sections 604.8.2 through 604.8.5.

11) Section 604.8.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2 Zone 0 purpose and location. Zone 0 reduces the likelihood of structure ignition by reducing the potential for direct ignition of the structure from flame contact, by embers that accumulate at the base of a wall, and/or indirect ignitions

when embers ignite vegetation, vegetative debris, or other combustible materials located close to the structure that result in either a radiant heat and/or a direct flame contact exposure to the structure.

Zone 0 is the horizontal area within the first five (5) feet around the structure, including stairs, balconies, attached or adjacent decks, and outbuildings. Zone 0 is measured from the edge of a structure, attached or adjacent decks, patio covers, balconies, and floor projections above-grade. Zone 0 also includes the area on the roof of a building, and underneath and on top of attached decks, patio covers, balconies, and stair landings.

Advisory Notice: Riverside County Fire Department has local Zone 0 requirements currently in effect for new Buildings and additions to existing Buildings. New State regulations for Zone 0 are currently under development by the State Board of Forestry and Fire Protection. Any State regulation more restrictive than this code shall apply. This may require thinning and/or removal of plants, trees, and vegetation to meet State Law and regulations.

12) Section 604.8.2.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2.1 Non-Combustible Zone 0 for New Buildings, additions to Existing Buildings, and new or replacement landscape. Fuels, including Combustible Materials and vegetation, are prohibited in Zone 0 for all New Buildings, additions to Existing Buildings, installation of new landscape, and refurbishment of existing landscape areas.

The application date of Section 604.8.2.1 shall be the later application date when any of the following occur:

1. Fire Department Clearance for a New Building or addition to an Existing Building.
2. Building permit for a New Building or addition to an Existing Building.
3. Landscape plans submitted for Riverside County Fire Department review.
4. Replacement of landscape when landscape plans are not required.

13) Section 604.8.2.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2.2 Additional requirements in Zone 0.

1. New and existing tree canopies are prohibited within 10 feet of New Buildings, including the addition portion to Existing Buildings.

   Exception: Existing protected oak trees shall be trimmed to provide a minimum 5-foot clearance above the roof and 5 feet to the side of any New Building, or the addition portion to an Existing Building.
2. Landscaped roofs are prohibited.
3. Vegetation underneath decks is prohibited.
4. Other Combustible Materials underneath any deck, not part of the deck structure itself, shall be removed.
5. Artificial or synthetic grass is prohibited within Zone 0.
6. Vines and climbing plants are not allowed on structures, including decks, patio/shade structures, and any fences within 5 feet of a Building.
7. Combustible mulch and wood chips are prohibited.
8. Firewood is prohibited.
9. All fencing and gates shall be non-combustible. See Section 604.11.

14) Section 604.8.2.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2.3 Zone 0 requirements for Existing Buildings.

15) Section 604.8.2.3.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2.3.1 Zone 0 restrictions. The following requirements apply within Zone 0 for all Existing Buildings with landscape installed prior to January 1, 2026:

1. No combustible landscape mulch or wood chips.
2. No firewood.
3. No vegetation underneath decks.
4. Other Combustible Materials underneath any deck, not part of the deck structure itself, shall be removed.
5. Roofs and gutters on Buildings shall be maintained free of any leaves, needles, or other vegetative Combustible Materials.

6. The vertical clearance distance for trees and vegetation above any roof shall be not less than 3 feet.
7. A minimum 3-foot clearance of trees and vegetation shall be provided to the side and above any eave or roof projection from the exterior wall of a Building. A minimum 3-foot clearance of trees and vegetation shall be provided below any eave or roof projection. This requirement also applies to any patio cover or other Building projections.
8. New trees are not allowed.
9. New or replacement landscaping shall comply with Sections 604.8.1, 604.8.2.1, and 604.8.2.2.

16) Section 604.8.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.3 Zone 1 purpose and location. Zone 1 reduces the likelihood of fire burning directly to the structure. This is accomplished by modifying Fuels and creating a discontinuity between planting groups that limits the pathways for fire to burn to the structure and reduces the potential for near-to-building ember generation and radiant heat exposures. An additional purpose of this zone is to provide a defendable area for fire personnel to stage and take direct action.

Zone 1 is the area within 5-30 feet of structures and decks, with slopes not greater than 20 percent; 5-50 feet from Buildings and decks, when slopes are greater than 20 percent.

17) Section 604.8.3.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.3.1 Requirements and allowable items. This is a minimal planting zone which includes very limited trees of a fire-smart type with additional spacing provided. Plants and other vegetation shall be in accordance with Appendix A of this code and Riverside County Fire Department Guidelines.

18) Section 604.8.4 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.4 Zone 2 purpose and location. Zone 2 is designed to reduce the potential behavior of an oncoming fire in such a way as to drop an approaching fire from

the crown of trees to the ground, reducing the flame heights, and the potential for ember generation and radiant heat exposure to structures. Additional benefits of the Zone 2 include facilitating direct defense actions and improving the function of Zones 0 and 1.

Zone 2 is the area from the outer edge of Zone 1 to 100 feet from structures and decks.

19) Section 604.8.4.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.4.1 Requirements and allowable items. Plants and other vegetation shall be in accordance with Appendix A of this code and Riverside County Fire Department Guidelines.

20) Section 604.8.4.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.4.2 Spacing. Spacing of vegetation and trees at the outer edge of Zone 2 shall be based upon the height of the vegetation within Zone 2 or the adjacent area beyond the 100-foot zone, whichever provides for the greater spacing. This may require clearance outside the 100-foot zone or setting back vegetation and trees within Zone 2 away from the 100-foot line.

21) Section 604.8.5 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5 General requirements for Zone 0, 1, and 2.

22) Section 604.8.5.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.1 Dead and dying vegetation. All dead or dying grass, plants, shrubs, trees, branches, leaves, weeds, and tree needles shall be removed.

23) Section 604.8.5.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.2 Mulch and wood chips within Zones 1 and 2. Use of combustible Mulch and wood chips shall be in accordance with the requirements Riverside County Fire Department Guidelines.

24) Section 604.8.5.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.3 Firewood. See Section 607.

25) Section 604.8.5.4 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.4 Clearance from chimney, stovepipe. Any portion of a tree or shrub that extends within 10 feet horizontally or vertically of a chimney outlet or stovepipe outlet shall be removed.

26) Section 604.8.5.5 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.5 Trees. New trees shall be planted and maintained so that the tree's drip line at maturity is a minimum of 10 feet from any combustible structure.

27) Section 604.8.5.5.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.5.1 Tree spacing. The horizontal distance between crowns of new trees and crowns of adjacent trees shall not be less than 20 feet in Zone 1 and not less than 10 feet in Zone 2. Separation distance may be increased for slopes exceeding 20 percent. Required spacing is measured between trees at maturity.

28) Section 604.8.5.5.2 is added to the California Wildland-Urban Interface Code to read as follows:

29) **604.8.5.5.2 Ground clearance of trees.** Trees exceeding 6 feet in height shall be limbed up from the ground 6 feet or 1/3 the height of the tree, whichever is less.

Exception: Fruit trees when approved by the Fire Code Official.

30) Section 604.8.5.5.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.5.3 Ground cover under tree canopy. When approved ground cover and shrubs are located underneath trees, the vertical clearance to the lowest branch of the tree canopy shall not be less than three times the height of the ground cover or shrub under or adjacent to the tree. The horizontal clearance shall be 3 feet from the trunk of the tree.

31) Section 604.8.5.6 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.6 Continuous tree canopies.

32) Section 604.8.5.6.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.6.1 New Structures. Continuous tree canopies are not allowed. Tree spacing shall be in accordance with Riverside County Fire Department Guidelines.

33) Section 604.8.5.6.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.6.2 Existing Structures. Continuous tree canopies may be allowed as determined by the Fire Code Official but will require the complete removal of any understory and smaller trees to meet requirements for a shaded fuel zone. Any remaining trees shall be limbed up a minimum of 12 feet from the ground or 1/3 the tree height, whichever is less. The intent is to not allow a crown (canopy) fire to spread unchecked to a structure and to bring any crown fire down to the ground level prior to Zone 1.

34) Section 604.8.5.7 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.7 Grasses. Natural or annual grasses shall be mowed to a maximum height of 4-inch stubble with clippings removed.

35) Section 604.9 is added to the California Wildland-Urban Interface Code to read as follows:

604.9 Fire protection equipment and utilities. The clearance requirements of Sections 604.7 and 604.8 shall apply to communication site towers and their support Buildings; required fire protection water supplies, including water tanks, water supply pumps, and pump houses; and any other utility Structure as required by the Fire Code Official. The Fire Code Official may consider a reduced distance, not less than 30 feet, for communication site towers, water tanks, and Structures with no interior space, based upon a site risk assessment. Also see Appendix A.

36) Section 604.10 is added to the California Wildland-Urban Interface Code to read as follows:

604.10 Planting vegetation under or adjacent to energized electrical lines. No vegetation shall be planted under or adjacent to energized power lines that, at maturity, will grow within 10 feet of the energized conductors.

37) Section 604.11 is added to the California Wildland-Urban Interface Code to read as follows:

604.11 Fencing.

38) Section 604.11.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.11.1 Scope. This section only applies to fences, including gates within the fencing, within 5 feet of Building(s), including Decks, (Zone 0) that are in an applicable Fire Hazard Severity Zone req by Chapter 6 of this code.

