P. B. L. A. ENGINEERING, INC

PLANNING • ENGINEERING • SURVEYING

PRELIMINARY DRAINAGE STUDY

THOUSAND PALMS

BUILDING 1

RIVERSIDE COUNTY, CA
PPT 220022

PREPARED FOR:

Majestic Realty Co.
13191 Crossroads Parkway North
6th Floor
Industry, California 91746

Preparation Date: March, 2022

Revised November, 2022 : January, 2023

Revised June, 2023

Revised October, 2023

REGISTERED PROFESSIONAL ENGINEER
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EXP. 12-31-24
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STATE OF CALIFORNIA

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Background and Purpose

Majestic Realty Company is proposing to develop a single logistics industrial building on approximately 83 acres of land in the County of Riverside. The property is located on the east side of Rio Del Sol Road approximately 2,600 feet north of Varner Road in the community of Thousand Palms in the County of Riverside.

The property is vacant and unimproved, and the current condition of Rio Del Sol Road is a 2-lane rural roadway. The natural drainage pattern flows north to south between 2.5% and 3.5%. The Site receives run-on sheet flow drainage on the eastern half of the site from north of the Project, however, the western half does not due to the adjacent property development. It is proposed to create a diversion berm along the northeast portion of the site directing the sheet flow water towards the east and along the eastern property line. The diverted flow will be directed to the eastern side of the project, flow into a "stilling basin" that will reduce the flow velocity to zero. Low flows will not overflow the basin, higher flows will overflow, and continue to the south. This will ensure there will be no adverse affect on downstream property owners.

The developed site will direct runoff to the proposed Retention Basins located on the south and southwest portion of the Site. The main basins (Basins B-1 & B-2) will receive runoff from a majority of the site via surface flow and underground storm drain. The basin is sized to retain and infiltrate the entire developed runoff from the site and a majority of proposed 30th Street for all design storm events. Likewise, Basin B3 will receive street flow runoff from Rio Del Sol Road and the remainder of 30th Street.

Since the significant majority of the site and adjacent streets will be retained and infiltrated, there is no need to provide an Existing Condition Hydrology calculation for comparison purposes. Of the 83.0-acre total site area (including out to the centerline of the adjacent streets), 76.0 acres is tributary to the various basins. That represents 95.2% capture and treat ratio. The remaining area is the future IID Substation and the area comprising the diversion berm and stilling basin. Logic dictates that the developed condition will not exceed the existing condition based on the proposed design.

The retention basins are sized to infiltrate the worst case of the various design storm events in accordance with the Riverside County Hydrology Manual. The spillway overflows will not be necessary under normal operations, only in the event of storms in excess of the anticipated volumes, or other extraordinary events. There is no designed outlet structure or system planned for the basins. Inlets into the basin will be either Caltrans Std. Flared End Sections or headwalls w/ rip-rap pad for erosion control. Details of these inlets will be provided in final engineering. In the event the overflow spillways function, the flows will be directed to the intersection of Rio Del Sol and 30th.

The purpose of this report is to establish the basis for final design of flood protection and drainage conveyance elements, ensure that these elements can be sized properly, and to ensure the development can comply with County of Riverside requirements when constructed.

<u>Project Scope</u>

As stated above, only the Developed Condition analysis is provided in this study. Additionally, because this is a preliminary study, only the 100 year recurrence interval is considered for the 1, 3, 6, and 24 hr storms. The 2, 5, 10 and 100 year intervals will be considered in the final hydrology and hydraulics study based on final construction documents.

The Hydrology Map for the Developed Unit Hydrograph are provided in Appendix A.

<u>Flood Designation</u>

The property described on this survey lies within Zone "AO" of the Flood Insurance Rate Map number 06065C1585G bearing an effective date of August 28, 2008.

Zone "AO" is defined as an area with a base flood elevation or depth. This site is in an area with a 1 foot flood depth.

<u>Project Location</u>

Design Criteria and Methods

The runoff calculations presented in this study are produced using the Unit Hydrograph method as detailed in the current Riverside County Hydrology Manual. The Unit Hydrograph is used as input flow for the Flood Routing calculations for each storm event to ensure proper retention basin sizing.

Rainfall data, soil loss, and Runoff Index numbers are based on the County Manual. Retention basin volume and outflow calculations are produced with a spreadsheet program. See Appendix E for Hydrology & Flood Routing Results.

Hydrology Model Assumptions

Proposed Condition:

Runoff Index = 32 – Per Plate E-6.1 in the RCFCD Hydrology Manual
Soils Type = A – Soil map included.
Rainfall Data – NOAA Atlas 14 per SB County requirements.
AMC = 2 - Used studies of this nature
Unit Hydrograph Lag Time – Calculated by Hydrology program based on physical properties.
Base Flow = 0 – Run-on flows will be diverted to the east.

Loss rates are per the Hydrology Manual for undeveloped, developed, and basin sites.

Infiltration Rate

The design basis for outflow from the retention basins is the measured rate of infiltration provided by the Geotechnical Engineer, and an appropriate Factor of Safety. In accordance with Appendix “A” of the Riverside County Low Impact Development Design Handbook, the appropriate factor of safety for this site is 3. The measured infiltration rate in the vicinity of the proposed basins is 9.5 in/hr. Therefore, design infiltration rate for this Project is 9.5/3 = 3.17 in/hr. The Soils Infiltration Report is provided in Appendix F.

Conclusion

This study and the related calculations indicated that the proposed development design flows can be conveyed to the proposed retention basins, and those basins are capable of infiltrating the entirety of the developed runoff without exceeding the basin capacity.

Note that a final Hydrology and Hydraulics study will be required to accompany final construction documents to analyze final basin geometry, provide conveyance element hydraulics for proper pipe sizing, surface drainage facilities and energy dissipation.

Alluvial Fan Analysis / 30th Avenue Dip Crossing

In addition to the analysis of the onsite drainage and hydraulics, Riverside County also requires the Project proponent to perform an alluvial fan drainage analysis to identify potential flood hazards and propose protection measures to ensure the site is protected from a design storm event. This analysis is performed in accordance with the Coachella Valley Water District (CVWD) design requirements and standards.

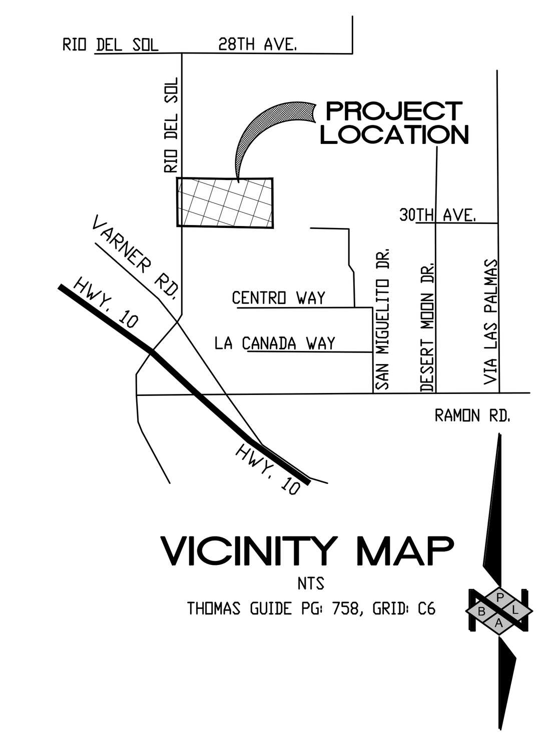
As a result of this analysis, the project will be required to bypass approximately 1000 cfs approaching the site from the north around the site and deliver these flows to the south of the project in a state that matches pre-development conditions. To accomplish this, we will use the proposed retention basin as a velocity reducer, and overflow 30th Avenue in a dip crossing to deliver the flows to the south of the site.

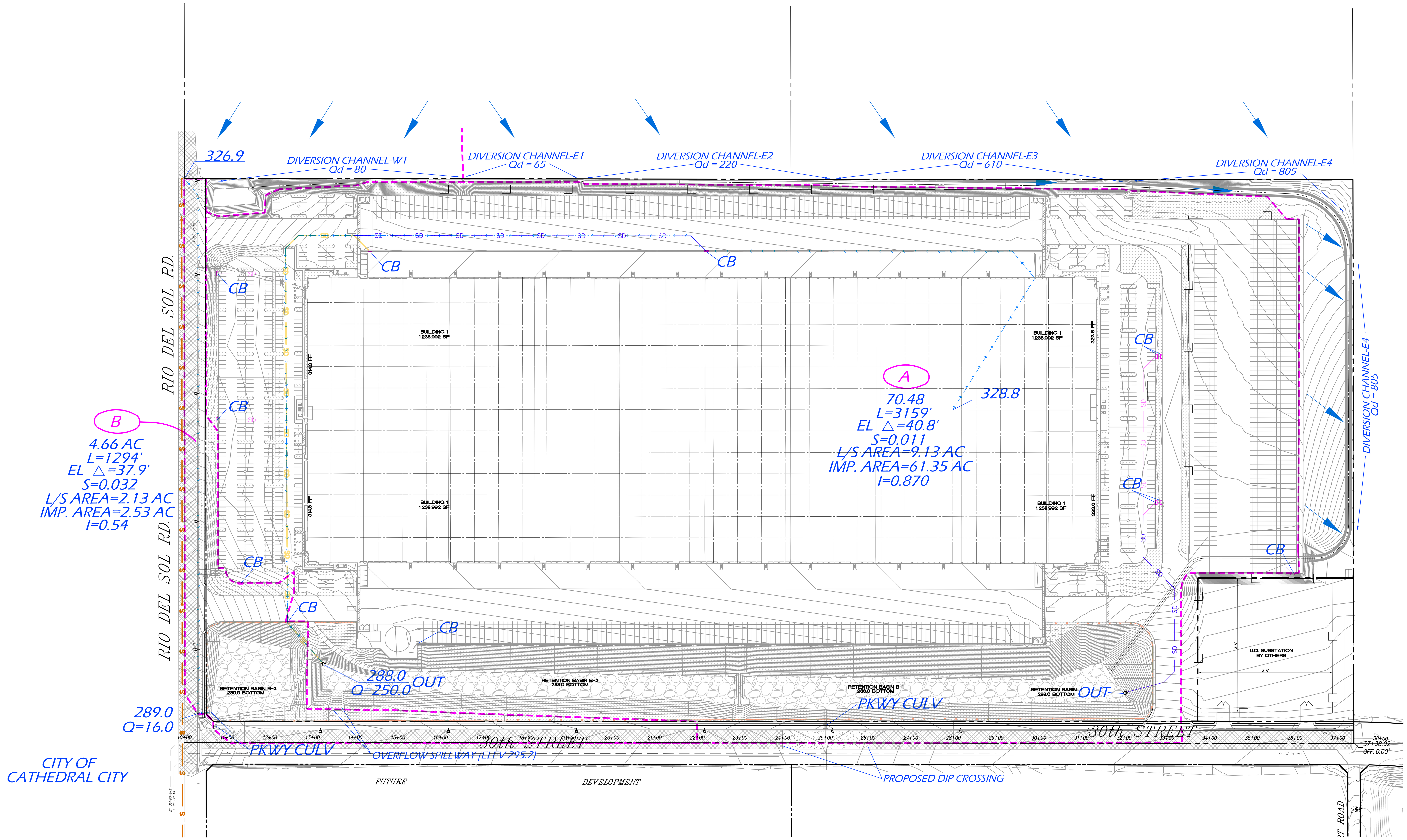
Please note that Riverside County acceptance criteria for a dip crossing based on the 100 year, 24 hour storm event for the catchment. The storm event for the alluvial fan analysis through CVWD is based on the 100 year, 6 hour storm. The CVWD analysis is a separate study and is reviewed and approved by CVWD, and is not a part of this study.

This analysis was performed by an outside consultant that has expertise with these types of analyses, and their calculations and conclusions are provided in the following pages.

APPENDIX A

UNIT HYDROGRAPH HYDROLOGY MAP
DEVELOPED CONDITION





HYDROLOGY RESULTS

HYDROLOGY AND FLOOD ROUTING RESULTS
THOUSAND PALMS - BUILDING 1

DEVELOPED CONDITION - BASIN B1 & B2
BASIN INFLOW (cfs)

	1 HR	3 HR	6 HR	24 HR	24 HR VOLUME (AC-FT)
100 YR	250.0	125.5	108.8	39.7	22.0

DEVELOPED CONDITION - BASIN B3
BASIN INFLOW (cfs)

	1 HR	3 HR	6 HR	24 HR	24 HR VOLUME (AC-FT)
100 YR	16.0	7.6	6.8	1.6	0.8

FLOOD ROUTING RESULTS - BASIN B1 & B2
BASIN INFILTRATION (cfs)

	1 HR	3 HR	6 HR	24 HR	MAXIMUM DEPTH (FT)
100 YR	13.1	14.2	15.0	14.6	6.8

FLOOD ROUTING RESULTS - BASIN B3
BASIN INFILTRATION (cfs)

	1 HR	3 HR	6 HR	24 HR	MAXIMUM DEPTH (FT)
100 YR	2.4	2.4	2.4	1.0	0.7

LEGEND

A — SUBAREA DESIGNATION
SUBAREA BOUNDARY
FLOWPATH THROUGH SUBAREA
Q=10.0 — RUNOFF FROM SUBAREA (MAX 100 YEAR STORM)
CB — CATCH BASIN OR INLET
OUT — OUTLET
PKWY CULV — PARKWAY CULVERT

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

TOPOGRAPHY DATE: 3-7-05

UNIT HYDROGRAPH MAP
DEVELOPED CONDITION
1000 PALMS - BUILDING 1

Jul 02 2023

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DATE	BY	REVISION
	SDL	1st Release

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APPENDIX B

UNIT HYDROGRAPH HYDROLOGY CALCULATIONS

DEVELOPED CONDITION

```
       U n i t   H y d r o g r a p h   A n a l y s i s

       Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
              Study date  07/01/23 File: 100135PRUHA1100.out


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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6490

----------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format




----------------------------------------------------------------------
1000 palms - building 1
unit hydrograph area A - developed condition
100135pruha

---------------------------------------------------------------------
Drainage Area =      70.48(Ac.)  =      0.110 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =      70.48(Ac.)  =      0.110 Sq. Mi.
Length along longest watercourse =    3189.00(Ft.)
Length along longest watercourse measured to centroid =    1522.00(Ft.)
Length along longest watercourse =      0.604 Mi.
Length along longest watercourse measured to centroid =      0.288 Mi.
Difference in elevation =      40.80(Ft.)
Slope along watercourse =     61.7573 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.085 Hr.
Lag time =     5.08 Min.
25% of lag time =     1.27 Min.
40% of lag time =     2.03 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       70.48           0.34                 24.25

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       70.48           1.40                 98.67

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.344(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =   99.94 %
Adjusted average point rain =    1.399(In)
```

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
70.480	32.00	0.870

Total Area Entered = 70.48(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	52.0	0.552	0.870	0.120	1.000	0.120
					Sum (F) =	0.120

Area averaged mean soil loss (F) (In/Hr) = 0.120
Minimum soil loss rate ((In/Hr)) = 0.060
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.260

Slope of intensity-duration curve for a 1 hour storm =0.5800

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	98.456	16.731	11.884
2	0.167	196.912	49.819	35.387
3	0.250	295.368	17.075	12.129
4	0.333	393.824	7.566	5.374
5	0.417	492.280	4.097	2.910
6	0.500	590.736	2.288	1.625
7	0.583	689.193	1.203	0.855
8	0.667	787.649	1.220	0.866
			Sum = 100.000	Sum= 71.031

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Loss rate(In./Hr) Low	Effective (In/Hr)
1	0.08	3.60	0.604	0.120	(0.157)	0.485
2	0.17	4.20	0.705	0.120	(0.183)	0.585
3	0.25	4.40	0.739	0.120	(0.192)	0.619
4	0.33	4.60	0.772	0.120	(0.201)	0.653
5	0.42	5.00	0.839	0.120	(0.218)	0.720
6	0.50	5.60	0.940	0.120	(0.244)	0.821
7	0.58	6.40	1.075	0.120	(0.279)	0.955
8	0.67	8.10	1.360	0.120	(0.354)	1.240
9	0.75	13.10	2.199	0.120	(0.572)	2.080
10	0.83	34.50	5.792	0.120	(1.506)	5.673
11	0.92	6.70	1.125	0.120	(0.292)	1.005
12	1.00	3.80	0.638	0.120	(0.166)	0.518
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	15.4

Flood volume = Effective rainfall 1.28(In)
times area 70.5(Ac.)/[(In)/(Ft.)] = 7.5(Ac.Ft)
Total soil loss = 0.12(In)
Total soil loss = 0.703(Ac.Ft)
Total rainfall = 1.40(In)
Flood volume = 327327.0 Cubic Feet
Total soil loss = 30623.6 Cubic Feet

```
 Peak flow rate of this hydrograph =    249.993(CFS)
----------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                    1 - H O U R   S T O R M
               R u n o f f     H y d r o g r a p h
----------------------------------------------------------------------
            Hydrograph in   5   Minute intervals ((CFS))

----------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       75.0     150.0     225.0     300.0
-----------------------------------------------------------------------
  0+ 5       0.0397      5.76  Q         |         |         |         |
  0+10       0.2058     24.12  |V Q      |         |         |         |
  0+15       0.4398     33.97  | V Q     |         |         |         |
  0+20       0.7111     39.39  |  V Q    |         |         |         |
  0+25       1.0123     43.74  |    Q    |         |         |         |
  0+30       1.3496     48.98  |     QV  |         |         |         |
  0+35       1.7340     55.82  |      Q V|         |         |         |
  0+40       2.1900     66.21  |       Q |V        |         |         |
  0+45       2.8018     88.83  |         |Q  V     |         |         |
  0+50       3.9445    165.92  |         |         V Q       |         |
  0+55       5.6662    249.99  |         |         |         V  Q      |
  1+ 0       6.5495    128.26  |         |      Q  |         |   V     |
  1+ 5       7.0361     70.65  |        Q|         |         |      V  |
  1+10       7.2667     33.48  |   Q     |         |         |       V |
  1+15       7.3892     17.79  | Q       |         |         |        V|
  1+20       7.4567      9.80  |Q        |         |         |        V|
  1+25       7.5022      6.62  Q         |         |         |        V|
  1+30       7.5113      1.31  Q         |         |         |        V|
  1+35       7.5144      0.45  Q         |         |         |         V
-----------------------------------------------------------------------
```

U n i t   H y d r o g r a p h   A n a l y s i s

Study date 07/01/23 File: 100135PRUHA3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

1000 palms - building 1
unit hydrograph area A - developed condition
100135pruha

Drainage Area = 70.48(Ac.) = 0.110 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 70.48(Ac.) = 0.110 Sq. Mi.
Length along longest watercourse = 3189.00(Ft.)
Length along longest watercourse measured to centroid = 1522.00(Ft.)
Length along longest watercourse = 0.604 Mi.
Length along longest watercourse measured to centroid = 0.288 Mi.
Difference in elevation = 40.80(Ft.)
Slope along watercourse = 61.7573 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.085 Hr.
Lag time = 5.08 Min.
25% of lag time = 1.27 Min.
40% of lag time = 2.03 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
70.48	0.59	41.87

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
70.48	2.19	154.35

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.594(In)
Area Averaged 100-Year Rainfall = 2.190(In)

Point rain (area averaged) = 2.190(In)
Areal adjustment factor = 99.97 %

Adjusted average point rain = 2.189(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
70.480	32.00	0.870

Total Area Entered = 70.48(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	52.0	0.552	0.870	0.120	1.000	0.120
					Sum (F) =	0.120

Area averaged mean soil loss (F) (In/Hr) = 0.120
Minimum soil loss rate ((In/Hr)) = 0.060
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.260

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period	(hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	98.456	16.731	11.884
2	0.167	196.912	49.819	35.387
3	0.250	295.368	17.075	12.129
4	0.333	393.824	7.566	5.374
5	0.417	492.280	4.097	2.910
6	0.500	590.736	2.288	1.625
7	0.583	689.193	1.203	0.855
8	0.667	787.649	1.220	0.866
			Sum = 100.000	Sum= 71.031

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.342	(0.120)	0.089	0.253
2	0.17	1.30	0.342	(0.120)	0.089	0.253
3	0.25	1.10	0.289	(0.120)	0.075	0.214
4	0.33	1.50	0.394	(0.120)	0.102	0.292
5	0.42	1.50	0.394	(0.120)	0.102	0.292
6	0.50	1.80	0.473	0.120	(0.123)	0.353
7	0.58	1.50	0.394	(0.120)	0.102	0.292
8	0.67	1.80	0.473	0.120	(0.123)	0.353
9	0.75	1.80	0.473	0.120	(0.123)	0.353
10	0.83	1.50	0.394	(0.120)	0.102	0.292
11	0.92	1.60	0.420	(0.120)	0.109	0.311
12	1.00	1.80	0.473	0.120	(0.123)	0.353
13	1.08	2.20	0.578	0.120	(0.150)	0.458
14	1.17	2.20	0.578	0.120	(0.150)	0.458
15	1.25	2.20	0.578	0.120	(0.150)	0.458
16	1.33	2.00	0.525	0.120	(0.137)	0.406
17	1.42	2.60	0.683	0.120	(0.178)	0.563
18	1.50	2.70	0.709	0.120	(0.184)	0.590
19	1.58	2.40	0.631	0.120	(0.164)	0.511
20	1.67	2.70	0.709	0.120	(0.184)	0.590
21	1.75	3.30	0.867	0.120	(0.225)	0.747
22	1.83	3.10	0.814	0.120	(0.212)	0.695
23	1.92	2.90	0.762	0.120	(0.198)	0.642

```
24   2.00     3.00      0.788          0.120    (  0.205)        0.668
25   2.08     3.10      0.814          0.120    (  0.212)        0.695
26   2.17     4.20      1.103          0.120    (  0.287)        0.984
27   2.25     5.00      1.314          0.120    (  0.342)        1.194
28   2.33     3.50      0.920          0.120    (  0.239)        0.800
29   2.42     6.80      1.786          0.120    (  0.464)        1.667
30   2.50     7.30      1.918          0.120    (  0.499)        1.798
31   2.58     8.20      2.154          0.120    (  0.560)        2.035
32   2.67     5.90      1.550          0.120    (  0.403)        1.430
33   2.75     2.00      0.525          0.120    (  0.137)        0.406
34   2.83     1.80      0.473          0.120    (  0.123)        0.353
35   2.92     1.80      0.473          0.120    (  0.123)        0.353
36   3.00     0.60      0.158       (  0.120)       0.041        0.117
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    22.2
      Flood volume = Effective rainfall      1.85(In)
       times area      70.5(Ac.)/[(In)/(Ft.)] =      10.9(Ac.Ft)
      Total soil loss =      0.34(In)
      Total soil loss =     1.980(Ac.Ft)
      Total rainfall =      2.19(In)
      Flood volume =      473888.8 Cubic Feet
      Total soil loss =       86233.3 Cubic Feet
      --------------------------------------------------------------------
       Peak flow rate of this hydrograph =    125.539(CFS)
      --------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R   S T O R M
                     R u n o f f     H y d r o g r a p h
      --------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      --------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       50.0     100.0     150.0     200.0
-----------------------------------------------------------------------
  0+ 5      0.0207      3.01  Q         |         |         |         |
  0+10      0.1030     11.95  V Q       |         |         |         |
  0+15      0.2033     14.56  V Q       |         |         |         |
  0+20      0.3098     15.46  |V Q      |         |         |         |
  0+25      0.4371     18.48  |V Q      |         |         |         |
  0+30      0.5773     20.36  | V Q     |         |         |         |
  0+35      0.7311     22.33  | V Q     |         |         |         |
  0+40      0.8827     22.01  |  VQ     |         |         |         |
  0+45      1.0470     23.87  |  VQ     |         |         |         |
  0+50      1.2107     23.76  |   Q     |         |         |         |
  0+55      1.3632     22.13  |   QV    |         |         |         |
  1+ 0      1.5195     22.71  |   QV    |         |         |         |
  1+ 5      1.6949     25.46  |    QV   |         |         |         |
  1+10      1.8988     29.61  |    QV   |         |         |         |
  1+15      2.1131     31.12  |     QV  |         |         |         |
  1+20      2.3278     31.17  |     Q V |         |         |         |
  1+25      2.5448     31.52  |     Q  V|         |         |         |
  1+30      2.7996     37.00  |      Q  V         |         |         |
  1+35      3.0665     38.75  |      Q  |V        |         |         |
  1+40      3.3282     38.00  |      Q  | V       |         |         |
  1+45      3.6189     42.22  |       Q |  V      |         |         |
  1+50      3.9495     48.00  |        Q|   V     |         |         |
  1+55      4.2784     47.75  |        Q|    V    |         |         |
  2+ 0      4.5998     46.67  |        Q|     V   |         |         |
  2+ 5      4.9272     47.54  |        Q|       V |         |         |
  2+10      5.2856     52.04  |         Q        V|         |         |
  2+15      5.7347     65.20  |         |  Q      |V        |         |
  2+20      6.2284     71.69  |         |   Q     | V       |         |
  2+25      6.7255     72.18  |         |   Q     |   V     |         |
  2+30      7.4255    101.64  |         |         Q      V  |         |
  2+35      8.2425    118.63  |         |         |  Q      V         |
  2+40      9.1071    125.54  |         |         |    Q    |  V      |
```

```
    2+45        9.7810     97.85 |         |        Q|         |    V    |
    2+50       10.1703     56.53 |         |Q        |         |      V  |
    2+55       10.4478     40.29 |       Q |         |         |       V |
    3+ 0       10.6600     30.81 |     Q   |         |         |        V|
    3+ 5       10.7779     17.12 |  Q      |         |         |        V|
    3+10       10.8329      7.99 |Q        |         |         |        V|
    3+15       10.8592      3.82 Q         |         |         |        V|
    3+20       10.8700      1.57 Q         |         |         |        V|
    3+25       10.8755      0.80 Q         |         |         |        V|
    3+30       10.8783      0.41 Q         |         |         |        V|
    3+35       10.8790      0.10 Q         |         |         |         V
-----------------------------------------------------------------------
```

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U n i t   H y d r o g r a p h   A n a l y s i s

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       Study date  07/01/23 File: 100135PRUHA6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6490

---------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



---------------------------------------------------------------------
1000 palms - building 1
unit hydrograph area A - developed condition
100135pruha

--------------------------------------------------------------------
Drainage Area =      70.48(Ac.)  =      0.110 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =      70.48(Ac.)  =      0.110 Sq. Mi.
Length along longest watercourse =    3189.00(Ft.)
Length along longest watercourse measured to centroid =    1522.00(Ft.)
Length along longest watercourse =      0.604 Mi.
Length along longest watercourse measured to centroid =      0.288 Mi.
Difference in elevation =      40.80(Ft.)
Slope along watercourse =     61.7573 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.085 Hr.
Lag time =     5.08 Min.
25% of lag time =     1.27 Min.
40% of lag time =     2.03 Min.
Unit time =     5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       70.48           0.82                 58.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       70.48           3.01                212.14

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.823(In)
Area Averaged 100-Year Rainfall =    3.010(In)

Point rain (area averaged) =    3.010(In)
```

Areal adjustment factor = 99.98 %
Adjusted average point rain = 3.009(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
70.480	32.00	0.870

Total Area Entered = 70.48(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	52.0	0.552	0.870	0.120	1.000	0.120
					Sum (F) =	0.120

Area averaged mean soil loss (F) (In/Hr) = 0.120
Minimum soil loss rate ((In/Hr)) = 0.060
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.260

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period	(hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	98.456	16.731	11.884
2	0.167	196.912	49.819	35.387
3	0.250	295.368	17.075	12.129
4	0.333	393.824	7.566	5.374
5	0.417	492.280	4.097	2.910
6	0.500	590.736	2.288	1.625
7	0.583	689.193	1.203	0.855
8	0.667	787.649	1.220	0.866
			Sum = 100.000	Sum= 71.031

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.181	(0.120)	0.047	0.134
2	0.17	0.60	0.217	(0.120)	0.056	0.160
3	0.25	0.60	0.217	(0.120)	0.056	0.160
4	0.33	0.60	0.217	(0.120)	0.056	0.160
5	0.42	0.60	0.217	(0.120)	0.056	0.160
6	0.50	0.70	0.253	(0.120)	0.066	0.187
7	0.58	0.70	0.253	(0.120)	0.066	0.187
8	0.67	0.70	0.253	(0.120)	0.066	0.187
9	0.75	0.70	0.253	(0.120)	0.066	0.187
10	0.83	0.70	0.253	(0.120)	0.066	0.187
11	0.92	0.70	0.253	(0.120)	0.066	0.187
12	1.00	0.80	0.289	(0.120)	0.075	0.214
13	1.08	0.80	0.289	(0.120)	0.075	0.214
14	1.17	0.80	0.289	(0.120)	0.075	0.214
15	1.25	0.80	0.289	(0.120)	0.075	0.214
16	1.33	0.80	0.289	(0.120)	0.075	0.214
17	1.42	0.80	0.289	(0.120)	0.075	0.214
18	1.50	0.80	0.289	(0.120)	0.075	0.214
19	1.58	0.80	0.289	(0.120)	0.075	0.214
20	1.67	0.80	0.289	(0.120)	0.075	0.214
21	1.75	0.80	0.289	(0.120)	0.075	0.214
22	1.83	0.80	0.289	(0.120)	0.075	0.214

23	1.92	0.80	0.289	(0.120)	0.075	0.214
24	2.00	0.90	0.325	(0.120)	0.085	0.241
25	2.08	0.80	0.289	(0.120)	0.075	0.214
26	2.17	0.90	0.325	(0.120)	0.085	0.241
27	2.25	0.90	0.325	(0.120)	0.085	0.241
28	2.33	0.90	0.325	(0.120)	0.085	0.241
29	2.42	0.90	0.325	(0.120)	0.085	0.241
30	2.50	0.90	0.325	(0.120)	0.085	0.241
31	2.58	0.90	0.325	(0.120)	0.085	0.241
32	2.67	0.90	0.325	(0.120)	0.085	0.241
33	2.75	1.00	0.361	(0.120)	0.094	0.267
34	2.83	1.00	0.361	(0.120)	0.094	0.267
35	2.92	1.00	0.361	(0.120)	0.094	0.267
36	3.00	1.00	0.361	(0.120)	0.094	0.267
37	3.08	1.00	0.361	(0.120)	0.094	0.267
38	3.17	1.10	0.397	(0.120)	0.103	0.294
39	3.25	1.10	0.397	(0.120)	0.103	0.294
40	3.33	1.10	0.397	(0.120)	0.103	0.294
41	3.42	1.20	0.433	(0.120)	0.113	0.321
42	3.50	1.30	0.469	0.120	(0.122)	0.350
43	3.58	1.40	0.506	0.120	(0.131)	0.386
44	3.67	1.40	0.506	0.120	(0.131)	0.386
45	3.75	1.50	0.542	0.120	(0.141)	0.422
46	3.83	1.50	0.542	0.120	(0.141)	0.422
47	3.92	1.60	0.578	0.120	(0.150)	0.458
48	4.00	1.60	0.578	0.120	(0.150)	0.458
49	4.08	1.70	0.614	0.120	(0.160)	0.494
50	4.17	1.80	0.650	0.120	(0.169)	0.530
51	4.25	1.90	0.686	0.120	(0.178)	0.566
52	4.33	2.00	0.722	0.120	(0.188)	0.603
53	4.42	2.10	0.758	0.120	(0.197)	0.639
54	4.50	2.10	0.758	0.120	(0.197)	0.639
55	4.58	2.20	0.794	0.120	(0.207)	0.675
56	4.67	2.30	0.831	0.120	(0.216)	0.711
57	4.75	2.40	0.867	0.120	(0.225)	0.747
58	4.83	2.40	0.867	0.120	(0.225)	0.747
59	4.92	2.50	0.903	0.120	(0.235)	0.783
60	5.00	2.60	0.939	0.120	(0.244)	0.819
61	5.08	3.10	1.119	0.120	(0.291)	1.000
62	5.17	3.60	1.300	0.120	(0.338)	1.180
63	5.25	3.90	1.408	0.120	(0.366)	1.289
64	5.33	4.20	1.517	0.120	(0.394)	1.397
65	5.42	4.70	1.697	0.120	(0.441)	1.578
66	5.50	5.60	2.022	0.120	(0.526)	1.903
67	5.58	1.90	0.686	0.120	(0.178)	0.566
68	5.67	0.90	0.325	(0.120)	0.085	0.241
69	5.75	0.60	0.217	(0.120)	0.056	0.160
70	5.83	0.50	0.181	(0.120)	0.047	0.134
71	5.92	0.30	0.108	(0.120)	0.028	0.080
72	6.00	0.20	0.072	(0.120)	0.019	0.053
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	29.6

Flood volume = Effective rainfall 2.46(In)
times area 70.5(Ac.)/[(In)/(Ft.)] = 14.5(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 3.210(Ac.Ft)
Total rainfall = 3.01(In)
Flood volume = 630084.1 Cubic Feet
Total soil loss = 139814.9 Cubic Feet

Peak flow rate of this hydrograph = 108.798(CFS)

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6 - H O U R   S T O R M

R u n o f f   H y d r o g r a p h

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                 Hydrograph in   5   Minute intervals ((CFS))

      --------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       50.0     100.0     150.0     200.0
-----------------------------------------------------------------------
  0+ 5       0.0109      1.59  Q         |         |         |         |
  0+10       0.0567      6.64  VQ        |         |         |         |
  0+15       0.1200      9.20  VQ        |         |         |         |
  0+20       0.1906     10.25  V Q       |         |         |         |
  0+25       0.2649     10.78  V Q       |         |         |         |
  0+30       0.3433     11.39  V Q       |         |         |         |
  0+35       0.4294     12.50  |VQ       |         |         |         |
  0+40       0.5186     12.96  |VQ       |         |         |         |
  0+45       0.6090     13.13  |VQ       |         |         |         |
  0+50       0.7000     13.20  |VQ       |         |         |         |
  0+55       0.7912     13.25  | Q       |         |         |         |
  1+ 0       0.8848     13.59  | Q       |         |         |         |
  1+ 5       0.9851     14.56  | Q       |         |         |         |
  1+10       1.0875     14.88  | QV      |         |         |         |
  1+15       1.1910     15.03  |  Q      |         |         |         |
  1+20       1.2950     15.10  |  Q      |         |         |         |
  1+25       1.3994     15.15  |  Q      |         |         |         |
  1+30       1.5038     15.17  |  QV     |         |         |         |
  1+35       1.6085     15.19  |  QV     |         |         |         |
  1+40       1.7131     15.19  |  QV     |         |         |         |
  1+45       1.8177     15.19  |  Q V    |         |         |         |
  1+50       1.9224     15.19  |  Q V    |         |         |         |
  1+55       2.0270     15.19  |  Q V    |         |         |         |
  2+ 0       2.1338     15.51  |  Q V    |         |         |         |
  2+ 5       2.2450     16.14  |  Q  V   |         |         |         |
  2+10       2.3540     15.83  |  Q  V   |         |         |         |
  2+15       2.4683     16.60  |  Q  V   |         |         |         |
  2+20       2.5845     16.86  |  Q   V  |         |         |         |
  2+25       2.7013     16.97  |  Q   V  |         |         |         |
  2+30       2.8186     17.03  |  Q   V  |         |         |         |
  2+35       2.9361     17.07  |  Q    V |         |         |         |
  2+40       3.0537     17.07  |  Q    V |         |         |         |
  2+45       3.1736     17.41  |  Q    V |         |         |         |
  2+50       3.3000     18.36  |  Q     V|         |         |         |
  2+55       3.4286     18.68  |  Q     V|         |         |         |
  3+ 0       3.5583     18.82  |  Q     V|         |         |         |
  3+ 5       3.6885     18.90  |  Q      V         |         |         |
  3+10       3.8211     19.26  |  Q      V         |         |         |
  3+15       3.9604     20.23  |   Q     V         |         |         |
  3+20       4.1022     20.58  |   Q     |V        |         |         |
  3+25       4.2471     21.04  |   Q     |V        |         |         |
  3+30       4.4014     22.41  |   Q     | V       |         |         |
  3+35       4.5683     24.24  |   Q     | V       |         |         |
  3+40       4.7476     26.03  |    Q    |  V      |         |         |
  3+45       4.9347     27.16  |    Q    |  V      |         |         |
  3+50       5.1328     28.76  |    Q    |   V     |         |         |
  3+55       5.3380     29.80  |    Q    |   V     |         |         |
  4+ 0       5.5542     31.38  |     Q   |    V    |         |         |
  4+ 5       5.7774     32.41  |     Q   |    V    |         |         |
  4+10       6.0143     34.40  |     Q   |     V   |         |         |
  4+15       6.2670     36.69  |      Q  |      V  |         |         |
  4+20       6.5364     39.12  |      Q  |       V |         |         |
  4+25       6.8228     41.59  |       Q |       V |         |         |
  4+30       7.1238     43.70  |       Q |        V|         |         |
  4+35       7.4334     44.96  |       Q |         V         |         |
  4+40       7.7577     47.08  |        Q|         |V        |         |
  4+45       8.0983     49.46  |        Q|         | V       |         |
  4+50       8.4529     51.49  |         Q         |  V      |         |
  4+55       8.8159     52.72  |         Q         |   V     |         |
  5+ 0       9.1934     54.81  |         Q         |    V    |         |
  5+ 5       9.5989     58.87  |         |Q        |     V   |         |
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    5+10      10.0683     68.16  |          |  Q       |       V  |          |
    5+15      10.6083     78.40  |          |    Q     |         V|          |
    5+20      11.2066     86.88  |          |      Q   |          V          |
    5+25      11.8661     95.76  |          |        Q|          | V         |
    5+30      12.6154    108.80  |          |         |Q         |   V       |
    5+35      13.3591    107.99  |          |         |Q         |     V     |
    5+40      13.7897     62.52  |          | Q        |          |       V  |
    5+45      14.0412     36.51  |      Q   |          |          |       V  |
    5+50      14.2040     23.65  |   Q      |          |          |        V|
    5+55      14.3158     16.23  |  Q       |          |          |        V|
    6+ 0      14.3886     10.57  | Q        |          |          |        V|
    6+ 5      14.4339      6.57  |Q         |          |          |        V|
    6+10      14.4506      2.43  Q          |          |          |        V|
    6+15      14.4580      1.08  Q          |          |          |        V|
    6+20      14.4618      0.54  Q          |          |          |        V|
    6+25      14.4636      0.27  Q          |          |          |        V|
    6+30      14.4644      0.12  Q          |          |          |        V|
    6+35      14.4647      0.05  Q          |          |          |         V
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U n i t   H y d r o g r a p h   A n a l y s i s

Study date 07/01/23 File: 100135PRUHA24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

1000 palms - building 1
unit hydrograph area A - developed condition
100135pruha

Drainage Area = 70.48(Ac.) = 0.110 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 70.48(Ac.) = 0.110 Sq. Mi.
Length along longest watercourse = 3189.00(Ft.)
Length along longest watercourse measured to centroid = 1522.00(Ft.)
Length along longest watercourse = 0.604 Mi.
Length along longest watercourse measured to centroid = 0.288 Mi.
Difference in elevation = 40.80(Ft.)
Slope along watercourse = 61.7573 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.085 Hr.
Lag time = 5.08 Min.
25% of lag time = 1.27 Min.
40% of lag time = 2.03 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
70.48	1.19	83.87

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
70.48	4.89	344.65

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.190(In)
Area Averaged 100-Year Rainfall = 4.890(In)

Point rain (area averaged) = 4.890(In)
Areal adjustment factor = 99.99 %

Adjusted average point rain = 4.889(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
70.480	32.00	0.870

Total Area Entered = 70.48(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	52.0	0.552	0.870	0.120	1.000	0.120
					Sum (F) =	0.120

Area averaged mean soil loss (F) (In/Hr) = 0.120
Minimum soil loss rate ((In/Hr)) = 0.060
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.260

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	98.456	16.731	11.884
2	0.167	196.912	49.819	35.387
3	0.250	295.368	17.075	12.129
4	0.333	393.824	7.566	5.374
5	0.417	492.280	4.097	2.910
6	0.500	590.736	2.288	1.625
7	0.583	689.193	1.203	0.855
8	0.667	787.649	1.220	0.866
			Sum = 100.000	Sum= 71.031

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.039	(0.212)	0.010	0.029
2	0.17	0.07	0.039	(0.211)	0.010	0.029
3	0.25	0.07	0.039	(0.211)	0.010	0.029
4	0.33	0.10	0.059	(0.210)	0.015	0.043
5	0.42	0.10	0.059	(0.209)	0.015	0.043
6	0.50	0.10	0.059	(0.208)	0.015	0.043
7	0.58	0.10	0.059	(0.207)	0.015	0.043
8	0.67	0.10	0.059	(0.206)	0.015	0.043
9	0.75	0.10	0.059	(0.206)	0.015	0.043
10	0.83	0.13	0.078	(0.205)	0.020	0.058
11	0.92	0.13	0.078	(0.204)	0.020	0.058
12	1.00	0.13	0.078	(0.203)	0.020	0.058
13	1.08	0.10	0.059	(0.202)	0.015	0.043
14	1.17	0.10	0.059	(0.202)	0.015	0.043
15	1.25	0.10	0.059	(0.201)	0.015	0.043
16	1.33	0.10	0.059	(0.200)	0.015	0.043
17	1.42	0.10	0.059	(0.199)	0.015	0.043
18	1.50	0.10	0.059	(0.198)	0.015	0.043
19	1.58	0.10	0.059	(0.198)	0.015	0.043
20	1.67	0.10	0.059	(0.197)	0.015	0.043
21	1.75	0.10	0.059	(0.196)	0.015	0.043
22	1.83	0.13	0.078	(0.195)	0.020	0.058
23	1.92	0.13	0.078	(0.195)	0.020	0.058

24	2.00	0.13	0.078	(0.194)	0.020	0.058
25	2.08	0.13	0.078	(0.193)	0.020	0.058
26	2.17	0.13	0.078	(0.192)	0.020	0.058
27	2.25	0.13	0.078	(0.191)	0.020	0.058
28	2.33	0.13	0.078	(0.191)	0.020	0.058
29	2.42	0.13	0.078	(0.190)	0.020	0.058
30	2.50	0.13	0.078	(0.189)	0.020	0.058
31	2.58	0.17	0.098	(0.188)	0.025	0.072
32	2.67	0.17	0.098	(0.187)	0.025	0.072
33	2.75	0.17	0.098	(0.187)	0.025	0.072
34	2.83	0.17	0.098	(0.186)	0.025	0.072
35	2.92	0.17	0.098	(0.185)	0.025	0.072
36	3.00	0.17	0.098	(0.184)	0.025	0.072
37	3.08	0.17	0.098	(0.184)	0.025	0.072
38	3.17	0.17	0.098	(0.183)	0.025	0.072
39	3.25	0.17	0.098	(0.182)	0.025	0.072
40	3.33	0.17	0.098	(0.181)	0.025	0.072
41	3.42	0.17	0.098	(0.181)	0.025	0.072
42	3.50	0.17	0.098	(0.180)	0.025	0.072
43	3.58	0.17	0.098	(0.179)	0.025	0.072
44	3.67	0.17	0.098	(0.178)	0.025	0.072
45	3.75	0.17	0.098	(0.178)	0.025	0.072
46	3.83	0.20	0.117	(0.177)	0.031	0.087
47	3.92	0.20	0.117	(0.176)	0.031	0.087
48	4.00	0.20	0.117	(0.175)	0.031	0.087
49	4.08	0.20	0.117	(0.175)	0.031	0.087
50	4.17	0.20	0.117	(0.174)	0.031	0.087
51	4.25	0.20	0.117	(0.173)	0.031	0.087
52	4.33	0.23	0.137	(0.172)	0.036	0.101
53	4.42	0.23	0.137	(0.172)	0.036	0.101
54	4.50	0.23	0.137	(0.171)	0.036	0.101
55	4.58	0.23	0.137	(0.170)	0.036	0.101
56	4.67	0.23	0.137	(0.169)	0.036	0.101
57	4.75	0.23	0.137	(0.169)	0.036	0.101
58	4.83	0.27	0.156	(0.168)	0.041	0.116
59	4.92	0.27	0.156	(0.167)	0.041	0.116
60	5.00	0.27	0.156	(0.167)	0.041	0.116
61	5.08	0.20	0.117	(0.166)	0.031	0.087
62	5.17	0.20	0.117	(0.165)	0.031	0.087
63	5.25	0.20	0.117	(0.164)	0.031	0.087
64	5.33	0.23	0.137	(0.164)	0.036	0.101
65	5.42	0.23	0.137	(0.163)	0.036	0.101
66	5.50	0.23	0.137	(0.162)	0.036	0.101
67	5.58	0.27	0.156	(0.162)	0.041	0.116
68	5.67	0.27	0.156	(0.161)	0.041	0.116
69	5.75	0.27	0.156	(0.160)	0.041	0.116
70	5.83	0.27	0.156	(0.159)	0.041	0.116
71	5.92	0.27	0.156	(0.159)	0.041	0.116
72	6.00	0.27	0.156	(0.158)	0.041	0.116
73	6.08	0.30	0.176	(0.157)	0.046	0.130
74	6.17	0.30	0.176	(0.157)	0.046	0.130
75	6.25	0.30	0.176	(0.156)	0.046	0.130
76	6.33	0.30	0.176	(0.155)	0.046	0.130
77	6.42	0.30	0.176	(0.155)	0.046	0.130
78	6.50	0.30	0.176	(0.154)	0.046	0.130
79	6.58	0.33	0.196	(0.153)	0.051	0.145
80	6.67	0.33	0.196	(0.152)	0.051	0.145
81	6.75	0.33	0.196	(0.152)	0.051	0.145
82	6.83	0.33	0.196	(0.151)	0.051	0.145
83	6.92	0.33	0.196	(0.150)	0.051	0.145
84	7.00	0.33	0.196	(0.150)	0.051	0.145
85	7.08	0.33	0.196	(0.149)	0.051	0.145
86	7.17	0.33	0.196	(0.148)	0.051	0.145
87	7.25	0.33	0.196	(0.148)	0.051	0.145
88	7.33	0.37	0.215	(0.147)	0.056	0.159
89	7.42	0.37	0.215	(0.146)	0.056	0.159

90	7.50	0.37	0.215	(0.146)	0.056	0.159
91	7.58	0.40	0.235	(0.145)	0.061	0.174
92	7.67	0.40	0.235	(0.144)	0.061	0.174
93	7.75	0.40	0.235	(0.144)	0.061	0.174
94	7.83	0.43	0.254	(0.143)	0.066	0.188
95	7.92	0.43	0.254	(0.142)	0.066	0.188
96	8.00	0.43	0.254	(0.142)	0.066	0.188
97	8.08	0.50	0.293	(0.141)	0.076	0.217
98	8.17	0.50	0.293	(0.140)	0.076	0.217
99	8.25	0.50	0.293	(0.140)	0.076	0.217
100	8.33	0.50	0.293	(0.139)	0.076	0.217
101	8.42	0.50	0.293	(0.138)	0.076	0.217
102	8.50	0.50	0.293	(0.138)	0.076	0.217
103	8.58	0.53	0.313	(0.137)	0.081	0.232
104	8.67	0.53	0.313	(0.136)	0.081	0.232
105	8.75	0.53	0.313	(0.136)	0.081	0.232
106	8.83	0.57	0.332	(0.135)	0.086	0.246
107	8.92	0.57	0.332	(0.135)	0.086	0.246
108	9.00	0.57	0.332	(0.134)	0.086	0.246
109	9.08	0.63	0.372	(0.133)	0.097	0.275
110	9.17	0.63	0.372	(0.133)	0.097	0.275
111	9.25	0.63	0.372	(0.132)	0.097	0.275
112	9.33	0.67	0.391	(0.131)	0.102	0.289
113	9.42	0.67	0.391	(0.131)	0.102	0.289
114	9.50	0.67	0.391	(0.130)	0.102	0.289
115	9.58	0.70	0.411	(0.129)	0.107	0.304
116	9.67	0.70	0.411	(0.129)	0.107	0.304
117	9.75	0.70	0.411	(0.128)	0.107	0.304
118	9.83	0.73	0.430	(0.128)	0.112	0.318
119	9.92	0.73	0.430	(0.127)	0.112	0.318
120	10.00	0.73	0.430	(0.126)	0.112	0.318
121	10.08	0.50	0.293	(0.126)	0.076	0.217
122	10.17	0.50	0.293	(0.125)	0.076	0.217
123	10.25	0.50	0.293	(0.125)	0.076	0.217
124	10.33	0.50	0.293	(0.124)	0.076	0.217
125	10.42	0.50	0.293	(0.123)	0.076	0.217
126	10.50	0.50	0.293	(0.123)	0.076	0.217
127	10.58	0.67	0.391	(0.122)	0.102	0.289
128	10.67	0.67	0.391	(0.122)	0.102	0.289
129	10.75	0.67	0.391	(0.121)	0.102	0.289
130	10.83	0.67	0.391	(0.120)	0.102	0.289
131	10.92	0.67	0.391	(0.120)	0.102	0.289
132	11.00	0.67	0.391	(0.119)	0.102	0.289
133	11.08	0.63	0.372	(0.119)	0.097	0.275
134	11.17	0.63	0.372	(0.118)	0.097	0.275
135	11.25	0.63	0.372	(0.117)	0.097	0.275
136	11.33	0.63	0.372	(0.117)	0.097	0.275
137	11.42	0.63	0.372	(0.116)	0.097	0.275
138	11.50	0.63	0.372	(0.116)	0.097	0.275
139	11.58	0.57	0.332	(0.115)	0.086	0.246
140	11.67	0.57	0.332	(0.115)	0.086	0.246
141	11.75	0.57	0.332	(0.114)	0.086	0.246
142	11.83	0.60	0.352	(0.113)	0.092	0.261
143	11.92	0.60	0.352	(0.113)	0.092	0.261
144	12.00	0.60	0.352	(0.112)	0.092	0.261
145	12.08	0.83	0.489	0.112	(0.127)	0.377
146	12.17	0.83	0.489	0.111	(0.127)	0.378
147	12.25	0.83	0.489	0.111	(0.127)	0.378
148	12.33	0.87	0.508	0.110	(0.132)	0.398
149	12.42	0.87	0.508	0.110	(0.132)	0.399
150	12.50	0.87	0.508	0.109	(0.132)	0.400
151	12.58	0.93	0.548	0.108	(0.142)	0.439
152	12.67	0.93	0.548	0.108	(0.142)	0.440
153	12.75	0.93	0.548	0.107	(0.142)	0.440
154	12.83	0.97	0.567	0.107	(0.147)	0.460
155	12.92	0.97	0.567	0.106	(0.147)	0.461

156	13.00	0.97	0.567	0.106	(0.147)	0.461
157	13.08	1.13	0.665	0.105	(0.173)	0.560
158	13.17	1.13	0.665	0.105	(0.173)	0.560
159	13.25	1.13	0.665	0.104	(0.173)	0.561
160	13.33	1.13	0.665	0.104	(0.173)	0.561
161	13.42	1.13	0.665	0.103	(0.173)	0.562
162	13.50	1.13	0.665	0.103	(0.173)	0.562
163	13.58	0.77	0.450	0.102	(0.117)	0.348
164	13.67	0.77	0.450	0.101	(0.117)	0.348
165	13.75	0.77	0.450	0.101	(0.117)	0.349
166	13.83	0.77	0.450	0.100	(0.117)	0.349
167	13.92	0.77	0.450	0.100	(0.117)	0.350
168	14.00	0.77	0.450	0.099	(0.117)	0.350
169	14.08	0.90	0.528	0.099	(0.137)	0.429
170	14.17	0.90	0.528	0.098	(0.137)	0.430
171	14.25	0.90	0.528	0.098	(0.137)	0.430
172	14.33	0.87	0.508	0.097	(0.132)	0.411
173	14.42	0.87	0.508	0.097	(0.132)	0.412
174	14.50	0.87	0.508	0.096	(0.132)	0.412
175	14.58	0.87	0.508	0.096	(0.132)	0.413
176	14.67	0.87	0.508	0.095	(0.132)	0.413
177	14.75	0.87	0.508	0.095	(0.132)	0.414
178	14.83	0.83	0.489	0.094	(0.127)	0.394
179	14.92	0.83	0.489	0.094	(0.127)	0.395
180	15.00	0.83	0.489	0.093	(0.127)	0.395
181	15.08	0.80	0.469	0.093	(0.122)	0.376
182	15.17	0.80	0.469	0.093	(0.122)	0.377
183	15.25	0.80	0.469	0.092	(0.122)	0.377
184	15.33	0.77	0.450	0.092	(0.117)	0.358
185	15.42	0.77	0.450	0.091	(0.117)	0.359
186	15.50	0.77	0.450	0.091	(0.117)	0.359
187	15.58	0.63	0.372	0.090	(0.097)	0.281
188	15.67	0.63	0.372	0.090	(0.097)	0.282
189	15.75	0.63	0.372	0.089	(0.097)	0.282
190	15.83	0.63	0.372	0.089	(0.097)	0.283
191	15.92	0.63	0.372	0.088	(0.097)	0.283
192	16.00	0.63	0.372	0.088	(0.097)	0.284
193	16.08	0.13	0.078	(0.087)	0.020	0.058
194	16.17	0.13	0.078	(0.087)	0.020	0.058
195	16.25	0.13	0.078	(0.087)	0.020	0.058
196	16.33	0.13	0.078	(0.086)	0.020	0.058
197	16.42	0.13	0.078	(0.086)	0.020	0.058
198	16.50	0.13	0.078	(0.085)	0.020	0.058
199	16.58	0.10	0.059	(0.085)	0.015	0.043
200	16.67	0.10	0.059	(0.084)	0.015	0.043
201	16.75	0.10	0.059	(0.084)	0.015	0.043
202	16.83	0.10	0.059	(0.084)	0.015	0.043
203	16.92	0.10	0.059	(0.083)	0.015	0.043
204	17.00	0.10	0.059	(0.083)	0.015	0.043
205	17.08	0.17	0.098	(0.082)	0.025	0.072
206	17.17	0.17	0.098	(0.082)	0.025	0.072
207	17.25	0.17	0.098	(0.081)	0.025	0.072
208	17.33	0.17	0.098	(0.081)	0.025	0.072
209	17.42	0.17	0.098	(0.081)	0.025	0.072
210	17.50	0.17	0.098	(0.080)	0.025	0.072
211	17.58	0.17	0.098	(0.080)	0.025	0.072
212	17.67	0.17	0.098	(0.079)	0.025	0.072
213	17.75	0.17	0.098	(0.079)	0.025	0.072
214	17.83	0.13	0.078	(0.079)	0.020	0.058
215	17.92	0.13	0.078	(0.078)	0.020	0.058
216	18.00	0.13	0.078	(0.078)	0.020	0.058
217	18.08	0.13	0.078	(0.077)	0.020	0.058
218	18.17	0.13	0.078	(0.077)	0.020	0.058
219	18.25	0.13	0.078	(0.077)	0.020	0.058
220	18.33	0.13	0.078	(0.076)	0.020	0.058
221	18.42	0.13	0.078	(0.076)	0.020	0.058

222	18.50	0.13	0.078	(0.076)	0.020	0.058
223	18.58	0.10	0.059	(0.075)	0.015	0.043
224	18.67	0.10	0.059	(0.075)	0.015	0.043
225	18.75	0.10	0.059	(0.075)	0.015	0.043
226	18.83	0.07	0.039	(0.074)	0.010	0.029
227	18.92	0.07	0.039	(0.074)	0.010	0.029
228	19.00	0.07	0.039	(0.073)	0.010	0.029
229	19.08	0.10	0.059	(0.073)	0.015	0.043
230	19.17	0.10	0.059	(0.073)	0.015	0.043
231	19.25	0.10	0.059	(0.072)	0.015	0.043
232	19.33	0.13	0.078	(0.072)	0.020	0.058
233	19.42	0.13	0.078	(0.072)	0.020	0.058
234	19.50	0.13	0.078	(0.071)	0.020	0.058
235	19.58	0.10	0.059	(0.071)	0.015	0.043
236	19.67	0.10	0.059	(0.071)	0.015	0.043
237	19.75	0.10	0.059	(0.070)	0.015	0.043
238	19.83	0.07	0.039	(0.070)	0.010	0.029
239	19.92	0.07	0.039	(0.070)	0.010	0.029
240	20.00	0.07	0.039	(0.070)	0.010	0.029
241	20.08	0.10	0.059	(0.069)	0.015	0.043
242	20.17	0.10	0.059	(0.069)	0.015	0.043
243	20.25	0.10	0.059	(0.069)	0.015	0.043
244	20.33	0.10	0.059	(0.068)	0.015	0.043
245	20.42	0.10	0.059	(0.068)	0.015	0.043
246	20.50	0.10	0.059	(0.068)	0.015	0.043
247	20.58	0.10	0.059	(0.067)	0.015	0.043
248	20.67	0.10	0.059	(0.067)	0.015	0.043
249	20.75	0.10	0.059	(0.067)	0.015	0.043
250	20.83	0.07	0.039	(0.067)	0.010	0.029
251	20.92	0.07	0.039	(0.066)	0.010	0.029
252	21.00	0.07	0.039	(0.066)	0.010	0.029
253	21.08	0.10	0.059	(0.066)	0.015	0.043
254	21.17	0.10	0.059	(0.066)	0.015	0.043
255	21.25	0.10	0.059	(0.065)	0.015	0.043
256	21.33	0.07	0.039	(0.065)	0.010	0.029
257	21.42	0.07	0.039	(0.065)	0.010	0.029
258	21.50	0.07	0.039	(0.065)	0.010	0.029
259	21.58	0.10	0.059	(0.064)	0.015	0.043
260	21.67	0.10	0.059	(0.064)	0.015	0.043
261	21.75	0.10	0.059	(0.064)	0.015	0.043
262	21.83	0.07	0.039	(0.064)	0.010	0.029
263	21.92	0.07	0.039	(0.063)	0.010	0.029
264	22.00	0.07	0.039	(0.063)	0.010	0.029
265	22.08	0.10	0.059	(0.063)	0.015	0.043
266	22.17	0.10	0.059	(0.063)	0.015	0.043
267	22.25	0.10	0.059	(0.063)	0.015	0.043
268	22.33	0.07	0.039	(0.062)	0.010	0.029
269	22.42	0.07	0.039	(0.062)	0.010	0.029
270	22.50	0.07	0.039	(0.062)	0.010	0.029
271	22.58	0.07	0.039	(0.062)	0.010	0.029
272	22.67	0.07	0.039	(0.062)	0.010	0.029
273	22.75	0.07	0.039	(0.061)	0.010	0.029
274	22.83	0.07	0.039	(0.061)	0.010	0.029
275	22.92	0.07	0.039	(0.061)	0.010	0.029
276	23.00	0.07	0.039	(0.061)	0.010	0.029
277	23.08	0.07	0.039	(0.061)	0.010	0.029
278	23.17	0.07	0.039	(0.061)	0.010	0.029
279	23.25	0.07	0.039	(0.061)	0.010	0.029
280	23.33	0.07	0.039	(0.060)	0.010	0.029
281	23.42	0.07	0.039	(0.060)	0.010	0.029
282	23.50	0.07	0.039	(0.060)	0.010	0.029
283	23.58	0.07	0.039	(0.060)	0.010	0.029
284	23.67	0.07	0.039	(0.060)	0.010	0.029
285	23.75	0.07	0.039	(0.060)	0.010	0.029
286	23.83	0.07	0.039	(0.060)	0.010	0.029
287	23.92	0.07	0.039	(0.060)	0.010	0.029

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288  24.00     0.07      0.039       (  0.060)       0.010        0.029
               (Loss Rate Not Used)
    Sum =     100.0                                   Sum =    44.9
       Flood volume = Effective rainfall      3.74(In)
        times area      70.5(Ac.)/[(In)/(Ft.)] =      22.0(Ac.Ft)
       Total soil loss =      1.15(In)
       Total soil loss =     6.733(Ac.Ft)
       Total rainfall =      4.89(In)
       Flood volume =      957615.4 Cubic Feet
       Total soil loss =      293281.8 Cubic Feet
       --------------------------------------------------------------------
        Peak flow rate of this hydrograph =     39.746(CFS)
       --------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           24 - H O U R   S T O R M
                      R u n o f f     H y d r o g r a p h
       --------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       --------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0       10.0      20.0      30.0      40.0
 -----------------------------------------------------------------------
   0+ 5       0.0024      0.34  Q         |         |         |         |
   0+10       0.0118      1.37  VQ        |         |         |         |
   0+15       0.0236      1.72  VQ        |         |         |         |
   0+20       0.0377      2.05  V Q       |         |         |         |
   0+25       0.0560      2.64  V Q       |         |         |         |
   0+30       0.0757      2.87  V Q       |         |         |         |
   0+35       0.0962      2.97  V Q       |         |         |         |
   0+40       0.1171      3.04  V  Q      |         |         |         |
   0+45       0.1382      3.06  V  Q      |         |         |         |
   0+50       0.1605      3.25  V  Q      |         |         |         |
   0+55       0.1865      3.77  V  Q      |         |         |         |
   1+ 0       0.2136      3.95  V  Q      |         |         |         |
   1+ 5       0.2402      3.85  V  Q      |         |         |         |
   1+10       0.2635      3.38  V  Q      |         |         |         |
   1+15       0.2857      3.23  V  Q      |         |         |         |
   1+20       0.3075      3.16  V  Q      |         |         |         |
   1+25       0.3291      3.13  V  Q      |         |         |         |
   1+30       0.3505      3.11  V  Q      |         |         |         |
   1+35       0.3718      3.10  V  Q      |         |         |         |
   1+40       0.3931      3.09  V  Q      |         |         |         |
   1+45       0.4143      3.09  V  Q      |         |         |         |
   1+50       0.4368      3.26  V  Q      |         |         |         |
   1+55       0.4627      3.77  V  Q      |         |         |         |
   2+ 0       0.4899      3.95  V  Q      |         |         |         |
   2+ 5       0.5176      4.02  V   Q     |         |         |         |
   2+10       0.5456      4.07  V   Q     |         |         |         |
   2+15       0.5738      4.09  |V  Q     |         |         |         |
   2+20       0.6020      4.10  |V  Q     |         |         |         |
   2+25       0.6304      4.11  |V  Q     |         |         |         |
   2+30       0.6587      4.11  |V  Q     |         |         |         |
   2+35       0.6882      4.29  |V  Q     |         |         |         |
   2+40       0.7213      4.80  |V  Q     |         |         |         |
   2+45       0.7555      4.97  |V  Q     |         |         |         |
   2+50       0.7903      5.05  |V   Q    |         |         |         |
   2+55       0.8254      5.09  |V   Q    |         |         |         |
   3+ 0       0.8606      5.12  |V   Q    |         |         |         |
   3+ 5       0.8960      5.13  |V   Q    |         |         |         |
   3+10       0.9314      5.14  |V   Q    |         |         |         |
   3+15       0.9668      5.14  |V   Q    |         |         |         |
   3+20       1.0022      5.14  |V   Q    |         |         |         |
   3+25       1.0376      5.14  |V   Q    |         |         |         |
   3+30       1.0731      5.14  |V   Q    |         |         |         |
   3+35       1.1085      5.14  | V  Q    |         |         |         |
   3+40       1.1439      5.14  | V  Q    |         |         |         |
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3+45       1.1793       5.14  | V  Q    |         |         |         |
3+50       1.2159       5.31  | V  Q    |         |         |         |
3+55       1.2560       5.83  | V  Q    |         |         |         |
4+ 0       1.2974       6.00  | V   Q   |         |         |         |
4+ 5       1.3393       6.08  | V   Q   |         |         |         |
4+10       1.3814       6.12  | V   Q   |         |         |         |
4+15       1.4238       6.15  | V   Q   |         |         |         |
4+20       1.4673       6.33  | V   Q   |         |         |         |
4+25       1.5146       6.86  | V   Q   |         |         |         |
4+30       1.5630       7.03  | V    Q  |         |         |         |
4+35       1.6119       7.11  | V    Q  |         |         |         |
4+40       1.6612       7.15  |  V   Q  |         |         |         |
4+45       1.7106       7.17  |  V   Q  |         |         |         |
4+50       1.7613       7.36  |  V   Q  |         |         |         |
4+55       1.8156       7.88  |  V   Q  |         |         |         |
5+ 0       1.8711       8.06  |  V    Q |         |         |         |
5+ 5       1.9248       7.79  |  V   Q  |         |         |         |
5+10       1.9717       6.81  |  V  Q   |         |         |         |
5+15       2.0163       6.48  |  V  Q   |         |         |         |
5+20       2.0612       6.51  |  V  Q   |         |         |         |
5+25       2.1091       6.95  |  V  Q   |         |         |         |
5+30       2.1578       7.08  |  V   Q  |         |         |         |
5+35       2.2081       7.31  |   V  Q  |         |         |         |
5+40       2.2621       7.84  |   V  Q  |         |         |         |
5+45       2.3174       8.03  |   V   Q |         |         |         |
5+50       2.3734       8.12  |   V   Q |         |         |         |
5+55       2.4297       8.18  |   V   Q |         |         |         |
6+ 0       2.4862       8.20  |   V   Q |         |         |         |
6+ 5       2.5440       8.39  |   V   Q |         |         |         |
6+10       2.6054       8.91  |   V   Q |         |         |         |
6+15       2.6680       9.09  |   V    Q|         |         |         |
6+20       2.7311       9.17  |   V    Q|         |         |         |
6+25       2.7945       9.21  |    V   Q|         |         |         |
6+30       2.8581       9.23  |    V   Q|         |         |         |
6+35       2.9229       9.42  |    V   Q|         |         |         |
6+40       2.9914       9.94  |    V   Q|         |         |         |
6+45       3.0611      10.12  |    V    Q         |         |         |
6+50       3.1313      10.19  |    V    Q         |         |         |
6+55       3.2018      10.24  |    V    Q         |         |         |
7+ 0       3.2725      10.26  |    V    Q         |         |         |
7+ 5       3.3432      10.27  |     V   Q         |         |         |
7+10       3.4140      10.29  |     V   Q         |         |         |
7+15       3.4849      10.29  |     V   Q         |         |         |
7+20       3.5569      10.46  |     V   Q         |         |         |
7+25       3.6324      10.97  |     V   Q         |         |         |
7+30       3.7092      11.15  |     V   |Q        |         |         |
7+35       3.7877      11.40  |     V   |Q        |         |         |
7+40       3.8700      11.95  |      V  |Q        |         |         |
7+45       3.9536      12.15  |      V  | Q       |         |         |
7+50       4.0391      12.41  |      V  | Q       |         |         |
7+55       4.1285      12.98  |      V  | Q       |         |         |
8+ 0       4.2193      13.18  |      V  |  Q      |         |         |
8+ 5       4.3130      13.61  |      V  |  Q      |         |         |
8+10       4.4142      14.69  |       V |   Q     |         |         |
8+15       4.5179      15.07  |       V |    Q    |         |         |
8+20       4.6229      15.23  |       V |    Q    |         |         |
8+25       4.7284      15.33  |       V |    Q    |         |         |
8+30       4.8344      15.38  |       V |    Q    |         |         |
8+35       4.9416      15.57  |       V |    Q    |         |         |
8+40       5.0526      16.11  |        V|     Q   |         |         |
8+45       5.1648      16.29  |        V|     Q   |         |         |
8+50       5.2787      16.54  |        V|     Q   |         |         |
8+55       5.3964      17.09  |        V|      Q  |         |         |
9+ 0       5.5155      17.29  |         V      Q  |         |         |
9+ 5       5.6375      17.73  |         V      Q  |         |         |
9+10       5.7670      18.81  |         V       Q |         |         |
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 9+15       5.8991     19.18  |         V        Q|         |         |
 9+20       6.0336     19.52  |         V        Q|         |         |
 9+25       6.1722     20.13  |         |V        Q         |         |
 9+30       6.3124     20.35  |         |V        Q         |         |
 9+35       6.4544     20.63  |         |V        Q         |         |
 9+40       6.6005     21.21  |         | V       |Q        |         |
 9+45       6.7479     21.41  |         | V       |Q        |         |
 9+50       6.8971     21.67  |         | V       |Q        |         |
 9+55       7.0503     22.23  |         | V       | Q       |         |
10+ 0       7.2048     22.43  |         |  V      | Q       |         |
10+ 5       7.3516     21.32  |         |  V      |Q        |         |
10+10       7.4741     17.79  |         |  V   Q  |         |         |
10+15       7.5883     16.58  |         |  V  Q   |         |         |
10+20       7.6988     16.05  |         |   V Q   |         |         |
10+25       7.8074     15.77  |         |   VQ    |         |         |
10+30       7.9149     15.60  |         |   VQ    |         |         |
10+35       8.0277     16.38  |         |   V Q   |         |         |
10+40       8.1575     18.85  |         |   V   Q |         |         |
10+45       8.2933     19.73  |         |    V   Q|         |         |
10+50       8.4319     20.12  |         |    V    Q         |         |
10+55       8.5719     20.33  |         |    V    Q         |         |
11+ 0       8.7127     20.45  |         |    V    Q         |         |
11+ 5       8.8528     20.34  |         |     V   Q         |         |
11+10       8.9897     19.89  |         |     V  Q|         |         |
11+15       9.1255     19.71  |         |     V  Q|         |         |
11+20       9.2607     19.63  |         |     V  Q|         |         |
11+25       9.3956     19.59  |         |      V Q|         |         |
11+30       9.5303     19.57  |         |      V Q|         |         |
11+35       9.6626     19.21  |         |      V Q|         |         |
11+40       9.7878     18.17  |         |      VQ |         |         |
11+45       9.9105     17.82  |         |      QV |         |         |
11+50      10.0334     17.84  |         |      QV |         |         |
11+55      10.1592     18.27  |         |       Q |         |         |
12+ 0      10.2859     18.39  |         |       Q |         |         |
12+ 5      10.4225     19.84  |         |       VQ|         |         |
12+10      10.5877     23.99  |         |        V|  Q      |         |
12+15      10.7630     25.46  |         |        V|    Q    |         |
12+20      10.9446     26.36  |         |        V|     Q   |         |
12+25      11.1336     27.44  |         |         V      Q  |         |
12+30      11.3258     27.91  |         |         V      Q  |         |
12+35      11.5229     28.62  |         |         V       Q |         |
12+40      11.7308     30.20  |         |         |V        Q         |
12+45      11.9426     30.74  |         |         |V        Q         |
12+50      12.1577     31.24  |         |         | V       |Q        |
12+55      12.3788     32.10  |         |         | V       | Q       |
13+ 0      12.6022     32.44  |         |         | V       | Q       |
13+ 5      12.8349     33.78  |         |         |  V      |  Q      |
13+10      13.0923     37.37  |         |         |  V      |      Q  |
13+15      13.3583     38.63  |         |         |   V     |       Q |
13+20      13.6284     39.21  |         |         |   V     |        Q|
13+25      13.9008     39.55  |         |         |    V    |        Q|
13+30      14.1745     39.75  |         |         |    V    |        Q|
13+35      14.4314     37.31  |         |         |     V   |      Q  |
13+40      14.6368     29.81  |         |         |     V  Q|         |
13+45      14.8244     27.24  |         |         |     VQ  |         |
13+50      15.0043     26.12  |         |         |     QV  |         |
13+55      15.1801     25.53  |         |         |    Q V  |         |
14+ 0      15.3538     25.22  |         |         |    Q V  |         |
14+ 5      15.5328     26.00  |         |         |    Q  V |         |
14+10      15.7299     28.62  |         |         |       Q |         |
14+15      15.9338     29.60  |         |         |       VQ|         |
14+20      16.1392     29.83  |         |         |        Q|         |
14+25      16.3417     29.40  |         |         |        Q|         |
14+30      16.5437     29.32  |         |         |        QV         |
14+35      16.7456     29.32  |         |         |        QV         |
14+40      16.9479     29.37  |         |         |        QV         |
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14+45      17.1501     29.37  |         |         |        Q|V        |
14+50      17.3509     29.16  |         |         |        Q|V        |
14+55      17.5471     28.48  |         |         |       Q |V        |
15+ 0      17.7419     28.28  |         |         |       Q | V       |
15+ 5      17.9345     27.98  |         |         |      Q  | V       |
15+10      18.1223     27.26  |         |         |      Q  | V       |
15+15      18.3084     27.03  |         |         |      Q  |  V      |
15+20      18.4923     26.70  |         |         |     Q   |  V      |
15+25      18.6712     25.97  |         |         |    Q    |  V      |
15+30      18.8484     25.74  |         |         |    Q    |   V     |
15+35      19.0187     24.72  |         |         |   Q     |   V     |
15+40      19.1695     21.91  |         |         |Q        |   V     |
15+45      19.3139     20.96  |         |         Q         |    V    |
15+50      19.4555     20.55  |         |         Q         |    V    |
15+55      19.5955     20.34  |         |         Q         |    V    |
16+ 0      19.7350     20.25  |         |         Q         |    V    |
16+ 5      19.8557     17.52  |         |      Q  |         |     V   |
16+10      19.9209      9.47  |        Q|         |         |     V   |
16+15      19.9673      6.74  |     Q   |         |         |     V   |
16+20      20.0053      5.52  |    Q    |         |         |     V   |
16+25      20.0389      4.87  |   Q     |         |         |     V   |
16+30      20.0699      4.50  |   Q     |         |         |     V   |
16+35      20.0984      4.14  |   Q     |         |         |     V   |
16+40      20.1220      3.43  |  Q      |         |         |     V   |
16+45      20.1444      3.25  |  Q      |         |         |     V   |
16+50      20.1663      3.18  |  Q      |         |         |     V   |
16+55      20.1879      3.13  |  Q      |         |         |     V   |
17+ 0      20.2093      3.11  |  Q      |         |         |     V   |
17+ 5      20.2330      3.44  |  Q      |         |         |     V   |
17+10      20.2637      4.45  |   Q     |         |         |     V   |
17+15      20.2968      4.81  |   Q     |         |         |     V   |
17+20      20.3309      4.96  |   Q     |         |         |     V   |
17+25      20.3657      5.05  |    Q    |         |         |      V  |
17+30      20.4008      5.09  |    Q    |         |         |      V  |
17+35      20.4360      5.12  |    Q    |         |         |      V  |
17+40      20.4714      5.14  |    Q    |         |         |      V  |
17+45      20.5068      5.14  |    Q    |         |         |      V  |
17+50      20.5411      4.97  |   Q     |         |         |      V  |
17+55      20.5718      4.46  |   Q     |         |         |      V  |
18+ 0      20.6013      4.28  |   Q     |         |         |      V  |
18+ 5      20.6302      4.20  |   Q     |         |         |      V  |
18+10      20.6589      4.16  |   Q     |         |         |      V  |
18+15      20.6874      4.14  |   Q     |         |         |      V  |
18+20      20.7158      4.13  |   Q     |         |         |      V  |
18+25      20.7442      4.11  |   Q     |         |         |      V  |
18+30      20.7725      4.11  |   Q     |         |         |      V  |
18+35      20.7996      3.94  |  Q      |         |         |      V  |
18+40      20.8233      3.43  |  Q      |         |         |      V  |
18+45      20.8457      3.25  |  Q      |         |         |      V  |
18+50      20.8664      3.00  |  Q      |         |         |      V  |
18+55      20.8832      2.45  | Q       |         |         |      V  |
19+ 0      20.8987      2.25  | Q       |         |         |       V |
19+ 5      20.9148      2.33  | Q       |         |         |       V |
19+10      20.9340      2.79  | Q       |         |         |       V |
19+15      20.9543      2.94  | Q       |         |         |       V |
19+20      20.9762      3.18  |  Q      |         |         |       V |
19+25      21.0018      3.72  |  Q      |         |         |       V |
19+30      21.0288      3.92  |  Q      |         |         |       V |
19+35      21.0552      3.84  |  Q      |         |         |       V |
19+40      21.0785      3.38  |  Q      |         |         |       V |
19+45      21.1008      3.23  |  Q      |         |         |       V |
19+50      21.1214      2.99  | Q       |         |         |       V |
19+55      21.1382      2.45  | Q       |         |         |       V |
20+ 0      21.1537      2.25  | Q       |         |         |       V |
20+ 5      21.1698      2.33  | Q       |         |         |       V |
20+10      21.1890      2.79  | Q       |         |         |       V |
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   20+15      21.2093      2.94   | Q       |         |         |       V |
   20+20      21.2300      3.01   |  Q      |         |         |       V |
   20+25      21.2509      3.04   |  Q      |         |         |       V |
   20+30      21.2720      3.06   |  Q      |         |         |       V |
   20+35      21.2931      3.07   |  Q      |         |         |       V |
   20+40      21.3144      3.09   |  Q      |         |         |       V |
   20+45      21.3356      3.09   |  Q      |         |         |       V |
   20+50      21.3557      2.91   | Q       |         |         |       V |
   20+55      21.3722      2.40   | Q       |         |         |       V |
   21+ 0      21.3876      2.23   | Q       |         |         |       V |
   21+ 5      21.4035      2.32   | Q       |         |         |       V |
   21+10      21.4228      2.79   | Q       |         |         |       V |
   21+15      21.4430      2.94   | Q       |         |         |        V|
   21+20      21.4625      2.84   | Q       |         |         |        V|
   21+25      21.4787      2.35   | Q       |         |         |        V|
   21+30      21.4939      2.20   | Q       |         |         |        V|
   21+35      21.5098      2.31   | Q       |         |         |        V|
   21+40      21.5290      2.79   | Q       |         |         |        V|
   21+45      21.5493      2.94   | Q       |         |         |        V|
   21+50      21.5688      2.84   | Q       |         |         |        V|
   21+55      21.5850      2.35   | Q       |         |         |        V|
   22+ 0      21.6002      2.20   | Q       |         |         |        V|
   22+ 5      21.6160      2.31   | Q       |         |         |        V|
   22+10      21.6353      2.79   | Q       |         |         |        V|
   22+15      21.6555      2.94   | Q       |         |         |        V|
   22+20      21.6750      2.84   | Q       |         |         |        V|
   22+25      21.6912      2.35   | Q       |         |         |        V|
   22+30      21.7064      2.20   | Q       |         |         |        V|
   22+35      21.7211      2.14   | Q       |         |         |        V|
   22+40      21.7356      2.11   | Q       |         |         |        V|
   22+45      21.7499      2.08   | Q       |         |         |        V|
   22+50      21.7642      2.07   | Q       |         |         |        V|
   22+55      21.7784      2.06   | Q       |         |         |        V|
   23+ 0      21.7925      2.06   | Q       |         |         |        V|
   23+ 5      21.8067      2.06   | Q       |         |         |        V|
   23+10      21.8209      2.06   | Q       |         |         |        V|
   23+15      21.8350      2.06   | Q       |         |         |        V|
   23+20      21.8492      2.06   | Q       |         |         |        V|
   23+25      21.8634      2.06   | Q       |         |         |        V|
   23+30      21.8775      2.06   | Q       |         |         |        V|
   23+35      21.8917      2.06   | Q       |         |         |        V|
   23+40      21.9059      2.06   | Q       |         |         |        V|
   23+45      21.9200      2.06   | Q       |         |         |        V|
   23+50      21.9342      2.06   | Q       |         |         |        V|
   23+55      21.9484      2.06   | Q       |         |         |        V|
   24+ 0      21.9625      2.06   | Q       |         |         |        V|
   24+ 5      21.9743      1.71   |Q        |         |         |        V|
   24+10      21.9791      0.69   Q         |         |         |        V|
   24+15      21.9814      0.34   Q         |         |         |        V|
   24+20      21.9826      0.18   Q         |         |         |        V|
   24+25      21.9833      0.10   Q         |         |         |        V|
   24+30      21.9837      0.05   Q         |         |         |        V|
   24+35      21.9838      0.03   Q         |         |         |         V
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U n i t   H y d r o g r a p h   A n a l y s i s

Study date 07/02/23 File: 100135PRUHB1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

1000 PALMS - BUILDING 1
UNIT HYDROGRAPH - AREA B
DEVELOPED CONDITION
100135PRUHB

Drainage Area = 4.66(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.66(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 1294.00(Ft.)
Length along longest watercourse measured to centroid = 670.00(Ft.)
Length along longest watercourse = 0.245 Mi.
Length along longest watercourse measured to centroid = 0.127 Mi.
Difference in elevation = 37.90(Ft.)
Slope along watercourse = 154.6461 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.22 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.89 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.66	0.34	1.60

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.66	1.40	6.52

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.344(In)
Area Averaged 100-Year Rainfall = 1.400(In)

Point rain (area averaged) = 1.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.660	32.00	0.540

Total Area Entered = 4.66(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	32.0	0.742	0.540	0.381	1.000	0.381
					Sum (F) =	0.381

Area averaged mean soil loss (F) (In/Hr) = 0.381
Minimum soil loss rate ((In/Hr)) = 0.191
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.600

Slope of intensity-duration curve for a 1 hour storm =0.5800

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period	(hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	225.553	46.484	2.183
2	0.167	451.106	43.736	2.054
3	0.250	676.660	7.529	0.354
4	0.333	902.213	2.251	0.106
			Sum = 100.000	Sum= 4.696

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.605	(0.381)	0.363	0.242
2	0.17	4.20	0.706	0.381	(0.423)	0.324
3	0.25	4.40	0.739	0.381	(0.444)	0.358
4	0.33	4.60	0.773	0.381	(0.464)	0.391
5	0.42	5.00	0.840	0.381	(0.504)	0.459
6	0.50	5.60	0.941	0.381	(0.564)	0.559
7	0.58	6.40	1.075	0.381	(0.645)	0.694
8	0.67	8.10	1.361	0.381	(0.816)	0.979
9	0.75	13.10	2.201	0.381	(1.320)	1.819
10	0.83	34.50	5.796	0.381	(3.477)	5.414
11	0.92	6.70	1.126	0.381	(0.675)	0.744
12	1.00	3.80	0.638	0.381	(0.383)	0.257

(Loss Rate Not Used)

Sum = 100.0 Sum = 12.2

Flood volume = Effective rainfall 1.02(In)
times area 4.7(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.38(In)
Total soil loss = 0.148(Ac.Ft)
Total rainfall = 1.40(In)
Flood volume = 17255.7 Cubic Feet
Total soil loss = 6425.4 Cubic Feet

Peak flow rate of this hydrograph = 15.985(CFS)

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R   S T O R M
                      R u n o f f     H y d r o g r a p h
       --------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       --------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
  -----------------------------------------------------------------------
    0+ 5      0.0036      0.53 VQ        |         |         |         |
    0+10      0.0119      1.21 |VQ       |         |         |         |
    0+15      0.0225      1.53 | VQ      |         |         |         |
    0+20      0.0344      1.73 |  Q      |         |         |         |
    0+25      0.0480      1.97 |  QV     |         |         |         |
    0+30      0.0641      2.34 |   Q V   |         |         |         |
    0+35      0.0838      2.87 |    Q  V |         |         |         |
    0+40      0.1101      3.81 |      Q  |V        |         |         |
    0+45      0.1534      6.29 |         | Q  V    |         |         |
    0+50      0.2635     15.98 |         |         |     V   |Q        |
    0+55      0.3565     13.50 |         |         |     Q   |    V    |
    1+ 0      0.3854      4.20 |       Q |         |         |       V |
    1+ 5      0.3948      1.36 | Q       |         |         |        V|
    1+10      0.3960      0.17 Q         |         |         |        V|
    1+15      0.3961      0.03 Q         |         |         |         V
-----------------------------------------------------------------------
```