39) Section 604.11.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.11.2 New fencing. New fencing and gates shall be constructed of a non-combustible material.

40) Section 604.11.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.11.3 Existing fencing. Fencing installed prior to January 1, 2026, may remain.

Exception: The entire fencing not parallel and within 5 feet of the Building, including gates within the fencing, shall be constructed of a non-combustible material when any portion of the existing fencing within 5 feet is being replaced. Fencing beyond 5 feet from the Building is not required to be replaced with non-combustible material.

L. STORAGE OF FIREWOOD AND COMBUSTIBLE MATERIALS.

1) Section 607.1 of the California Wildland-Urban Interface Code is amended to read as follows:

607.1 General. Firewood and combustible materials shall not be stored in unenclosed spaces beneath Buildings or Structures, or on Decks or under eaves,

canopies, or other projections or overhangs. Firewood piles shall be located 30 feet (9144 mm) or more from structures unless completely covered by a fire-resistant material. Exposed wood piles located within the defensible space shall have a minimum clearance of 10 feet (3048 mm) down to bare mineral soil in all directions. Firewood shall not be stored within Zone 0.

2) Section 607.1.1 of the California Wildland-Urban Interface Code is amended to read as follows:

607.1.1 Combustible Materials. Combustible Materials, other than vegetation, stored within Zones 1 and 2 shall not be stored so as to pose a hazard to any Building. Piles shall not exceed 100 square feet of area and a maximum height of 10 feet. Piles shall be separated by a minimum of 20-foot clear area.

3) Section 607.2 of the California Wildland-Urban Interface Code is amended to read as follows:

607.2 Storage for off-site use. Firewood and Combustible Materials not for consumption on the premises shall not be stored within Zones 0, 1, and 2. See Appendix A for storage requirements.

M. BUILDING SITING AND SETBACKS

1) Section 608.1.1 is added to the California Wildland-Urban Interface Code to read as follows:

608.1.1 Restricted development setbacks. New Structures and additions to existing Structures shall not be constructed less than 100 feet from any protected habitat, whether on the same or adjacent Parcels, where the 100-foot Defensible Space required under Section 604.7 cannot be provided, unless an alternate method of construction and protection is provided that can ensure the safety of the Structure and emergency responders as approved by the Fire Code Official. Protected habitat includes lands restricted from brush clearance or modification due to Federal or State listed endangered species. Protected habitat does not include sensitive habitat areas.

2) Section 608.2 of the California Wildland-Urban Interface Code is amended to read as follows:

608.2 General. All parcels shall provide a minimum 30-foot (9144 mm) setback for all buildings from property lines and the center of a road, except as provided for in Section 608.2.1. [CCR T14 §1276.00(a)] This section applies to new Tract and Parcel maps, new Buildings, and additions to Existing Buildings.

3. Section 608.2.1 of the California Wildland-Urban Interface Code is amended to read as follows:

608.2.1 Setback reduction. A reduction in the minimum setback shall be based upon practical reasons, which may include but are not limited to, parcel dimensions or size; topographic limitations; Development density requirements or other Development patterns that promote low-carbon emission outcomes; sensitive habitat or other site constraints, and shall provide for an alternative method to reduce structure-to-structure ignition by incorporating a combination of features such as, but not limited to:

1. Non-combustible block walls or fences; or
2. Non-combustible material extending 5 feet (1524 mm) horizontally from the furthest extent of the building; or
3. Hardscape landscaping; or
4. A reduction of exposed windows on the side of the structure with setback less than 30 feet (9144 mm). [CCR T14 §1276.01]

N. RIDGELINES, FUEL BREAKS, AND GREENBELTS.

1. Section 609.2.7.1 is added to the California Wildland-Urban Interface Code to read as follows:

609.2.7.1 Greenbelts. Subdivisions and other developments, which propose Greenbelts as a part of the development plan, shall locate the Greenbelts strategically, as a separation between wildland fuels and Structures. The locations shall be approved by the inspection authority.

2. Section 609.2.7.2 is added to the California Wildland-Urban Interface Code to read as follows:

609.2.7.2 Access to Greenbelts. A minimum of one (1) access point shall be provided to new Greenbelts at an approved location to allow for on-going maintenance and firefighter access. Additional access points shall be provided when required by the Fire Code Official.

O. APPENDIX A

1) Section A102.1 of the California Wildland-Urban Interface Code is amended to read as follows:

A102.1 General. Vegetation control shall comply with Sections A102.2 through A102.4 and with Chapter 6.

2) Section A105.1 of the California Wildland-Urban Interface Code is amended to read as follows:

A105.1 General. In addition to the requirements of the California Fire Code, California Wildland-Urban Interface Code Chapter 6, and the Rancho Mirage Municipal code - storage and use of the materials shall be in accordance with Sections A105.2 through A105.4.2.

3) Section A105.4 of the California Wildland-Urban Interface Code is amended to read as follows:

A105.4 Combustible Materials. Outside storage of Combustible Materials such as, but not limited to, wood, rubber tires, building materials, or paper products shall comply with the other applicable sections of this code and this section. Storage of pallets shall be in accordance with California Fire Code, Section 2810. Storage and processing of wood chips, hogged materials, fines, Compost, Compostable Material, Mulch, solid biomass, raw product, and combustible yard waste and recycle material shall be in accordance with California Fire Code, Section 2808.

Section 6. SEVERABILITY

That the City Council declares that, should any provision, section, paragraph, sentence or word of this ordinance be rendered or declared invalid by any final court action in a court of competent jurisdiction or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences or words of this ordinance as hereby adopted shall remain in full force and effect.

Section 6. REPEAL OF CONFLICTING PROVISIONS

That all the provisions of the Rancho Mirage Municipal Code as heretofore adopted by the City of Rancho Mirage that are in conflict with the provisions of this ordinance are hereby repealed.

Section 7. EFFECTIVE DATE

That this ordinance shall take effect on January 1, 2026.

Section 8. CITY ATTORNEY REVIEW

That the City Attorney prepared and framed this ordinance pursuant to Section 1.04.010 of the Rancho Mirage Municipal Code and finds that the City Council has the authority to adopt this ordinance, that the ordinance is constitutionally valid and that the ordinance is consistent with the general powers and purposes of the City as set forth in Section 1.04.031 of the RMMC.

Section 9. NECESSARY ACTIONS

That the Fire Chief or designee is authorized to take any and all further actions necessary to effectuate the adoption of this Ordinance and implementation of the adopted codes.

Section 10. CERTIFICATION

That the City Clerk shall certify to the passage of this ordinance and shall cause the same to be published according to law.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

The foregoing Ordinance was approved and adopted at a meeting of the City Council held on _____, 2025, by the following vote:

Ayes:
Noes:
Abstain:
Absent:

_____
Lynn Mallotto, Mayor

ATTEST:

_____
Kristie Ramos, City Clerk

APPROVED AS TO FORM:

_____
Colin Kirkpatrick, City Attorney

City Council Staff Report

IID (Imperial Irrigation District) Substation Funding and Reservation of Capacity Agreement

DATE	ITEM #
December 4, 2025	ACTION CALENDAR - 6B.
Presented To	**Presented By**
Mayor and City Council	Isaiah Hagerman, City Manager

RECOMMENDED ACTION

1. Approve the Funding and Reservation of Capacity Agreement for Cook Street Substation, and authorize the City Manager or designee to execute the Agreement, subject to revisions approved by all other parties and approved by the City Manager in consultation with the City Attorney; and
2. Authorize the City Manager to negotiate and execute an Amendment to the Agreement, reserving up to an additional 5,000kVA of capacity for the City on terms substantially the same as the Agreement, which is approximately 8% additional capacity at $3.2 million.

DISCUSSION

Imperial Irrigation District (IID) is working with Riverside County, Cities of Rancho Mirage, Palm Desert and Developers for the Implementation of the Cook Substation Concept Under a Cost Share Agreement Mechanism, to Serve New Development's Loading Requirements in the Thousand Palms area. The City Council has taken several previous actions to continue its participation in the discussions of a new substation. The IID has approved the attached agreement and now each participant has 30 days to approve the agreement. This proposed IID owned substation will include:

- Engineering, Procurement and Construction of (1) 28 MVA and (1) 50MVA 92/13.2kV transformers, and associated equipment.
- Transmission 92 kV CE upgrades/line extensions (in/out).
- Implementation of distribution getaways for twenty (20) 12.47kV distribution circuits with conduit/vault outside wall/fence.
- Preparation for a third 50 MVA transformer, conduit/vault systems for future capacity needs, in addition to redundancy for reliability purposes.

The proposed site for this substation is owned by Berger Foundation and is located approximately 1.1 miles north of Interstate I-10 Freeway on the west side of Cook Street (Chase School Road). The estimated cost of the substation with a 10% contingency is $39.67 million. The land and site improvements are not included in this estimate. Each participant will be charged based on their respective share of the substation capacity.

Currently, the City is reserved for 10,000kVA, which is 16.03% of the total capacity. The main goal of securing this capacity is to allow three affordable housing projects to develop. Without this capacity, these three affordable housing projects would not develop.

Contingency:

The City of Rancho Mirage initially started with 15,000kVA of capacity. However, due to several factors, our share of the capacity was reduced to 10,000kVA. If another participant backs out or doesn't need the amount of capacity that is reserved. Other participants can take the additional capacity. Should the opportunity come, the council could authorize the City Manager to amend our capacity not to exceed an additional 5,000kVA which would represent approximately 8% additional capacity at $3.2 million.