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      U n i t   H y d r o g r a p h   A n a l y s i s

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             Study date  07/02/23 File: 100135PRUHB3100.out


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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6490

---------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format




---------------------------------------------------------------------
1000 PALMS - BUILDING 1
UNIT HYDROGRAPH - AREA B
DEVELOPED CONDITION
100135PRUHB
--------------------------------------------------------------------
Drainage Area =       4.66(Ac.)  =      0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       4.66(Ac.)  =      0.007 Sq. Mi.
Length along longest watercourse =    1294.00(Ft.)
Length along longest watercourse measured to centroid =     670.00(Ft.)
Length along longest watercourse =      0.245 Mi.
Length along longest watercourse measured to centroid =      0.127 Mi.
Difference in elevation =      37.90(Ft.)
Slope along watercourse =    154.6461 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.037 Hr.
Lag time =     2.22 Min.
25% of lag time =     0.55 Min.
40% of lag time =     0.89 Min.
Unit time =     5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.66           0.59                  2.77

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.66           2.19                 10.21

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.594(In)
Area Averaged 100-Year Rainfall =    2.190(In)

Point rain (area averaged) =    2.190(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.190(In)
```

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.660	32.00	0.540

Total Area Entered = 4.66(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	32.0	0.742	0.540	0.381	1.000	0.381
					Sum (F) =	0.381

Area averaged mean soil loss (F) (In/Hr) = 0.381
Minimum soil loss rate ((In/Hr)) = 0.191
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.600

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period	(hrs)	Time % of lag	Distribution Graph %		Unit Hydrograph (CFS)
1	0.083	225.553	46.484		2.183
2	0.167	451.106	43.736		2.054
3	0.250	676.660	7.529		0.354
4	0.333	902.213	2.251		0.106
			Sum = 100.000	Sum=	4.696

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.342	(0.381)	0.205	0.137
2	0.17	1.30	0.342	(0.381)	0.205	0.137
3	0.25	1.10	0.289	(0.381)	0.173	0.116
4	0.33	1.50	0.394	(0.381)	0.237	0.158
5	0.42	1.50	0.394	(0.381)	0.237	0.158
6	0.50	1.80	0.473	(0.381)	0.284	0.189
7	0.58	1.50	0.394	(0.381)	0.237	0.158
8	0.67	1.80	0.473	(0.381)	0.284	0.189
9	0.75	1.80	0.473	(0.381)	0.284	0.189
10	0.83	1.50	0.394	(0.381)	0.237	0.158
11	0.92	1.60	0.420	(0.381)	0.252	0.168
12	1.00	1.80	0.473	(0.381)	0.284	0.189
13	1.08	2.20	0.578	(0.381)	0.347	0.231
14	1.17	2.20	0.578	(0.381)	0.347	0.231
15	1.25	2.20	0.578	(0.381)	0.347	0.231
16	1.33	2.00	0.526	(0.381)	0.315	0.210
17	1.42	2.60	0.683	0.381	(0.410)	0.302
18	1.50	2.70	0.710	0.381	(0.426)	0.328
19	1.58	2.40	0.631	(0.381)	0.378	0.252
20	1.67	2.70	0.710	0.381	(0.426)	0.328
21	1.75	3.30	0.867	0.381	(0.520)	0.486
22	1.83	3.10	0.815	0.381	(0.489)	0.433
23	1.92	2.90	0.762	0.381	(0.457)	0.381
24	2.00	3.00	0.788	0.381	(0.473)	0.407
25	2.08	3.10	0.815	0.381	(0.489)	0.433
26	2.17	4.20	1.104	0.381	(0.662)	0.722
27	2.25	5.00	1.314	0.381	(0.788)	0.933
28	2.33	3.50	0.920	0.381	(0.552)	0.538

```
29   2.42     6.80      1.787          0.381    (  1.072)        1.406
30   2.50     7.30      1.918          0.381    (  1.151)        1.537
31   2.58     8.20      2.155          0.381    (  1.293)        1.774
32   2.67     5.90      1.550          0.381    (  0.930)        1.169
33   2.75     2.00      0.526       (  0.381)       0.315        0.210
34   2.83     1.80      0.473       (  0.381)       0.284        0.189
35   2.92     1.80      0.473       (  0.381)       0.284        0.189
36   3.00     0.60      0.158       (  0.381)       0.095        0.063
              (Loss Rate Not Used)
   Sum =     100.0                                Sum =    14.9
     Flood volume = Effective rainfall      1.24(In)
      times area       4.7(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
     Total soil loss =      0.95(In)
     Total soil loss =     0.367(Ac.Ft)
     Total rainfall =      2.19(In)
     Flood volume =       21045.5 Cubic Feet
     Total soil loss =       15999.4 Cubic Feet
     --------------------------------------------------------------------
      Peak flow rate of this hydrograph =      7.587(CFS)
     --------------------------------------------------------------------
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         3 - H O U R   S T O R M
                    R u n o f f     H y d r o g r a p h
     --------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     --------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-----------------------------------------------------------------------
  0+ 5       0.0021      0.30  VQ        |         |         |         |
  0+10       0.0060      0.58  V Q       |         |         |         |
  0+15       0.0101      0.58  V Q       |         |         |         |
  0+20       0.0145      0.64  |VQ       |         |         |         |
  0+25       0.0195      0.72  |VQ       |         |         |         |
  0+30       0.0250      0.81  | VQ      |         |         |         |
  0+35       0.0306      0.81  | VQ      |         |         |         |
  0+40       0.0362      0.82  | VQ      |         |         |         |
  0+45       0.0423      0.88  |  Q      |         |         |         |
  0+50       0.0479      0.82  |  Q      |         |         |         |
  0+55       0.0533      0.78  |  QV     |         |         |         |
  1+ 0       0.0590      0.83  |  QV     |         |         |         |
  1+ 5       0.0657      0.97  |  Q V    |         |         |         |
  1+10       0.0730      1.07  |   Q V   |         |         |         |
  1+15       0.0805      1.08  |   Q V   |         |         |         |
  1+20       0.0876      1.04  |   Q  V  |         |         |         |
  1+25       0.0959      1.20  |   Q  V  |         |         |         |
  1+30       0.1058      1.44  |    Q  V |         |         |         |
  1+35       0.1151      1.35  |    Q   V|         |         |         |
  1+40       0.1246      1.38  |    Q    V         |         |         |
  1+45       0.1374      1.86  |      Q  |V        |         |         |
  1+50       0.1518      2.09  |       Q | V       |         |         |
  1+55       0.1651      1.93  |      Q  |  V      |         |         |
  2+ 0       0.1780      1.88  |      Q  |   V     |         |         |
  2+ 5       0.1915      1.96  |      Q  |    V    |         |         |
  2+10       0.2098      2.65  |         Q      V  |         |         |
  2+15       0.2354      3.72  |         |   Q    V|         |         |
  2+20       0.2588      3.39  |         |  Q      |V        |         |
  2+25       0.2904      4.58  |         |       Q |   V     |         |
  2+30       0.3354      6.53  |         |         |      QV |         |
  2+35       0.3876      7.59  |         |         |         Q V       |
  2+40       0.4351      6.89  |         |         |      Q  |     V   |
  2+45       0.4602      3.65  |         |   Q     |         |       V |
  2+50       0.4702      1.45  |    Q    |         |         |       V |
  2+55       0.4771      1.00  |   Q     |         |         |        V|
  3+ 0       0.4813      0.62  | Q       |         |         |        V|
  3+ 5       0.4828      0.22  Q         |         |         |        V|
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   3+10       0.4831      0.04  Q         |         |         |        V|
   3+15       0.4831      0.01  Q         |         |         |         V
-----------------------------------------------------------------------
```

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 07/02/23 File: 100135PRUHB6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

1000 PALMS - BUILDING 1
UNIT HYDROGRAPH - AREA B
DEVELOPED CONDITION
100135PRUHB

Drainage Area = 4.66(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.66(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 1294.00(Ft.)
Length along longest watercourse measured to centroid = 670.00(Ft.)
Length along longest watercourse = 0.245 Mi.
Length along longest watercourse measured to centroid = 0.127 Mi.
Difference in elevation = 37.90(Ft.)
Slope along watercourse = 154.6461 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.22 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.89 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.66	0.82	3.84

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.66	3.01	14.03

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.823(In)
Area Averaged 100-Year Rainfall = 3.010(In)

Point rain (area averaged) = 3.010(In)
Areal adjustment factor = 100.00 %

Adjusted average point rain = 3.010(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.660	32.00	0.540

Total Area Entered = 4.66(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	32.0	0.742	0.540	0.381	1.000	0.381
					Sum (F) =	0.381

Area averaged mean soil loss (F) (In/Hr) = 0.381
Minimum soil loss rate ((In/Hr)) = 0.191
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.600

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	225.553	46.484	2.183
2	0.167	451.106	43.736	2.054
3	0.250	676.660	7.529	0.354
4	0.333	902.213	2.251	0.106
			Sum = 100.000	Sum= 4.696

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.181	(0.381)	0.108	0.072
2	0.17	0.60	0.217	(0.381)	0.130	0.087
3	0.25	0.60	0.217	(0.381)	0.130	0.087
4	0.33	0.60	0.217	(0.381)	0.130	0.087
5	0.42	0.60	0.217	(0.381)	0.130	0.087
6	0.50	0.70	0.253	(0.381)	0.152	0.101
7	0.58	0.70	0.253	(0.381)	0.152	0.101
8	0.67	0.70	0.253	(0.381)	0.152	0.101
9	0.75	0.70	0.253	(0.381)	0.152	0.101
10	0.83	0.70	0.253	(0.381)	0.152	0.101
11	0.92	0.70	0.253	(0.381)	0.152	0.101
12	1.00	0.80	0.289	(0.381)	0.173	0.116
13	1.08	0.80	0.289	(0.381)	0.173	0.116
14	1.17	0.80	0.289	(0.381)	0.173	0.116
15	1.25	0.80	0.289	(0.381)	0.173	0.116
16	1.33	0.80	0.289	(0.381)	0.173	0.116
17	1.42	0.80	0.289	(0.381)	0.173	0.116
18	1.50	0.80	0.289	(0.381)	0.173	0.116
19	1.58	0.80	0.289	(0.381)	0.173	0.116
20	1.67	0.80	0.289	(0.381)	0.173	0.116
21	1.75	0.80	0.289	(0.381)	0.173	0.116
22	1.83	0.80	0.289	(0.381)	0.173	0.116
23	1.92	0.80	0.289	(0.381)	0.173	0.116
24	2.00	0.90	0.325	(0.381)	0.195	0.130
25	2.08	0.80	0.289	(0.381)	0.173	0.116
26	2.17	0.90	0.325	(0.381)	0.195	0.130
27	2.25	0.90	0.325	(0.381)	0.195	0.130

```
28   2.33     0.90      0.325       (  0.381)       0.195         0.130
29   2.42     0.90      0.325       (  0.381)       0.195         0.130
30   2.50     0.90      0.325       (  0.381)       0.195         0.130
31   2.58     0.90      0.325       (  0.381)       0.195         0.130
32   2.67     0.90      0.325       (  0.381)       0.195         0.130
33   2.75     1.00      0.361       (  0.381)       0.217         0.144
34   2.83     1.00      0.361       (  0.381)       0.217         0.144
35   2.92     1.00      0.361       (  0.381)       0.217         0.144
36   3.00     1.00      0.361       (  0.381)       0.217         0.144
37   3.08     1.00      0.361       (  0.381)       0.217         0.144
38   3.17     1.10      0.397       (  0.381)       0.238         0.159
39   3.25     1.10      0.397       (  0.381)       0.238         0.159
40   3.33     1.10      0.397       (  0.381)       0.238         0.159
41   3.42     1.20      0.433       (  0.381)       0.260         0.173
42   3.50     1.30      0.470       (  0.381)       0.282         0.188
43   3.58     1.40      0.506       (  0.381)       0.303         0.202
44   3.67     1.40      0.506       (  0.381)       0.303         0.202
45   3.75     1.50      0.542       (  0.381)       0.325         0.217
46   3.83     1.50      0.542       (  0.381)       0.325         0.217
47   3.92     1.60      0.578       (  0.381)       0.347         0.231
48   4.00     1.60      0.578       (  0.381)       0.347         0.231
49   4.08     1.70      0.614       (  0.381)       0.368         0.246
50   4.17     1.80      0.650          0.381    (  0.390)         0.269
51   4.25     1.90      0.686          0.381    (  0.412)         0.305
52   4.33     2.00      0.722          0.381    (  0.433)         0.341
53   4.42     2.10      0.759          0.381    (  0.455)         0.377
54   4.50     2.10      0.759          0.381    (  0.455)         0.377
55   4.58     2.20      0.795          0.381    (  0.477)         0.413
56   4.67     2.30      0.831          0.381    (  0.498)         0.449
57   4.75     2.40      0.867          0.381    (  0.520)         0.485
58   4.83     2.40      0.867          0.381    (  0.520)         0.485
59   4.92     2.50      0.903          0.381    (  0.542)         0.522
60   5.00     2.60      0.939          0.381    (  0.563)         0.558
61   5.08     3.10      1.120          0.381    (  0.672)         0.738
62   5.17     3.60      1.300          0.381    (  0.780)         0.919
63   5.25     3.90      1.409          0.381    (  0.845)         1.027
64   5.33     4.20      1.517          0.381    (  0.910)         1.136
65   5.42     4.70      1.698          0.381    (  1.019)         1.316
66   5.50     5.60      2.023          0.381    (  1.214)         1.641
67   5.58     1.90      0.686          0.381    (  0.412)         0.305
68   5.67     0.90      0.325       (  0.381)       0.195         0.130
69   5.75     0.60      0.217       (  0.381)       0.130         0.087
70   5.83     0.50      0.181       (  0.381)       0.108         0.072
71   5.92     0.30      0.108       (  0.381)       0.065         0.043
72   6.00     0.20      0.072       (  0.381)       0.043         0.029
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    18.7
     Flood volume = Effective rainfall      1.56(In)
      times area       4.7(Ac.)/[(In)/(Ft.)] =       0.6(Ac.Ft)
     Total soil loss =      1.45(In)
     Total soil loss =     0.564(Ac.Ft)
     Total rainfall =      3.01(In)
     Flood volume =       26360.9 Cubic Feet
     Total soil loss =       24554.8 Cubic Feet
     --------------------------------------------------------------------
      Peak flow rate of this hydrograph =      6.800(CFS)
     --------------------------------------------------------------------
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
     --------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

     --------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-----------------------------------------------------------------------
```

```
0+ 5       0.0011      0.16  Q         |         |         |         |
0+10       0.0034      0.34  VQ        |         |         |         |
0+15       0.0061      0.39  VQ        |         |         |         |
0+20       0.0089      0.41  VQ        |         |         |         |
0+25       0.0117      0.41  VQ        |         |         |         |
0+30       0.0147      0.44  VQ        |         |         |         |
0+35       0.0180      0.47  |Q        |         |         |         |
0+40       0.0212      0.47  |Q        |         |         |         |
0+45       0.0245      0.48  |Q        |         |         |         |
0+50       0.0278      0.48  |Q        |         |         |         |
0+55       0.0311      0.48  |QV       |         |         |         |
1+ 0       0.0345      0.51  | Q       |         |         |         |
1+ 5       0.0382      0.54  | Q       |         |         |         |
1+10       0.0420      0.54  | Q       |         |         |         |
1+15       0.0457      0.54  | QV      |         |         |         |
1+20       0.0494      0.54  | QV      |         |         |         |
1+25       0.0532      0.54  | QV      |         |         |         |
1+30       0.0569      0.54  | QV      |         |         |         |
1+35       0.0607      0.54  | Q V     |         |         |         |
1+40       0.0644      0.54  | Q V     |         |         |         |
1+45       0.0681      0.54  | Q V     |         |         |         |
1+50       0.0719      0.54  | Q V     |         |         |         |
1+55       0.0756      0.54  | Q V     |         |         |         |
2+ 0       0.0796      0.57  | Q  V    |         |         |         |
2+ 5       0.0835      0.57  | Q  V    |         |         |         |
2+10       0.0875      0.58  | Q  V    |         |         |         |
2+15       0.0917      0.61  | Q   V   |         |         |         |
2+20       0.0959      0.61  | Q   V   |         |         |         |
2+25       0.1001      0.61  | Q   V   |         |         |         |
2+30       0.1043      0.61  | Q   V   |         |         |         |
2+35       0.1085      0.61  | Q    V  |         |         |         |
2+40       0.1127      0.61  | Q    V  |         |         |         |
2+45       0.1172      0.64  | Q    V  |         |         |         |
2+50       0.1218      0.67  | Q     V |         |         |         |
2+55       0.1264      0.68  | Q     V |         |         |         |
3+ 0       0.1311      0.68  | Q     V |         |         |         |
3+ 5       0.1358      0.68  | Q     V |         |         |         |
3+10       0.1407      0.71  | Q      V|         |         |         |
3+15       0.1458      0.74  | Q      V|         |         |         |
3+20       0.1509      0.75  | Q      V|         |         |         |
3+25       0.1563      0.78  |  Q      V         |         |         |
3+30       0.1621      0.84  |  Q      V         |         |         |
3+35       0.1683      0.91  |  Q      |V        |         |         |
3+40       0.1748      0.94  |  Q      |V        |         |         |
3+45       0.1815      0.98  |  Q      |V        |         |         |
3+50       0.1885      1.01  |   Q     | V       |         |         |
3+55       0.1957      1.05  |   Q     | V       |         |         |
4+ 0       0.2032      1.08  |   Q     |  V      |         |         |
4+ 5       0.2109      1.12  |   Q     |  V      |         |         |
4+10       0.2191      1.20  |   Q     |   V     |         |         |
4+15       0.2283      1.33  |    Q    |    V    |         |         |
4+20       0.2385      1.49  |    Q    |    V    |         |         |
4+25       0.2500      1.66  |     Q   |     V   |         |         |
4+30       0.2620      1.75  |      Q  |      V  |         |         |
4+35       0.2748      1.85  |      Q  |       V |         |         |
4+40       0.2886      2.00  |       Q |        V|         |         |
4+45       0.3035      2.17  |       Q |         V         |         |
4+50       0.3191      2.26  |        Q|         |V        |         |
4+55       0.3353      2.36  |        Q|         | V       |         |
5+ 0       0.3526      2.51  |         Q         |  V      |         |
5+ 5       0.3732      2.99  |         |Q        |   V     |         |
5+10       0.3992      3.78  |         |    Q    |     V   |         |
5+15       0.4299      4.45  |         |      Q  |       V |         |
5+20       0.4643      4.99  |         |        Q|         V         |
5+25       0.5034      5.67  |         |         | Q       |  V      |
5+30       0.5502      6.80  |         |         |      Q  |     V   |
```

```
    5+35       0.5820      4.62  |          |        Q |          |        V |
    5+40       0.5933      1.63  |      Q   |          |          |         V|
    5+45       0.5984      0.74  | Q        |          |          |         V|
    5+50       0.6012      0.41  |Q         |          |          |         V|
    5+55       0.6032      0.29  |Q         |          |          |         V|
    6+ 0       0.6045      0.19  Q          |          |          |         V|
    6+ 5       0.6050      0.08  Q          |          |          |         V|
    6+10       0.6051      0.01  Q          |          |          |         V|
    6+15       0.6052      0.00  Q          |          |          |         V|
-----------------------------------------------------------------------
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```
       U n i t   H y d r o g r a p h   A n a l y s i s

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              Study date  07/02/23 File: 100135PRUHB24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6490

---------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



---------------------------------------------------------------------
1000 PALMS - BUILDING 1
UNIT HYDROGRAPH - AREA B
DEVELOPED CONDITION
100135PRUHB
--------------------------------------------------------------------
Drainage Area =       4.66(Ac.)  =      0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       4.66(Ac.)  =      0.007 Sq. Mi.
Length along longest watercourse =    1294.00(Ft.)
Length along longest watercourse measured to centroid =     670.00(Ft.)
Length along longest watercourse =      0.245 Mi.
Length along longest watercourse measured to centroid =      0.127 Mi.
Difference in elevation =      37.90(Ft.)
Slope along watercourse =    154.6461 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.037 Hr.
Lag time =     2.22 Min.
25% of lag time =     0.55 Min.
40% of lag time =     0.89 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.66           1.19                  5.55

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.66           4.89                 22.79

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.190(In)
Area Averaged 100-Year Rainfall =    4.890(In)

Point rain (area averaged) =    4.890(In)
Areal adjustment factor =  100.00 %
```

Adjusted average point rain = 4.890(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.660	32.00	0.540

Total Area Entered = 4.66(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	32.0	0.742	0.540	0.381	1.000	0.381
					Sum (F) =	0.381

Area averaged mean soil loss (F) (In/Hr) = 0.381
Minimum soil loss rate ((In/Hr)) = 0.191
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.600

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period	(hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	225.553	46.484	2.183
2	0.167	451.106	43.736	2.054
3	0.250	676.660	7.529	0.354
4	0.333	902.213	2.251	0.106
			Sum = 100.000	Sum= 4.696

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.039	(0.676)	0.023	0.016
2	0.17	0.07	0.039	(0.673)	0.023	0.016
3	0.25	0.07	0.039	(0.671)	0.023	0.016
4	0.33	0.10	0.059	(0.668)	0.035	0.023
5	0.42	0.10	0.059	(0.666)	0.035	0.023
6	0.50	0.10	0.059	(0.663)	0.035	0.023
7	0.58	0.10	0.059	(0.660)	0.035	0.023
8	0.67	0.10	0.059	(0.658)	0.035	0.023
9	0.75	0.10	0.059	(0.655)	0.035	0.023
10	0.83	0.13	0.078	(0.653)	0.047	0.031
11	0.92	0.13	0.078	(0.650)	0.047	0.031
12	1.00	0.13	0.078	(0.648)	0.047	0.031
13	1.08	0.10	0.059	(0.645)	0.035	0.023
14	1.17	0.10	0.059	(0.643)	0.035	0.023
15	1.25	0.10	0.059	(0.640)	0.035	0.023
16	1.33	0.10	0.059	(0.637)	0.035	0.023
17	1.42	0.10	0.059	(0.635)	0.035	0.023
18	1.50	0.10	0.059	(0.632)	0.035	0.023
19	1.58	0.10	0.059	(0.630)	0.035	0.023
20	1.67	0.10	0.059	(0.627)	0.035	0.023
21	1.75	0.10	0.059	(0.625)	0.035	0.023
22	1.83	0.13	0.078	(0.622)	0.047	0.031
23	1.92	0.13	0.078	(0.620)	0.047	0.031
24	2.00	0.13	0.078	(0.617)	0.047	0.031
25	2.08	0.13	0.078	(0.615)	0.047	0.031
26	2.17	0.13	0.078	(0.612)	0.047	0.031
27	2.25	0.13	0.078	(0.610)	0.047	0.031

28	2.33	0.13	0.078	(0.607)	0.047	0.031
29	2.42	0.13	0.078	(0.605)	0.047	0.031
30	2.50	0.13	0.078	(0.602)	0.047	0.031
31	2.58	0.17	0.098	(0.600)	0.059	0.039
32	2.67	0.17	0.098	(0.597)	0.059	0.039
33	2.75	0.17	0.098	(0.595)	0.059	0.039
34	2.83	0.17	0.098	(0.593)	0.059	0.039
35	2.92	0.17	0.098	(0.590)	0.059	0.039
36	3.00	0.17	0.098	(0.588)	0.059	0.039
37	3.08	0.17	0.098	(0.585)	0.059	0.039
38	3.17	0.17	0.098	(0.583)	0.059	0.039
39	3.25	0.17	0.098	(0.580)	0.059	0.039
40	3.33	0.17	0.098	(0.578)	0.059	0.039
41	3.42	0.17	0.098	(0.576)	0.059	0.039
42	3.50	0.17	0.098	(0.573)	0.059	0.039
43	3.58	0.17	0.098	(0.571)	0.059	0.039
44	3.67	0.17	0.098	(0.568)	0.059	0.039
45	3.75	0.17	0.098	(0.566)	0.059	0.039
46	3.83	0.20	0.117	(0.564)	0.070	0.047
47	3.92	0.20	0.117	(0.561)	0.070	0.047
48	4.00	0.20	0.117	(0.559)	0.070	0.047
49	4.08	0.20	0.117	(0.556)	0.070	0.047
50	4.17	0.20	0.117	(0.554)	0.070	0.047
51	4.25	0.20	0.117	(0.552)	0.070	0.047
52	4.33	0.23	0.137	(0.549)	0.082	0.055
53	4.42	0.23	0.137	(0.547)	0.082	0.055
54	4.50	0.23	0.137	(0.545)	0.082	0.055
55	4.58	0.23	0.137	(0.542)	0.082	0.055
56	4.67	0.23	0.137	(0.540)	0.082	0.055
57	4.75	0.23	0.137	(0.538)	0.082	0.055
58	4.83	0.27	0.156	(0.535)	0.094	0.063
59	4.92	0.27	0.156	(0.533)	0.094	0.063
60	5.00	0.27	0.156	(0.531)	0.094	0.063
61	5.08	0.20	0.117	(0.528)	0.070	0.047
62	5.17	0.20	0.117	(0.526)	0.070	0.047
63	5.25	0.20	0.117	(0.524)	0.070	0.047
64	5.33	0.23	0.137	(0.522)	0.082	0.055
65	5.42	0.23	0.137	(0.519)	0.082	0.055
66	5.50	0.23	0.137	(0.517)	0.082	0.055
67	5.58	0.27	0.156	(0.515)	0.094	0.063
68	5.67	0.27	0.156	(0.512)	0.094	0.063
69	5.75	0.27	0.156	(0.510)	0.094	0.063
70	5.83	0.27	0.156	(0.508)	0.094	0.063
71	5.92	0.27	0.156	(0.506)	0.094	0.063
72	6.00	0.27	0.156	(0.503)	0.094	0.063
73	6.08	0.30	0.176	(0.501)	0.106	0.070
74	6.17	0.30	0.176	(0.499)	0.106	0.070
75	6.25	0.30	0.176	(0.497)	0.106	0.070
76	6.33	0.30	0.176	(0.495)	0.106	0.070
77	6.42	0.30	0.176	(0.492)	0.106	0.070
78	6.50	0.30	0.176	(0.490)	0.106	0.070
79	6.58	0.33	0.196	(0.488)	0.117	0.078
80	6.67	0.33	0.196	(0.486)	0.117	0.078
81	6.75	0.33	0.196	(0.484)	0.117	0.078
82	6.83	0.33	0.196	(0.481)	0.117	0.078
83	6.92	0.33	0.196	(0.479)	0.117	0.078
84	7.00	0.33	0.196	(0.477)	0.117	0.078
85	7.08	0.33	0.196	(0.475)	0.117	0.078
86	7.17	0.33	0.196	(0.473)	0.117	0.078
87	7.25	0.33	0.196	(0.470)	0.117	0.078
88	7.33	0.37	0.215	(0.468)	0.129	0.086
89	7.42	0.37	0.215	(0.466)	0.129	0.086
90	7.50	0.37	0.215	(0.464)	0.129	0.086
91	7.58	0.40	0.235	(0.462)	0.141	0.094
92	7.67	0.40	0.235	(0.460)	0.141	0.094
93	7.75	0.40	0.235	(0.458)	0.141	0.094

94	7.83	0.43	0.254	(0.456)	0.153	0.102
95	7.92	0.43	0.254	(0.453)	0.153	0.102
96	8.00	0.43	0.254	(0.451)	0.153	0.102
97	8.08	0.50	0.293	(0.449)	0.176	0.117
98	8.17	0.50	0.293	(0.447)	0.176	0.117
99	8.25	0.50	0.293	(0.445)	0.176	0.117
100	8.33	0.50	0.293	(0.443)	0.176	0.117
101	8.42	0.50	0.293	(0.441)	0.176	0.117
102	8.50	0.50	0.293	(0.439)	0.176	0.117
103	8.58	0.53	0.313	(0.437)	0.188	0.125
104	8.67	0.53	0.313	(0.435)	0.188	0.125
105	8.75	0.53	0.313	(0.433)	0.188	0.125
106	8.83	0.57	0.333	(0.431)	0.200	0.133
107	8.92	0.57	0.333	(0.429)	0.200	0.133
108	9.00	0.57	0.333	(0.427)	0.200	0.133
109	9.08	0.63	0.372	(0.425)	0.223	0.149
110	9.17	0.63	0.372	(0.423)	0.223	0.149
111	9.25	0.63	0.372	(0.421)	0.223	0.149
112	9.33	0.67	0.391	(0.419)	0.235	0.156
113	9.42	0.67	0.391	(0.417)	0.235	0.156
114	9.50	0.67	0.391	(0.415)	0.235	0.156
115	9.58	0.70	0.411	(0.413)	0.246	0.164
116	9.67	0.70	0.411	(0.411)	0.246	0.164
117	9.75	0.70	0.411	(0.409)	0.246	0.164
118	9.83	0.73	0.430	(0.407)	0.258	0.172
119	9.92	0.73	0.430	(0.405)	0.258	0.172
120	10.00	0.73	0.430	(0.403)	0.258	0.172
121	10.08	0.50	0.293	(0.401)	0.176	0.117
122	10.17	0.50	0.293	(0.399)	0.176	0.117
123	10.25	0.50	0.293	(0.397)	0.176	0.117
124	10.33	0.50	0.293	(0.395)	0.176	0.117
125	10.42	0.50	0.293	(0.393)	0.176	0.117
126	10.50	0.50	0.293	(0.391)	0.176	0.117
127	10.58	0.67	0.391	(0.389)	0.235	0.156
128	10.67	0.67	0.391	(0.387)	0.235	0.156
129	10.75	0.67	0.391	(0.385)	0.235	0.156
130	10.83	0.67	0.391	(0.384)	0.235	0.156
131	10.92	0.67	0.391	(0.382)	0.235	0.156
132	11.00	0.67	0.391	(0.380)	0.235	0.156
133	11.08	0.63	0.372	(0.378)	0.223	0.149
134	11.17	0.63	0.372	(0.376)	0.223	0.149
135	11.25	0.63	0.372	(0.374)	0.223	0.149
136	11.33	0.63	0.372	(0.372)	0.223	0.149
137	11.42	0.63	0.372	(0.371)	0.223	0.149
138	11.50	0.63	0.372	(0.369)	0.223	0.149
139	11.58	0.57	0.333	(0.367)	0.200	0.133
140	11.67	0.57	0.333	(0.365)	0.200	0.133
141	11.75	0.57	0.333	(0.363)	0.200	0.133
142	11.83	0.60	0.352	(0.361)	0.211	0.141
143	11.92	0.60	0.352	(0.360)	0.211	0.141
144	12.00	0.60	0.352	(0.358)	0.211	0.141
145	12.08	0.83	0.489	(0.356)	0.293	0.196
146	12.17	0.83	0.489	(0.354)	0.293	0.196
147	12.25	0.83	0.489	(0.352)	0.293	0.196
148	12.33	0.87	0.509	(0.351)	0.305	0.203
149	12.42	0.87	0.509	(0.349)	0.305	0.203
150	12.50	0.87	0.509	(0.347)	0.305	0.203
151	12.58	0.93	0.548	(0.345)	0.329	0.219
152	12.67	0.93	0.548	(0.344)	0.329	0.219
153	12.75	0.93	0.548	(0.342)	0.329	0.219
154	12.83	0.97	0.567	0.340	(0.340)	0.227
155	12.92	0.97	0.567	0.339	(0.340)	0.229
156	13.00	0.97	0.567	0.337	(0.340)	0.230
157	13.08	1.13	0.665	0.335	(0.399)	0.330
158	13.17	1.13	0.665	0.333	(0.399)	0.332
159	13.25	1.13	0.665	0.332	(0.399)	0.333

160	13.33	1.13	0.665	0.330	(0.399)	0.335
161	13.42	1.13	0.665	0.328	(0.399)	0.337
162	13.50	1.13	0.665	0.327	(0.399)	0.338
163	13.58	0.77	0.450	(0.325)	0.270	0.180
164	13.67	0.77	0.450	(0.323)	0.270	0.180
165	13.75	0.77	0.450	(0.322)	0.270	0.180
166	13.83	0.77	0.450	(0.320)	0.270	0.180
167	13.92	0.77	0.450	(0.318)	0.270	0.180
168	14.00	0.77	0.450	(0.317)	0.270	0.180
169	14.08	0.90	0.528	0.315	(0.317)	0.213
170	14.17	0.90	0.528	0.314	(0.317)	0.215
171	14.25	0.90	0.528	0.312	(0.317)	0.216
172	14.33	0.87	0.509	(0.310)	0.305	0.203
173	14.42	0.87	0.509	(0.309)	0.305	0.203
174	14.50	0.87	0.509	(0.307)	0.305	0.203
175	14.58	0.87	0.509	(0.306)	0.305	0.203
176	14.67	0.87	0.509	0.304	(0.305)	0.204
177	14.75	0.87	0.509	0.303	(0.305)	0.206
178	14.83	0.83	0.489	(0.301)	0.293	0.196
179	14.92	0.83	0.489	(0.299)	0.293	0.196
180	15.00	0.83	0.489	(0.298)	0.293	0.196
181	15.08	0.80	0.469	(0.296)	0.282	0.188
182	15.17	0.80	0.469	(0.295)	0.282	0.188
183	15.25	0.80	0.469	(0.293)	0.282	0.188
184	15.33	0.77	0.450	(0.292)	0.270	0.180
185	15.42	0.77	0.450	(0.290)	0.270	0.180
186	15.50	0.77	0.450	(0.289)	0.270	0.180
187	15.58	0.63	0.372	(0.287)	0.223	0.149
188	15.67	0.63	0.372	(0.286)	0.223	0.149
189	15.75	0.63	0.372	(0.284)	0.223	0.149
190	15.83	0.63	0.372	(0.283)	0.223	0.149
191	15.92	0.63	0.372	(0.282)	0.223	0.149
192	16.00	0.63	0.372	(0.280)	0.223	0.149
193	16.08	0.13	0.078	(0.279)	0.047	0.031
194	16.17	0.13	0.078	(0.277)	0.047	0.031
195	16.25	0.13	0.078	(0.276)	0.047	0.031
196	16.33	0.13	0.078	(0.274)	0.047	0.031
197	16.42	0.13	0.078	(0.273)	0.047	0.031
198	16.50	0.13	0.078	(0.272)	0.047	0.031
199	16.58	0.10	0.059	(0.270)	0.035	0.023
200	16.67	0.10	0.059	(0.269)	0.035	0.023
201	16.75	0.10	0.059	(0.267)	0.035	0.023
202	16.83	0.10	0.059	(0.266)	0.035	0.023
203	16.92	0.10	0.059	(0.265)	0.035	0.023
204	17.00	0.10	0.059	(0.263)	0.035	0.023
205	17.08	0.17	0.098	(0.262)	0.059	0.039
206	17.17	0.17	0.098	(0.261)	0.059	0.039
207	17.25	0.17	0.098	(0.259)	0.059	0.039
208	17.33	0.17	0.098	(0.258)	0.059	0.039
209	17.42	0.17	0.098	(0.257)	0.059	0.039
210	17.50	0.17	0.098	(0.256)	0.059	0.039
211	17.58	0.17	0.098	(0.254)	0.059	0.039
212	17.67	0.17	0.098	(0.253)	0.059	0.039
213	17.75	0.17	0.098	(0.252)	0.059	0.039
214	17.83	0.13	0.078	(0.251)	0.047	0.031
215	17.92	0.13	0.078	(0.249)	0.047	0.031
216	18.00	0.13	0.078	(0.248)	0.047	0.031
217	18.08	0.13	0.078	(0.247)	0.047	0.031
218	18.17	0.13	0.078	(0.246)	0.047	0.031
219	18.25	0.13	0.078	(0.244)	0.047	0.031
220	18.33	0.13	0.078	(0.243)	0.047	0.031
221	18.42	0.13	0.078	(0.242)	0.047	0.031
222	18.50	0.13	0.078	(0.241)	0.047	0.031
223	18.58	0.10	0.059	(0.240)	0.035	0.023
224	18.67	0.10	0.059	(0.239)	0.035	0.023
225	18.75	0.10	0.059	(0.237)	0.035	0.023

226	18.83	0.07	0.039	(0.236)	0.023	0.016
227	18.92	0.07	0.039	(0.235)	0.023	0.016
228	19.00	0.07	0.039	(0.234)	0.023	0.016
229	19.08	0.10	0.059	(0.233)	0.035	0.023
230	19.17	0.10	0.059	(0.232)	0.035	0.023
231	19.25	0.10	0.059	(0.231)	0.035	0.023
232	19.33	0.13	0.078	(0.230)	0.047	0.031
233	19.42	0.13	0.078	(0.229)	0.047	0.031
234	19.50	0.13	0.078	(0.228)	0.047	0.031
235	19.58	0.10	0.059	(0.227)	0.035	0.023
236	19.67	0.10	0.059	(0.225)	0.035	0.023
237	19.75	0.10	0.059	(0.224)	0.035	0.023
238	19.83	0.07	0.039	(0.223)	0.023	0.016
239	19.92	0.07	0.039	(0.222)	0.023	0.016
240	20.00	0.07	0.039	(0.221)	0.023	0.016
241	20.08	0.10	0.059	(0.220)	0.035	0.023
242	20.17	0.10	0.059	(0.220)	0.035	0.023
243	20.25	0.10	0.059	(0.219)	0.035	0.023
244	20.33	0.10	0.059	(0.218)	0.035	0.023
245	20.42	0.10	0.059	(0.217)	0.035	0.023
246	20.50	0.10	0.059	(0.216)	0.035	0.023
247	20.58	0.10	0.059	(0.215)	0.035	0.023
248	20.67	0.10	0.059	(0.214)	0.035	0.023
249	20.75	0.10	0.059	(0.213)	0.035	0.023
250	20.83	0.07	0.039	(0.212)	0.023	0.016
251	20.92	0.07	0.039	(0.211)	0.023	0.016
252	21.00	0.07	0.039	(0.210)	0.023	0.016
253	21.08	0.10	0.059	(0.210)	0.035	0.023
254	21.17	0.10	0.059	(0.209)	0.035	0.023
255	21.25	0.10	0.059	(0.208)	0.035	0.023
256	21.33	0.07	0.039	(0.207)	0.023	0.016
257	21.42	0.07	0.039	(0.206)	0.023	0.016
258	21.50	0.07	0.039	(0.206)	0.023	0.016
259	21.58	0.10	0.059	(0.205)	0.035	0.023
260	21.67	0.10	0.059	(0.204)	0.035	0.023
261	21.75	0.10	0.059	(0.203)	0.035	0.023
262	21.83	0.07	0.039	(0.203)	0.023	0.016
263	21.92	0.07	0.039	(0.202)	0.023	0.016
264	22.00	0.07	0.039	(0.201)	0.023	0.016
265	22.08	0.10	0.059	(0.201)	0.035	0.023
266	22.17	0.10	0.059	(0.200)	0.035	0.023
267	22.25	0.10	0.059	(0.199)	0.035	0.023
268	22.33	0.07	0.039	(0.199)	0.023	0.016
269	22.42	0.07	0.039	(0.198)	0.023	0.016
270	22.50	0.07	0.039	(0.198)	0.023	0.016
271	22.58	0.07	0.039	(0.197)	0.023	0.016
272	22.67	0.07	0.039	(0.196)	0.023	0.016
273	22.75	0.07	0.039	(0.196)	0.023	0.016
274	22.83	0.07	0.039	(0.195)	0.023	0.016
275	22.92	0.07	0.039	(0.195)	0.023	0.016
276	23.00	0.07	0.039	(0.194)	0.023	0.016
277	23.08	0.07	0.039	(0.194)	0.023	0.016
278	23.17	0.07	0.039	(0.194)	0.023	0.016
279	23.25	0.07	0.039	(0.193)	0.023	0.016
280	23.33	0.07	0.039	(0.193)	0.023	0.016
281	23.42	0.07	0.039	(0.192)	0.023	0.016
282	23.50	0.07	0.039	(0.192)	0.023	0.016
283	23.58	0.07	0.039	(0.192)	0.023	0.016
284	23.67	0.07	0.039	(0.191)	0.023	0.016
285	23.75	0.07	0.039	(0.191)	0.023	0.016
286	23.83	0.07	0.039	(0.191)	0.023	0.016
287	23.92	0.07	0.039	(0.191)	0.023	0.016
288	24.00	0.07	0.039	(0.191)	0.023	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.9

Flood volume = Effective rainfall 1.99(In)

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 times area       4.7(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
Total soil loss =      2.90(In)
Total soil loss =     1.126(Ac.Ft)
Total rainfall =      4.89(In)
Flood volume =       33690.3 Cubic Feet
Total soil loss =       49027.2 Cubic Feet
--------------------------------------------------------------------
 Peak flow rate of this hydrograph =      1.585(CFS)
--------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                    24 - H O U R   S T O R M
               R u n o f f     H y d r o g r a p h
--------------------------------------------------------------------
            Hydrograph in   5   Minute intervals ((CFS))

--------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       2.5       5.0       7.5      10.0
-----------------------------------------------------------------------
  0+ 5       0.0002      0.03  Q         |         |         |         |
  0+10       0.0007      0.07  Q         |         |         |         |
  0+15       0.0012      0.07  Q         |         |         |         |
  0+20       0.0018      0.09  Q         |         |         |         |
  0+25       0.0025      0.11  Q         |         |         |         |
  0+30       0.0033      0.11  Q         |         |         |         |
  0+35       0.0041      0.11  Q         |         |         |         |
  0+40       0.0048      0.11  Q         |         |         |         |
  0+45       0.0056      0.11  Q         |         |         |         |
  0+50       0.0065      0.13  Q         |         |         |         |
  0+55       0.0074      0.14  Q         |         |         |         |
  1+ 0       0.0085      0.15  Q         |         |         |         |
  1+ 5       0.0093      0.13  Q         |         |         |         |
  1+10       0.0101      0.11  Q         |         |         |         |
  1+15       0.0109      0.11  Q         |         |         |         |
  1+20       0.0117      0.11  Q         |         |         |         |
  1+25       0.0124      0.11  Q         |         |         |         |
  1+30       0.0132      0.11  Q         |         |         |         |
  1+35       0.0139      0.11  Q         |         |         |         |
  1+40       0.0147      0.11  Q         |         |         |         |
  1+45       0.0155      0.11  Q         |         |         |         |
  1+50       0.0163      0.13  Q         |         |         |         |
  1+55       0.0173      0.14  Q         |         |         |         |
  2+ 0       0.0183      0.15  Q         |         |         |         |
  2+ 5       0.0193      0.15  QV        |         |         |         |
  2+10       0.0204      0.15  QV        |         |         |         |
  2+15       0.0214      0.15  QV        |         |         |         |
  2+20       0.0224      0.15  QV        |         |         |         |
  2+25       0.0234      0.15  QV        |         |         |         |
  2+30       0.0244      0.15  QV        |         |         |         |
  2+35       0.0255      0.16  QV        |         |         |         |
  2+40       0.0268      0.18  QV        |         |         |         |
  2+45       0.0280      0.18  QV        |         |         |         |
  2+50       0.0293      0.18  QV        |         |         |         |
  2+55       0.0306      0.18  QV        |         |         |         |
  3+ 0       0.0318      0.18  QV        |         |         |         |
  3+ 5       0.0331      0.18  QV        |         |         |         |
  3+10       0.0344      0.18  QV        |         |         |         |
  3+15       0.0356      0.18  QV        |         |         |         |
  3+20       0.0369      0.18  QV        |         |         |         |
  3+25       0.0382      0.18  QV        |         |         |         |
  3+30       0.0394      0.18  Q V       |         |         |         |
  3+35       0.0407      0.18  Q V       |         |         |         |
  3+40       0.0420      0.18  Q V       |         |         |         |
  3+45       0.0432      0.18  Q V       |         |         |         |
  3+50       0.0446      0.20  Q V       |         |         |         |
  3+55       0.0461      0.22  Q V       |         |         |         |
  4+ 0       0.0476      0.22  Q V       |         |         |         |
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4+ 5       0.0491      0.22  Q V       |         |         |         |
4+10       0.0507      0.22  Q V       |         |         |         |
4+15       0.0522      0.22  Q V       |         |         |         |
4+20       0.0538      0.24  Q V       |         |         |         |
4+25       0.0556      0.25  |QV       |         |         |         |
4+30       0.0573      0.26  |QV       |         |         |         |
4+35       0.0591      0.26  |Q V      |         |         |         |
4+40       0.0609      0.26  |Q V      |         |         |         |
4+45       0.0626      0.26  |Q V      |         |         |         |
4+50       0.0645      0.27  |Q V      |         |         |         |
4+55       0.0665      0.29  |Q V      |         |         |         |
5+ 0       0.0686      0.29  |Q V      |         |         |         |
5+ 5       0.0703      0.26  |Q V      |         |         |         |
5+10       0.0719      0.23  Q  V      |         |         |         |
5+15       0.0734      0.22  Q  V      |         |         |         |
5+20       0.0751      0.24  Q  V      |         |         |         |
5+25       0.0768      0.25  |Q V      |         |         |         |
5+30       0.0786      0.26  |Q  V     |         |         |         |
5+35       0.0805      0.27  |Q  V     |         |         |         |
5+40       0.0825      0.29  |Q  V     |         |         |         |
5+45       0.0845      0.29  |Q  V     |         |         |         |
5+50       0.0865      0.29  |Q  V     |         |         |         |
5+55       0.0886      0.29  |Q  V     |         |         |         |
6+ 0       0.0906      0.29  |Q  V     |         |         |         |
6+ 5       0.0927      0.31  |Q  V     |         |         |         |
6+10       0.0950      0.33  |Q  V     |         |         |         |
6+15       0.0973      0.33  |Q   V    |         |         |         |
6+20       0.0995      0.33  |Q   V    |         |         |         |
6+25       0.1018      0.33  |Q   V    |         |         |         |
6+30       0.1041      0.33  |Q   V    |         |         |         |
6+35       0.1065      0.35  |Q   V    |         |         |         |
6+40       0.1090      0.36  |Q   V    |         |         |         |
6+45       0.1115      0.37  |Q   V    |         |         |         |
6+50       0.1140      0.37  |Q   V    |         |         |         |
6+55       0.1166      0.37  |Q    V   |         |         |         |
7+ 0       0.1191      0.37  |Q    V   |         |         |         |
7+ 5       0.1216      0.37  |Q    V   |         |         |         |
7+10       0.1242      0.37  |Q    V   |         |         |         |
7+15       0.1267      0.37  |Q    V   |         |         |         |
7+20       0.1294      0.38  |Q    V   |         |         |         |
7+25       0.1321      0.40  |Q    V   |         |         |         |
7+30       0.1349      0.40  |Q    V   |         |         |         |
7+35       0.1378      0.42  |Q     V  |         |         |         |
7+40       0.1408      0.44  |Q     V  |         |         |         |
7+45       0.1438      0.44  |Q     V  |         |         |         |
7+50       0.1470      0.46  |Q     V  |         |         |         |
7+55       0.1503      0.47  |Q     V  |         |         |         |
8+ 0       0.1536      0.48  |Q     V  |         |         |         |
8+ 5       0.1571      0.51  | Q     V |         |         |         |
8+10       0.1608      0.54  | Q     V |         |         |         |
8+15       0.1646      0.55  | Q     V |         |         |         |
8+20       0.1684      0.55  | Q     V |         |         |         |
8+25       0.1722      0.55  | Q     V |         |         |         |
8+30       0.1760      0.55  | Q      V|         |         |         |
8+35       0.1799      0.57  | Q      V|         |         |         |
8+40       0.1840      0.58  | Q      V|         |         |         |
8+45       0.1880      0.59  | Q      V|         |         |         |
8+50       0.1922      0.61  | Q      V|         |         |         |
8+55       0.1964      0.62  | Q       V         |         |         |
9+ 0       0.2007      0.62  | Q       V         |         |         |
9+ 5       0.2053      0.66  | Q       V         |         |         |
9+10       0.2100      0.69  | Q       V         |         |         |
9+15       0.2148      0.70  | Q       |V        |         |         |
9+20       0.2198      0.72  | Q       |V        |         |         |
9+25       0.2248      0.73  | Q       |V        |         |         |
9+30       0.2299      0.73  | Q       |V        |         |         |
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 9+35       0.2351      0.75  |  Q      | V       |         |         |
 9+40       0.2403      0.77  |  Q      | V       |         |         |
 9+45       0.2457      0.77  |  Q      | V       |         |         |
 9+50       0.2511      0.79  |  Q      | V       |         |         |
 9+55       0.2566      0.81  |  Q      |  V      |         |         |
10+ 0       0.2622      0.81  |  Q      |  V      |         |         |
10+ 5       0.2669      0.69  | Q       |  V      |         |         |
10+10       0.2709      0.58  | Q       |   V     |         |         |
10+15       0.2748      0.56  | Q       |   V     |         |         |
10+20       0.2786      0.55  | Q       |   V     |         |         |
10+25       0.2824      0.55  | Q       |   V     |         |         |
10+30       0.2861      0.55  | Q       |   V     |         |         |
10+35       0.2905      0.64  | Q       |    V    |         |         |
10+40       0.2955      0.72  | Q       |    V    |         |         |
10+45       0.3005      0.73  | Q       |    V    |         |         |
10+50       0.3056      0.74  | Q       |    V    |         |         |
10+55       0.3106      0.74  | Q       |     V   |         |         |
11+ 0       0.3157      0.74  | Q       |     V   |         |         |
11+ 5       0.3206      0.72  | Q       |     V   |         |         |
11+10       0.3255      0.70  | Q       |     V   |         |         |
11+15       0.3303      0.70  | Q       |      V  |         |         |
11+20       0.3351      0.70  | Q       |      V  |         |         |
11+25       0.3399      0.70  | Q       |      V  |         |         |
11+30       0.3447      0.70  | Q       |      V  |         |         |
11+35       0.3493      0.66  | Q       |       V |         |         |
11+40       0.3537      0.63  | Q       |       V |         |         |
11+45       0.3580      0.63  | Q       |       V |         |         |
11+50       0.3624      0.64  | Q       |       V |         |         |
11+55       0.3669      0.66  | Q       |       V |         |         |
12+ 0       0.3715      0.66  | Q       |        V|         |         |
12+ 5       0.3769      0.78  |  Q      |        V|         |         |
12+10       0.3830      0.89  |  Q      |        V|         |         |
12+15       0.3893      0.91  |  Q      |         V         |         |
12+20       0.3958      0.94  |  Q      |         V         |         |
12+25       0.4023      0.95  |  Q      |         V         |         |
12+30       0.4089      0.96  |  Q      |         |V        |         |
12+35       0.4157      0.99  |  Q      |         |V        |         |
12+40       0.4228      1.02  |   Q     |         |V        |         |
12+45       0.4298      1.03  |   Q     |         | V       |         |
12+50       0.4370      1.05  |   Q     |         | V       |         |
12+55       0.4444      1.07  |   Q     |         | V       |         |
13+ 0       0.4518      1.08  |   Q     |         |  V      |         |
13+ 5       0.4607      1.30  |    Q    |         |  V      |         |
13+10       0.4711      1.51  |     Q   |         |   V     |         |
13+15       0.4818      1.55  |     Q   |         |   V     |         |
13+20       0.4926      1.57  |     Q   |         |    V    |         |
13+25       0.5035      1.58  |     Q   |         |     V   |         |
13+30       0.5144      1.58  |     Q   |         |     V   |         |
13+35       0.5230      1.24  |   Q     |         |      V  |         |
13+40       0.5293      0.92  |  Q      |         |      V  |         |
13+45       0.5352      0.86  |  Q      |         |      V  |         |
13+50       0.5410      0.85  |  Q      |         |      V  |         |
13+55       0.5469      0.85  |  Q      |         |       V |         |
14+ 0       0.5527      0.85  |  Q      |         |       V |         |
14+ 5       0.5590      0.92  |  Q      |         |       V |         |
14+10       0.5658      0.99  |  Q      |         |        V|         |
14+15       0.5728      1.01  |   Q     |         |        V|         |
14+20       0.5796      0.99  |  Q      |         |        V|         |
14+25       0.5862      0.96  |  Q      |         |         V         |
14+30       0.5928      0.96  |  Q      |         |         V         |
14+35       0.5994      0.96  |  Q      |         |         V         |
14+40       0.6060      0.96  |  Q      |         |         |V        |
14+45       0.6126      0.96  |  Q      |         |         |V        |
14+50       0.6191      0.94  |  Q      |         |         | V       |
14+55       0.6255      0.92  |  Q      |         |         | V       |
15+ 0       0.6318      0.92  |  Q      |         |         | V       |
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15+ 5       0.6380      0.90  |  Q               |         |         | V       |
15+10       0.6441      0.89  |  Q               |         |         |  V      |
15+15       0.6502      0.88  |  Q               |         |         |  V      |
15+20       0.6561      0.87  |  Q               |         |         |  V      |
15+25       0.6620      0.85  |  Q               |         |         |   V     |
15+30       0.6678      0.85  |  Q               |         |         |   V     |
15+35       0.6732      0.78  |  Q               |         |         |   V     |
15+40       0.6781      0.71  | Q                |         |         |    V    |
15+45       0.6829      0.70  | Q                |         |         |    V    |
15+50       0.6877      0.70  | Q                |         |         |    V    |
15+55       0.6925      0.70  | Q                |         |         |    V    |
16+ 0       0.6974      0.70  | Q                |         |         |     V   |
16+ 5       0.7004      0.44  |Q                 |         |         |     V   |
16+10       0.7018      0.20  Q                  |         |         |     V   |
16+15       0.7029      0.16  Q                  |         |         |     V   |
16+20       0.7039      0.15  Q                  |         |         |     V   |
16+25       0.7049      0.15  Q                  |         |         |     V   |
16+30       0.7059      0.15  Q                  |         |         |     V   |
16+35       0.7068      0.13  Q                  |         |         |     V   |
16+40       0.7076      0.11  Q                  |         |         |     V   |
16+45       0.7084      0.11  Q                  |         |         |     V   |
16+50       0.7091      0.11  Q                  |         |         |     V   |
16+55       0.7099      0.11  Q                  |         |         |     V   |
17+ 0       0.7106      0.11  Q                  |         |         |     V   |
17+ 5       0.7116      0.14  Q                  |         |         |     V   |
17+10       0.7129      0.18  Q                  |         |         |     V   |
17+15       0.7141      0.18  Q                  |         |         |     V   |
17+20       0.7154      0.18  Q                  |         |         |     V   |
17+25       0.7166      0.18  Q                  |         |         |      V  |
17+30       0.7179      0.18  Q                  |         |         |      V  |
17+35       0.7192      0.18  Q                  |         |         |      V  |
17+40       0.7204      0.18  Q                  |         |         |      V  |
17+45       0.7217      0.18  Q                  |         |         |      V  |
17+50       0.7229      0.17  Q                  |         |         |      V  |
17+55       0.7239      0.15  Q                  |         |         |      V  |
18+ 0       0.7249      0.15  Q                  |         |         |      V  |
18+ 5       0.7259      0.15  Q                  |         |         |      V  |
18+10       0.7269      0.15  Q                  |         |         |      V  |
18+15       0.7279      0.15  Q                  |         |         |      V  |
18+20       0.7290      0.15  Q                  |         |         |      V  |
18+25       0.7300      0.15  Q                  |         |         |      V  |
18+30       0.7310      0.15  Q                  |         |         |      V  |
18+35       0.7319      0.13  Q                  |         |         |      V  |
18+40       0.7327      0.11  Q                  |         |         |      V  |
18+45       0.7334      0.11  Q                  |         |         |      V  |
18+50       0.7341      0.09  Q                  |         |         |      V  |
18+55       0.7346      0.08  Q                  |         |         |      V  |
19+ 0       0.7351      0.07  Q                  |         |         |       V |
19+ 5       0.7357      0.09  Q                  |         |         |       V |
19+10       0.7365      0.11  Q                  |         |         |       V |
19+15       0.7372      0.11  Q                  |         |         |       V |
19+20       0.7381      0.13  Q                  |         |         |       V |
19+25       0.7391      0.14  Q                  |         |         |       V |
19+30       0.7401      0.15  Q                  |         |         |       V |
19+35       0.7410      0.13  Q                  |         |         |       V |
19+40       0.7418      0.11  Q                  |         |         |       V |
19+45       0.7425      0.11  Q                  |         |         |       V |
19+50       0.7432      0.09  Q                  |         |         |       V |
19+55       0.7437      0.08  Q                  |         |         |       V |
20+ 0       0.7442      0.07  Q                  |         |         |       V |
20+ 5       0.7449      0.09  Q                  |         |         |       V |
20+10       0.7456      0.11  Q                  |         |         |       V |
20+15       0.7463      0.11  Q                  |         |         |       V |
20+20       0.7471      0.11  Q                  |         |         |       V |
20+25       0.7479      0.11  Q                  |         |         |       V |
20+30       0.7486      0.11  Q                  |         |         |       V |
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   20+35       0.7494      0.11  Q         |         |         |       V |
   20+40       0.7501      0.11  Q         |         |         |       V |
   20+45       0.7509      0.11  Q         |         |         |       V |
   20+50       0.7515      0.09  Q         |         |         |       V |
   20+55       0.7521      0.08  Q         |         |         |       V |
   21+ 0       0.7526      0.07  Q         |         |         |       V |
   21+ 5       0.7532      0.09  Q         |         |         |       V |
   21+10       0.7539      0.11  Q         |         |         |       V |
   21+15       0.7547      0.11  Q         |         |         |        V|
   21+20       0.7553      0.09  Q         |         |         |        V|
   21+25       0.7559      0.08  Q         |         |         |        V|
   21+30       0.7564      0.07  Q         |         |         |        V|
   21+35       0.7570      0.09  Q         |         |         |        V|
   21+40       0.7577      0.11  Q         |         |         |        V|
   21+45       0.7585      0.11  Q         |         |         |        V|
   21+50       0.7591      0.09  Q         |         |         |        V|
   21+55       0.7597      0.08  Q         |         |         |        V|
   22+ 0       0.7602      0.07  Q         |         |         |        V|
   22+ 5       0.7608      0.09  Q         |         |         |        V|
   22+10       0.7615      0.11  Q         |         |         |        V|
   22+15       0.7623      0.11  Q         |         |         |        V|
   22+20       0.7629      0.09  Q         |         |         |        V|
   22+25       0.7635      0.08  Q         |         |         |        V|
   22+30       0.7640      0.07  Q         |         |         |        V|
   22+35       0.7645      0.07  Q         |         |         |        V|
   22+40       0.7650      0.07  Q         |         |         |        V|
   22+45       0.7655      0.07  Q         |         |         |        V|
   22+50       0.7660      0.07  Q         |         |         |        V|
   22+55       0.7665      0.07  Q         |         |         |        V|
   23+ 0       0.7670      0.07  Q         |         |         |        V|
   23+ 5       0.7675      0.07  Q         |         |         |        V|
   23+10       0.7680      0.07  Q         |         |         |        V|
   23+15       0.7685      0.07  Q         |         |         |        V|
   23+20       0.7690      0.07  Q         |         |         |        V|
   23+25       0.7695      0.07  Q         |         |         |        V|
   23+30       0.7701      0.07  Q         |         |         |        V|
   23+35       0.7706      0.07  Q         |         |         |        V|
   23+40       0.7711      0.07  Q         |         |         |        V|
   23+45       0.7716      0.07  Q         |         |         |        V|
   23+50       0.7721      0.07  Q         |         |         |        V|
   23+55       0.7726      0.07  Q         |         |         |        V|
   24+ 0       0.7731      0.07  Q         |         |         |        V|
   24+ 5       0.7734      0.04  Q         |         |         |        V|
   24+10       0.7734      0.01  Q         |         |         |        V|
   24+15       0.7734      0.00  Q         |         |         |        V|
-----------------------------------------------------------------------
```

APPENDIX C

RETENTION BASIN
VOLUME and OUTFLOW CALCULATIONS

BASIN VOLUME & OUTFLOW CALCULATIONS

RETENTION BASIN DESIGN

THOUSAND PALMS - BUILDING 1

BASIN B1 & B2

BASIN VOLUMES BY ELEVATION

ELEVATION (FT)	AREA (SF)	AREA (AC)	VOLUME (ACRE-FT)	CUMULATIVE (ACRE-FT)	CUMULATIVE (CU-FT)
288	110,194	2.53	0	0	0
289	122,280	2.81	1.07	1.07	46,495
290	136,720	3.14	1.19	2.26	98,295
291	150,935	3.46	1.32	3.58	155,826
292	164,881	3.79	1.45	5.03	218,989
293	178,907	4.11	1.58	6.61	287,747
294	193,054	4.43	1.71	8.31	362,139
295	207,282	4.76	1.84	10.15	442,206
295.2	210,082	4.82	0.38	10.53	458,901