FISCAL IMPACT

Cook Substation - Participants

High Level Substation Cost:	
Substation	$36.71M
Distribution Getaways	$ 2.0M
Transmission In and Out	$ 0.96M
Total	$39.67M

New Proposed Substation	
1-28 &1-50 MVA Transformers	
Total Cost *	$39,67
Usable kVA	62
Cost per kVA	$ 63

Project	kVA	Customer Cost	%
Majestic Realty Thousand Palms Warehouse	8,550	$ 5,435,813	13
Palm Creek	5,850	$ 3,719,241	9
Classic Club Development (Early Phase & Partial Phase 1)	-	-	-
Classic Club Development (Hospitality, Restaurant, Retail, Recreation)	18,000	$ 11,443,818	28
Available Capacity for Future Growth (County)	10,000	$ 6,357,677	16
City of Palm Desert (Zone 2) - East of Cook St.	5,000	$ 3,178,838	8
City of Palm Desert (Zone 1 - 10MW)	5,000	$ 3,178,838	8
City of Rancho Mirage	10,000	$ 6,357,677	16
Totals	**62,400**	**$ 39,671,902**	**100**

*This High Level Cost reflects a 10% contingency for total substation costs.
a) Distribution feeder extensions which are the applicants responsibility, and not part of this High Level Cost.
b) Substation cost does not include the replacement cost for the upgrade of the 28 MVA transformer to a 50 MVA.
c) Substation site and site improvements are not part of this High Level Cost.

Note: Long Lead Item's Participation for initial $11.8M to be Based on Percentage (%) of Committed Capacity. High Level Cost was updated on 5-14-2025.

Attachments

Attachment 1 - Draft IID Substation Funding & Reservation of Capacity Agreement

FUNDING AND
RESERVATION OF CAPACITY AGREEMENT
for
COOK STREET SUBSTATION
(PLANNED CONFIGURATION)

THIS FUNDING AND RESERVATION OF CAPACITY AGREEMENT (this "Agreement") is made this ____ day of _____, by and between Imperial Irrigation District, an irrigation district formed under the Water Code of the State of California ("IID") on the one hand, and the City of Palm Desert, an incorporated city in the County of Riverside, State of California ("Palm Desert"), City of Rancho Mirage, an incorporated city in the County of Riverside, State of California ("Rancho Mirage"), County of Riverside, a political subdivision of the State of California ("County') (each of Palm Desert, Rancho Mirage and County being referred to herein as an "Agency" and collectively as the "Agencies"), The H.N. and Frances C. Berger Foundation, a 501(c)3 corporation ("Berger Foundation") and each of the developers listed on Exhibit "A" attached hereto and incorporated herein by reference (each, a "Developer" and, collectively, the "Developers") on the other hand. For purposes of this Agreement, Palm Desert, Rancho Mirage, County, Berger Foundation and Developers may be referred to herein as a "Participant" and collectively, as the "Participants"). IID and the Participants are referred to herein individually as a "Party" and collectively, as the "Parties";

WHEREAS, IID is the electrical service provider within a defined service territory area within Imperial County, California and portions of Riverside County, California ("District Service Area") and Participants seek to induce IID to develop new electrical distribution service within the District Service Area to facilitate new growth and development as identified herein;

WHEREAS, the Participants agree that a new electrical distribution substation and related equipment, including corresponding transmission and distribution line extensions to support the new substation (collectively, the "New Facility") is necessary to meet the anticipated electrical service needs to meet such new growth and development as identified herein;

WHEREAS, the New Facility is initially intended to accommodate one (1) 28MVA transformer and one (1) 50MVA transformer, and is anticipated to address Participants' immediate electrical service needs as identified herein (the "Planned Configuration"), but which New Facility can be expanded by replacing the 28MVA transformer with a larger transformer as well as be further expanded by adding thereto the New Facility a third separate transformer (for a total of three transformers) in final configuration to meet additional future electrical service needs (the "Expanded Configuration); a schematic representation of the New Facility in the Planned Configuration is shown on Exhibit "B", attached hereto and by reference incorporated herein;

WHEREAS, the New Facility, in the Planned Configuration, by and through the Reliability Band (defined below), will provide certain benefit to the reliability and resiliency of the IID electric system in partial support of IID's Edom Substation and Frances Way Substation,

which provide electrical capacity in service to existing customers and other development located generally west, north and east of the New Facility;

WHEREAS, Berger Foundation, as a Participant hereunder this Agreement, has identified an approximately five and one-half acre (5.5 ac) parcel of land owned by Berger Foundation (the "Site") and which Site Berger Foundation agrees herein (i) to dedicate to IID for purposes of constructing the New Facility thereon; (ii) facilitate and complete the construction of the Site Improvements (defined below) and to pay the cost therefor in advance of dedication of the Site to IID, subject to reimbursement therefor in the form of credits as are more fully described herein. The approximate location and intended boundaries of the Site are shown on Exhibit "B" attached hereto and incorporated herein by reference;

WHEREAS, the Parties intend hereby to set forth the framework for the Participants, at their collective cost and expense as set forth below, to induce IID to (a) undertake and complete design and engineering of the New Facility in the Planned Configuration; (b) procure materials, supplies, and equipment for the New Facility in the Planned Configuration; and, (c) fund, by advancing IID's reasonable and actual costs for engineering, development construction and commissioning of the New Facility in the Planned Configuration ("Construction Costs"). A preliminary estimate of the Construction Costs is shown on Exhibit "C", attached hereto and incorporated herein by reference;

WHERAS, the Parties further intend hereby to set forth the framework for the Participants, at their collective cost and expense as set forth below, to induce Berger Foundation, with IID's approval, to (a) undertake and complete the design and engineering of the Site Improvements; (b) procure materials, supplies and equipment for the Site Improvements; (c) undertake and complete the Site Improvements; and (d) dedicate the Site to IID in such improved condition as identified herein;

WHEREAS, as Berger Foundation will advance certain initial funding and/or in-kind advances, in amounts approved by IID and the Participants prior to commencement of any work on the Site Improvements, including, without limitation, (a) design and engineering of the Site Improvements; (b) procurement of materials, supplies and equipment for the Site Improvements; (c) construction of the Site Improvements; and (d) dedication of the Site to IID in its improved condition, all as a condition to the construction of the New Facility in the Planned Configuration to accommodate Participants' electrical requirements, the Berger Foundation will be entitled to reimbursement credits therefor on the terms and conditions set forth herein; and,

WHEREAS, because Participants are to collectively bear the expense for the New Facility as set forth below, IID agrees the Participants should be entitled to a reservation of electrical capacity from the New Facility in the amounts, durations and upon the terms and conditions set forth herein.

NOW THEREFORE IT IS AGREED AS FOLLOWS:

1. New Facility Requirements. The Parties agree that the New Facility in the Planned Configuration is necessary to serve Participants' respective electrical service

needs and the New Facility, when constructed to the Planned Configuration, will have the capacity necessary to facilitate growth and development and mitigate the impacts to IID's electric system directly caused by Developers' projects and other Participants' anticipated electrical service needs as identified herein. The Parties further agree that due to the location of Developers' projects, the New Facility in the Planned Configuration is necessary to accommodate electric service thereto such projects and electrical service needs. The Parties agree that the New Facility in the Planned Configuration has been developed based upon information supplied by the Participants. Participants expressly acknowledge and agree that they will be responsible for funding their respective share of the cost of the New Facility in the Planned Configuration as set forth in this Agreement.

2. CEQA Compliance. IID agrees that it will serve as the lead agency with respect to the California Environmental Quality Act (CEQA) in connection with the New Facility and that following the Parties full and complete execution of this Agreement, will undertake all necessary studies and analyses necessary or prudent to ensure appropriate compliance with CEQA. All cost and expense associated with the foregoing, including the cost of any mitigation measures or other fees or costs arising therefrom or in connection therewith shall be included as part of the Construction Costs. IID will include in any required analyses, the New Facility in its Expanded Configuration (as opposed to only the Planned Configuration), together with the Site Improvements as well as potential routes and configurations for the Customer Distribution Facilities (defined below). Notwithstanding the foregoing, the Parties acknowledge and agree that execution of this Agreement and construction of the New Facility, in any configuration, or any other element thereof, is subject to compliance with CEQA as set forth herein and pursuant to applicable law.

3. Construction Documents.

   a. IID Responsibility. IID shall be responsible for creating all plans, specifications, and construction drawings for the engineering and design of the New Facility in the Planned Configuration (the "Construction Documents").

   b. Berger Foundation Responsibility. Berger Foundation, in connection with its dedication of the Site to IID pursuant to Section 5 below, and in consultation with IID, shall be responsible for creating all plans, specifications and construction drawings for the engineering and design of the Site Improvements (defined below) for the New Facility in the Expanded Configuration, including all costs therefor, subject to a credit therefor, as set forth in this Agreement.

4. Procurement of Materials.

   a. IID Responsibility. IID will procure products and equipment required for the New Facility in the Planned Configuration, particularly long lead time products and materials, in order to maximize cost efficiencies and avoid delay.

b. Berger Foundation Responsibility. Berger Foundation, in consultation with IID, will procure products and equipment required to make the Site Improvements for the New Facility in the Expanded Configuration, subject to a reimbursement credit therefor as set forth in this Agreement.