OUTFLOW DUE TO INFILTRATION

FROM INFILTRATION TESTS - RATE =9.5 IN/HR
FACTOR OF SAFETY = 3
DESIGN INFILTRATION RATE = 3.17 IN/HR

Qout=WATER SURFACE ELEVATION AREA*3.17/12/3600 IN CFS

OUTFLOW PER WATER SURFACE ELEVATION

W/S ELEV	DEPTH	AREA (a)	Q (cfs)
288	0	110,194	0.00
289	0.5	122,280	8.97
290	1.5	136,720	10.03
291	2.5	150,935	11.08
292	3.5	164,881	12.10
293	4.5	178,907	13.13
294	5.5	193,054	14.17
295	6.5	207,282	15.21
295.2	6.7	210,082	15.42

TIME REQUIRED TO EMPTY BASIN

BASIN DEPTH =6.5' =78.0 IN.
INFILTRATION RATE = 3.17IN/HR - THEREFORE TIME TO EMPTY = 78.0/3.17 = 24.6 HRS

BASIN B3

BASIN VOLUMES BY ELEVATION

ELEVATION (FT)	AREA (SF)	AREA (AC)	VOLUME (ACRE-FT)	CUMULATIVE (ACRE-FT)	CUMULATIVE (CU-FT)
289	29,498	0.68	0	0	0
290	32,637	0.75	0.29	0.29	12,427
290.5	34,207	0.79	0.15	0.44	19,111

OUTFLOW DUE TO INFILTRATION

FROM INFILTRATION TESTS - RATE =9.5 IN/HR
FACTOR OF SAFETY = 3
DESIGN INFILTRATION RATE = 3.17 IN/HR
BOTTOM AREA =
Qout=WATER SURFACE ELEVATION AREA*3.17/12/3600 IN CFS

OUTFLOW PER WATER SURFACE ELEVATION

W/S ELEV	DEPTH	AREA (a)	Q (cfs)
289	0	29,498	0
290	1	32,637	2.39
290.5	1.5	34,307	2.52

TIME REQUIRED TO EMPTY BASIN

BASIN DEPTH = 1.5' = 18.0 IN.
INFILTRATION RATE = 3.17IN/HR - THEREFORE TIME TO EMPTY = 18.0/3.17 = 5.7 HRS

APPENDIX D

FLOOD ROUTING CALCULATIONS

```
                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
                      Study date: 07/02/23

----------------------------------------------------------------------

THOUSAND PALMS - BUILDING 1
BASIN 1 FLOOD ROUTING
100 YR - 1 HR
100135RETA
---------------------------------------------------------------------

Program License Serial Number 6490

---------------------------------------------------------------------
********************* HYDROGRAPH INFORMATION **********************

               From study/file name: 100135PRUHA1100.rte
***************************HYDROGRAPH DATA***************************
               Number of intervals =    19
               Time interval =    5.0 (Min.)
               Maximum/Peak flow rate =      249.993 (CFS)
               Total volume =       7.514 (Ac.Ft)
       Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
       Peak (CFS)      0.000     0.000     0.000     0.000     0.000
       Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
*********************************************************************

+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station       1.000
**** RETARDING BASIN ROUTING ****
______________________________________________________________________

User entry of depth-outflow-storage data
---------------------------------------------------------------------
Total number of inflow hydrograph intervals = 19
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
---------------------------------------------------------------------
---------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
---------------------------------------------------------------------
---------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)      (Ac.Ft)    (Ac.Ft)
----------------------------------------------------------------------
   0.000      0.000      0.000      0.000        0.000
   1.000      1.070      8.970      1.039        1.101
   2.000      2.260     10.030      2.225        2.295
   3.000      3.580     11.080      3.542        3.618
   4.000      5.030     12.100      4.988        5.072
   5.000      6.610     13.130      6.565        6.655
   6.000      8.310     14.170      8.261        8.359
   7.000     10.150     15.210     10.098       10.202
   7.200     10.530     15.420     10.477       10.583
```

```
      --------------------------------------------------------------------
                     Hydrograph Detention Basin Routing
      ---------------------------------------------------------------------

      Graph values: 'I'= unit inflow; 'O'=outflow at time shown
      ---------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                            Depth
(Hours)  (CFS)   (CFS)      (Ac.Ft) .0       62.5  125.00  187.49  249.99 (Ft.)
 0.083    5.76    0.16      0.019  O       |       |       |       |     0.02
 0.167   24.12    0.99      0.118  O  I    |       |       |       |     0.11
 0.250   33.97    2.57      0.306  O   I   |       |       |       |     0.29
 0.333   39.39    4.48      0.534  O    I  |       |       |       |     0.50
 0.417   43.74    6.56      0.783  O    I  |       |       |       |     0.73
 0.500   48.98    8.79      1.049  |O    I |       |       |       |     0.98
 0.583   55.82    9.22      1.348  |O     I|       |       |       |     1.23
 0.667   66.21    9.53      1.703  |O      I       |       |       |     1.53
 0.750   88.83    9.95      2.170  |O      |  I    |       |       |     1.92
 0.833  165.92   10.60      2.977  |O      |       |    I  |       |     2.54
 0.917  249.99   11.61      4.332  |O      |       |       |       I     3.52
 1.000  128.26   12.44      5.552  |O      |       I       |       |     4.33
 1.083   70.65   12.83      6.150  |O      |I      |       |       |     4.71
 1.167   33.48   13.01      6.420  |O  I   |       |       |       |     4.88
 1.250   17.79   13.06      6.506  |OI     |       |       |       |     4.93
 1.333    9.80   13.07      6.512  |O      |       |       |       |     4.94
 1.417    6.62   13.04      6.478  IO      |       |       |       |     4.92
 1.500    1.31   13.00      6.416  IO      |       |       |       |     4.88
 1.583    0.45   12.95      6.332  IO      |       |       |       |     4.82
 1.667    0.00   12.89      6.245  IO      |       |       |       |     4.77
 1.750    0.00   12.83      6.156  IO      |       |       |       |     4.71
 1.833    0.00   12.78      6.068  IO      |       |       |       |     4.66
 1.917    0.00   12.72      5.980  IO      |       |       |       |     4.60
 2.000    0.00   12.66      5.893  IO      |       |       |       |     4.55
 2.083    0.00   12.61      5.806  IO      |       |       |       |     4.49
 2.167    0.00   12.55      5.719  IO      |       |       |       |     4.44
 2.250    0.00   12.49      5.633  IO      |       |       |       |     4.38
 2.333    0.00   12.44      5.547  IO      |       |       |       |     4.33
 2.417    0.00   12.38      5.462  IO      |       |       |       |     4.27
 2.500    0.00   12.33      5.377  IO      |       |       |       |     4.22
 2.583    0.00   12.27      5.292  IO      |       |       |       |     4.17
 2.667    0.00   12.22      5.208  IO      |       |       |       |     4.11
 2.750    0.00   12.16      5.124  IO      |       |       |       |     4.06
 2.833    0.00   12.11      5.040  IO      |       |       |       |     4.01
 2.917    0.00   12.05      4.957  IO      |       |       |       |     3.95
 3.000    0.00   11.99      4.874  IO      |       |       |       |     3.89
 3.083    0.00   11.93      4.792  IO      |       |       |       |     3.84
 3.167    0.00   11.87      4.710  IO      |       |       |       |     3.78
 3.250    0.00   11.82      4.628  IO      |       |       |       |     3.72
 3.333    0.00   11.76      4.547  IO      |       |       |       |     3.67
 3.417    0.00   11.70      4.466  IO      |       |       |       |     3.61
 3.500    0.00   11.65      4.386  IO      |       |       |       |     3.56
 3.583    0.00   11.59      4.306  IO      |       |       |       |     3.50
 3.667    0.00   11.53      4.226  IO      |       |       |       |     3.45
 3.750    0.00   11.48      4.147  IO      |       |       |       |     3.39
 3.833    0.00   11.42      4.068  IO      |       |       |       |     3.34
 3.917    0.00   11.37      3.990  IO      |       |       |       |     3.28
 4.000    0.00   11.31      3.912  IO      |       |       |       |     3.23
 4.083    0.00   11.26      3.834  IO      |       |       |       |     3.18
 4.167    0.00   11.20      3.757  IO      |       |       |       |     3.12
 4.250    0.00   11.15      3.680  IO      |       |       |       |     3.07
 4.333    0.00   11.10      3.603  IO      |       |       |       |     3.02
 4.417    0.00   11.04      3.527  IO      |       |       |       |     2.96
 4.500    0.00   10.98      3.451  IO      |       |       |       |     2.90
 4.583    0.00   10.92      3.376  IO      |       |       |       |     2.85
 4.667    0.00   10.86      3.301  IO      |       |       |       |     2.79
 4.750    0.00   10.80      3.226  IO      |       |       |       |     2.73
 4.833    0.00   10.74      3.152  IO      |       |       |       |     2.68
```

```
  4.917    0.00   10.68      3.078  IO      |       |       |       |     2.62
  5.000    0.00   10.62      3.005  IO      |       |       |       |     2.56
  5.083    0.00   10.56      2.932  IO      |       |       |       |     2.51
  5.167    0.00   10.51      2.859  IO      |       |       |       |     2.45
  5.250    0.00   10.45      2.787  IO      |       |       |       |     2.40
  5.333    0.00   10.39      2.715  IO      |       |       |       |     2.34
  5.417    0.00   10.34      2.644  IO      |       |       |       |     2.29
  5.500    0.00   10.28      2.573  IO      |       |       |       |     2.24
  5.583    0.00   10.22      2.502  IO      |       |       |       |     2.18
  5.667    0.00   10.17      2.432  IO      |       |       |       |     2.13
  5.750    0.00   10.11      2.362  IO      |       |       |       |     2.08
  5.833    0.00   10.06      2.293  IO      |       |       |       |     2.02
  5.917    0.00   10.00      2.224  IO      |       |       |       |     1.97
  6.000    0.00    9.94      2.155  IO      |       |       |       |     1.91
  6.083    0.00    9.88      2.087  IO      |       |       |       |     1.85
  6.167    0.00    9.82      2.019  IO      |       |       |       |     1.80
  6.250    0.00    9.76      1.952  IO      |       |       |       |     1.74
  6.333    0.00    9.70      1.885  IO      |       |       |       |     1.68
  6.417    0.00    9.64      1.818  IO      |       |       |       |     1.63
  6.500    0.00    9.58      1.752  IO      |       |       |       |     1.57
  6.583    0.00    9.52      1.686  IO      |       |       |       |     1.52
  6.667    0.00    9.46      1.621  IO      |       |       |       |     1.46
  6.750    0.00    9.40      1.556  IO      |       |       |       |     1.41
  6.833    0.00    9.35      1.491  IO      |       |       |       |     1.35
  6.917    0.00    9.29      1.427  IO      |       |       |       |     1.30
  7.000    0.00    9.23      1.363  IO      |       |       |       |     1.25
  7.083    0.00    9.17      1.300  IO      |       |       |       |     1.19
  7.167    0.00    9.12      1.237  IO      |       |       |       |     1.14
  7.250    0.00    9.06      1.174  IO      |       |       |       |     1.09
  7.333    0.00    9.01      1.112  IO      |       |       |       |     1.04
  7.417    0.00    8.81      1.051  IO      |       |       |       |     0.98
  7.500    0.00    8.31      0.992  IO      |       |       |       |     0.93
  7.583    0.00    7.85      0.936  IO      |       |       |       |     0.87
  7.667    0.00    7.41      0.884  O       |       |       |       |     0.83
  7.750    0.00    6.99      0.834  O       |       |       |       |     0.78
  7.833    0.00    6.60      0.787  O       |       |       |       |     0.74
  7.917    0.00    6.23      0.743  O       |       |       |       |     0.69
  8.000    0.00    5.88      0.701  O       |       |       |       |     0.66
  8.083    0.00    5.55      0.662  O       |       |       |       |     0.62
  8.167    0.00    5.24      0.625  O       |       |       |       |     0.58
  8.250    0.00    4.94      0.590  O       |       |       |       |     0.55
  8.333    0.00    4.67      0.557  O       |       |       |       |     0.52
  8.417    0.00    4.41      0.525  O       |       |       |       |     0.49
  8.500    0.00    4.16      0.496  O       |       |       |       |     0.46
  8.583    0.00    3.92      0.468  O       |       |       |       |     0.44
  8.667    0.00    3.70      0.442  O       |       |       |       |     0.41
  8.750    0.00    3.50      0.417  O       |       |       |       |     0.39
  8.833    0.00    3.30      0.394  O       |       |       |       |     0.37
  8.917    0.00    3.12      0.372  O       |       |       |       |     0.35
  9.000    0.00    2.94      0.351  O       |       |       |       |     0.33
  9.083    0.00    2.78      0.331  O       |       |       |       |     0.31
  9.167    0.00    2.62      0.312  O       |       |       |       |     0.29
  9.250    0.00    2.47      0.295  O       |       |       |       |     0.28
  9.333    0.00    2.33      0.278  O       |       |       |       |     0.26
  9.417    0.00    2.20      0.263  O       |       |       |       |     0.25
  9.500    0.00    2.08      0.248  O       |       |       |       |     0.23
  9.583    0.00    1.96      0.234  O       |       |       |       |     0.22
  9.667    0.00    1.85      0.221  O       |       |       |       |     0.21
  9.750    0.00    1.75      0.209  O       |       |       |       |     0.19
  9.833    0.00    1.65      0.197  O       |       |       |       |     0.18
  9.917    0.00    1.56      0.186  O       |       |       |       |     0.17
 10.000    0.00    1.47      0.175  O       |       |       |       |     0.16
 10.083    0.00    1.39      0.166  O       |       |       |       |     0.15
 10.167    0.00    1.31      0.156  O       |       |       |       |     0.15
 10.250    0.00    1.24      0.147  O       |       |       |       |     0.14
 10.333    0.00    1.17      0.139  O       |       |       |       |     0.13
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10.417	0.00	1.10	0.131	O	|	|	|	|	0.12
10.500	0.00	1.04	0.124	O	|	|	|	|	0.12
10.583	0.00	0.98	0.117	O	|	|	|	|	0.11
10.667	0.00	0.93	0.110	O	|	|	|	|	0.10
10.750	0.00	0.87	0.104	O	|	|	|	|	0.10
10.833	0.00	0.83	0.098	O	|	|	|	|	0.09
10.917	0.00	0.78	0.093	O	|	|	|	|	0.09
11.000	0.00	0.74	0.088	O	|	|	|	|	0.08
11.083	0.00	0.69	0.083	O	|	|	|	|	0.08
11.167	0.00	0.66	0.078	O	|	|	|	|	0.07
11.250	0.00	0.62	0.074	O	|	|	|	|	0.07
11.333	0.00	0.58	0.070	O	|	|	|	|	0.07
11.417	0.00	0.55	0.066	O	|	|	|	|	0.06
11.500	0.00	0.52	0.062	O	|	|	|	|	0.06
11.583	0.00	0.49	0.059	O	|	|	|	|	0.05
11.667	0.00	0.46	0.055	O	|	|	|	|	0.05
11.750	0.00	0.44	0.052	O	|	|	|	|	0.05
11.833	0.00	0.41	0.049	O	|	|	|	|	0.05
11.917	0.00	0.39	0.046	O	|	|	|	|	0.04
12.000	0.00	0.37	0.044	O	|	|	|	|	0.04
12.083	0.00	0.35	0.041	O	|	|	|	|	0.04
12.167	0.00	0.33	0.039	O	|	|	|	|	0.04
12.250	0.00	0.31	0.037	O	|	|	|	|	0.03
12.333	0.00	0.29	0.035	O	|	|	|	|	0.03
12.417	0.00	0.28	0.033	O	|	|	|	|	0.03
12.500	0.00	0.26	0.031	O	|	|	|	|	0.03
12.583	0.00	0.25	0.029	O	|	|	|	|	0.03
12.667	0.00	0.23	0.028	O	|	|	|	|	0.03
12.750	0.00	0.22	0.026	O	|	|	|	|	0.02
12.833	0.00	0.21	0.025	O	|	|	|	|	0.02
12.917	0.00	0.19	0.023	O	|	|	|	|	0.02
13.000	0.00	0.18	0.022	O	|	|	|	|	0.02
13.083	0.00	0.17	0.021	O	|	|	|	|	0.02
13.167	0.00	0.16	0.020	O	|	|	|	|	0.02
13.250	0.00	0.15	0.018	O	|	|	|	|	0.02
13.333	0.00	0.15	0.017	O	|	|	|	|	0.02
13.417	0.00	0.14	0.016	O	|	|	|	|	0.02
13.500	0.00	0.13	0.016	O	|	|	|	|	0.01
13.583	0.00	0.12	0.015	O	|	|	|	|	0.01
13.667	0.00	0.12	0.014	O	|	|	|	|	0.01
13.750	0.00	0.11	0.013	O	|	|	|	|	0.01
13.833	0.00	0.10	0.012	O	|	|	|	|	0.01
13.917	0.00	0.10	0.012	O	|	|	|	|	0.01
14.000	0.00	0.09	0.011	O	|	|	|	|	0.01
14.083	0.00	0.09	0.010	O	|	|	|	|	0.01
14.167	0.00	0.08	0.010	O	|	|	|	|	0.01
14.250	0.00	0.08	0.009	O	|	|	|	|	0.01
14.333	0.00	0.07	0.009	O	|	|	|	|	0.01
14.417	0.00	0.07	0.008	O	|	|	|	|	0.01
14.500	0.00	0.07	0.008	O	|	|	|	|	0.01
14.583	0.00	0.06	0.007	O	|	|	|	|	0.01
14.667	0.00	0.06	0.007	O	|	|	|	|	0.01
14.750	0.00	0.05	0.007	O	|	|	|	|	0.01
14.833	0.00	0.05	0.006	O	|	|	|	|	0.01
14.917	0.00	0.05	0.006	O	|	|	|	|	0.01
15.000	0.00	0.05	0.005	O	|	|	|	|	0.01
15.083	0.00	0.04	0.005	O	|	|	|	|	0.00
15.167	0.00	0.04	0.005	O	|	|	|	|	0.00
15.250	0.00	0.04	0.005	O	|	|	|	|	0.00
15.333	0.00	0.04	0.004	O	|	|	|	|	0.00
15.417	0.00	0.03	0.004	O	|	|	|	|	0.00
15.500	0.00	0.03	0.004	O	|	|	|	|	0.00
15.583	0.00	0.03	0.004	O	|	|	|	|	0.00
15.667	0.00	0.03	0.003	O	|	|	|	|	0.00
15.750	0.00	0.03	0.003	O	|	|	|	|	0.00
15.833	0.00	0.03	0.003	O	|	|	|	|	0.00

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15.917    0.00    0.02      0.003  O         |       |       |       |     0.00
16.000    0.00    0.02      0.003  O         |       |       |       |     0.00
16.083    0.00    0.02      0.003  O         |       |       |       |     0.00
16.167    0.00    0.02      0.002  O         |       |       |       |     0.00
16.250    0.00    0.02      0.002  O         |       |       |       |     0.00
16.333    0.00    0.02      0.002  O         |       |       |       |     0.00
16.417    0.00    0.02      0.002  O         |       |       |       |     0.00
16.500    0.00    0.02      0.002  O         |       |       |       |     0.00
16.583    0.00    0.02      0.002  O         |       |       |       |     0.00
16.667    0.00    0.01      0.002  O         |       |       |       |     0.00
16.750    0.00    0.01      0.002  O         |       |       |       |     0.00
16.833    0.00    0.01      0.002  O         |       |       |       |     0.00
16.917    0.00    0.01      0.001  O         |       |       |       |     0.00
17.000    0.00    0.01      0.001  O         |       |       |       |     0.00
17.083    0.00    0.01      0.001  O         |       |       |       |     0.00
17.167    0.00    0.01      0.001  O         |       |       |       |     0.00
17.250    0.00    0.01      0.001  O         |       |       |       |     0.00
17.333    0.00    0.01      0.001  O         |       |       |       |     0.00
17.417    0.00    0.01      0.001  O         |       |       |       |     0.00

    ****************************HYDROGRAPH DATA****************************
                   Number of intervals =   209
                   Time interval =    5.0 (Min.)
                   Maximum/Peak flow rate =       13.066 (CFS)
                   Total volume =       7.513 (Ac.Ft)
           Status of hydrographs being held in storage
                      Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
           Peak (CFS)      0.000     0.000     0.000     0.000     0.000
           Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
    ***********************************************************************

    --------------------------------------------------------------------
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FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 07/02/23

THOUSAND PALMS - BUILDING 1
BASIN 1 FLOOD ROUTING
100 YR - 3 HR
100135RETA

Program License Serial Number 6490

******************** HYDROGRAPH INFORMATION *********************

From study/file name: 100135PRUHA3100.rte

*************************HYDROGRAPH DATA*************************

Number of intervals = 43
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 125.539 (CFS)
Total volume = 10.879 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 2.000 to Point/Station 1.000

**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 43
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.070	8.970	1.039	1.101
2.000	2.260	10.030	2.225	2.295
3.000	3.580	11.080	3.542	3.618
4.000	5.030	12.100	4.988	5.072
5.000	6.610	13.130	6.565	6.655
6.000	8.310	14.170	8.261	8.359
7.000	10.150	15.210	10.098	10.202
7.200	10.530	15.420	10.477	10.583

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       --------------------------------------------------------------------
                      Hydrograph Detention Basin Routing
       ---------------------------------------------------------------------

       Graph values: 'I'= unit inflow; 'O'=outflow at time shown
       ---------------------------------------------------------------------
  Time   Inflow  Outflow    Storage                                   Depth
(Hours)   (CFS)   (CFS)     (Ac.Ft) .0      31.4   62.77   94.15  125.54 (Ft.)
 0.083    3.01    0.08       0.010 O       |       |       |       |      0.01
 0.167   11.95    0.50       0.060 O  I    |       |       |       |      0.06
 0.250   14.56    1.22       0.145 O  I    |       |       |       |      0.14
 0.333   15.46    1.99       0.237 O  I    |       |       |       |      0.22
 0.417   18.48    2.83       0.338 O   I   |       |       |       |      0.32
 0.500   20.36    3.76       0.449 O    I  |       |       |       |      0.42
 0.583   22.33    4.75       0.566 |O   I  |       |       |       |      0.53
 0.667   22.01    5.73       0.683 |O   I  |       |       |       |      0.64
 0.750   23.87    6.69       0.798 |O    I |       |       |       |      0.75
 0.833   23.76    7.65       0.913 |O    I |       |       |       |      0.85
 0.917   22.13    8.51       1.015 | O  I  |       |       |       |      0.95
 1.000   22.71    9.01       1.109 | O  I  |       |       |       |      1.03
 1.083   25.46    9.10       1.213 | O   I |       |       |       |      1.12
 1.167   29.61    9.21       1.339 | O    I|       |       |       |      1.23
 1.250   31.12    9.34       1.485 | O    I|       |       |       |      1.35
 1.333   31.17    9.47       1.634 | O    I|       |       |       |      1.47
 1.417   31.52    9.61       1.785 | O     I       |       |       |      1.60
 1.500   37.00    9.76       1.954 | O     |I      |       |       |      1.74
 1.583   38.75    9.93       2.147 | O     |I      |       |       |      1.90
 1.667   38.00   10.10       2.342 | O     |I      |       |       |      2.06
 1.750   42.22   10.26       2.548 | O     | I     |       |       |      2.22
 1.833   48.00   10.45       2.788 | O     |   I   |       |       |      2.40
 1.917   47.75   10.65       3.045 | O     |   I   |       |       |      2.59
 2.000   46.67   10.85       3.296 | O     |  I    |       |       |      2.78
 2.083   47.54   11.05       3.545 | O     |   I   |       |       |      2.97
 2.167   52.04   11.24       3.811 | O     |    I  |       |       |      3.16
 2.250   65.20   11.47       4.136 | O     |       I       |       |      3.38
 2.333   71.69   11.75       4.528 | O     |       | I     |       |      3.65
 2.417   72.18   12.04       4.941 |  O    |       | I     |       |      3.94
 2.500  101.64   12.38       5.456 |  O    |       |       |I      |      4.27
 2.583  118.63   12.82       6.128 |  O    |       |       |     I |      4.69
 2.667  125.54   13.29       6.878 |  O    |       |       |      I|      5.16
 2.750   97.85   13.71       7.555 |  O    |       |       I       |      5.56
 2.833   56.53   13.97       7.991 |  O    |     I |       |       |      5.81
 2.917   40.29   14.12       8.228 |  O    | I     |       |       |      5.95
 3.000   30.81   14.21       8.375 |  O   I|       |       |       |      6.04
 3.083   17.12   14.24       8.442 |  OI   |       |       |       |      6.07
 3.167    7.99   14.24       8.430 | IO    |       |       |       |      6.07
 3.250    3.82   14.21       8.373 I  O    |       |       |       |      6.03
 3.333    1.57   14.16       8.294 I  O    |       |       |       |      5.99
 3.417    0.80   14.11       8.205 I  O    |       |       |       |      5.94
 3.500    0.41   14.05       8.112 I  O    |       |       |       |      5.88
 3.583    0.10   13.99       8.017 I  O    |       |       |       |      5.83
 3.667    0.00   13.93       7.921 I  O    |       |       |       |      5.77
 3.750    0.00   13.87       7.826 I  O    |       |       |       |      5.72
 3.833    0.00   13.82       7.730 I  O    |       |       |       |      5.66
 3.917    0.00   13.76       7.635 I  O    |       |       |       |      5.60
 4.000    0.00   13.70       7.541 I  O    |       |       |       |      5.55
 4.083    0.00   13.64       7.447 I  O    |       |       |       |      5.49
 4.167    0.00   13.58       7.353 I  O    |       |       |       |      5.44
 4.250    0.00   13.53       7.260 I  O    |       |       |       |      5.38
 4.333    0.00   13.47       7.167 I  O    |       |       |       |      5.33
 4.417    0.00   13.41       7.074 I  O    |       |       |       |      5.27
 4.500    0.00   13.36       6.982 I  O    |       |       |       |      5.22
 4.583    0.00   13.30       6.890 I  O    |       |       |       |      5.16
 4.667    0.00   13.25       6.799 I  O    |       |       |       |      5.11
 4.750    0.00   13.19       6.708 I  O    |       |       |       |      5.06
 4.833    0.00   13.13       6.617 I  O    |       |       |       |      5.00
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 4.917    0.00   13.08      6.527  I   O     |         |         |         |      4.95
 5.000    0.00   13.02      6.437  I   O     |         |         |         |      4.89
 5.083    0.00   12.96      6.347  I   O     |         |         |         |      4.83
 5.167    0.00   12.90      6.258  I   O     |         |         |         |      4.78
 5.250    0.00   12.84      6.170  I   O     |         |         |         |      4.72
 5.333    0.00   12.79      6.081  I   O     |         |         |         |      4.67
 5.417    0.00   12.73      5.994  I   O     |         |         |         |      4.61
 5.500    0.00   12.67      5.906  I   O     |         |         |         |      4.55
 5.583    0.00   12.61      5.819  I   O     |         |         |         |      4.50
 5.667    0.00   12.56      5.732  I   O     |         |         |         |      4.44
 5.750    0.00   12.50      5.646  I   O     |         |         |         |      4.39
 5.833    0.00   12.45      5.560  I   O     |         |         |         |      4.34
 5.917    0.00   12.39      5.475  I   O     |         |         |         |      4.28
 6.000    0.00   12.33      5.389  I   O     |         |         |         |      4.23
 6.083    0.00   12.28      5.305  I   O     |         |         |         |      4.17
 6.167    0.00   12.22      5.220  I   O     |         |         |         |      4.12
 6.250    0.00   12.17      5.136  I   O     |         |         |         |      4.07
 6.333    0.00   12.11      5.053  I   O     |         |         |         |      4.01
 6.417    0.00   12.06      4.969  I   O     |         |         |         |      3.96
 6.500    0.00   12.00      4.887  I   O     |         |         |         |      3.90
 6.583    0.00   11.94      4.804  I   O     |         |         |         |      3.84
 6.667    0.00   11.88      4.722  I   O     |         |         |         |      3.79
 6.750    0.00   11.83      4.641  I   O     |         |         |         |      3.73
 6.833    0.00   11.77      4.559  I O       |         |         |         |      3.68
 6.917    0.00   11.71      4.478  I O       |         |         |         |      3.62
 7.000    0.00   11.66      4.398  I O       |         |         |         |      3.56
 7.083    0.00   11.60      4.318  I O       |         |         |         |      3.51
 7.167    0.00   11.54      4.238  I O       |         |         |         |      3.45
 7.250    0.00   11.49      4.159  I O       |         |         |         |      3.40
 7.333    0.00   11.43      4.080  I O       |         |         |         |      3.34
 7.417    0.00   11.38      4.001  I O       |         |         |         |      3.29
 7.500    0.00   11.32      3.923  I O       |         |         |         |      3.24
 7.583    0.00   11.27      3.845  I O       |         |         |         |      3.18
 7.667    0.00   11.21      3.768  I O       |         |         |         |      3.13
 7.750    0.00   11.16      3.691  I O       |         |         |         |      3.08
 7.833    0.00   11.10      3.614  I O       |         |         |         |      3.02
 7.917    0.00   11.05      3.538  I O       |         |         |         |      2.97
 8.000    0.00   10.99      3.462  I O       |         |         |         |      2.91
 8.083    0.00   10.93      3.387  I O       |         |         |         |      2.85
 8.167    0.00   10.87      3.312  I O       |         |         |         |      2.80
 8.250    0.00   10.81      3.237  I O       |         |         |         |      2.74
 8.333    0.00   10.75      3.163  I O       |         |         |         |      2.68
 8.417    0.00   10.69      3.089  I O       |         |         |         |      2.63
 8.500    0.00   10.63      3.016  I O       |         |         |         |      2.57
 8.583    0.00   10.57      2.943  I O       |         |         |         |      2.52
 8.667    0.00   10.52      2.870  I O       |         |         |         |      2.46
 8.750    0.00   10.46      2.798  I O       |         |         |         |      2.41
 8.833    0.00   10.40      2.726  I O       |         |         |         |      2.35
 8.917    0.00   10.34      2.654  I O       |         |         |         |      2.30
 9.000    0.00   10.29      2.583  I O       |         |         |         |      2.25
 9.083    0.00   10.23      2.513  I O       |         |         |         |      2.19
 9.167    0.00   10.18      2.443  I O       |         |         |         |      2.14
 9.250    0.00   10.12      2.373  I O       |         |         |         |      2.09
 9.333    0.00   10.06      2.303  I O       |         |         |         |      2.03
 9.417    0.00   10.01      2.234  I O       |         |         |         |      1.98
 9.500    0.00    9.95      2.165  I O       |         |         |         |      1.92
 9.583    0.00    9.88      2.097  I O       |         |         |         |      1.86
 9.667    0.00    9.82      2.029  I O       |         |         |         |      1.81
 9.750    0.00    9.76      1.962  I O       |         |         |         |      1.75
 9.833    0.00    9.70      1.895  I O       |         |         |         |      1.69
 9.917    0.00    9.65      1.828  I O       |         |         |         |      1.64
10.000    0.00    9.59      1.762  I O       |         |         |         |      1.58
10.083    0.00    9.53      1.696  I O       |         |         |         |      1.53
10.167    0.00    9.47      1.631  I O       |         |         |         |      1.47
10.250    0.00    9.41      1.566  I O       |         |         |         |      1.42
10.333    0.00    9.35      1.501  I O       |         |         |         |      1.36
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10.417	0.00	9.30	1.437	I O	|	|	|	|	1.31
10.500	0.00	9.24	1.373	I O	|	|	|	|	1.25
10.583	0.00	9.18	1.309	I O	|	|	|	|	1.20
10.667	0.00	9.13	1.246	I O	|	|	|	|	1.15
10.750	0.00	9.07	1.184	I O	|	|	|	|	1.10
10.833	0.00	9.02	1.121	I O	|	|	|	|	1.04
10.917	0.00	8.88	1.060	I O	|	|	|	|	0.99
11.000	0.00	8.39	1.000	I O	|	|	|	|	0.93
11.083	0.00	7.92	0.944	I O	|	|	|	|	0.88
11.167	0.00	7.47	0.891	IO	|	|	|	|	0.83
11.250	0.00	7.05	0.841	IO	|	|	|	|	0.79
11.333	0.00	6.66	0.794	IO	|	|	|	|	0.74
11.417	0.00	6.28	0.749	IO	|	|	|	|	0.70
11.500	0.00	5.93	0.707	IO	|	|	|	|	0.66
11.583	0.00	5.60	0.668	IO	|	|	|	|	0.62
11.667	0.00	5.28	0.630	IO	|	|	|	|	0.59
11.750	0.00	4.99	0.595	IO	|	|	|	|	0.56
11.833	0.00	4.71	0.561	IO	|	|	|	|	0.52
11.917	0.00	4.44	0.530	IO	|	|	|	|	0.50
12.000	0.00	4.19	0.500	IO	|	|	|	|	0.47
12.083	0.00	3.96	0.472	IO	|	|	|	|	0.44
12.167	0.00	3.74	0.446	O	|	|	|	|	0.42
12.250	0.00	3.53	0.421	O	|	|	|	|	0.39
12.333	0.00	3.33	0.397	O	|	|	|	|	0.37
12.417	0.00	3.14	0.375	O	|	|	|	|	0.35
12.500	0.00	2.97	0.354	O	|	|	|	|	0.33
12.583	0.00	2.80	0.334	O	|	|	|	|	0.31
12.667	0.00	2.64	0.315	O	|	|	|	|	0.29
12.750	0.00	2.49	0.297	O	|	|	|	|	0.28
12.833	0.00	2.35	0.281	O	|	|	|	|	0.26
12.917	0.00	2.22	0.265	O	|	|	|	|	0.25
13.000	0.00	2.10	0.250	O	|	|	|	|	0.23
13.083	0.00	1.98	0.236	O	|	|	|	|	0.22
13.167	0.00	1.87	0.223	O	|	|	|	|	0.21
13.250	0.00	1.76	0.210	O	|	|	|	|	0.20
13.333	0.00	1.66	0.199	O	|	|	|	|	0.19
13.417	0.00	1.57	0.187	O	|	|	|	|	0.18
13.500	0.00	1.48	0.177	O	|	|	|	|	0.17
13.583	0.00	1.40	0.167	O	|	|	|	|	0.16
13.667	0.00	1.32	0.158	O	|	|	|	|	0.15
13.750	0.00	1.25	0.149	O	|	|	|	|	0.14
13.833	0.00	1.18	0.140	O	|	|	|	|	0.13
13.917	0.00	1.11	0.133	O	|	|	|	|	0.12
14.000	0.00	1.05	0.125	O	|	|	|	|	0.12
14.083	0.00	0.99	0.118	O	|	|	|	|	0.11
14.167	0.00	0.93	0.111	O	|	|	|	|	0.10
14.250	0.00	0.88	0.105	O	|	|	|	|	0.10
14.333	0.00	0.83	0.099	O	|	|	|	|	0.09
14.417	0.00	0.79	0.094	O	|	|	|	|	0.09
14.500	0.00	0.74	0.088	O	|	|	|	|	0.08
14.583	0.00	0.70	0.083	O	|	|	|	|	0.08
14.667	0.00	0.66	0.079	O	|	|	|	|	0.07
14.750	0.00	0.62	0.074	O	|	|	|	|	0.07
14.833	0.00	0.59	0.070	O	|	|	|	|	0.07
14.917	0.00	0.56	0.066	O	|	|	|	|	0.06
15.000	0.00	0.52	0.063	O	|	|	|	|	0.06
15.083	0.00	0.49	0.059	O	|	|	|	|	0.06
15.167	0.00	0.47	0.056	O	|	|	|	|	0.05
15.250	0.00	0.44	0.053	O	|	|	|	|	0.05
15.333	0.00	0.42	0.050	O	|	|	|	|	0.05
15.417	0.00	0.39	0.047	O	|	|	|	|	0.04
15.500	0.00	0.37	0.044	O	|	|	|	|	0.04
15.583	0.00	0.35	0.042	O	|	|	|	|	0.04
15.667	0.00	0.33	0.039	O	|	|	|	|	0.04
15.750	0.00	0.31	0.037	O	|	|	|	|	0.03
15.833	0.00	0.29	0.035	O	|	|	|	|	0.03

15.917	0.00	0.28	0.033	O	|	|	|	|	0.03
16.000	0.00	0.26	0.031	O	|	|	|	|	0.03
16.083	0.00	0.25	0.030	O	|	|	|	|	0.03
16.167	0.00	0.23	0.028	O	|	|	|	|	0.03
16.250	0.00	0.22	0.026	O	|	|	|	|	0.02
16.333	0.00	0.21	0.025	O	|	|	|	|	0.02
16.417	0.00	0.20	0.023	O	|	|	|	|	0.02
16.500	0.00	0.19	0.022	O	|	|	|	|	0.02
16.583	0.00	0.18	0.021	O	|	|	|	|	0.02
16.667	0.00	0.17	0.020	O	|	|	|	|	0.02
16.750	0.00	0.16	0.019	O	|	|	|	|	0.02
16.833	0.00	0.15	0.018	O	|	|	|	|	0.02
16.917	0.00	0.14	0.017	O	|	|	|	|	0.02
17.000	0.00	0.13	0.016	O	|	|	|	|	0.01
17.083	0.00	0.12	0.015	O	|	|	|	|	0.01
17.167	0.00	0.12	0.014	O	|	|	|	|	0.01
17.250	0.00	0.11	0.013	O	|	|	|	|	0.01
17.333	0.00	0.10	0.012	O	|	|	|	|	0.01
17.417	0.00	0.10	0.012	O	|	|	|	|	0.01
17.500	0.00	0.09	0.011	O	|	|	|	|	0.01
17.583	0.00	0.09	0.010	O	|	|	|	|	0.01
17.667	0.00	0.08	0.010	O	|	|	|	|	0.01
17.750	0.00	0.08	0.009	O	|	|	|	|	0.01
17.833	0.00	0.07	0.009	O	|	|	|	|	0.01
17.917	0.00	0.07	0.008	O	|	|	|	|	0.01
18.000	0.00	0.07	0.008	O	|	|	|	|	0.01
18.083	0.00	0.06	0.007	O	|	|	|	|	0.01
18.167	0.00	0.06	0.007	O	|	|	|	|	0.01
18.250	0.00	0.06	0.007	O	|	|	|	|	0.01
18.333	0.00	0.05	0.006	O	|	|	|	|	0.01
18.417	0.00	0.05	0.006	O	|	|	|	|	0.01
18.500	0.00	0.05	0.006	O	|	|	|	|	0.01
18.583	0.00	0.04	0.005	O	|	|	|	|	0.00
18.667	0.00	0.04	0.005	O	|	|	|	|	0.00
18.750	0.00	0.04	0.005	O	|	|	|	|	0.00
18.833	0.00	0.04	0.004	O	|	|	|	|	0.00
18.917	0.00	0.03	0.004	O	|	|	|	|	0.00
19.000	0.00	0.03	0.004	O	|	|	|	|	0.00
19.083	0.00	0.03	0.004	O	|	|	|	|	0.00
19.167	0.00	0.03	0.003	O	|	|	|	|	0.00
19.250	0.00	0.03	0.003	O	|	|	|	|	0.00
19.333	0.00	0.03	0.003	O	|	|	|	|	0.00
19.417	0.00	0.02	0.003	O	|	|	|	|	0.00
19.500	0.00	0.02	0.003	O	|	|	|	|	0.00
19.583	0.00	0.02	0.003	O	|	|	|	|	0.00
19.667	0.00	0.02	0.002	O	|	|	|	|	0.00
19.750	0.00	0.02	0.002	O	|	|	|	|	0.00
19.833	0.00	0.02	0.002	O	|	|	|	|	0.00
19.917	0.00	0.02	0.002	O	|	|	|	|	0.00
20.000	0.00	0.02	0.002	O	|	|	|	|	0.00
20.083	0.00	0.02	0.002	O	|	|	|	|	0.00
20.167	0.00	0.01	0.002	O	|	|	|	|	0.00
20.250	0.00	0.01	0.002	O	|	|	|	|	0.00
20.333	0.00	0.01	0.002	O	|	|	|	|	0.00
20.417	0.00	0.01	0.001	O	|	|	|	|	0.00
20.500	0.00	0.01	0.001	O	|	|	|	|	0.00
20.583	0.00	0.01	0.001	O	|	|	|	|	0.00
20.667	0.00	0.01	0.001	O	|	|	|	|	0.00
20.750	0.00	0.01	0.001	O	|	|	|	|	0.00
20.833	0.00	0.01	0.001	O	|	|	|	|	0.00
20.917	0.00	0.01	0.001	O	|	|	|	|	0.00

Remaining water in basin = 0.00 (Ac.Ft)

```
****************************HYDROGRAPH DATA****************************
               Number of intervals =   251
               Time interval =    5.0 (Min.)
               Maximum/Peak flow rate =       14.245 (CFS)
               Total volume =      10.878 (Ac.Ft)
       Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
       Peak (CFS)      0.000     0.000     0.000     0.000     0.000
       Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
***********************************************************************

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FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 07/02/23

THOUSAND PALMS - BUILDING 1
BASIN 1 FLOOD ROUTING
100 YR - 6 HR
100135RETA

Program License Serial Number 6490

******************** HYDROGRAPH INFORMATION *********************

From study/file name: 100135PRUHA6100.rte

**************************HYDROGRAPH DATA***************************

Number of intervals = 79
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 108.798 (CFS)
Total volume = 14.465 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 2.000 to Point/Station 1.000

**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 79
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.070	8.970	1.039	1.101
2.000	2.260	10.030	2.225	2.295
3.000	3.580	11.080	3.542	3.618
4.000	5.030	12.100	4.988	5.072
5.000	6.610	13.130	6.565	6.655
6.000	8.310	14.170	8.261	8.359
7.000	10.150	15.210	10.098	10.202
7.200	10.530	15.420	10.477	10.583

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                     Hydrograph Detention Basin Routing
      ----------------------------------------------------------------------

      Graph values: 'I'= unit inflow; 'O'=outflow at time shown
      ----------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                     Depth
(Hours)  (CFS)   (CFS)     (Ac.Ft) .0      27.2   54.40   81.60  108.80 (Ft.)
 0.083    1.59    0.04      0.005  O       |       |       |       |     0.00
 0.167    6.64    0.27      0.033  OI      |       |       |       |     0.03
 0.250    9.20    0.70      0.084  O I     |       |       |       |     0.08
 0.333   10.25    1.21      0.144  O  I    |       |       |       |     0.13
 0.417   10.78    1.73      0.206  O  I    |       |       |       |     0.19
 0.500   11.39    2.26      0.269  O  I    |       |       |       |     0.25
 0.583   12.50    2.80      0.334  O  I    |       |       |       |     0.31
 0.667   12.96    3.36      0.400  O  I    |       |       |       |     0.37
 0.750   13.13    3.90      0.465  |O I    |       |       |       |     0.43
 0.833   13.20    4.42      0.527  |O I    |       |       |       |     0.49
 0.917   13.25    4.91      0.586  |O I    |       |       |       |     0.55
 1.000   13.59    5.39      0.643  |O I    |       |       |       |     0.60
 1.083   14.56    5.88      0.701  |O  I   |       |       |       |     0.66
 1.167   14.88    6.37      0.760  |O  I   |       |       |       |     0.71
 1.250   15.03    6.86      0.818  | O I   |       |       |       |     0.76
 1.333   15.10    7.32      0.873  | O I   |       |       |       |     0.82
 1.417   15.15    7.75      0.925  | O I   |       |       |       |     0.86
 1.500   15.17    8.17      0.975  | O I   |       |       |       |     0.91
 1.583   15.19    8.56      1.022  | O I   |       |       |       |     0.95
 1.667   15.19    8.94      1.066  | O I   |       |       |       |     1.00
 1.750   15.19    9.00      1.109  | O I   |       |       |       |     1.03
 1.833   15.19    9.04      1.151  | O I   |       |       |       |     1.07
 1.917   15.19    9.08      1.193  | O I   |       |       |       |     1.10
 2.000   15.51    9.12      1.237  | O I   |       |       |       |     1.14
 2.083   16.14    9.16      1.283  | O I   |       |       |       |     1.18
 2.167   15.83    9.20      1.329  | O I   |       |       |       |     1.22
 2.250   16.60    9.24      1.378  | O I   |       |       |       |     1.26
 2.333   16.86    9.29      1.429  | O I   |       |       |       |     1.30
 2.417   16.97    9.34      1.481  | O I   |       |       |       |     1.35
 2.500   17.03    9.38      1.534  | O  I  |       |       |       |     1.39
 2.583   17.07    9.43      1.587  | O  I  |       |       |       |     1.43
 2.667   17.07    9.48      1.639  | O  I  |       |       |       |     1.48
 2.750   17.41    9.52      1.692  | O  I  |       |       |       |     1.52
 2.833   18.36    9.58      1.750  | O  I  |       |       |       |     1.57
 2.917   18.68    9.63      1.811  | O  I  |       |       |       |     1.62
 3.000   18.82    9.69      1.874  | O  I  |       |       |       |     1.68
 3.083   18.90    9.74      1.937  | O  I  |       |       |       |     1.73
 3.167   19.26    9.80      2.001  | O  I  |       |       |       |     1.78
 3.250   20.23    9.86      2.069  | O  I  |       |       |       |     1.84
 3.333   20.58    9.92      2.142  | O   I |       |       |       |     1.90
 3.417   21.04    9.99      2.216  | O   I |       |       |       |     1.96
 3.500   22.41   10.06      2.297  | O   I |       |       |       |     2.03
 3.583   24.24   10.13      2.388  | O    I|       |       |       |     2.10
 3.667   26.03   10.21      2.491  |  O   I|       |       |       |     2.18
 3.750   27.16   10.30      2.604  |  O   I|       |       |       |     2.26
 3.833   28.76   10.40      2.725  |  O    I       |       |       |     2.35
 3.917   29.80   10.50      2.855  |  O    I       |       |       |     2.45
 4.000   31.38   10.61      2.993  |  O    |I      |       |       |     2.55
 4.083   32.41   10.73      3.139  |  O    |I      |       |       |     2.67
 4.167   34.40   10.85      3.294  |  O    | I     |       |       |     2.78
 4.250   36.69   10.99      3.464  |  O    | I     |       |       |     2.91
 4.333   39.12   11.13      3.649  |  O    |  I    |       |       |     3.05
 4.417   41.59   11.27      3.850  |  O    |   I   |       |       |     3.19
 4.500   43.70   11.42      4.065  |  O    |   I   |       |       |     3.33
 4.583   44.96   11.58      4.291  |  O    |    I  |       |       |     3.49
 4.667   47.08   11.75      4.528  |  O    |    I  |       |       |     3.65
 4.750   49.46   11.92      4.779  |  O    |     I |       |       |     3.83
 4.833   51.49   12.11      5.044  |  O    |      I|       |       |     4.01
 4.917   52.72   12.29      5.319  |  O    |      I|       |       |     4.18
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 5.000   54.81   12.47      5.604  |  O    |       I       |       |    4.36
 5.083   58.87   12.67      5.908  |  O    |       |I      |       |    4.56
 5.167   68.16   12.90      6.258  |  O    |       |   I   |       |    4.78
 5.250   78.40   13.17      6.673  |  O    |       |      I|       |    5.04
 5.333   86.88   13.46      7.150  |  O    |       |       |I      |    5.32
 5.417   95.76   13.79      7.685  |   O   |       |       |   I   |    5.63
 5.500  108.80   14.16      8.293  |   O   |       |       |       I    5.99
 5.583  107.99   14.53      8.941  |   O   |       |       |      I|    6.34
 5.667   62.52   14.80      9.427  |   O   |       | I     |       |    6.61
 5.750   36.51   14.94      9.666  |   O   | I     |       |       |    6.74
 5.833   23.65   15.00      9.770  |   O I |       |       |       |    6.79
 5.917   16.23   15.01      9.804  |   O   |       |       |       |    6.81
 6.000   10.57   15.01      9.793  |  IO   |       |       |       |    6.81
 6.083    6.57   14.98      9.749  |I  O   |       |       |       |    6.78
 6.167    2.43   14.94      9.677  I   O   |       |       |       |    6.74
 6.250    1.08   14.89      9.586  I   O   |       |       |       |    6.69
 6.333    0.54   14.84      9.489  I   O   |       |       |       |    6.64
 6.417    0.27   14.78      9.390  I   O   |       |       |       |    6.59
 6.500    0.12   14.72      9.290  I   O   |       |       |       |    6.53
 6.583    0.05   14.67      9.189  I   O   |       |       |       |    6.48
 6.667    0.00   14.61      9.088  I   O   |       |       |       |    6.42
 6.750    0.00   14.55      8.988  I   O   |       |       |       |    6.37
 6.833    0.00   14.50      8.888  I   O   |       |       |       |    6.31
 6.917    0.00   14.44      8.788  I   O   |       |       |       |    6.26
 7.000    0.00   14.38      8.689  I   O   |       |       |       |    6.21
 7.083    0.00   14.33      8.590  I   O   |       |       |       |    6.15
 7.167    0.00   14.27      8.492  I   O   |       |       |       |    6.10
 7.250    0.00   14.22      8.394  I   O   |       |       |       |    6.05
 7.333    0.00   14.16      8.296  I   O   |       |       |       |    5.99
 7.417    0.00   14.10      8.199  I   O   |       |       |       |    5.93
 7.500    0.00   14.04      8.102  I   O   |       |       |       |    5.88
 7.583    0.00   13.98      8.005  I   O   |       |       |       |    5.82
 7.667    0.00   13.92      7.909  I   O   |       |       |       |    5.76
 7.750    0.00   13.87      7.813  I   O   |       |       |       |    5.71
 7.833    0.00   13.81      7.718  I   O   |       |       |       |    5.65
 7.917    0.00   13.75      7.623  I   O   |       |       |       |    5.60
 8.000    0.00   13.69      7.529  I   O   |       |       |       |    5.54
 8.083    0.00   13.63      7.435  I   O   |       |       |       |    5.49
 8.167    0.00   13.58      7.341  I  O    |       |       |       |    5.43
 8.250    0.00   13.52      7.248  I  O    |       |       |       |    5.38
 8.333    0.00   13.46      7.155  I  O    |       |       |       |    5.32
 8.417    0.00   13.41      7.062  I  O    |       |       |       |    5.27
 8.500    0.00   13.35      6.970  I  O    |       |       |       |    5.21
 8.583    0.00   13.29      6.878  I  O    |       |       |       |    5.16
 8.667    0.00   13.24      6.787  I  O    |       |       |       |    5.10
 8.750    0.00   13.18      6.696  I  O    |       |       |       |    5.05
 8.833    0.00   13.13      6.605  I  O    |       |       |       |    5.00
 8.917    0.00   13.07      6.515  I  O    |       |       |       |    4.94
 9.000    0.00   13.01      6.425  I  O    |       |       |       |    4.88
 9.083    0.00   12.95      6.336  I  O    |       |       |       |    4.83
 9.167    0.00   12.89      6.247  I  O    |       |       |       |    4.77
 9.250    0.00   12.84      6.158  I  O    |       |       |       |    4.71
 9.333    0.00   12.78      6.070  I  O    |       |       |       |    4.66
 9.417    0.00   12.72      5.982  I  O    |       |       |       |    4.60
 9.500    0.00   12.66      5.895  I  O    |       |       |       |    4.55
 9.583    0.00   12.61      5.808  I  O    |       |       |       |    4.49
 9.667    0.00   12.55      5.721  I  O    |       |       |       |    4.44
 9.750    0.00   12.49      5.635  I  O    |       |       |       |    4.38
 9.833    0.00   12.44      5.549  I  O    |       |       |       |    4.33
 9.917    0.00   12.38      5.464  I  O    |       |       |       |    4.27
10.000    0.00   12.33      5.379  I  O    |       |       |       |    4.22
10.083    0.00   12.27      5.294  I  O    |       |       |       |    4.17
10.167    0.00   12.22      5.209  I  O    |       |       |       |    4.11
10.250    0.00   12.16      5.126  I  O    |       |       |       |    4.06
10.333    0.00   12.11      5.042  I  O    |       |       |       |    4.01
10.417    0.00   12.05      4.959  I  O    |       |       |       |    3.95
```

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10.500    0.00   11.99      4.876  I   O    |       |       |       |     3.89
10.583    0.00   11.93      4.794  I   O    |       |       |       |     3.84
10.667    0.00   11.88      4.712  I   O    |       |       |       |     3.78
10.750    0.00   11.82      4.630  I   O    |       |       |       |     3.72
10.833    0.00   11.76      4.549  I   O    |       |       |       |     3.67
10.917    0.00   11.70      4.468  I   O    |       |       |       |     3.61
11.000    0.00   11.65      4.388  I   O    |       |       |       |     3.56
11.083    0.00   11.59      4.308  I   O    |       |       |       |     3.50
11.167    0.00   11.54      4.228  I   O    |       |       |       |     3.45
11.250    0.00   11.48      4.149  I   O    |       |       |       |     3.39
11.333    0.00   11.42      4.070  I   O    |       |       |       |     3.34
11.417    0.00   11.37      3.991  I   O    |       |       |       |     3.28
11.500    0.00   11.31      3.913  I   O    |       |       |       |     3.23
11.583    0.00   11.26      3.835  I   O    |       |       |       |     3.18
11.667    0.00   11.21      3.758  I   O    |       |       |       |     3.12
11.750    0.00   11.15      3.681  I   O    |       |       |       |     3.07
11.833    0.00   11.10      3.605  I   O    |       |       |       |     3.02
11.917    0.00   11.04      3.528  I   O    |       |       |       |     2.96
12.000    0.00   10.98      3.452  I   O    |       |       |       |     2.90
12.083    0.00   10.92      3.377  I   O    |       |       |       |     2.85
12.167    0.00   10.86      3.302  I   O    |       |       |       |     2.79
12.250    0.00   10.80      3.227  I   O    |       |       |       |     2.73
12.333    0.00   10.74      3.153  I   O    |       |       |       |     2.68
12.417    0.00   10.68      3.080  I   O    |       |       |       |     2.62
12.500    0.00   10.62      3.006  I   O    |       |       |       |     2.57
12.583    0.00   10.57      2.933  I   O    |       |       |       |     2.51
12.667    0.00   10.51      2.861  I   O    |       |       |       |     2.46
12.750    0.00   10.45      2.788  I   O    |       |       |       |     2.40
12.833    0.00   10.39      2.717  I   O    |       |       |       |     2.35
12.917    0.00   10.34      2.645  I   O    |       |       |       |     2.29
13.000    0.00   10.28      2.574  I   O    |       |       |       |     2.24
13.083    0.00   10.22      2.504  I   O    |       |       |       |     2.18
13.167    0.00   10.17      2.434  I O      |       |       |       |     2.13
13.250    0.00   10.11      2.364  I O      |       |       |       |     2.08
13.333    0.00   10.06      2.294  I O      |       |       |       |     2.03
13.417    0.00   10.00      2.225  I O      |       |       |       |     1.97
13.500    0.00    9.94      2.156  I O      |       |       |       |     1.91
13.583    0.00    9.88      2.088  I O      |       |       |       |     1.86
13.667    0.00    9.82      2.020  I O      |       |       |       |     1.80
13.750    0.00    9.76      1.953  I O      |       |       |       |     1.74
13.833    0.00    9.70      1.886  I O      |       |       |       |     1.69
13.917    0.00    9.64      1.819  I O      |       |       |       |     1.63
14.000    0.00    9.58      1.753  I O      |       |       |       |     1.57
14.083    0.00    9.52      1.688  I O      |       |       |       |     1.52
14.167    0.00    9.46      1.622  I O      |       |       |       |     1.46
14.250    0.00    9.40      1.557  I O      |       |       |       |     1.41
14.333    0.00    9.35      1.493  I O      |       |       |       |     1.36
14.417    0.00    9.29      1.428  I O      |       |       |       |     1.30
14.500    0.00    9.23      1.365  I O      |       |       |       |     1.25
14.583    0.00    9.18      1.301  I O      |       |       |       |     1.19
14.667    0.00    9.12      1.238  I O      |       |       |       |     1.14
14.750    0.00    9.06      1.176  I O      |       |       |       |     1.09
14.833    0.00    9.01      1.113  I O      |       |       |       |     1.04
14.917    0.00    8.82      1.052  I O      |       |       |       |     0.98
15.000    0.00    8.32      0.993  I O      |       |       |       |     0.93
15.083    0.00    7.86      0.937  I O      |       |       |       |     0.88
15.167    0.00    7.42      0.885  I O      |       |       |       |     0.83
15.250    0.00    7.00      0.835  I O      |       |       |       |     0.78
15.333    0.00    6.61      0.788  IO       |       |       |       |     0.74
15.417    0.00    6.24      0.744  IO       |       |       |       |     0.70
15.500    0.00    5.89      0.702  IO       |       |       |       |     0.66
15.583    0.00    5.56      0.663  IO       |       |       |       |     0.62
15.667    0.00    5.24      0.626  IO       |       |       |       |     0.58
15.750    0.00    4.95      0.591  IO       |       |       |       |     0.55
15.833    0.00    4.67      0.557  IO       |       |       |       |     0.52
15.917    0.00    4.41      0.526  IO       |       |       |       |     0.49
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16.000	0.00	4.16	0.497	IO					0.46
16.083	0.00	3.93	0.469	IO					0.44
16.167	0.00	3.71	0.442	IO					0.41
16.250	0.00	3.50	0.418	IO					0.39
16.333	0.00	3.30	0.394	O					0.37
16.417	0.00	3.12	0.372	O					0.35
16.500	0.00	2.94	0.351	O					0.33
16.583	0.00	2.78	0.331	O					0.31
16.667	0.00	2.62	0.313	O					0.29
16.750	0.00	2.48	0.295	O					0.28
16.833	0.00	2.34	0.279	O					0.26
16.917	0.00	2.21	0.263	O					0.25
17.000	0.00	2.08	0.248	O					0.23
17.083	0.00	1.96	0.234	O					0.22
17.167	0.00	1.85	0.221	O					0.21
17.250	0.00	1.75	0.209	O					0.20
17.333	0.00	1.65	0.197	O					0.18
17.417	0.00	1.56	0.186	O					0.17
17.500	0.00	1.47	0.176	O					0.16
17.583	0.00	1.39	0.166	O					0.15
17.667	0.00	1.31	0.156	O					0.15
17.750	0.00	1.24	0.148	O					0.14
17.833	0.00	1.17	0.139	O					0.13
17.917	0.00	1.10	0.132	O					0.12
18.000	0.00	1.04	0.124	O					0.12
18.083	0.00	0.98	0.117	O					0.11
18.167	0.00	0.93	0.111	O					0.10
18.250	0.00	0.88	0.104	O					0.10
18.333	0.00	0.83	0.099	O					0.09
18.417	0.00	0.78	0.093	O					0.09
18.500	0.00	0.74	0.088	O					0.08
18.583	0.00	0.69	0.083	O					0.08
18.667	0.00	0.66	0.078	O					0.07
18.750	0.00	0.62	0.074	O					0.07
18.833	0.00	0.58	0.070	O					0.07
18.917	0.00	0.55	0.066	O					0.06
19.000	0.00	0.52	0.062	O					0.06
19.083	0.00	0.49	0.059	O					0.05
19.167	0.00	0.46	0.055	O					0.05
19.250	0.00	0.44	0.052	O					0.05
19.333	0.00	0.41	0.049	O					0.05
19.417	0.00	0.39	0.047	O					0.04
19.500	0.00	0.37	0.044	O					0.04
19.583	0.00	0.35	0.041	O					0.04
19.667	0.00	0.33	0.039	O					0.04
19.750	0.00	0.31	0.037	O					0.03
19.833	0.00	0.29	0.035	O					0.03
19.917	0.00	0.28	0.033	O					0.03
20.000	0.00	0.26	0.031	O					0.03
20.083	0.00	0.25	0.029	O					0.03
20.167	0.00	0.23	0.028	O					0.03
20.250	0.00	0.22	0.026	O					0.02
20.333	0.00	0.21	0.025	O					0.02
20.417	0.00	0.20	0.023	O					0.02
20.500	0.00	0.18	0.022	O					0.02
20.583	0.00	0.17	0.021	O					0.02
20.667	0.00	0.16	0.020	O					0.02
20.750	0.00	0.15	0.018	O					0.02
20.833	0.00	0.15	0.017	O					0.02
20.917	0.00	0.14	0.016	O					0.02
21.000	0.00	0.13	0.016	O					0.01
21.083	0.00	0.12	0.015	O					0.01
21.167	0.00	0.12	0.014	O					0.01
21.250	0.00	0.11	0.013	O					0.01
21.333	0.00	0.10	0.012	O					0.01
21.417	0.00	0.10	0.012	O					0.01

21.500	0.00	0.09	0.011	O	|	|	|	|	0.01
21.583	0.00	0.09	0.010	O	|	|	|	|	0.01
21.667	0.00	0.08	0.010	O	|	|	|	|	0.01
21.750	0.00	0.08	0.009	O	|	|	|	|	0.01
21.833	0.00	0.07	0.009	O	|	|	|	|	0.01
21.917	0.00	0.07	0.008	O	|	|	|	|	0.01
22.000	0.00	0.07	0.008	O	|	|	|	|	0.01
22.083	0.00	0.06	0.007	O	|	|	|	|	0.01
22.167	0.00	0.06	0.007	O	|	|	|	|	0.01
22.250	0.00	0.05	0.007	O	|	|	|	|	0.01
22.333	0.00	0.05	0.006	O	|	|	|	|	0.01
22.417	0.00	0.05	0.006	O	|	|	|	|	0.01
22.500	0.00	0.05	0.005	O	|	|	|	|	0.01
22.583	0.00	0.04	0.005	O	|	|	|	|	0.00
22.667	0.00	0.04	0.005	O	|	|	|	|	0.00
22.750	0.00	0.04	0.005	O	|	|	|	|	0.00
22.833	0.00	0.04	0.004	O	|	|	|	|	0.00
22.917	0.00	0.03	0.004	O	|	|	|	|	0.00
23.000	0.00	0.03	0.004	O	|	|	|	|	0.00
23.083	0.00	0.03	0.004	O	|	|	|	|	0.00
23.167	0.00	0.03	0.003	O	|	|	|	|	0.00
23.250	0.00	0.03	0.003	O	|	|	|	|	0.00
23.333	0.00	0.03	0.003	O	|	|	|	|	0.00
23.417	0.00	0.02	0.003	O	|	|	|	|	0.00
23.500	0.00	0.02	0.003	O	|	|	|	|	0.00
23.583	0.00	0.02	0.003	O	|	|	|	|	0.00
23.667	0.00	0.02	0.002	O	|	|	|	|	0.00
23.750	0.00	0.02	0.002	O	|	|	|	|	0.00
23.833	0.00	0.02	0.002	O	|	|	|	|	0.00
23.917	0.00	0.02	0.002	O	|	|	|	|	0.00
24.000	0.00	0.02	0.002	O	|	|	|	|	0.00
24.083	0.00	0.02	0.002	O	|	|	|	|	0.00
24.167	0.00	0.01	0.002	O	|	|	|	|	0.00
24.250	0.00	0.01	0.002	O	|	|	|	|	0.00
24.333	0.00	0.01	0.002	O	|	|	|	|	0.00
24.417	0.00	0.01	0.001	O	|	|	|	|	0.00
24.500	0.00	0.01	0.001	O	|	|	|	|	0.00
24.583	0.00	0.01	0.001	O	|	|	|	|	0.00
24.667	0.00	0.01	0.001	O	|	|	|	|	0.00
24.750	0.00	0.01	0.001	O	|	|	|	|	0.00
24.833	0.00	0.01	0.001	O	|	|	|	|	0.00
24.917	0.00	0.01	0.001	O	|	|	|	|	0.00

```
****************************HYDROGRAPH DATA****************************
               Number of intervals =   299
               Time interval =    5.0 (Min.)
               Maximum/Peak flow rate =       15.014 (CFS)
               Total volume =      14.464 (Ac.Ft)
       Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
       Peak (CFS)      0.000     0.000     0.000     0.000     0.000
       Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
***********************************************************************

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                 FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
                       Study date: 07/02/23

---------------------------------------------------------------------

THOUSAND PALMS - BUILDING 1
BASIN 1 FLOOD ROUTING
100 YR - 24 HR
100135RETA
--------------------------------------------------------------------

Program License Serial Number 6490

--------------------------------------------------------------------
********************** HYDROGRAPH INFORMATION **********************

               From study/file name: 100135PRUHA24100.rte
***************************HYDROGRAPH DATA***************************
               Number of intervals =   295
               Time interval =    5.0 (Min.)
               Maximum/Peak flow rate =       39.746 (CFS)
               Total volume =      21.984 (Ac.Ft)
       Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
       Peak (CFS)      0.000     0.000     0.000     0.000     0.000
       Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
**********************************************************************

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       2.000 to Point/Station       1.000
**** RETARDING BASIN ROUTING ****
______________________________________________________________________

User entry of depth-outflow-storage data
--------------------------------------------------------------------
Total number of inflow hydrograph intervals = 295
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
--------------------------------------------------------------------
--------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
--------------------------------------------------------------------
--------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)      (Ac.Ft)    (Ac.Ft)
---------------------------------------------------------------------
   0.000      0.000      0.000      0.000        0.000
   1.000      1.070      8.970      1.039        1.101
   2.000      2.260     10.030      2.225        2.295
   3.000      3.580     11.080      3.542        3.618
   4.000      5.030     12.100      4.988        5.072
   5.000      6.610     13.130      6.565        6.655
   6.000      8.310     14.170      8.261        8.359
   7.000     10.150     15.210     10.098       10.202
   7.200     10.530     15.420     10.477       10.583
```

```
       ----------------------------------------------------------------------
                       Hydrograph Detention Basin Routing
       ----------------------------------------------------------------------