5. Site.

a. Site Dedication. Not later than ninety (90) calendar days following the Parties complete execution of this Agreement, IID and Berger Foundation shall enter into a binding agreement for the transfer of the fee interest in and to the Site, without encumbrances, to IID to occur not later than ninety (90) calendar days following Berger Foundation's completion of the Site Improvements as set forth below (the "Site Dedication"). Such binding agreement shall provide for the handling of such transfer by and through an escrow company of IID's selection, together with provision for the issuance of a California Land Title Association (CLTA) Owner's Policy and appropriate endorsements therefor. Berger Foundation shall confer and coordinate with IID's real estate section in connection with the foregoing.

b. Site Valuation; Appraisal. Not later than fourteen (14) calendar days following the Parties complete execution of this Agreement, Berger Foundation shall contract with an MAI appraiser for the conduct and preparation of a written appraisal and report (the "Appraisal") regarding the fair-market value of the Site (the "Site Valuation"), and which appraisal shall be completed no later than thirty (30) days from the date of contracting with such appraiser. Upon completion and receipt the Appraisal, Berger Foundation shall promptly distribute a copy of same to the Parties for review. The Parties shall have ten (10) calendar days from the date of receipt of the Appraisal within which to object to the Appraisal and any determination of fair-market value of the Site set forth therein (a "Site Valuation Objection") by giving notice to the Parties thereof on or before the expiration of such ten (10) calendar day period. Failure of a party to timely object within such period shall be deemed a full and complete waiver of such Party's right to make a Site Valuation Objection and such Party shall be deemed to have accepted the Site Valuation. In the event any Party hereto makes a timely Site Valuation Objection, then not later than ten (10) calendar days following receipt of such Site Valuation Objection, the Parties shall meet, in good faith, in an effort to resolve the objection of the objecting Party with respect to the Site Valuation, provided, however, if the Parties, inclusive of the objecting Party, are unable to resolve the objection during such meeting, then IID, in its sole discretion and determination, may terminate this Agreement as to the objecting party and may, in accordance with Section 10, either, (i) reallocate the Construction Costs amongst the remaining, non-objecting Parties and/or (ii) identify substitute participants to replace such terminated Party.

c. Site Improvements. In conformance with IID's substation site-development standards, and in consultation with IID, Berger Foundation shall undertake and complete all required site improvements necessary to ready the Site for construction of the New Facility in the Expanded Configuration thereon,

which site improvements include, without limitation, site grading, perimeter fencing/walls and gates, grounding grid, and graded all-weather access ways to and from the Site to the nearest paved, public roadway (the "Site Improvements"). Berger Foundation shall undertake and complete all required Site Improvements; provided, however, Berger Foundation shall be entitled to receive a credit for direct cost of the Site Improvements (the "Site Improvement Costs") on the terms and conditions set forth in Section 7(a). The Site Improvement Costs shall be the sum total of all reasonable direct costs and expenditures incurred by Berger Foundation directly related to the completion of the Site Improvements with no mark-up to such amounts nor interest thereon any such sums expended therefor.

i. Coordination and Approval of Site Improvement Costs. Prior to contracting with any duly licensed contractor for the construction and installation of the Site Improvements, Berger Foundation shall provide the Parties the opportunity to review the solicitation(s) or bid packages and the bids responsive thereto to verify they are consistent with specifications and requirements for the Site Improvements. In coordination with IID, Berger shall select the bid from the most qualified vendor(s), that are the lowest priced bid which meets such specifications and requirements for the Site Improvements together with the anticipated schedule for completion thereof. No later than ninety (90) calendar days following the Parties full execution of this Agreement and approval of all required plans and permits from all applicable governmental agencies, Berger Foundation shall provide the Parties evidence of a contract or purchase order or such other applicable documentation evidencing Berger Foundation's commencement of the Site Improvements and shall diligently pursue completion thereof no later than one-hundred eighty (180) calendar days following such commencement. Berger Foundation shall comply with all applicable laws with respect to the construction and installation of the Site Improvements. If, during the completion of the Site Improvements, any modifications or change orders to any such contract or purchase order become necessary, and the increase in cost with respect to such modification or change order is more than ten percent (10%) greater than the estimate or bid previously obtained therefor, then Berger Foundation shall provide the Parties the opportunity to review such modifications or change orders in advance of any execution or approval thereof by Berger Foundation. All timing requirements applicable to the Site Improvements set forth in this agreement shall be automatically tolled, day-for-day, for any periods of delay outside the reasonable control of Berger Foundation, so long as Berger Foundation is exercising good faith and reasonably diligent efforts to pursue timely completion of the Site Improvements. IID shall monitor and inspect the Site Improvement work to ensure conformance to applicable IID standards and requirements with all costs therefore incurred by IID to be included as Construction Costs.

d. Alternative Site. In the event Berger Foundation fails, for any reason, to dedicate the Site to IID in accordance with this Agreement, then Participants, jointly and severally, shall be responsible for identifying, acquiring, and dedicating to IID, for use in the development, operation and maintenance of the New Facility, in such

configuration as may then be appropriate, a suitable site which conforms to or otherwise satisfies all of IID's substation site-development standards as set forth in IID's Substation guidelines, as such may be amended by IID from time to time (an "Alternate Site"). The Alternate Site shall be suitable to IID, in IID's sole and absolute discretion, for development, operation and maintenance of the New Facility, in its appropriate configuration, at such location. The Site shall also accommodate all in-bound and out-bound transmission and distribution line extensions which may be required to facilitate new electrical service from the New Facility in such location. If the Site has not been formally dedicated to IID as required hereby this Section 5, IID will notify all Participant(s) of such failure and provide Participant(s) ninety (90) calendar days to cure such default by identifying, acquiring and dedicating to IID an Alternate Site. If Participants fail to cure such default within such ninety-day period or otherwise fail to take substantial steps to materially cure such default within such ninety-day period or such reasonable time thereafter as may reasonably be required to cure such default, then IID, in its sole discretion, may, without liability therefor, indefinitely suspend any further performance under this Agreement until such time as said default is cured or waived by IID in IID's sole and absolute discretion.

6. Construction of the New Facility. With exception for the Site Improvements, which are to be constructed by Berger Foundation pursuant to Section 5(c), IID shall be responsible for constructing the New Facility in the Planned Configuration in accordance with the Construction Milestone Schedule shown on Exhibit "D", attached hereto and incorporated herein by reference. In accordance with IID's Regulations (defined below) and DEPG (defined below), the Participants, in consultation with IID, shall obtain any and all necessary permits and approvals required for the New Facility and shall otherwise complete or satisfy all requirements or conditions of service as set forth in IID's Regulations and DEPG with respect to electrical service from the New Facility. Without limitation, an example of the foregoing permits or approvals may include an encroachment permit for work within dedicated roadways adjacent to the New Facility or establishment of legal and physical access rights to and from such roadway to the New Facility. Participants shall ultimately bear all responsibility in connection with any required permits, approvals or conditions of service necessary for development and construction of the New Facility and receipt of electrical service therefrom, including the cost therefor, which shall be included as part of the Construction Costs.

a. Construction of Distribution Facilities and Special Service Conditions. Separate from any amount paid hereunder by each Participant toward the Construction Costs for the New Facility in any configuration, each Participant shall also be responsible for and pay the costs for all distribution facilities determined by IID to be necessary for the establishment of electrical service to each Participant's development site(s) or location of electrical service needs for each of the Participants (or their approved successor or assignee) (the "Customer Distribution Facilities").These Customer Distribution Facilities may include the installation of underground and/or overhead distribution conduits, cables, structures, poles, wires and related equipment, including any onsite or offsite from each Developer's respective development

site(s) and/or the location of other Participant's electrical service needs, all as may be necessary or appropriate for the distribution of electrical energy thereto. All such Customer Distribution Facilities shall be installed in accordance with IID's Regulations and IID's Developer Energy Planning Guide. Additionally, each Participant shall be responsible for satisfaction of all required service conditions precedent to the establishment of electrical service to all or any part of such Participant's development project, including obtaining necessary or appropriate rights-of-way, permits or entitlements for any such Customer Distribution Facilities to be extended, all in accordance with IID's Regulations and IID's DEPG. Notwithstanding the foregoing, attached hereto as Exhibit "F" and incorporated herein by reference, is a map depicting the route(s) anticipated by IID to be utilized for the extension of such Customer Distribution Facilities, namely underground and overhead distribution feeder circuits, from the New Facility to each Developer's development site(s) and/or the location(s) of the other Participant's electrical service needs. IID makes no representation or warranty as to the viability of such anticipated route(s) for use in the extension of such new Customer Distribution Facilities. TO THE EXTENT THE ULTIMATE DESIGN AND IMPLEMENTATION OF ANY CUSTOMER DISTRIBUTION FACILITIES VARY FROM THOSE SET FORTH OR OTHERWISE CONTEMPLATED HEREIN AND ADDITIONAL PERMITS, APPROVALS, INCLUDING COMPLIANCE WITH CEQA OR OTHER APPLICABLE LAWS IS REQUIRED, EACH DEVELOPER REQUIRING OR NECESSITATING SUCH CUSTOMER DISTRIBUTION FACILITIES SHALL FACILITATE AND PAY THE COST THEREFOR OBTAINING SUCH PERMITS OR APPROVALS OR COMPLIANCE PURSUANT TO IID'S REGULATIONS AND DEPG.

7. Payment of Construction Costs. The Participants, subject to the Berger Foundation Credit, and the IID Contribution (all as defined below), shall bear all costs, including, without limitation, the Construction Costs, incurred in connection with development and construction of the New Facility in its Planned Configuration and which costs shall be paid to IID in advance thereof in accordance with the Milestone Payment and Reimbursement Schedule shown on Exhibit "E", attached hereto and incorporated herein by reference. Unless otherwise set forth in this Agreement, each and every payment shall be placed into an interest-bearing escrow account. All interest earned, if any, in that account shall be treated and spent in the same manner as payments made hereunder. IID shall apply such payments and interest, if any, as set forth herein. Except as set for in Section 7(c), below, each and every payment paid to IID by each and every Participant hereunder this Agreement is paid unconditionally and shall be nonrefundable.

a. Berger Foundation Credit Toward Construction Costs. The Parties hereto, inclusive of Berger Foundation, acknowledge and agree that for and in consideration of the value of the Site as the same shall be determined pursuant to Section 5(b), together with the direct cost of the Site Improvements pursuant to Section 5(c), Berger Foundation shall be entitled to and receive a credit therefore which shall be applied to partially reduce Berger Foundations pro rata share of the Construction Costs as shown on the

Milestone Payment and Reimbursement Schedule shown on Exhibit "D", attached hereto and incorporated herein by reference (the "Berger Foundation Credit").

b. IID Contribution Toward Construction Costs. The Parties hereto, inclusive of IID, acknowledge and agree that IID shall retain no less than twenty percent (20%) of the gross electrical capacity to be realized from the New Facility, irrespective of the configuration thereof, for purposes of maintaining electrical system reliability and native-load resiliency (the "Reliability Band") and that for and in consideration of the Reliability Band and the partial benefit to IID by the New Facility in support of select portions of IID's existing electrical system, IID will contribute exactly twenty percent (20%) of the Construction Costs toward payment of such Construction Costs (the "IID Contribution"). Calculation of Construction Costs for purposes of determining the IID Contribution hereunder shall specifically exclude therefrom the Site Valuation, or any portion or percentage thereof. [This Section 7(b) and the IID Contribution is subject to approval by the IID Board of Directors. IID to finalize this percentage figure.]

c. Final Cost. Upon completion (in-service) of the New Facility in the Planned Configuration, IID will true up actual costs and apply thereto any applicable credits, including, without limitation, the Berger Foundation Credit and the IID Contribution, and will then provide Participants with the final actual Construction Cost ("Final Cost") and reasonable supporting information for the Final Cost. If the Final Cost exceeds the amount of the Construction Costs then-collected by IID hereunder, including any accrued interest, then Participants shall reimburse IID for any exceedances within thirty (30) days of mailing of notice of the balance due. If the Final Cost is less than the Construction Costs then collected by IID hereunder, including any accrued interest, then IID shall reimburse Participants for any balance within sixty (60) days of mailing of notice of the Final Cost, which amount shall be distributed to the Participants in accordance with their pro rata contribution toward the New Facility in the Planned Configuration. In addition to any other remedy available hereunder, including declaring any Participant hereunder in default pursuant to Section 10 hereof, should any Participant fail to reimburse IID for any exceedances hereunder this Section 7(c), IID may, without further notice therefor to such Participant, reduce, on a pro-rata basis, any reservation of capacity to such Participant (a "Capacity Reduction") until such exceedances are paid in full to IID. If such Participant fails to reimburse IID for any exceedances hereunder no later than one-hundred eighty (180) calendar days following the date of mailing of notice of the Final Cost, then IID may elect to allocate any electrical capacity realized from such Capacity Reduction as set forth in either Section 10 or Section 11, as IID may deem appropriate under the circumstances.

8. Term. The Parties agree that this Agreement and the Capacity Reservation Period (defined below) will remain in effect for a period of Twenty (20) calendar years from the date of completion (in-service) of the New Facility in the Planned Configuration unless (i) extended by mutual written agreement of the Parties or (ii) earlier terminated as set forth herein.

9. Reservation of Capacity. Participants have provided IID with each Participant's respective development plan or schedule of electrical service needs that will use new electrical capacity from the New Facility in the Planned Configuration. Participants' plans involve a phased-in usage of the New Facility as further identified in Exhibit A attached hereto and incorporated herein. Participants acknowledge and agree that the capacity reservation is based upon the plan of service provided to IID by Participants. Subject to Section 9(a), below, for a period of twenty (20) years from the date of completion (in-service) of the New Facility in the Planned Configuration, and provided each Participants have paid their allocable share of the Construction Costs, including any Final Cost, IID shall reserve capacity in the New Facility in the Planned Configuration for Participants in the quantity outlined in Exhibit A (the "Capacity Reservation Period"). On an annual basis, beginning the first full year following completion (in-service) of the New Facility in the Planned Configuration, IID and Participants will review Participants' respective usage of their reserved capacity. Any deviation in use outside of that identified in Exhibit A will result in a change in available capacity available, if any. For example, if a Participant's total capacity reservation is 1000 kVA and is intended to be phased-in over four years at 250 kVA per year, and in the first year the total capacity used is 500 kVA, then such Participant would only have 500 kVA of reserved capacity remaining for such Participant for the remainder of the capacity reservation period. Such annual review of remaining capacity shall not operate to reduce the overall capacity reserved to any Participant hereunder as set forth on Exhibit "A", only that such review shall determine the balance of such reserved capacity remaining for such Participant when accounting for all prior usage or transfer or assignment of such capacity by or from such Participant. Notwithstanding the foregoing, the Capacity Reservation Period shall not be applicable to the Reliability Band, which is to be allocated permanently to IID for purposes of maintaining electrical system reliability and native-load resiliency.

a. Capacity Maintenance Fee. If upon the tenth (10^{th}) anniversary of the date of completion (in-service) of the New Facility in the Planned Configuration any Participant has not then used or caused to be used at least fifty percent (50%) of the capacity reserved for said Participant, then, to extend such Participant's reservation of the balance of the capacity then un-used for an additional ten (10) years, Participant shall pay to IID a one-time capacity reservation fee in an amount equal to one-hundred dollars ($100.00) multiplied by the total capacity (measured in kVA) then remaining on reserve for such Participant (the "Capacity Maintenance Fee"). Participant shall pay such Capacity Maintenance Fee to IID no later than sixty (60) days of mailing of notice thereof to each Participant which may then be subject to the Capacity Maintenance Fee. If Participant fails to pay any portion of the Capacity Maintenance Fee as and when due, IID may terminate the remaining reserved capacity held by IID from the New Facility for the benefit of such Participant hereunder and may elect to allocate any electrical capacity realized from such termination as set forth in either Section 10 or Section 11, as IID deems appropriate under the circumstances in IID's sole and absolute discretion. Participants acknowledge and agree the Capacity Maintenance Fee is intended to address and compensate for IID's on-going operational costs associated with

operation of the New Facility in the Planned Configuration prior to becoming fully subscribed with new electrical service customers.

b. Transfer or Assignment of Capacity Reservation by Berger Foundation and Developer. Berger Foundation and Developers may transfer or assign all or a portion of its capacity reservation only in connection with (i) a transfer of all or any pro rata portion of the specific development site or project for which Berger Foundation or Developer's development plan was prepared and submitted to IID as identified herein, or (ii) in connection with Berger Foundation or Developer's pledge of its capacity reservation hereunder in connection with the pledge of Berger Foundation or Developer's specific development site or project identified herein for purposes of obtaining financing therefor; provided, however, Berger Foundation and Developer shall first obtain the written concurrence of IID for such transfer or assignment, and which transfer or assignment, if so approved by IID, is to be evidenced using the form of Consent to Assignment attached hereto as Exhibit "G" and incorporated herein by this reference (the "Form of Assignment"), as the same may be amended by IID from time to time. In no event may any capacity reserved hereunder to Berger Foundation or any Developer be assigned if the assignee receiving such capacity reservation intends or seeks to make use of such reserved capacity in a location remote from or otherwise not electrically integrated to the New Facility in the Planned Configuration as determined in IID's sole and absolute discretion.

c. Transfer or Assignment of Capacity Reservation by Agency. Each Agency may transfer or assign all or a portion of any capacity reserved to it hereunder provided (i) such capacity is not already allocated to or otherwise assigned to a particular development site or project or proposed use and (ii) each of the foregoing intending to transfer or assign shall first consult with IID and obtain IID's advance concurrence therefor as evidenced by IID's delivery thereto such agency of a duly executed Form of Assignment (as defined above) therefor such transfer or assignment.

d. Prohibition on Transfer or Assignment. In no event may any capacity reserved hereunder to any Participant, be transferred or assigned pursuant to either Section 9(a) or Section 9(b) if the assignee receiving such capacity reservation intends or seeks to make use of such reserved capacity in a location remote from or otherwise not electrically integrated to the New Facility in the Planned Configuration as determined in IID's sole and absolute discretion.

10. Complete Participation. Participants acknowledge and agree that collective participation by all Participants as outlined herein this Agreement is absolutely necessary for the complete funding and construction of the New Facility in the Planned Configuration to meet the electrical requirements of the Participants. Unless otherwise set forth in this Agreement, each and every payment made hereunder by any Participant, including any paid pursuant to the Milestone Payment and Reimbursement Schedule shown on Exhibit "D", attached hereto and incorporated herein by reference, or otherwise, is paid unconditionally and is nonrefundable. In the event one or more Participants fails to pay any monetary sum or otherwise perform any obligation as and when due under this Agreement, IID may declare

such Participants in default of this Agreement by sending notice thereof to such Participant(s) and providing said Participant(s) thirty (30) days to cure such breach. If any Participant shall fail to cure such breach following notice and the passage of such thirty-day cure period, IID shall be entitled to immediately terminate this Agreement as to such Participant and retain any and all sums then paid by such Participant and which such sums IID shall be entitled to apply as follows: first: (1) toward any amount to be credited to Berger Foundation pursuant to Section 7(a) of this Agreement, (2) toward any outstanding financial sums, including, without limitation, any Construction Costs, owing under any contract to which IID has entered into pursuant to this Agreement to facilitate the development and construction of the New Facility in the Planned Configuration; then, (3) toward any financial sums outstanding hereunder this Agreement owed to IID for any portion of the Work completed, including, for example, any engineering work or study, prior to such termination; and then, (4) to any other Construction Costs as and when the same may become due in the ordinary course pursuant to this Agreement. In the event of such termination, IID will allocate to such terminated Participant only a pro rata share of the electrical capacity to be realized from the New Facility in the Planned Configuration on the basis of such amounts actually paid by such terminated Participant as the same bears against the Final Cost of the New Facility in the Planned Configuration. The obligation of each Participant, including any Participant to which this Agreement is terminated pursuant to this Section 10, to pay any monetary sum incurred or committed to be incurred or to otherwise be paid pursuant to this Agreement, will survive termination of this Agreement.

a. Substitute Participant. In the event IID terminates this Agreement as to one or more Participants prior to the Construction Costs being funded in full pursuant to this Agreement, IID may, in is sole and absolute discretion, accept one or more substitute participant(s) to participate in this Agreement, on a pro rata basis, in place of those Participant(s) to which this Agreement has been terminated as to the balance of any electrical capacity that was to be allocated to such terminated Participant hereunder. In the event of any such substitution, IID shall notify such substitute participants(s) of the balance of the pro rata cost such substitute participants(s) shall be obligated to pay hereunder as a substitute participant together with the total amount of electrical capacity to be allocated to such substituted participant hereunder this Section 10. Such substitute participant(s) shall have forty-five (45) calendar days in which to agree to accept such financial obligation and execute and deliver a counterpart of this Agreement to the Parties. Nothing herein shall preclude any of the Participants further participation as a substitute participant pursuant to this Section 10(a).

i. Reallocation of Construction Costs. In the event IID does not accept one or more substitute participants to replace any Participants to which this Agreement has been terminated as set forth in Section 10(a), IID may reallocate the balance of any Construction Costs then remaining to be paid hereunder by and amongst all remaining Participants on a pro rata basis; provided, however, the IID Contribution shall not be adjusted pursuant to any reallocation and shall instead continue to remain twenty percent (20%) of the Construction Costs. In such event, IID will

prepare an Updated Milestone Payment and Reimbursement Schedule and deliver the same to Participants. IID will reallocate to the Participants the excess capacity realized from such termination on the same pro rata basis and which excess capacity the Participants may then use or otherwise assign or transfer pursuant to the terms and conditions of this Agreement.

11. Future Use by Third Parties. In the event (i) the Participants' respective use of the New Facility in the Planned Configuration, in aggregate, is less than the full added capacity of the New Facility in the Planned Configuration, or (ii) upon termination of this Agreement as to any Participant as permitted hereunder and any resulting reduction in any allocated capacity, or (iii) a termination of any reserved capacity for failure to pay any amount due and payable hereunder, including, without limitation, the Capacity Maintenance Fee, then IID may make such remaining capacity available to prospective third-party customers of IID for their respective electrical service needs. In such event, Participants may be eligible for reimbursement for a portion of the cost of the New Facility in the Planned Configuration from such third-party customer(s) in accordance with their pro rata share of the Construction Costs of the New Facility in the Planned Configuration. Reimbursement would be available only from third-party customers paid to and through IID as set forth in Section 11(a). For purposes of this Agreement, "third-party customer(s)" shall mean customers other than the Participants set forth on Exhibit "A" that connect to and/or otherwise make use of the New Facility in the Planned Configuration. Notwithstanding the foregoing, the Parties anticipate that substantively all of the new electrical capacity to be realized from the New Facility in the Planned Configuration is or will be fully subscribed and allocated for use by Participants and IID hereunder such that no excess or unreserved capacity is anticipated from the New Facility. No reimbursement shall be due and owing to any Participant hereunder if such fees are collected from such third-party customer(s) following expiration of the term of this Agreement.

a. Collection of Reimbursement from Third-party Customer(s). For the term of this Agreement, IID shall impose a charge upon all third-party customer(s), if any, which making use of the New Facility in the Planned Configuration based on such customers pro rata share of the Construction Costs. Funds shall be collected from any and all third-party customer(s) at the time a third-party customer applies to IID for electrical service. In no event shall IID be obligated to reimburse Participants for the New Facility in the Planned Configuration, unless and until any third-party customer(s) uses the New Facility in the Planned Configuration and provides compensation to IID therefor pursuant to this Section 11(a). Notwithstanding the foregoing, the Parties anticipate that substantively all of the new electrical capacity to be realized from the New Facility in the Planned Configuration is or will be fully subscribed and allocated for use by the Participants and IID hereunder such that no excess or unreserved capacity is anticipated from the New Facility.

b. Methodology for Reimbursement. Reimbursement, if any is to occur hereunder, will be based upon the pro rata use of the New Facility in the Planned Configuration by Participants and third-party customer(s), if any, all on the basis of the Final Cost

and without adjustment therefor for inflation, or interest thereon. A determination of use shall be based upon a pro rata charge on the third-party customer(s)' load requirements based on a kVA usage or such other methodology as determined by IID, in its reasonable discretion, that will provide Participants with similar reimbursement from said third-party customer(s).

c. IID Not Liable for Reimbursement. With exception for the IID Contribution and any obligation to remit to the Participants any reimbursement for any fees paid by any third-party customer of IID hereunder this Section 11 for use of any excess capacity from the New Facility in the Planned Configuration, in no event shall IID be liable to the Participants, or any of them, for reimbursement for any portion of the cost of the New Facility in the Planned Configuration, including, without limitation, the Final Cost.

d. This Section 11 and its provisions are intended only to address use and reimbursement of excess capacity realized from the New Facility in excess of the amounts otherwise allocated pursuant to this Agreement. Notwithstanding the foregoing, the Parties anticipate that substantively all of the new electrical capacity to be realized from the New Facility in the Planned Configuration is or will be fully subscribed and allocated for use by the Participants and IID hereunder such that no excess or unreserved capacity is anticipated from the New Facility. Further, no provision of this Section 11 concerning reimbursement from third-party customer(s) for use of the New Facility shall be applicable to any transfer or assignment by any Participant pursuant to Section 9(b) or 9(c), as applicable, including as to any value given or exchanged by and between such Participant and any transferee or assignee thereof as may be permitted under this Agreement.

12. Payment and Accounting. IID shall create a segregated account designated for sums it collects from third-party customer(s) which use the New Facility in the Planned Configuration and shall, not more than twice annually, disburse reimbursement to Participants together with an accounting of collections and disbursements of such funds, including any to cover administrative costs associated with this Agreement. Such reimbursement shall also include any interest accrued from the segregated account utilized by IID hereunder.

13. Termination of Obligation for Capacity Reservation. IID's obligation to reserve capacity for each Participant shall terminate on the first of the following to occur: (i) the capacity reserved has been used by Participant, or their transferee or assignee; or (ii) upon termination of such reserve capacity, or portion thereof, by IID for failure of Participant to pay any amounts required hereunder, including, without limitation, the Capacity Maintenance Fee; or, (iii) 20 years from date of completion (in-service) of the New Facility.

14. Ownership of the New Facility. The Parties acknowledge and agree that IID solely shall own the New Facility, in any configuration, including all appurtenant equipment, rights, and associated interests made, given, granted or arising in connection therewith, including any manufacturer's warranties upon any of the foregoing, including any which may be acquired pursuant to this Agreement. Upon completion of the New Facility, in any configuration, IID shall operate and maintain the New Facility

as part of its electric system in accordance with good utility practice. The Parties (and their successors and assignees) agree and acknowledge that the payments made pursuant to this Agreement by Participants shall be the only payments required of Participants for the development and construction of the New Facility in the Planned Configuration, and that any successors or assigns of IID shall be bound by the terms of this Agreement with respect to the New Facility.

15. Expanded Configuration Not Assured. The Parties acknowledge that the New Facility is intended to be constructed to the Planned Configuration and that further expansion of the New Facility to the Expanded Configuration is not the subject of nor provided for in this Agreement. Any expansion of the New Facility to the Expanded Configuration will be subject to the making or one or more new agreements providing for participation therein such expansion and/or such other suitable arrangements therefor, as IID may deem necessary or appropriate.

16. Delays.

    a. IID Not Liable for Delays. In no event shall IID be responsible under the terms of this Agreement for any delay in completion (in-service) of the New Facility in the Planned Configuration, provided, however, IID will make all commercially reasonable efforts to avoid delay in completion (in-service) of the New Facility in the Planned Configuration.

    b. Berger Foundation Not Liable for Delays. In no event shall Berger Foundation be responsible under the terms of this Agreement for any delay in completion of the Site Improvements or the Site Dedication which are beyond the reasonable control of Berger Foundation, provided, however, Berger Foundation will make all commercially reasonable efforts to avoid delay in completion of the Site Improvements and Site Dedication.

17. Indemnification and Hold Harmless Agreement.

    a. As between IID and Berger Foundation/Developers. Berger Foundation and Developers, separately and severally, shall at all times indemnify, defend, protect and hold harmless IID and each Agency, and their respective Boards, Councils, officers, executives, officials, employees, contractors, agents and representatives from and against any and all suits, causes of action, claims, charges, damages, demands, judgments, civil fines, penalties, costs and expenses (including without limitation, attorneys' fees, and costs of experts and consultants), or losses of any kind or nature whatsoever including, without limitation, business interruption, impairment of contract, death, bodily injury or personal injury to any person, and damage, destruction or loss of use of any property (financial, physical, or intellectual); or, without limitation, any claims or suits made or brought in connection with any administrative or legal proceeding challenging any aspect of the CEQA compliance undertaken by IID pursuant to Section 2 of this Agreement (collectively, "Claims"), arising out of, incident to or directly or indirectly related to: (i) the acts, errors or omissions, performance or nonperformance of Berger Foundation or any of the Developers their employees, agents, contractors, or representatives, under or in connection with this Agreement; and (ii) the acts, errors, or omissions, or performance of IID, or any Agency, or any of their

respective officers, executives, directors, employees, contractors agents or representatives, when such acts or omissions are in combination with the acts, errors, or omissions of any Developer or Foundation. This duty to defend, indemnify, protect and hold harmless shall not extend to any Claims arising from the gross negligence or willful misconduct of IID or any Agency, or their respective officers, directors, employees, contractors or agents.

b. As between IID and Agencies. No Agency nor any of their Board, Council, officers, executives, directors, employees, contractors, agents or representatives thereof shall be responsible for any damage or liability occurring by reason of any act or omission of IID under or in connection with the Work performed by IID under this Agreement. Pursuant to Government Code Section 895.4, IID shall fully indemnify and hold each Agency harmless from any liability imposed for injury (as defined by Government Code Section 810.8) occurring by reason of any act or omission of IID under or in connection with the Work performed by IID pursuant to this Agreement. Likewise, neither IID nor its Board, or any officer, executive, director, executive, employee, contractor, agent or representatives thereof shall be responsible for any damage or liability occurring by reason of any act or omission of any Agency under or in connection with this Agreement, and pursuant to Government Code Section 895.4, each Agency, individually, shall fully indemnify and hold IID harmless from any liability imposed for injury (as defined by Government Code Section 810.8) occurring by reason of any act or omission of each such Agency under or in connection with this Agreement.

18. Authority. Each signatory of this Agreement represents that s/he is authorized to execute this Agreement on behalf of the Party for which s/he signs. Each Party represents that it has legal authority to enter into this Agreement and to perform all obligations under this Agreement. If Participants are a business entity, each represents that it is duly organized and authorized to do business in the State of California and if a foreign-organized entity, authorized or otherwise qualified to do business in the State of California.

19. Waiver. The failure of a Party to this Agreement, on any occasion, to insist upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party. Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Any waiver of this Agreement shall, if requested, be provided in writing.

20. Amendment. This Agreement may be amended or modified only by a written instrument executed by each Party to this Agreement.

21. Headings. The paragraph headings used in this Agreement are intended for convenience only and shall not be used in interpreting this Agreement or in determining any of the rights or obligations of the Parties to this Agreement.

22. Integration; Incorporation of Recitals and Exhibits. This Agreement is intended by the Parties to be the final expression of their agreement with respect to the subject

matter of this Agreement and the complete and exclusive statement of the terms of this Agreement between the Parties, and supersedes any prior understandings between the Parties, whether oral or written. Each and every of the recitals set forth hereinabove and exhibits referenced hereinabove are hereby incorporated herein this Agreement as is though set forth herein and contain integral terms and conditions of this Agreement.

a. Administrative Updating of Exhibits. The Parties hereto acknowledge that the exhibits referenced hereinabove and incorporated herein by the above reference may be updated or adjusted over time to reflect changes in names, addresses, and other matters addressed in this Agreement or its incorporated exhibits and agree that the Parties shall have the right to make such administrative updates notwithstanding that such update shall not be interpreted by the Parties to be an amendment of this Agreement unless such update is expressly intended to constitute an amendment or modification of this Agreement in compliance with Section 20 hereof.

23. Partial Invalidity. If, after the date of execution of this Agreement, any provision of this Agreement is held to be illegal, invalid, or unenforceable under present or future laws effective during the Term of this Agreement, such provision shall be fully severable and the remaining portions of this Agreement shall not be affected thereby and shall remain in force and effect to the fullest extent permissible by law. However, in lieu thereof, there shall be added a provision as similar in terms to such illegal, invalid or unenforceable provision as may be possible and be legal, valid and enforceable.

24. Successors and Assigns. This Agreement shall be binding on and inure to the benefit of the successors of the respective Parties to this Agreement. This Agreement and obligations hereunder may not be assigned without the prior written consent of the other Party.

25. Compliance with Law. In performing their respective obligations under this Agreement, the Parties shall comply with and conform to all applicable laws, rules, regulations and ordinances.

26. Third-party Beneficiaries. This Agreement shall not create any right or interest in any non-Party or in any member of the public as a third-party beneficiary.

27. Notices. All notices, requests, demands or other communications required or permitted under this Agreement shall be in writing unless provided otherwise in this Agreement and shall be deemed to have been duly given and received on: (i) the date of service if served personally or served by electronic mail on the Party to whom notice is to be given at the address(es) provided below, (ii) on the first day after mailing, if mailed by Federal Express, U.S. Express Mail, or other similar overnight courier service, postage prepaid, and addressed as provided below, or (iii) on the third day after mailing if mailed to the Party to whom notice is to be given by first class mail, registered or certified, postage prepaid, addressed as follows:

To IID: Imperial Irrigation District
Attn: General Manager

	P.O. Box 937 333 E. Barioni Blvd. Imperial, CA 92251
To Palm Desert:	City of Palm Desert Attention: City Manager 73510 Fred Waring Drive Palm Desert, CA 92260 (760) 346-0611
To Rancho Mirage:	City of Rancho Mirage Attention: City Manager 69825 Highway 111 Rancho Mirage, CA 92270 (760) 346-0611
To County:	County of Riverside Attention: Chief Operating Officer 4080 Lemon Street Riverside, CA 92501 (951) 955-1000
To Berger Foundation and Developers:	See Exhibit "A"

28. Default. Unless otherwise provided for in this Agreement, prior to the initiation of any legal action for a default of this Agreement, the Parties shall meet to discuss resolution of the alleged default. Each Party shall bear its own attorneys' fees and costs incurred in connection with meeting to resolve the alleged default, unless the Parties agree in writing otherwise.

29. Governing Law; Venue. This Agreement shall be governed by, interpreted and enforced in accordance with the laws of the State of California, as if executed and to be performed wholly within the State of California, and without regard to principles of conflicts of law. Any action or proceeding arising out of or relating to this Agreement shall be brought in State court located in the County of San Diego, California or Federal court located in the County of San Diego California. Each Party irrevocably agree to submit to the exclusive jurisdiction of such courts in the State of California for the purpose of litigating any dispute arising out of or relating to this Agreement, and waive any defense of forum non conveniens (or a similar doctrine pertaining to venue).

30. Multiple Counterparts; Electronic Signatures. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute but one and the same instrument. The words "execution," "execute," "signed," "signature," and words of like import in or related to any document to be signed in connection with this Agreement shall be deemed to include electronic signatures or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually

executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law.

31. No Partnership. This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind another Party.

32. Satisfaction of Capacity Condition in Will Serve Letter. To the extent any Developer's Development is conditioned by IID to establish new electric system capacity to facilitate retail electric service to all or any part of Developer's identified Development, Developer's execution and performance of its obligations hereunder this Agreement, including, without limitation, payment of Developer's pro rata share of the Construction Costs hereunder, then IID will, where requested by such Developer, issue a Will Serve Letter or any amendment, addendum or extension of any prior-issued Will Serve Letter (each a "WSL") indicating that such Developers obligation to establish new system capacity for its identified Development is or will be satisfied pursuant to the construction and commissioning of the New Facility pursuant to this Agreement. Such WSL, is and will be expressly conditioned upon all of the following: (i) such Developer remaining a Party to this Agreement and otherwise performing all obligations arising hereunder, including, without limitation, payment of the Milestone Payments, (ii) Developer's compliance with IID's Regulations and DEPG, and (iii) Developer's establishment of any Customer Distribution Facilities or such other service requirements, including, without limitation, such distribution service line extensions or modifications as may be required to transmit any reserved capacity hereunder this Agreement to such Developer's identified Development and as provided for in said WSL. Notwithstanding the foregoing, to the extent any of Developer's identified Development requires electrical service capacity in excess of the capacity to be reserved to such Developer for its Development pursuant to this Agreement, then IID may include within such requested WSL additional conditions for the establishment of new system capacity to serve the balance of any Developer's identified Development which cannot be served by the capacity reserved to such Developer hereunder. IID reserves the right to modify or otherwise supersede such WSL, including for example, in the event this Agreement is terminated as to such Developer in accordance with the terms and conditions of this Agreement.

33. IID's Regulations, Developer Energy Planning Guide and Substation Guideline. This Agreement is subject to IID's Regulations ("Regulations"), Developer Energy Planning Guide ("DEPG") and Substation Site Guidelines ("Substation Guidelines"), all as may be amended from time-to-time. In the event of any conflict between the provisions of this Agreement and any of the foregoing documents, the foregoing documents shall govern and control.

    Regulations: https://www.iid.com/power/rates-regulations/regulations

    DEPG: https://www.iid.com/home/showpublisheddocument/14229/638808431962130000

[Signature page follows.]

IN WITNESS WHEREOF, the Parties hereto, have caused this Agreement to be duly executed and delivered as of the date first above written.

IID:

IMPERIAL IRRIGATION DISTRICT

By:_____
Name and Title:_____

PARTICIPANTS:

CITY OF PALM DESERT

By:_____
Name and Title:_____

CITY OF RANCHO MIRAGE

By:_____
Name and Title:_____

COUNTY OF RIVERSIDE

By:_____
Name and Title:_____

THE H.N. AND FRANCES C. BERGER FOUNDATION

By:_____
Name and Title:_____

DEVELOPERS:
[See Developer signature page attached.]

DEVELOPER SIGNATURE PAGE:

DEVELOPER #1

By:_____
Its: _____

DEVELOPER #2

By:_____
Its: _____

DEVELOPER #3

By:_____
Its: _____

EXHIBIT A

SCHEDULE OF PARTICIPANTS, ELECRICAL DEMAND AND DEVELOPMENT/PROJECT SITE SPECIFICS

Developer: [Entity]
Project: [Name]
Description: ___unit SFR development
Location: ___
Estimated kVA: ___
Phase 1 kVA: ___

Developer: [Entity]
Project: [Name]
Description: ___unit SFR development
Location: ___
Estimated kVA: ___
Phase 1 kVA: ___

Developer: [Entity]
Project: [Name]
Description: ___unit SFR development
Location: ___
Estimated kVA: ___
Phase 1 kVA: ___

EXHIBIT B

SCHEMATIC REPRESENTATION OF NEW FACILITY

[Insert IID Cook Street Substation Concept document.]

EXHIBIT C

ESTIMATE OF CONSTRUCTION COSTS

[To be inserted.]

EXHIBIT D

CONSTRUCTION MILESTONE SCHEDULE

EXHIBIT E

MILESTONE PAYMENT AND REIMBURSEMENT SCHEDULE[1]

Total good faith, high level cost estimate: **$_____.00**

1. Amount Due 30 days after Execution: $_____.00
2. Amount Due _____: $_____.00
3. Amount Due _____: $_____.00
4. Amount Due _____: $_____.00
5. Amount Due _____: $_____.00
6. Amount Due _____: $_____.00

[Each Milestone Payment will separately identify the pro-rata share for each Participant.]

[Provision for Berger Foundation Credit]

[Provision for IID Contribution if approved by IID Board of Directors]

[1] IID shall be under no obligation to perform any activity under this Agreement unless Participants shall have deposited adequate funds to pay for such work. Further, since IID has no control over the cost of labor or material, the estimated costs set forth in this Milestone Payment and Reimbursement Schedule above are furnished only for the convenience of the Participants. They are intended to reflect the costs of similar materials and similar work performed under favorable conditions. Because of the unforeseen contingencies and other factors, the actual costs may be considerably higher or lower. Therefore, the estimate costs are not a warranty by IID of the actual costs to complete all of the milestone activities listed above for the estimated cost also shown above. The estimated deposits above are not a warranty by IID of the actual cost to complete the work required by IID; Participants will be required to pay the actual cost on the terms set forth in this Agreement.

EXHIBIT F

MAP OF CUSTOMER DISTRIBUTION FACILITIES

[To be inserted.]

EXHIBIT G

FORM OF ASSIGNMENT

ASSIGNMENT AND TRANSFER OF ELECTRICAL CAPACITY

This Assignment and Transfer of Electrical Capacity ("Agreement") is made and entered into as of this ___ day of _____**, 20__**, by and between Assignor and Assignee, on the terms and conditions set forth herein below. Notwithstanding any provision herein, no assignment or transfer of electrical capacity as contemplated herein shall be effective until the consent of the Imperial Irrigation District ("IID") therefor is obtained.

Assignor:
Name: _____
Address: _____
City/State/Zip: _____
Contact Number: _____
Project Name: _____
Location of Use: _____

Assignee:
Name: _____
Address: _____
City/State/Zip: _____
Contact Number: _____

Re: Assignment and transfer of electrical capacity (___MVA) associated with:
Project Name: _____
Account or Project ID: _____
Location of Use: _____
Assigned Capacity: _____ MVA

Agreement

1. Assignment. The Assignor hereby assigns, transfers, and sets over to the Assignee all rights, title, and interest in and to the above-referenced electrical capacity, the same being ___ MVA, which capacity is made available to Assignee solely from the Imperial Irrigation District's _____Substation, located _____, Thousand Palms, California, and which electrical capacity shall be available for use solely for the Project at the Location of Use identified above

2. Effective Date. This assignment shall take effect on the ___ day of _____, 20__, subject to written consent of IID, as provided below.

3. Representations and Warranties. The Assignor represents and warrants that it has full authority to assign the electrical capacity subject to the consent of IID, as provided below, that such capacity is free from liens, claims, or encumbrances, and that no prior conflicting assignments exist with respect to the electrical capacity assigned hereunder

4. Assumption by Assignee. The Assignee accepts the assignment subject to the limitations set forth herein and as may be imposed by IID in connection with the use of such reserved capacity, including pursuant to IID's Regulations and Developer Energy Planning Guide, as each may be amended from time to time, and Assignee further agrees to assume all rights, duties, and obligations associated with the assigned capacity as of the Effective Date subject to such limitations.

5. Bound by Terms and Use Limitation. The Assignee acknowledges and agrees to be bound by all applicable utility rules, agreements, and conditions relating to the electrical capacity. The assigned electrical capacity may only be used at the location specified above and only in the amount stated herein. Any unauthorized use or reassignment is strictly prohibited unless approved in writing by IID.

6. Governing Law; Venue. This Agreement shall be governed by, interpreted and enforced in accordance with the laws of the State of California, as if executed and to be performed wholly within the State of California, and without regard to principles of conflicts of law. Any action or proceeding arising out of or relating to this Agreement shall be brought in State court located in the County of San Diego, California and/or Federal court located in the County of San Diego California. Each Party irrevocably agree to submit to the exclusive jurisdiction of such courts in the State of California for the purpose of litigating any dispute arising out of or relating to this Agreement, and waive any defense of forum non conveniens (or a similar doctrine pertaining to venue).

7. Signatures. The undersigned have all requisite authority to execute this Agreement and undertake all obligations arising therefrom or in connection therewith.

Assignor:
Signature: _____
Name: _____
Title (if applicable): _____
Date: _____

Assignee:
Signature: _____
Name: _____
Title (if applicable): _____
Date: _____

Consent of Imperial Irrigation District

The undersigned, as an authorized representative of the Imperial Irrigation District, hereby [acknowledges] consents to the assignment and transfer of the electrical capacity described herein.

Signature: _____
Name: _____
Title: _____
Date: _____

City Council Staff Report

Shop Local Rancho Mirage Gift Card Program Proposed Holiday Bonus Campaign

DATE	ITEM #
December 4, 2025	ACTION CALENDAR - 6C.
Presented To	**Presented By**
Mayor and City Council	Gabe Codding, Director of Marketing

RECOMMENDED ACTION

Approve the implementation of the Shop Local Rancho Mirage Gift Card Holiday Bonus Program (running from Friday, December 5, 2025, through Tuesday, February 17, 2026), with the program utilizing a $50,000 bonus fund to offer a 50% matching incentive on gift card purchases.

DISCUSSION

Launched in November 2024, the City of Rancho Mirage's Shop Local Rancho Mirage Gift Card Program continues to serve as a versatile and impactful economic development tool, supporting local businesses and encouraging community spending. The digital-first platform makes it easier than ever for consumers to purchase, track, and redeem their cards, thanks to features such as tap-to-pay functionality and the option to store the gift card directly in a digital wallet through the program's app. The card is redeemable at nearly 70 participating businesses, including restaurants, retail shops, spas, golf courses and wellness centers, helping keep dollars circulating within the local economy and strengthening the city's small business sector.

A major advantage of this program as an economic development initiative is its flexibility. The City can launch bonus promotions throughout the year to stimulate spending during key periods. Since inception, nearly $283,000 in Shop Local Rancho Mirage gift cards have been issued, with approximately 3,200 cards redeemed, demonstrating strong engagement and sustained economic impact.
Building on this continued success, staff recommend leveraging this proven economic development strategy during the upcoming holiday season and extending through Valentine's Day and President's Day weekend. The proposed holiday bonus program would include a 50 percent match on gift card purchases, consistent with all previous bonus campaigns. The program remains widely embraced by residents, visitors and participating businesses, particularly Rancho Mirage's locally owned restaurants, and continues to deliver measurable benefits to the local economy.

FISCAL IMPACT

The proposed bonus campaign will be funded through $50,000 from the City's existing Shop Local Rancho Mirage Community Economic Development allocation.