       Graph values: 'I'= unit inflow; 'O'=outflow at time shown
       ----------------------------------------------------------------------
 Time    Inflow  Outflow     Storage                                        Depth
(Hours)   (CFS)   (CFS)      (Ac.Ft)  .0        9.9    19.87    29.81    39.75 (Ft.)
 0.083    0.34     0.01       0.001  O         |        |        |        |     0.00
 0.167    1.37     0.06       0.007  OI        |        |        |        |     0.01
 0.250    1.72     0.14       0.017  OI        |        |        |        |     0.02
 0.333    2.05     0.24       0.028  OI        |        |        |        |     0.03
 0.417    2.64     0.36       0.043  O I       |        |        |        |     0.04
 0.500    2.87     0.49       0.059  O I       |        |        |        |     0.05
 0.583    2.97     0.63       0.075  O I       |        |        |        |     0.07
 0.667    3.04     0.76       0.091  O I       |        |        |        |     0.08
 0.750    3.06     0.89       0.106  O I       |        |        |        |     0.10
 0.833    3.25     1.02       0.121  O I       |        |        |        |     0.11
 0.917    3.77     1.16       0.138  O  I      |        |        |        |     0.13
 1.000    3.95     1.31       0.156  |O I      |        |        |        |     0.15
 1.083    3.85     1.45       0.173  |O I      |        |        |        |     0.16
 1.167    3.38     1.57       0.188  |OI       |        |        |        |     0.18
 1.250    3.23     1.67       0.199  |OI       |        |        |        |     0.19
 1.333    3.16     1.76       0.210  |OI       |        |        |        |     0.20
 1.417    3.13     1.84       0.219  |OI       |        |        |        |     0.20
 1.500    3.11     1.91       0.228  |OI       |        |        |        |     0.21
 1.583    3.10     1.97       0.236  |OI       |        |        |        |     0.22
 1.667    3.09     2.04       0.243  |OI       |        |        |        |     0.23
 1.750    3.09     2.10       0.250  |OI       |        |        |        |     0.23
 1.833    3.26     2.16       0.257  |OI       |        |        |        |     0.24
 1.917    3.77     2.23       0.266  |O I      |        |        |        |     0.25
 2.000    3.95     2.32       0.277  |O I      |        |        |        |     0.26
 2.083    4.02     2.42       0.288  |O I      |        |        |        |     0.27
 2.167    4.07     2.51       0.299  | OI      |        |        |        |     0.28
 2.250    4.09     2.60       0.310  | OI      |        |        |        |     0.29
 2.333    4.10     2.68       0.320  | OI      |        |        |        |     0.30
 2.417    4.11     2.76       0.329  | OI      |        |        |        |     0.31
 2.500    4.11     2.84       0.338  | OI      |        |        |        |     0.32
 2.583    4.29     2.91       0.347  | OI      |        |        |        |     0.32
 2.667    4.80     3.00       0.358  | OI      |        |        |        |     0.33
 2.750    4.97     3.11       0.371  | O I     |        |        |        |     0.35
 2.833    5.05     3.22       0.384  | O I     |        |        |        |     0.36
 2.917    5.09     3.32       0.396  | O I     |        |        |        |     0.37
 3.000    5.12     3.42       0.408  | O I     |        |        |        |     0.38
 3.083    5.13     3.52       0.420  | O I     |        |        |        |     0.39
 3.167    5.14     3.61       0.430  | O I     |        |        |        |     0.40
 3.250    5.14     3.69       0.441  | O I     |        |        |        |     0.41
 3.333    5.14     3.78       0.450  |  OI     |        |        |        |     0.42
 3.417    5.14     3.85       0.459  |  OI     |        |        |        |     0.43
 3.500    5.14     3.92       0.468  |  OI     |        |        |        |     0.44
 3.583    5.14     3.99       0.476  |  OI     |        |        |        |     0.45
 3.667    5.14     4.06       0.484  |  OI     |        |        |        |     0.45
 3.750    5.14     4.12       0.491  |  OI     |        |        |        |     0.46
 3.833    5.31     4.18       0.499  |  OI     |        |        |        |     0.47
 3.917    5.83     4.26       0.508  |  OI     |        |        |        |     0.47
 4.000    6.00     4.35       0.519  |  OI     |        |        |        |     0.49
 4.083    6.08     4.45       0.530  |  OI     |        |        |        |     0.50
 4.167    6.12     4.54       0.541  |  OI     |        |        |        |     0.51
 4.250    6.15     4.63       0.552  |  OI     |        |        |        |     0.52
 4.333    6.33     4.72       0.563  |  O I    |        |        |        |     0.53
 4.417    6.86     4.82       0.575  |  O I    |        |        |        |     0.54
 4.500    7.03     4.94       0.590  |  O I    |        |        |        |     0.55
 4.583    7.11     5.06       0.604  |   OI    |        |        |        |     0.56
 4.667    7.15     5.18       0.618  |   OI    |        |        |        |     0.58
 4.750    7.17     5.29       0.631  |   OI    |        |        |        |     0.59
 4.833    7.36     5.40       0.644  |   OI    |        |        |        |     0.60
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 4.917    7.88    5.53      0.659  |   O I |       |       |       |     0.62
 5.000    8.06    5.66      0.675  |   O I |       |       |       |     0.63
 5.083    7.79    5.79      0.691  |   O I |       |       |       |     0.65
 5.167    6.81    5.87      0.701  |   OI  |       |       |       |     0.65
 5.250    6.48    5.92      0.706  |   OI  |       |       |       |     0.66
 5.333    6.51    5.95      0.710  |   OI  |       |       |       |     0.66
 5.417    6.95    5.99      0.715  |   OI  |       |       |       |     0.67
 5.500    7.08    6.05      0.722  |   OI  |       |       |       |     0.67
 5.583    7.31    6.12      0.730  |   OI  |       |       |       |     0.68
 5.667    7.84    6.20      0.739  |   O I |       |       |       |     0.69
 5.750    8.03    6.29      0.751  |    OI |       |       |       |     0.70
 5.833    8.12    6.40      0.763  |    OI |       |       |       |     0.71
 5.917    8.18    6.49      0.775  |    OI |       |       |       |     0.72
 6.000    8.20    6.59      0.786  |    OI |       |       |       |     0.73
 6.083    8.39    6.68      0.797  |    OI |       |       |       |     0.75
 6.167    8.91    6.80      0.811  |    O I|       |       |       |     0.76
 6.250    9.09    6.92      0.825  |    O I|       |       |       |     0.77
 6.333    9.17    7.04      0.840  |    O I|       |       |       |     0.79
 6.417    9.21    7.16      0.854  |    O I|       |       |       |     0.80
 6.500    9.23    7.28      0.868  |    O I|       |       |       |     0.81
 6.583    9.42    7.39      0.882  |    O I|       |       |       |     0.82
 6.667    9.94    7.52      0.897  |     O I       |       |       |     0.84
 6.750   10.12    7.66      0.914  |     O I       |       |       |     0.85
 6.833   10.19    7.80      0.931  |     O I       |       |       |     0.87
 6.917   10.24    7.94      0.947  |     O I       |       |       |     0.88
 7.000   10.26    8.07      0.962  |     O I       |       |       |     0.90
 7.083   10.27    8.19      0.977  |     O I       |       |       |     0.91
 7.167   10.29    8.31      0.991  |     O I       |       |       |     0.93
 7.250   10.29    8.42      1.004  |     O I       |       |       |     0.94
 7.333   10.46    8.53      1.017  |     O I       |       |       |     0.95
 7.417   10.97    8.65      1.032  |     O I       |       |       |     0.96
 7.500   11.15    8.79      1.048  |      OI       |       |       |     0.98
 7.583   11.40    8.93      1.065  |      O|I      |       |       |     1.00
 7.667   11.95    8.98      1.083  |      O|I      |       |       |     1.01
 7.750   12.15    9.00      1.104  |      O|I      |       |       |     1.03
 7.833   12.41    9.02      1.127  |      O|I      |       |       |     1.05
 7.917   12.98    9.04      1.152  |      O| I     |       |       |     1.07
 8.000   13.18    9.07      1.180  |      O| I     |       |       |     1.09
 8.083   13.61    9.09      1.210  |      O| I     |       |       |     1.12
 8.167   14.69    9.13      1.244  |      O|  I    |       |       |     1.15
 8.250   15.07    9.16      1.284  |      O|   I   |       |       |     1.18
 8.333   15.23    9.20      1.325  |      O|   I   |       |       |     1.21
 8.417   15.33    9.23      1.367  |      O|   I   |       |       |     1.25
 8.500   15.38    9.27      1.409  |      O|   I   |       |       |     1.28
 8.583   15.57    9.31      1.451  |      O|   I   |       |       |     1.32
 8.667   16.11    9.35      1.496  |      O|   I   |       |       |     1.36
 8.750   16.29    9.39      1.543  |      O|    I  |       |       |     1.40
 8.833   16.54    9.43      1.591  |      O|    I  |       |       |     1.44
 8.917   17.09    9.48      1.642  |      O|    I  |       |       |     1.48
 9.000   17.29    9.53      1.695  |      O|    I  |       |       |     1.53
 9.083   17.73    9.58      1.750  |      O|     I |       |       |     1.57
 9.167   18.81    9.63      1.810  |      O|      I|       |       |     1.62
 9.250   19.18    9.69      1.874  |      O|      I|       |       |     1.68
 9.333   19.52    9.75      1.940  |      O|      I|       |       |     1.73
 9.417   20.13    9.81      2.009  |      O|       I       |       |     1.79
 9.500   20.35    9.87      2.081  |      O|       I       |       |     1.85
 9.583   20.63    9.94      2.154  |      O|       I       |       |     1.91
 9.667   21.21   10.00      2.229  |       O       |I      |       |     1.97
 9.750   21.41   10.07      2.307  |       O       |I      |       |     2.04
 9.833   21.67   10.13      2.386  |       O       |I      |       |     2.10
 9.917   22.23   10.19      2.467  |       O       |I      |       |     2.16
10.000   22.43   10.26      2.550  |       O       | I     |       |     2.22
10.083   21.32   10.32      2.630  |       O       |I      |       |     2.28
10.167   17.79   10.37      2.693  |       O     I |       |       |     2.33
10.250   16.58   10.41      2.740  |       O    I  |       |       |     2.36
10.333   16.05   10.44      2.781  |       O   I   |       |       |     2.39
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10.417   15.77   10.47      2.818  |       O   I   |       |       |     2.42
10.500   15.60   10.50      2.854  |       O   I   |       |       |     2.45
10.583   16.38   10.53      2.892  |       O    I  |       |       |     2.48
10.667   18.85   10.57      2.940  |       O      I|       |       |     2.52
10.750   19.73   10.62      3.000  |       O      I|       |       |     2.56
10.833   20.12   10.67      3.064  |       O       I       |       |     2.61
10.917   20.33   10.72      3.130  |       O       I       |       |     2.66
11.000   20.45   10.77      3.196  |       O       I       |       |     2.71
11.083   20.34   10.83      3.262  |       O       I       |       |     2.76
11.167   19.89   10.88      3.326  |       O       I       |       |     2.81
11.250   19.71   10.93      3.387  |       O      I|       |       |     2.85
11.333   19.63   10.97      3.447  |       O      I|       |       |     2.90
11.417   19.59   11.02      3.507  |       O      I|       |       |     2.94
11.500   19.57   11.07      3.565  |       O      I|       |       |     2.99
11.583   19.21   11.11      3.623  |       O      I|       |       |     3.03
11.667   18.17   11.15      3.675  |       O     I |       |       |     3.07
11.750   17.82   11.18      3.722  |       |O    I |       |       |     3.10
11.833   17.84   11.21      3.767  |       |O    I |       |       |     3.13
11.917   18.27   11.24      3.814  |       |O    I |       |       |     3.16
12.000   18.39   11.28      3.863  |       |O    I |       |       |     3.20
12.083   19.84   11.32      3.917  |       |O     I|       |       |     3.23
12.167   23.99   11.37      3.990  |       |O      |  I    |       |     3.28
12.250   25.46   11.43      4.081  |       |O      |   I   |       |     3.35
12.333   26.36   11.50      4.181  |       |O      |    I  |       |     3.41
12.417   27.44   11.58      4.287  |       |O      |     I |       |     3.49
12.500   27.91   11.65      4.397  |       |O      |     I |       |     3.56
12.583   28.62   11.74      4.511  |       |O      |      I|       |     3.64
12.667   30.20   11.82      4.633  |       |O      |       I       |     3.73
12.750   30.74   11.91      4.761  |       |O      |       I       |     3.81
12.833   31.24   12.00      4.892  |       |O      |       |I      |     3.90
12.917   32.10   12.10      5.027  |       |O      |       |I      |     4.00
13.000   32.44   12.19      5.166  |       |O      |       | I     |     4.09
13.083   33.78   12.28      5.310  |       |O      |       |  I    |     4.18
13.167   37.37   12.39      5.470  |       |O      |       |     I |     4.28
13.250   38.63   12.50      5.646  |       | O     |       |      I|     4.39
13.333   39.21   12.62      5.827  |       | O     |       |      I|     4.50
13.417   39.55   12.74      6.011  |       | O     |       |      I|     4.62
13.500   39.75   12.86      6.196  |       | O     |       |       I     4.74
13.583   37.31   12.98      6.372  |       | O     |       |     I |     4.85
13.667   29.81   13.07      6.514  |       | O     |       I       |     4.94
13.750   27.24   13.14      6.620  |       | O     |    I  |       |     5.01
13.833   26.12   13.19      6.713  |       | O     |    I  |       |     5.06
13.917   25.53   13.25      6.800  |       | O     |   I   |       |     5.11
14.000   25.22   13.30      6.883  |       | O     |   I   |       |     5.16
14.083   26.00   13.35      6.968  |       | O     |   I   |       |     5.21
14.167   28.62   13.41      7.064  |       | O     |      I|       |     5.27
14.250   29.60   13.47      7.172  |       | O     |      I|       |     5.33
14.333   29.83   13.54      7.283  |       | O     |       I       |     5.40
14.417   29.40   13.61      7.394  |       | O     |      I|       |     5.46
14.500   29.32   13.68      7.502  |       |  O    |      I|       |     5.52
14.583   29.32   13.74      7.610  |       |  O    |      I|       |     5.59
14.667   29.37   13.81      7.717  |       |  O    |      I|       |     5.65
14.750   29.37   13.87      7.824  |       |  O    |      I|       |     5.71
14.833   29.16   13.94      7.930  |       |  O    |      I|       |     5.78
14.917   28.48   14.00      8.032  |       |  O    |     I |       |     5.84
15.000   28.28   14.06      8.131  |       |  O    |     I |       |     5.89
15.083   27.98   14.12      8.227  |       |  O    |     I |       |     5.95
15.167   27.26   14.18      8.320  |       |  O    |    I  |       |     6.01
15.250   27.03   14.23      8.409  |       |  O    |    I  |       |     6.05
15.333   26.70   14.28      8.496  |       |  O    |    I  |       |     6.10
15.417   25.97   14.32      8.579  |       |  O    |   I   |       |     6.15
15.500   25.74   14.37      8.658  |       |  O    |   I   |       |     6.19
15.583   24.72   14.41      8.733  |       |  O    |  I    |       |     6.23
15.667   21.91   14.44      8.794  |       |  O    |I      |       |     6.26
15.750   20.96   14.47      8.842  |       |  O    I       |       |     6.29
15.833   20.55   14.50      8.886  |       |  O    I       |       |     6.31
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15.917   20.34   14.52      8.926  |       |  O    I       |       |     6.34
16.000   20.25   14.54      8.966  |       |  O    I       |       |     6.36
16.083   17.52   14.56      8.996  |       |  O  I |       |       |     6.37
16.167    9.47   14.55      8.989  |      I|  O    |       |       |     6.37
16.250    6.74   14.53      8.944  |    I  |  O    |       |       |     6.34
16.333    5.52   14.50      8.887  |   I   |  O    |       |       |     6.31
16.417    4.87   14.46      8.823  |  I    |  O    |       |       |     6.28
16.500    4.50   14.42      8.756  |  I    |  O    |       |       |     6.24
16.583    4.14   14.38      8.686  |  I    |  O    |       |       |     6.20
16.667    3.43   14.34      8.613  | I     |  O    |       |       |     6.16
16.750    3.25   14.30      8.538  | I     |  O    |       |       |     6.12
16.833    3.18   14.26      8.461  | I     |  O    |       |       |     6.08
16.917    3.13   14.21      8.385  | I     |  O    |       |       |     6.04
17.000    3.11   14.17      8.309  | I     |  O    |       |       |     6.00
17.083    3.44   14.12      8.234  | I     |  O    |       |       |     5.96
17.167    4.45   14.08      8.164  |  I    |  O    |       |       |     5.91
17.250    4.81   14.04      8.099  |  I    |  O    |       |       |     5.88
17.333    4.96   14.00      8.036  |  I    |  O    |       |       |     5.84
17.417    5.05   13.96      7.974  |   I   |  O    |       |       |     5.80
17.500    5.09   13.93      7.913  |   I   |  O    |       |       |     5.77
17.583    5.12   13.89      7.853  |   I   |  O    |       |       |     5.73
17.667    5.14   13.85      7.792  |   I   |  O    |       |       |     5.70
17.750    5.14   13.82      7.733  |   I   |  O    |       |       |     5.66
17.833    4.97   13.78      7.672  |   I   |  O    |       |       |     5.62
17.917    4.46   13.74      7.610  |  I    |  O    |       |       |     5.59
18.000    4.28   13.70      7.546  |  I    |  O    |       |       |     5.55
18.083    4.20   13.66      7.481  |  I    |  O    |       |       |     5.51
18.167    4.16   13.62      7.415  |  I    | O     |       |       |     5.47
18.250    4.14   13.58      7.350  |  I    | O     |       |       |     5.44
18.333    4.13   13.54      7.285  |  I    | O     |       |       |     5.40
18.417    4.11   13.50      7.221  |  I    | O     |       |       |     5.36
18.500    4.11   13.46      7.156  |  I    | O     |       |       |     5.32
18.583    3.94   13.42      7.091  |  I    | O     |       |       |     5.28
18.667    3.43   13.38      7.024  | I     | O     |       |       |     5.24
18.750    3.25   13.34      6.955  | I     | O     |       |       |     5.20
18.833    3.00   13.30      6.885  | I     | O     |       |       |     5.16
18.917    2.45   13.25      6.813  |I      | O     |       |       |     5.12
19.000    2.25   13.21      6.738  |I      | O     |       |       |     5.08
19.083    2.33   13.16      6.663  |I      | O     |       |       |     5.03
19.167    2.79   13.12      6.590  | I     | O     |       |       |     4.99
19.250    2.94   13.07      6.519  | I     | O     |       |       |     4.94
19.333    3.18   13.03      6.450  | I     | O     |       |       |     4.90
19.417    3.72   12.98      6.385  | I     | O     |       |       |     4.86
19.500    3.92   12.94      6.322  |  I    | O     |       |       |     4.82
19.583    3.84   12.90      6.259  |  I    | O     |       |       |     4.78
19.667    3.38   12.86      6.196  | I     | O     |       |       |     4.74
19.750    3.23   12.82      6.130  | I     | O     |       |       |     4.70
19.833    2.99   12.77      6.063  | I     | O     |       |       |     4.65
19.917    2.45   12.73      5.994  |I      | O     |       |       |     4.61
20.000    2.25   12.68      5.923  |I      | O     |       |       |     4.57
20.083    2.33   12.64      5.851  |I      | O     |       |       |     4.52
20.167    2.79   12.59      5.782  | I     | O     |       |       |     4.48
20.250    2.94   12.55      5.715  | I     | O     |       |       |     4.43
20.333    3.01   12.50      5.650  | I     | O     |       |       |     4.39
20.417    3.04   12.46      5.584  | I     | O     |       |       |     4.35
20.500    3.06   12.42      5.520  | I     |O      |       |       |     4.31
20.583    3.07   12.38      5.456  | I     |O      |       |       |     4.27
20.667    3.09   12.34      5.392  | I     |O      |       |       |     4.23
20.750    3.09   12.29      5.328  | I     |O      |       |       |     4.19
20.833    2.91   12.25      5.264  | I     |O      |       |       |     4.15
20.917    2.40   12.21      5.198  |I      |O      |       |       |     4.11
21.000    2.23   12.17      5.130  |I      |O      |       |       |     4.06
21.083    2.32   12.12      5.062  |I      |O      |       |       |     4.02
21.167    2.79   12.08      4.997  | I     |O      |       |       |     3.98
21.250    2.94   12.03      4.933  | I     |O      |       |       |     3.93
21.333    2.84   11.99      4.870  | I     |O      |       |       |     3.89
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21.417    2.35   11.94      4.806  |I      |O      |       |       |      3.85
21.500    2.20   11.90      4.740  |I      |O      |       |       |      3.80
21.583    2.31   11.85      4.673  |I      |O      |       |       |      3.75
21.667    2.79   11.80      4.609  | I     |O      |       |       |      3.71
21.750    2.94   11.76      4.548  | I     |O      |       |       |      3.67
21.833    2.84   11.72      4.487  | I     |O      |       |       |      3.63
21.917    2.35   11.67      4.424  |I      |O      |       |       |      3.58
22.000    2.20   11.63      4.360  |I      |O      |       |       |      3.54
22.083    2.31   11.58      4.295  |I      |O      |       |       |      3.49
22.167    2.79   11.54      4.233  | I     |O      |       |       |      3.45
22.250    2.94   11.50      4.174  | I     |O      |       |       |      3.41
22.333    2.84   11.46      4.115  | I     |O      |       |       |      3.37
22.417    2.35   11.41      4.054  |I      |O      |       |       |      3.33
22.500    2.20   11.37      3.991  |I      |O      |       |       |      3.28
22.583    2.14   11.32      3.928  |I      |O      |       |       |      3.24
22.667    2.11   11.28      3.864  |I      |O      |       |       |      3.20
22.750    2.08   11.24      3.801  |I      |O      |       |       |      3.15
22.833    2.07   11.19      3.738  |I      |O      |       |       |      3.11
22.917    2.06   11.15      3.676  |I      O       |       |       |      3.07
23.000    2.06   11.10      3.613  |I      O       |       |       |      3.02
23.083    2.06   11.06      3.551  |I      O       |       |       |      2.98
23.167    2.06   11.01      3.489  |I      O       |       |       |      2.93
23.250    2.06   10.96      3.428  |I      O       |       |       |      2.88
23.333    2.06   10.91      3.367  |I      O       |       |       |      2.84
23.417    2.06   10.86      3.306  |I      O       |       |       |      2.79
23.500    2.06   10.81      3.245  |I      O       |       |       |      2.75
23.583    2.06   10.77      3.185  |I      O       |       |       |      2.70
23.667    2.06   10.72      3.125  |I      O       |       |       |      2.66
23.750    2.06   10.67      3.066  |I      O       |       |       |      2.61
23.833    2.06   10.62      3.007  |I      O       |       |       |      2.57
23.917    2.06   10.58      2.948  |I      O       |       |       |      2.52
24.000    2.06   10.53      2.889  |I      O       |       |       |      2.48
24.083    1.71   10.48      2.830  |I      O       |       |       |      2.43
24.167    0.69   10.43      2.766  I       O       |       |       |      2.38
24.250    0.34   10.38      2.698  I       O       |       |       |      2.33
24.333    0.18   10.32      2.629  I       O       |       |       |      2.28
24.417    0.10   10.27      2.559  I       O       |       |       |      2.23
24.500    0.05   10.21      2.489  I       O       |       |       |      2.17
24.583    0.03   10.16      2.419  I       O       |       |       |      2.12
24.667    0.00   10.10      2.349  I       O       |       |       |      2.07
24.750    0.00   10.05      2.280  I       O       |       |       |      2.01
24.833    0.00    9.99      2.211  I       O       |       |       |      1.96
24.917    0.00    9.93      2.142  I      O|       |       |       |      1.90
25.000    0.00    9.86      2.074  I      O|       |       |       |      1.84
25.083    0.00    9.80      2.006  I      O|       |       |       |      1.79
25.167    0.00    9.74      1.939  I      O|       |       |       |      1.73
25.250    0.00    9.68      1.872  I      O|       |       |       |      1.67
25.333    0.00    9.63      1.806  I      O|       |       |       |      1.62
25.417    0.00    9.57      1.740  I      O|       |       |       |      1.56
25.500    0.00    9.51      1.674  I      O|       |       |       |      1.51
25.583    0.00    9.45      1.609  I      O|       |       |       |      1.45
25.667    0.00    9.39      1.544  I      O|       |       |       |      1.40
25.750    0.00    9.33      1.479  I      O|       |       |       |      1.34
25.833    0.00    9.28      1.415  I      O|       |       |       |      1.29
25.917    0.00    9.22      1.351  I      O|       |       |       |      1.24
26.000    0.00    9.16      1.288  I      O|       |       |       |      1.18
26.083    0.00    9.11      1.225  I      O|       |       |       |      1.13
26.167    0.00    9.05      1.163  I      O|       |       |       |      1.08
26.250    0.00    9.00      1.100  I      O|       |       |       |      1.03
26.333    0.00    8.71      1.039  I      O|       |       |       |      0.97
26.417    0.00    8.23      0.981  I     O |       |       |       |      0.92
26.500    0.00    7.76      0.926  I     O |       |       |       |      0.87
26.583    0.00    7.33      0.874  I    O  |       |       |       |      0.82
26.667    0.00    6.92      0.825  I    O  |       |       |       |      0.77
26.750    0.00    6.53      0.779  I    O  |       |       |       |      0.73
26.833    0.00    6.16      0.735  I   O   |       |       |       |      0.69
```

26.917	0.00	5.82	0.694	I O	|	|	|	|	0.65
27.000	0.00	5.49	0.655	I O	|	|	|	|	0.61
27.083	0.00	5.18	0.618	I O	|	|	|	|	0.58
27.167	0.00	4.89	0.583	I O	|	|	|	|	0.55
27.250	0.00	4.62	0.551	I O	|	|	|	|	0.51
27.333	0.00	4.36	0.520	I O	|	|	|	|	0.49
27.417	0.00	4.11	0.491	I O	|	|	|	|	0.46
27.500	0.00	3.88	0.463	I O	|	|	|	|	0.43
27.583	0.00	3.66	0.437	I O	|	|	|	|	0.41
27.667	0.00	3.46	0.413	I O	|	|	|	|	0.39
27.750	0.00	3.26	0.389	I O	|	|	|	|	0.36
27.833	0.00	3.08	0.368	I O	|	|	|	|	0.34
27.917	0.00	2.91	0.347	I O	|	|	|	|	0.32
28.000	0.00	2.75	0.327	I O	|	|	|	|	0.31
28.083	0.00	2.59	0.309	I O	|	|	|	|	0.29
28.167	0.00	2.45	0.292	IO	|	|	|	|	0.27
28.250	0.00	2.31	0.275	IO	|	|	|	|	0.26
28.333	0.00	2.18	0.260	IO	|	|	|	|	0.24
28.417	0.00	2.06	0.245	IO	|	|	|	|	0.23
28.500	0.00	1.94	0.232	IO	|	|	|	|	0.22
28.583	0.00	1.83	0.219	IO	|	|	|	|	0.20
28.667	0.00	1.73	0.206	IO	|	|	|	|	0.19
28.750	0.00	1.63	0.195	IO	|	|	|	|	0.18
28.833	0.00	1.54	0.184	IO	|	|	|	|	0.17
28.917	0.00	1.45	0.174	IO	|	|	|	|	0.16
29.000	0.00	1.37	0.164	IO	|	|	|	|	0.15
29.083	0.00	1.30	0.155	IO	|	|	|	|	0.14
29.167	0.00	1.22	0.146	O	|	|	|	|	0.14
29.250	0.00	1.15	0.138	O	|	|	|	|	0.13
29.333	0.00	1.09	0.130	O	|	|	|	|	0.12
29.417	0.00	1.03	0.123	O	|	|	|	|	0.11
29.500	0.00	0.97	0.116	O	|	|	|	|	0.11
29.583	0.00	0.92	0.109	O	|	|	|	|	0.10
29.667	0.00	0.86	0.103	O	|	|	|	|	0.10
29.750	0.00	0.82	0.097	O	|	|	|	|	0.09
29.833	0.00	0.77	0.092	O	|	|	|	|	0.09
29.917	0.00	0.73	0.087	O	|	|	|	|	0.08
30.000	0.00	0.69	0.082	O	|	|	|	|	0.08
30.083	0.00	0.65	0.077	O	|	|	|	|	0.07
30.167	0.00	0.61	0.073	O	|	|	|	|	0.07
30.250	0.00	0.58	0.069	O	|	|	|	|	0.06
30.333	0.00	0.54	0.065	O	|	|	|	|	0.06
30.417	0.00	0.51	0.061	O	|	|	|	|	0.06
30.500	0.00	0.49	0.058	O	|	|	|	|	0.05
30.583	0.00	0.46	0.055	O	|	|	|	|	0.05
30.667	0.00	0.43	0.052	O	|	|	|	|	0.05
30.750	0.00	0.41	0.049	O	|	|	|	|	0.05
30.833	0.00	0.39	0.046	O	|	|	|	|	0.04
30.917	0.00	0.36	0.043	O	|	|	|	|	0.04
31.000	0.00	0.34	0.041	O	|	|	|	|	0.04
31.083	0.00	0.32	0.039	O	|	|	|	|	0.04
31.167	0.00	0.31	0.036	O	|	|	|	|	0.03
31.250	0.00	0.29	0.034	O	|	|	|	|	0.03
31.333	0.00	0.27	0.033	O	|	|	|	|	0.03
31.417	0.00	0.26	0.031	O	|	|	|	|	0.03
31.500	0.00	0.24	0.029	O	|	|	|	|	0.03
31.583	0.00	0.23	0.027	O	|	|	|	|	0.03
31.667	0.00	0.22	0.026	O	|	|	|	|	0.02
31.750	0.00	0.20	0.024	O	|	|	|	|	0.02
31.833	0.00	0.19	0.023	O	|	|	|	|	0.02
31.917	0.00	0.18	0.022	O	|	|	|	|	0.02
32.000	0.00	0.17	0.020	O	|	|	|	|	0.02
32.083	0.00	0.16	0.019	O	|	|	|	|	0.02
32.167	0.00	0.15	0.018	O	|	|	|	|	0.02
32.250	0.00	0.14	0.017	O	|	|	|	|	0.02
32.333	0.00	0.14	0.016	O	|	|	|	|	0.02

```
32.417    0.00    0.13     0.015  O        |       |       |       |     0.01
32.500    0.00    0.12     0.014  O        |       |       |       |     0.01
32.583    0.00    0.11     0.014  O        |       |       |       |     0.01
32.667    0.00    0.11     0.013  O        |       |       |       |     0.01
32.750    0.00    0.10     0.012  O        |       |       |       |     0.01
32.833    0.00    0.10     0.011  O        |       |       |       |     0.01
32.917    0.00    0.09     0.011  O        |       |       |       |     0.01
33.000    0.00    0.09     0.010  O        |       |       |       |     0.01
33.083    0.00    0.08     0.010  O        |       |       |       |     0.01
33.167    0.00    0.08     0.009  O        |       |       |       |     0.01
33.250    0.00    0.07     0.009  O        |       |       |       |     0.01
33.333    0.00    0.07     0.008  O        |       |       |       |     0.01
33.417    0.00    0.06     0.008  O        |       |       |       |     0.01
33.500    0.00    0.06     0.007  O        |       |       |       |     0.01
33.583    0.00    0.06     0.007  O        |       |       |       |     0.01
33.667    0.00    0.05     0.006  O        |       |       |       |     0.01
33.750    0.00    0.05     0.006  O        |       |       |       |     0.01
33.833    0.00    0.05     0.006  O        |       |       |       |     0.01
33.917    0.00    0.05     0.005  O        |       |       |       |     0.01
34.000    0.00    0.04     0.005  O        |       |       |       |     0.00
34.083    0.00    0.04     0.005  O        |       |       |       |     0.00
34.167    0.00    0.04     0.005  O        |       |       |       |     0.00
34.250    0.00    0.04     0.004  O        |       |       |       |     0.00
34.333    0.00    0.03     0.004  O        |       |       |       |     0.00
34.417    0.00    0.03     0.004  O        |       |       |       |     0.00
34.500    0.00    0.03     0.004  O        |       |       |       |     0.00
34.583    0.00    0.03     0.003  O        |       |       |       |     0.00
34.667    0.00    0.03     0.003  O        |       |       |       |     0.00
34.750    0.00    0.03     0.003  O        |       |       |       |     0.00
34.833    0.00    0.02     0.003  O        |       |       |       |     0.00
34.917    0.00    0.02     0.003  O        |       |       |       |     0.00
35.000    0.00    0.02     0.003  O        |       |       |       |     0.00
35.083    0.00    0.02     0.002  O        |       |       |       |     0.00
35.167    0.00    0.02     0.002  O        |       |       |       |     0.00
35.250    0.00    0.02     0.002  O        |       |       |       |     0.00
35.333    0.00    0.02     0.002  O        |       |       |       |     0.00
35.417    0.00    0.02     0.002  O        |       |       |       |     0.00
35.500    0.00    0.02     0.002  O        |       |       |       |     0.00
35.583    0.00    0.01     0.002  O        |       |       |       |     0.00
35.667    0.00    0.01     0.002  O        |       |       |       |     0.00
35.750    0.00    0.01     0.002  O        |       |       |       |     0.00
35.833    0.00    0.01     0.001  O        |       |       |       |     0.00
35.917    0.00    0.01     0.001  O        |       |       |       |     0.00
36.000    0.00    0.01     0.001  O        |       |       |       |     0.00
36.083    0.00    0.01     0.001  O        |       |       |       |     0.00
36.167    0.00    0.01     0.001  O        |       |       |       |     0.00
36.250    0.00    0.01     0.001  O        |       |       |       |     0.00
36.333    0.00    0.01     0.001  O        |       |       |       |     0.00

       ****************************HYDROGRAPH DATA****************************
                      Number of intervals =   436
                      Time interval =    5.0 (Min.)
                      Maximum/Peak flow rate =       14.558 (CFS)
                      Total volume =      21.983 (Ac.Ft)
               Status of hydrographs being held in storage
                         Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
               Peak (CFS)      0.000     0.000     0.000     0.000     0.000
               Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
       ***********************************************************************

       --------------------------------------------------------------------
```

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                   FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
                       Study date: 07/02/23

---------------------------------------------------------------------


THOUSAND PALMS - BUILDING 1
RETENTION BASIN B
100 YR - 1 HR
100135RTEB
--------------------------------------------------------------------


Program License Serial Number 6490

--------------------------------------------------------------------
********************* HYDROGRAPH INFORMATION **********************

               From study/file name: 100135PRUHB1100.rte
****************************HYDROGRAPH DATA****************************
               Number of intervals =    15
               Time interval =    5.0 (Min.)
               Maximum/Peak flow rate =       15.985 (CFS)
               Total volume =       0.396 (Ac.Ft)
       Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
       Peak (CFS)      0.000     0.000     0.000     0.000     0.000
       Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
**********************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       12.000 to Point/Station      13.000
**** RETARDING BASIN ROUTING ****
______________________________________________________________________

User entry of depth-outflow-storage data
--------------------------------------------------------------------
Total number of inflow hydrograph intervals = 15
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
--------------------------------------------------------------------
--------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
---------------------------------------------------------------------
--------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)      (Ac.Ft)    (Ac.Ft)
---------------------------------------------------------------------
   0.000      0.000      0.000      0.000        0.000
   1.000      0.290      2.390      0.282        0.298
   1.500      0.440      2.520      0.431        0.449
```

```
       ----------------------------------------------------------------------
                      Hydrograph Detention Basin Routing
       ----------------------------------------------------------------------

       Graph values: 'I'= unit inflow; 'O'=outflow at time shown
       ----------------------------------------------------------------------
  Time   Inflow  Outflow    Storage                                      Depth
(Hours)  (CFS)   (CFS)      (Ac.Ft) .0      4.0     7.99    11.99   15.98 (Ft.)
 0.083    0.53    0.01      0.002  OI      |       |       |       |     0.01
 0.167    1.21    0.06      0.007  O I     |       |       |       |     0.03
 0.250    1.53    0.13      0.016  O  I    |       |       |       |     0.06
 0.333    1.73    0.22      0.026  O  I    |       |       |       |     0.09
 0.417    1.97    0.31      0.037  O  I    |       |       |       |     0.13
 0.500    2.34    0.41      0.050  O   I   |       |       |       |     0.17
 0.583    2.87    0.53      0.064  |O   I  |       |       |       |     0.22
 0.667    3.81    0.68      0.083  |O     I|       |       |       |     0.29
 0.750    6.29    0.93      0.112  |O      |   I   |       |       |     0.39
 0.833   15.98    1.49      0.181  | O     |       |       |       I     0.62
 0.917   13.50    2.22      0.269  |   O   |       |       |  I    |     0.93
 1.000    4.20    2.41      0.314  |   O   I       |       |       |     1.08
 1.083    1.36    2.41      0.317  | I O   |       |       |       |     1.09
 1.167    0.17    2.40      0.306  I   O   |       |       |       |     1.05
 1.250    0.03    2.39      0.290  I   O   |       |       |       |     1.00
 1.333    0.00    2.26      0.274  I   O   |       |       |       |     0.94
 1.417    0.00    2.13      0.259  I   O   |       |       |       |     0.89
 1.500    0.00    2.02      0.245  I   O   |       |       |       |     0.84
 1.583    0.00    1.90      0.231  I  O    |       |       |       |     0.80
 1.667    0.00    1.80      0.218  I  O    |       |       |       |     0.75
 1.750    0.00    1.70      0.206  I  O    |       |       |       |     0.71
 1.833    0.00    1.61      0.195  I  O    |       |       |       |     0.67
 1.917    0.00    1.52      0.184  I  O    |       |       |       |     0.63
 2.000    0.00    1.43      0.174  I O     |       |       |       |     0.60
 2.083    0.00    1.35      0.164  I O     |       |       |       |     0.57
 2.167    0.00    1.28      0.155  I O     |       |       |       |     0.54
 2.250    0.00    1.21      0.147  I O     |       |       |       |     0.51
 2.333    0.00    1.14      0.139  I O     |       |       |       |     0.48
 2.417    0.00    1.08      0.131  I O     |       |       |       |     0.45
 2.500    0.00    1.02      0.124  I O     |       |       |       |     0.43
 2.583    0.00    0.96      0.117  IO      |       |       |       |     0.40
 2.667    0.00    0.91      0.110  IO      |       |       |       |     0.38
 2.750    0.00    0.86      0.104  IO      |       |       |       |     0.36
 2.833    0.00    0.81      0.099  IO      |       |       |       |     0.34
 2.917    0.00    0.77      0.093  IO      |       |       |       |     0.32
 3.000    0.00    0.73      0.088  IO      |       |       |       |     0.30
 3.083    0.00    0.69      0.083  IO      |       |       |       |     0.29
 3.167    0.00    0.65      0.079  IO      |       |       |       |     0.27
 3.250    0.00    0.61      0.074  IO      |       |       |       |     0.26
 3.333    0.00    0.58      0.070  IO      |       |       |       |     0.24
 3.417    0.00    0.55      0.066  IO      |       |       |       |     0.23
 3.500    0.00    0.52      0.063  IO      |       |       |       |     0.22
 3.583    0.00    0.49      0.059  O       |       |       |       |     0.20
 3.667    0.00    0.46      0.056  O       |       |       |       |     0.19
 3.750    0.00    0.44      0.053  O       |       |       |       |     0.18
 3.833    0.00    0.41      0.050  O       |       |       |       |     0.17
 3.917    0.00    0.39      0.047  O       |       |       |       |     0.16
 4.000    0.00    0.37      0.045  O       |       |       |       |     0.15
 4.083    0.00    0.35      0.042  O       |       |       |       |     0.15
 4.167    0.00    0.33      0.040  O       |       |       |       |     0.14
 4.250    0.00    0.31      0.038  O       |       |       |       |     0.13
 4.333    0.00    0.29      0.035  O       |       |       |       |     0.12
 4.417    0.00    0.28      0.034  O       |       |       |       |     0.12
 4.500    0.00    0.26      0.032  O       |       |       |       |     0.11
 4.583    0.00    0.25      0.030  O       |       |       |       |     0.10
 4.667    0.00    0.23      0.028  O       |       |       |       |     0.10
 4.750    0.00    0.22      0.027  O       |       |       |       |     0.09
 4.833    0.00    0.21      0.025  O       |       |       |       |     0.09
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  4.917    0.00    0.20      0.024  O       |       |       |       |      0.08
  5.000    0.00    0.19      0.023  O       |       |       |       |      0.08
  5.083    0.00    0.18      0.021  O       |       |       |       |      0.07
  5.167    0.00    0.17      0.020  O       |       |       |       |      0.07
  5.250    0.00    0.16      0.019  O       |       |       |       |      0.07
  5.333    0.00    0.15      0.018  O       |       |       |       |      0.06
  5.417    0.00    0.14      0.017  O       |       |       |       |      0.06
  5.500    0.00    0.13      0.016  O       |       |       |       |      0.06
  5.583    0.00    0.12      0.015  O       |       |       |       |      0.05
  5.667    0.00    0.12      0.014  O       |       |       |       |      0.05
  5.750    0.00    0.11      0.014  O       |       |       |       |      0.05
  5.833    0.00    0.11      0.013  O       |       |       |       |      0.04
  5.917    0.00    0.10      0.012  O       |       |       |       |      0.04
  6.000    0.00    0.09      0.011  O       |       |       |       |      0.04
  6.083    0.00    0.09      0.011  O       |       |       |       |      0.04
  6.167    0.00    0.08      0.010  O       |       |       |       |      0.04
  6.250    0.00    0.08      0.010  O       |       |       |       |      0.03
  6.333    0.00    0.07      0.009  O       |       |       |       |      0.03
  6.417    0.00    0.07      0.009  O       |       |       |       |      0.03
  6.500    0.00    0.07      0.008  O       |       |       |       |      0.03
  6.583    0.00    0.06      0.008  O       |       |       |       |      0.03
  6.667    0.00    0.06      0.007  O       |       |       |       |      0.02
  6.750    0.00    0.06      0.007  O       |       |       |       |      0.02
  6.833    0.00    0.05      0.006  O       |       |       |       |      0.02
  6.917    0.00    0.05      0.006  O       |       |       |       |      0.02
  7.000    0.00    0.05      0.006  O       |       |       |       |      0.02
  7.083    0.00    0.04      0.005  O       |       |       |       |      0.02
  7.167    0.00    0.04      0.005  O       |       |       |       |      0.02
  7.250    0.00    0.04      0.005  O       |       |       |       |      0.02
  7.333    0.00    0.04      0.005  O       |       |       |       |      0.02
  7.417    0.00    0.04      0.004  O       |       |       |       |      0.01
  7.500    0.00    0.03      0.004  O       |       |       |       |      0.01
  7.583    0.00    0.03      0.004  O       |       |       |       |      0.01
  7.667    0.00    0.03      0.004  O       |       |       |       |      0.01
  7.750    0.00    0.03      0.003  O       |       |       |       |      0.01
  7.833    0.00    0.03      0.003  O       |       |       |       |      0.01
  7.917    0.00    0.03      0.003  O       |       |       |       |      0.01
  8.000    0.00    0.02      0.003  O       |       |       |       |      0.01
  8.083    0.00    0.02      0.003  O       |       |       |       |      0.01
  8.167    0.00    0.02      0.003  O       |       |       |       |      0.01
  8.250    0.00    0.02      0.002  O       |       |       |       |      0.01
  8.333    0.00    0.02      0.002  O       |       |       |       |      0.01
  8.417    0.00    0.02      0.002  O       |       |       |       |      0.01
  8.500    0.00    0.02      0.002  O       |       |       |       |      0.01
  8.583    0.00    0.02      0.002  O       |       |       |       |      0.01
  8.667    0.00    0.02      0.002  O       |       |       |       |      0.01
  8.750    0.00    0.01      0.002  O       |       |       |       |      0.01
  8.833    0.00    0.01      0.002  O       |       |       |       |      0.01
  8.917    0.00    0.01      0.002  O       |       |       |       |      0.01
  9.000    0.00    0.01      0.001  O       |       |       |       |      0.01
  9.083    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.167    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.250    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.333    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.417    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.500    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.583    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.667    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.750    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.833    0.00    0.01      0.001  O       |       |       |       |      0.00
  9.917    0.00    0.01      0.001  O       |       |       |       |      0.00
 10.000    0.00    0.01      0.001  O       |       |       |       |      0.00
 10.083    0.00    0.01      0.001  O       |       |       |       |      0.00
 10.167    0.00    0.01      0.001  O       |       |       |       |      0.00
 10.250    0.00    0.01      0.001  O       |       |       |       |      0.00
 10.333    0.00    0.00      0.001  O       |       |       |       |      0.00
```

```
10.417    0.00    0.00      0.001  O        |       |       |       |     0.00
10.500    0.00    0.00      0.001  O        |       |       |       |     0.00
10.583    0.00    0.00      0.001  O        |       |       |       |     0.00
10.667    0.00    0.00      0.000  O        |       |       |       |     0.00
10.750    0.00    0.00      0.000  O        |       |       |       |     0.00
10.833    0.00    0.00      0.000  O        |       |       |       |     0.00
10.917    0.00    0.00      0.000  O        |       |       |       |     0.00
11.000    0.00    0.00      0.000  O        |       |       |       |     0.00
11.083    0.00    0.00      0.000  O        |       |       |       |     0.00
11.167    0.00    0.00      0.000  O        |       |       |       |     0.00
11.250    0.00    0.00      0.000  O        |       |       |       |     0.00
11.333    0.00    0.00      0.000  O        |       |       |       |     0.00
11.417    0.00    0.00      0.000  O        |       |       |       |     0.00

      ****************************HYDROGRAPH DATA****************************
                     Number of intervals =   137
                     Time interval =    5.0 (Min.)
                     Maximum/Peak flow rate =        2.413 (CFS)
                     Total volume =       0.396 (Ac.Ft)
              Status of hydrographs being held in storage
                        Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
              Peak (CFS)      0.000     0.000     0.000     0.000     0.000
              Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
      ***********************************************************************

      --------------------------------------------------------------------
```

FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 07/02/23

THOUSAND PALMS - BUILDING 1
RETENTION BASIN B
100 YR - 3 HR
100135RTEB

Program License Serial Number 6490

******************** HYDROGRAPH INFORMATION *********************

From study/file name: 100135PRUHB3100.rte

***************************HYDROGRAPH DATA***************************

Number of intervals = 39
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 7.587 (CFS)
Total volume = 0.483 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 12.000 to Point/Station 13.000

**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 39
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.290	2.390	0.282	0.298
1.500	0.440	2.520	0.431	0.449

```
      --------------------------------------------------------------------
                     Hydrograph Detention Basin Routing
      ---------------------------------------------------------------------

      Graph values: 'I'= unit inflow; 'O'=outflow at time shown
      ---------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                     Depth
(Hours)  (CFS)   (CFS)     (Ac.Ft) .0       1.9    3.79    5.69    7.59 (Ft.)
 0.083    0.30    0.01      0.001  OI      |       |       |       |     0.00
 0.167    0.58    0.03      0.004  O I     |       |       |       |     0.01
 0.250    0.58    0.06      0.008  O I     |       |       |       |     0.03
 0.333    0.64    0.09      0.011  O I     |       |       |       |     0.04
 0.417    0.72    0.13      0.015  O  I    |       |       |       |     0.05
 0.500    0.81    0.16      0.019  O  I    |       |       |       |     0.07
 0.583    0.81    0.20      0.024  O  I    |       |       |       |     0.08
 0.667    0.82    0.23      0.028  O  I    |       |       |       |     0.10
 0.750    0.88    0.26      0.032  |O I    |       |       |       |     0.11
 0.833    0.82    0.30      0.036  |O I    |       |       |       |     0.12
 0.917    0.78    0.32      0.039  |O I    |       |       |       |     0.14
 1.000    0.83    0.35      0.043  |O I    |       |       |       |     0.15
 1.083    0.97    0.38      0.046  |O  I   |       |       |       |     0.16
 1.167    1.07    0.42      0.051  |O  I   |       |       |       |     0.17
 1.250    1.08    0.45      0.055  |O  I   |       |       |       |     0.19
 1.333    1.04    0.49      0.059  | O I   |       |       |       |     0.20
 1.417    1.20    0.52      0.063  | O  I  |       |       |       |     0.22
 1.500    1.44    0.57      0.069  | O   I |       |       |       |     0.24
 1.583    1.35    0.61      0.074  | O  I  |       |       |       |     0.26
 1.667    1.38    0.65      0.079  | O  I  |       |       |       |     0.27
 1.750    1.86    0.71      0.086  | O    I|       |       |       |     0.30
 1.833    2.09    0.78      0.094  |  O    I       |       |       |     0.32
 1.917    1.93    0.84      0.102  |  O    I       |       |       |     0.35
 2.000    1.88    0.90      0.110  |  O   I|       |       |       |     0.38
 2.083    1.96    0.96      0.116  |   O   I       |       |       |     0.40
 2.167    2.65    1.03      0.125  |   O   |  I    |       |       |     0.43
 2.250    3.72    1.15      0.140  |   O   |      I|       |       |     0.48
 2.333    3.39    1.28      0.156  |    O  |     I |       |       |     0.54
 2.417    4.58    1.43      0.174  |     O |       |  I    |       |     0.60
 2.500    6.53    1.66      0.202  |      O|       |       |  I    |     0.70
 2.583    7.59    1.96      0.238  |       O       |       |      I|     0.82
 2.667    6.89    2.25      0.273  |       |O      |       |    I  |     0.94
 2.750    3.65    2.39      0.293  |       | O    I|       |       |     1.01
 2.833    1.45    2.39      0.295  |     I | O     |       |       |     1.02
 2.917    1.00    2.36      0.287  |   I   |O      |       |       |     0.99
 3.000    0.62    2.28      0.276  | I     |O      |       |       |     0.95
 3.083    0.22    2.17      0.264  I       |O      |       |       |     0.91
 3.167    0.04    2.06      0.250  I       O       |       |       |     0.86
 3.250    0.01    1.95      0.236  I       O       |       |       |     0.82
 3.333    0.00    1.84      0.223  I      O|       |       |       |     0.77
 3.417    0.00    1.74      0.211  I      O|       |       |       |     0.73
 3.500    0.00    1.64      0.199  I     O |       |       |       |     0.69
 3.583    0.00    1.55      0.188  I     O |       |       |       |     0.65
 3.667    0.00    1.47      0.178  I     O |       |       |       |     0.61
 3.750    0.00    1.39      0.168  I    O  |       |       |       |     0.58
 3.833    0.00    1.31      0.159  I    O  |       |       |       |     0.55
 3.917    0.00    1.24      0.150  I    O  |       |       |       |     0.52
 4.000    0.00    1.17      0.142  I   O   |       |       |       |     0.49
 4.083    0.00    1.10      0.134  I   O   |       |       |       |     0.46
 4.167    0.00    1.04      0.127  I   O   |       |       |       |     0.44
 4.250    0.00    0.99      0.120  I   O   |       |       |       |     0.41
 4.333    0.00    0.93      0.113  I  O    |       |       |       |     0.39
 4.417    0.00    0.88      0.107  I  O    |       |       |       |     0.37
 4.500    0.00    0.83      0.101  I  O    |       |       |       |     0.35
 4.583    0.00    0.79      0.095  I  O    |       |       |       |     0.33
 4.667    0.00    0.74      0.090  I  O    |       |       |       |     0.31
 4.750    0.00    0.70      0.085  I O     |       |       |       |     0.29
 4.833    0.00    0.66      0.080  I O     |       |       |       |     0.28
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4.917	0.00	0.63	0.076	I O	0.26
5.000	0.00	0.59	0.072	I O	0.25
5.083	0.00	0.56	0.068	I O	0.23
5.167	0.00	0.53	0.064	I O	0.22
5.250	0.00	0.50	0.061	I O	0.21
5.333	0.00	0.47	0.057	IO	0.20
5.417	0.00	0.45	0.054	IO	0.19
5.500	0.00	0.42	0.051	IO	0.18
5.583	0.00	0.40	0.048	IO	0.17
5.667	0.00	0.38	0.046	IO	0.16
5.750	0.00	0.35	0.043	IO	0.15
5.833	0.00	0.34	0.041	IO	0.14
5.917	0.00	0.32	0.038	IO	0.13
6.000	0.00	0.30	0.036	IO	0.13
6.083	0.00	0.28	0.034	IO	0.12
6.167	0.00	0.27	0.032	IO	0.11
6.250	0.00	0.25	0.031	IO	0.11
6.333	0.00	0.24	0.029	IO	0.10
6.417	0.00	0.23	0.027	O	0.09
6.500	0.00	0.21	0.026	O	0.09
6.583	0.00	0.20	0.024	O	0.08
6.667	0.00	0.19	0.023	O	0.08
6.750	0.00	0.18	0.022	O	0.08
6.833	0.00	0.17	0.021	O	0.07
6.917	0.00	0.16	0.019	O	0.07
7.000	0.00	0.15	0.018	O	0.06
7.083	0.00	0.14	0.017	O	0.06
7.167	0.00	0.14	0.016	O	0.06
7.250	0.00	0.13	0.015	O	0.05
7.333	0.00	0.12	0.015	O	0.05
7.417	0.00	0.11	0.014	O	0.05
7.500	0.00	0.11	0.013	O	0.05
7.583	0.00	0.10	0.012	O	0.04
7.667	0.00	0.10	0.012	O	0.04
7.750	0.00	0.09	0.011	O	0.04
7.833	0.00	0.09	0.010	O	0.04
7.917	0.00	0.08	0.010	O	0.03
8.000	0.00	0.08	0.009	O	0.03
8.083	0.00	0.07	0.009	O	0.03
8.167	0.00	0.07	0.008	O	0.03
8.250	0.00	0.06	0.008	O	0.03
8.333	0.00	0.06	0.007	O	0.03
8.417	0.00	0.06	0.007	O	0.02
8.500	0.00	0.05	0.007	O	0.02
8.583	0.00	0.05	0.006	O	0.02
8.667	0.00	0.05	0.006	O	0.02
8.750	0.00	0.05	0.006	O	0.02
8.833	0.00	0.04	0.005	O	0.02
8.917	0.00	0.04	0.005	O	0.02
9.000	0.00	0.04	0.005	O	0.02
9.083	0.00	0.04	0.004	O	0.02
9.167	0.00	0.03	0.004	O	0.01
9.250	0.00	0.03	0.004	O	0.01
9.333	0.00	0.03	0.004	O	0.01
9.417	0.00	0.03	0.004	O	0.01
9.500	0.00	0.03	0.003	O	0.01
9.583	0.00	0.03	0.003	O	0.01
9.667	0.00	0.02	0.003	O	0.01
9.750	0.00	0.02	0.003	O	0.01
9.833	0.00	0.02	0.003	O	0.01
9.917	0.00	0.02	0.003	O	0.01
10.000	0.00	0.02	0.002	O	0.01
10.083	0.00	0.02	0.002	O	0.01
10.167	0.00	0.02	0.002	O	0.01
10.250	0.00	0.02	0.002	O	0.01
10.333	0.00	0.02	0.002	O	0.01

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10.417    0.00    0.01      0.002  O        |       |       |       |     0.01
10.500    0.00    0.01      0.002  O        |       |       |       |     0.01
10.583    0.00    0.01      0.002  O        |       |       |       |     0.01
10.667    0.00    0.01      0.002  O        |       |       |       |     0.01
10.750    0.00    0.01      0.001  O        |       |       |       |     0.00
10.833    0.00    0.01      0.001  O        |       |       |       |     0.00
10.917    0.00    0.01      0.001  O        |       |       |       |     0.00
11.000    0.00    0.01      0.001  O        |       |       |       |     0.00
11.083    0.00    0.01      0.001  O        |       |       |       |     0.00
11.167    0.00    0.01      0.001  O        |       |       |       |     0.00
11.250    0.00    0.01      0.001  O        |       |       |       |     0.00
11.333    0.00    0.01      0.001  O        |       |       |       |     0.00
11.417    0.00    0.01      0.001  O        |       |       |       |     0.00
11.500    0.00    0.01      0.001  O        |       |       |       |     0.00
11.583    0.00    0.01      0.001  O        |       |       |       |     0.00
11.667    0.00    0.01      0.001  O        |       |       |       |     0.00
11.750    0.00    0.01      0.001  O        |       |       |       |     0.00
11.833    0.00    0.01      0.001  O        |       |       |       |     0.00
11.917    0.00    0.01      0.001  O        |       |       |       |     0.00
12.000    0.00    0.01      0.001  O        |       |       |       |     0.00
12.083    0.00    0.00      0.001  O        |       |       |       |     0.00
12.167    0.00    0.00      0.001  O        |       |       |       |     0.00
12.250    0.00    0.00      0.001  O        |       |       |       |     0.00
12.333    0.00    0.00      0.000  O        |       |       |       |     0.00
12.417    0.00    0.00      0.000  O        |       |       |       |     0.00
12.500    0.00    0.00      0.000  O        |       |       |       |     0.00
12.583    0.00    0.00      0.000  O        |       |       |       |     0.00
12.667    0.00    0.00      0.000  O        |       |       |       |     0.00
12.750    0.00    0.00      0.000  O        |       |       |       |     0.00
12.833    0.00    0.00      0.000  O        |       |       |       |     0.00
12.917    0.00    0.00      0.000  O        |       |       |       |     0.00
13.000    0.00    0.00      0.000  O        |       |       |       |     0.00
13.083    0.00    0.00      0.000  O        |       |       |       |     0.00
13.167    0.00    0.00      0.000  O        |       |       |       |     0.00

      ****************************HYDROGRAPH DATA****************************
                     Number of intervals =   158
                     Time interval =    5.0 (Min.)
                     Maximum/Peak flow rate =        2.394 (CFS)
                     Total volume =       0.483 (Ac.Ft)
             Status of hydrographs being held in storage
                        Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
             Peak (CFS)      0.000     0.000     0.000     0.000     0.000
             Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
      ***********************************************************************

      --------------------------------------------------------------------
```

FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 07/02/23

THOUSAND PALMS - BUILDING 1
RETENTION BASIN B
100 YR - 6 HR
100135RTEB

Program License Serial Number 6490

********************* HYDROGRAPH INFORMATION **********************

From study/file name: 100135PRUHB6100.rte

****************************HYDROGRAPH DATA****************************

Number of intervals = 75
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 6.800 (CFS)
Total volume = 0.605 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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Process from Point/Station 12.000 to Point/Station 13.000

**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 75
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.290	2.390	0.282	0.298
1.500	0.440	2.520	0.431	0.449

```
     --------------------------------------------------------------------
                    Hydrograph Detention Basin Routing
     ---------------------------------------------------------------------

     Graph values: 'I'= unit inflow; 'O'=outflow at time shown
     ---------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                  Depth
(Hours)  (CFS)   (CFS)     (Ac.Ft) .0       1.7     3.40    5.10    6.80 (Ft.)
 0.083    0.16    0.00      0.001  O       |       |       |       |     0.00
 0.167    0.34    0.02      0.002  OI      |       |       |       |     0.01
 0.250    0.39    0.04      0.004  OI      |       |       |       |     0.02
 0.333    0.41    0.06      0.007  OI      |       |       |       |     0.02
 0.417    0.41    0.08      0.009  OI      |       |       |       |     0.03
 0.500    0.44    0.10      0.012  O I     |       |       |       |     0.04
 0.583    0.47    0.12      0.014  O I     |       |       |       |     0.05
 0.667    0.47    0.13      0.016  O I     |       |       |       |     0.06
 0.750    0.48    0.15      0.019  O I     |       |       |       |     0.06
 0.833    0.48    0.17      0.021  O I     |       |       |       |     0.07
 0.917    0.48    0.19      0.023  O I     |       |       |       |     0.08
 1.000    0.51    0.20      0.025  O I     |       |       |       |     0.09
 1.083    0.54    0.22      0.027  |OI     |       |       |       |     0.09
 1.167    0.54    0.24      0.029  |OI     |       |       |       |     0.10
 1.250    0.54    0.26      0.031  |OI     |       |       |       |     0.11
 1.333    0.54    0.27      0.033  |OI     |       |       |       |     0.11
 1.417    0.54    0.29      0.035  |OI     |       |       |       |     0.12
 1.500    0.54    0.30      0.037  |OI     |       |       |       |     0.13
 1.583    0.54    0.31      0.038  |OI     |       |       |       |     0.13
 1.667    0.54    0.33      0.040  |OI     |       |       |       |     0.14
 1.750    0.54    0.34      0.041  |OI     |       |       |       |     0.14
 1.833    0.54    0.35      0.043  |OI     |       |       |       |     0.15
 1.917    0.54    0.36      0.044  |OI     |       |       |       |     0.15
 2.000    0.57    0.37      0.045  |OI     |       |       |       |     0.16
 2.083    0.57    0.38      0.046  |OI     |       |       |       |     0.16
 2.167    0.58    0.39      0.048  |OI     |       |       |       |     0.16
 2.250    0.61    0.40      0.049  |OI     |       |       |       |     0.17
 2.333    0.61    0.42      0.050  |OI     |       |       |       |     0.17
 2.417    0.61    0.43      0.052  | O     |       |       |       |     0.18
 2.500    0.61    0.44      0.053  | O     |       |       |       |     0.18
 2.583    0.61    0.45      0.054  | O     |       |       |       |     0.19
 2.667    0.61    0.46      0.055  | O     |       |       |       |     0.19
 2.750    0.64    0.47      0.056  | OI    |       |       |       |     0.19
 2.833    0.67    0.48      0.058  | OI    |       |       |       |     0.20
 2.917    0.68    0.49      0.059  | OI    |       |       |       |     0.20
 3.000    0.68    0.50      0.060  | OI    |       |       |       |     0.21
 3.083    0.68    0.51      0.062  | OI    |       |       |       |     0.21
 3.167    0.71    0.52      0.063  | OI    |       |       |       |     0.22
 3.250    0.74    0.53      0.064  | OI    |       |       |       |     0.22
 3.333    0.75    0.54      0.066  | OI    |       |       |       |     0.23
 3.417    0.78    0.55      0.067  | OI    |       |       |       |     0.23
 3.500    0.84    0.57      0.069  | OI    |       |       |       |     0.24
 3.583    0.91    0.58      0.071  | O I   |       |       |       |     0.24
 3.667    0.94    0.60      0.073  | O I   |       |       |       |     0.25
 3.750    0.98    0.62      0.076  | O I   |       |       |       |     0.26
 3.833    1.01    0.64      0.078  |  OI   |       |       |       |     0.27
 3.917    1.05    0.66      0.081  |  OI   |       |       |       |     0.28
 4.000    1.08    0.69      0.083  |  O I  |       |       |       |     0.29
 4.083    1.12    0.71      0.086  |  O I  |       |       |       |     0.30
 4.167    1.20    0.73      0.089  |  O I  |       |       |       |     0.31
 4.250    1.33    0.76      0.093  |  O  I |       |       |       |     0.32
 4.333    1.49    0.80      0.097  |  O   I|       |       |       |     0.33
 4.417    1.66    0.84      0.102  |  O   I|       |       |       |     0.35
 4.500    1.75    0.89      0.108  |   O   I       |       |       |     0.37
 4.583    1.85    0.94      0.114  |   O   I       |       |       |     0.39
 4.667    2.00    0.99      0.121  |   O   |I      |       |       |     0.42
 4.750    2.17    1.05      0.128  |   O   | I     |       |       |     0.44
 4.833    2.26    1.12      0.136  |    O  | I     |       |       |     0.47
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  4.917    2.36    1.18      0.144  |    O  |  I    |       |       |      0.50
  5.000    2.51    1.25      0.152  |    O  |  I    |       |       |      0.52
  5.083    2.99    1.34      0.162  |     O |     I |       |       |      0.56
  5.167    3.78    1.45      0.176  |     O |       |I      |       |      0.61
  5.250    4.45    1.60      0.194  |      O|       |   I   |       |      0.67
  5.333    4.99    1.77      0.215  |       O       |      I|       |      0.74
  5.417    5.67    1.97      0.239  |       |O      |       | I     |      0.82
  5.500    6.80    2.20      0.267  |       | O     |       |       I      0.92
  5.583    4.62    2.39      0.291  |       |  O    |    I  |       |      1.00
  5.667    1.63    2.39      0.296  |      I|  O    |       |       |      1.02
  5.750    0.74    2.37      0.287  |  I    |  O    |       |       |      0.99
  5.833    0.41    2.27      0.275  |I      | O     |       |       |      0.95
  5.917    0.29    2.16      0.263  |I      | O     |       |       |      0.91
  6.000    0.19    2.06      0.250  I       |O      |       |       |      0.86
  6.083    0.08    1.95      0.237  I       |O      |       |       |      0.82
  6.167    0.01    1.85      0.224  I       O       |       |       |      0.77
  6.250    0.00    1.75      0.212  I       O       |       |       |      0.73
  6.333    0.00    1.65      0.200  I      O|       |       |       |      0.69
  6.417    0.00    1.56      0.189  I      O|       |       |       |      0.65
  6.500    0.00    1.47      0.179  I     O |       |       |       |      0.62
  6.583    0.00    1.39      0.169  I     O |       |       |       |      0.58
  6.667    0.00    1.31      0.159  I     O |       |       |       |      0.55
  6.750    0.00    1.24      0.151  I    O  |       |       |       |      0.52
  6.833    0.00    1.17      0.142  I    O  |       |       |       |      0.49
  6.917    0.00    1.11      0.134  I    O  |       |       |       |      0.46
  7.000    0.00    1.05      0.127  I   O   |       |       |       |      0.44
  7.083    0.00    0.99      0.120  I   O   |       |       |       |      0.41
  7.167    0.00    0.93      0.113  I   O   |       |       |       |      0.39
  7.250    0.00    0.88      0.107  I   O   |       |       |       |      0.37
  7.333    0.00    0.83      0.101  I  O    |       |       |       |      0.35
  7.417    0.00    0.79      0.096  I  O    |       |       |       |      0.33
  7.500    0.00    0.74      0.090  I  O    |       |       |       |      0.31
  7.583    0.00    0.70      0.085  I  O    |       |       |       |      0.29
  7.667    0.00    0.66      0.081  I  O    |       |       |       |      0.28
  7.750    0.00    0.63      0.076  I O     |       |       |       |      0.26
  7.833    0.00    0.59      0.072  I O     |       |       |       |      0.25
  7.917    0.00    0.56      0.068  I O     |       |       |       |      0.23
  8.000    0.00    0.53      0.064  I O     |       |       |       |      0.22
  8.083    0.00    0.50      0.061  I O     |       |       |       |      0.21
  8.167    0.00    0.47      0.057  I O     |       |       |       |      0.20
  8.250    0.00    0.45      0.054  I O     |       |       |       |      0.19
  8.333    0.00    0.42      0.051  IO      |       |       |       |      0.18
  8.417    0.00    0.40      0.048  IO      |       |       |       |      0.17
  8.500    0.00    0.38      0.046  IO      |       |       |       |      0.16
  8.583    0.00    0.36      0.043  IO      |       |       |       |      0.15
  8.667    0.00    0.34      0.041  IO      |       |       |       |      0.14
  8.750    0.00    0.32      0.039  IO      |       |       |       |      0.13
  8.833    0.00    0.30      0.036  IO      |       |       |       |      0.13
  8.917    0.00    0.28      0.034  IO      |       |       |       |      0.12
  9.000    0.00    0.27      0.033  IO      |       |       |       |      0.11
  9.083    0.00    0.25      0.031  IO      |       |       |       |      0.11
  9.167    0.00    0.24      0.029  IO      |       |       |       |      0.10
  9.250    0.00    0.23      0.027  IO      |       |       |       |      0.09
  9.333    0.00    0.21      0.026  IO      |       |       |       |      0.09
  9.417    0.00    0.20      0.024  O       |       |       |       |      0.08
  9.500    0.00    0.19      0.023  O       |       |       |       |      0.08
  9.583    0.00    0.18      0.022  O       |       |       |       |      0.08
  9.667    0.00    0.17      0.021  O       |       |       |       |      0.07
  9.750    0.00    0.16      0.020  O       |       |       |       |      0.07
  9.833    0.00    0.15      0.018  O       |       |       |       |      0.06
  9.917    0.00    0.14      0.017  O       |       |       |       |      0.06
 10.000    0.00    0.14      0.016  O       |       |       |       |      0.06
 10.083    0.00    0.13      0.016  O       |       |       |       |      0.05
 10.167    0.00    0.12      0.015  O       |       |       |       |      0.05
 10.250    0.00    0.11      0.014  O       |       |       |       |      0.05
 10.333    0.00    0.11      0.013  O       |       |       |       |      0.05
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10.417	0.00	0.10	0.012	O					0.04
10.500	0.00	0.10	0.012	O					0.04
10.583	0.00	0.09	0.011	O					0.04
10.667	0.00	0.09	0.010	O					0.04
10.750	0.00	0.08	0.010	O					0.03
10.833	0.00	0.08	0.009	O					0.03
10.917	0.00	0.07	0.009	O					0.03
11.000	0.00	0.07	0.008	O					0.03
11.083	0.00	0.06	0.008	O					0.03
11.167	0.00	0.06	0.007	O					0.03
11.250	0.00	0.06	0.007	O					0.02
11.333	0.00	0.05	0.007	O					0.02
11.417	0.00	0.05	0.006	O					0.02
11.500	0.00	0.05	0.006	O					0.02
11.583	0.00	0.05	0.006	O					0.02
11.667	0.00	0.04	0.005	O					0.02
11.750	0.00	0.04	0.005	O					0.02
11.833	0.00	0.04	0.005	O					0.02
11.917	0.00	0.04	0.004	O					0.02
12.000	0.00	0.03	0.004	O					0.01
12.083	0.00	0.03	0.004	O					0.01
12.167	0.00	0.03	0.004	O					0.01
12.250	0.00	0.03	0.004	O					0.01
12.333	0.00	0.03	0.003	O					0.01
12.417	0.00	0.03	0.003	O					0.01
12.500	0.00	0.02	0.003	O					0.01
12.583	0.00	0.02	0.003	O					0.01
12.667	0.00	0.02	0.003	O					0.01
12.750	0.00	0.02	0.003	O					0.01
12.833	0.00	0.02	0.002	O					0.01
12.917	0.00	0.02	0.002	O					0.01
13.000	0.00	0.02	0.002	O					0.01
13.083	0.00	0.02	0.002	O					0.01
13.167	0.00	0.02	0.002	O					0.01
13.250	0.00	0.01	0.002	O					0.01
13.333	0.00	0.01	0.002	O					0.01
13.417	0.00	0.01	0.002	O					0.01
13.500	0.00	0.01	0.002	O					0.01
13.583	0.00	0.01	0.001	O					0.00
13.667	0.00	0.01	0.001	O					0.00
13.750	0.00	0.01	0.001	O					0.00
13.833	0.00	0.01	0.001	O					0.00
13.917	0.00	0.01	0.001	O					0.00
14.000	0.00	0.01	0.001	O					0.00
14.083	0.00	0.01	0.001	O					0.00
14.167	0.00	0.01	0.001	O					0.00
14.250	0.00	0.01	0.001	O					0.00
14.333	0.00	0.01	0.001	O					0.00
14.417	0.00	0.01	0.001	O					0.00
14.500	0.00	0.01	0.001	O					0.00
14.583	0.00	0.01	0.001	O					0.00
14.667	0.00	0.01	0.001	O					0.00
14.750	0.00	0.01	0.001	O					0.00
14.833	0.00	0.01	0.001	O					0.00
14.917	0.00	0.00	0.001	O					0.00
15.000	0.00	0.00	0.001	O					0.00
15.083	0.00	0.00	0.001	O					0.00
15.167	0.00	0.00	0.000	O					0.00
15.250	0.00	0.00	0.000	O					0.00
15.333	0.00	0.00	0.000	O					0.00
15.417	0.00	0.00	0.000	O					0.00
15.500	0.00	0.00	0.000	O					0.00
15.583	0.00	0.00	0.000	O					0.00
15.667	0.00	0.00	0.000	O					0.00
15.750	0.00	0.00	0.000	O					0.00
15.833	0.00	0.00	0.000	O					0.00

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15.917    0.00    0.00      0.000  O       |       |       |       |     0.00
16.000    0.00    0.00      0.000  O       |       |       |       |     0.00

      ***************************HYDROGRAPH DATA****************************
                     Number of intervals =   192
                     Time interval =    5.0 (Min.)
                     Maximum/Peak flow rate =        2.395 (CFS)
                     Total volume =       0.605 (Ac.Ft)
              Status of hydrographs being held in storage
                         Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
              Peak (CFS)      0.000     0.000     0.000     0.000     0.000
              Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
      **********************************************************************

      --------------------------------------------------------------------
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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 07/02/23

THOUSAND PALMS - BUILDING 1
RETENTION BASIN B
100 YR - 24 HR
100135RTEB

Program License Serial Number 6490

********************* HYDROGRAPH INFORMATION **********************

From study/file name: 100135PRUHB24100.rte

****************************HYDROGRAPH DATA****************************

Number of intervals = 291
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.585 (CFS)
Total volume = 0.773 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

++

Process from Point/Station 12.000 to Point/Station 13.000

**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 291
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.290	2.390	0.282	0.298
1.500	0.440	2.520	0.431	0.449

```
      ---------------------------------------------------------------------
                     Hydrograph Detention Basin Routing
      ----------------------------------------------------------------------

      Graph values: 'I'= unit inflow; 'O'=outflow at time shown
      ----------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                     Depth
(Hours)  (CFS)   (CFS)     (Ac.Ft) .0      0.4     0.79    1.19    1.58 (Ft.)
 0.083    0.03    0.00      0.000  O        |       |       |       |    0.00
 0.167    0.07    0.00      0.000  OI       |       |       |       |    0.00
 0.250    0.07    0.01      0.001  OI       |       |       |       |    0.00
 0.333    0.09    0.01      0.001  OI       |       |       |       |    0.00
 0.417    0.11    0.02      0.002  O I      |       |       |       |    0.01
 0.500    0.11    0.02      0.003  O I      |       |       |       |    0.01
 0.583    0.11    0.03      0.003  O I      |       |       |       |    0.01
 0.667    0.11    0.03      0.004  O I      |       |       |       |    0.01
 0.750    0.11    0.04      0.004  O I      |       |       |       |    0.01
 0.833    0.13    0.04      0.005  O I      |       |       |       |    0.02
 0.917    0.14    0.05      0.005  O I      |       |       |       |    0.02
 1.000    0.15    0.05      0.006  |OI      |       |       |       |    0.02
 1.083    0.13    0.06      0.007  |OI      |       |       |       |    0.02
 1.167    0.11    0.06      0.007  |OI      |       |       |       |    0.02
 1.250    0.11    0.06      0.008  |OI      |       |       |       |    0.03
 1.333    0.11    0.06      0.008  |OI      |       |       |       |    0.03
 1.417    0.11    0.07      0.008  |OI      |       |       |       |    0.03
 1.500    0.11    0.07      0.008  |OI      |       |       |       |    0.03
 1.583    0.11    0.07      0.009  |OI      |       |       |       |    0.03
 1.667    0.11    0.07      0.009  |OI      |       |       |       |    0.03
 1.750    0.11    0.08      0.009  |OI      |       |       |       |    0.03
 1.833    0.13    0.08      0.010  |OI      |       |       |       |    0.03
 1.917    0.14    0.08      0.010  |OI      |       |       |       |    0.03
 2.000    0.15    0.08      0.010  |OI      |       |       |       |    0.04
 2.083    0.15    0.09      0.011  |OI      |       |       |       |    0.04
 2.167    0.15    0.09      0.011  |OI      |       |       |       |    0.04
 2.250    0.15    0.09      0.011  |OI      |       |       |       |    0.04
 2.333    0.15    0.10      0.012  |OI      |       |       |       |    0.04
 2.417    0.15    0.10      0.012  | O      |       |       |       |    0.04
 2.500    0.15    0.10      0.012  | O      |       |       |       |    0.04
 2.583    0.16    0.11      0.013  | OI     |       |       |       |    0.04
 2.667    0.18    0.11      0.013  | OI     |       |       |       |    0.05
 2.750    0.18    0.11      0.014  | OI     |       |       |       |    0.05
 2.833    0.18    0.12      0.014  | OI     |       |       |       |    0.05
 2.917    0.18    0.12      0.015  | OI     |       |       |       |    0.05
 3.000    0.18    0.12      0.015  | OI     |       |       |       |    0.05
 3.083    0.18    0.13      0.015  | OI     |       |       |       |    0.05
 3.167    0.18    0.13      0.016  | OI     |       |       |       |    0.05
 3.250    0.18    0.13      0.016  | OI     |       |       |       |    0.06
 3.333    0.18    0.14      0.017  | OI     |       |       |       |    0.06
 3.417    0.18    0.14      0.017  | OI     |       |       |       |    0.06
 3.500    0.18    0.14      0.017  | OI     |       |       |       |    0.06
 3.583    0.18    0.14      0.017  | OI     |       |       |       |    0.06
 3.667    0.18    0.15      0.018  | OI     |       |       |       |    0.06
 3.750    0.18    0.15      0.018  | OI     |       |       |       |    0.06
 3.833    0.20    0.15      0.018  |  OI    |       |       |       |    0.06
 3.917    0.22    0.15      0.019  |  OI    |       |       |       |    0.06
 4.000    0.22    0.16      0.019  |  OI    |       |       |       |    0.07
 4.083    0.22    0.16      0.020  |  OI    |       |       |       |    0.07
 4.167    0.22    0.16      0.020  |  OI    |       |       |       |    0.07
 4.250    0.22    0.17      0.020  |  OI    |       |       |       |    0.07
 4.333    0.24    0.17      0.021  |  OI    |       |       |       |    0.07
 4.417    0.25    0.17      0.021  |  O I   |       |       |       |    0.07
 4.500    0.26    0.18      0.022  |  O I   |       |       |       |    0.08
 4.583    0.26    0.18      0.022  |  O I   |       |       |       |    0.08
 4.667    0.26    0.19      0.023  |  O I   |       |       |       |    0.08
 4.750    0.26    0.19      0.023  |  O I   |       |       |       |    0.08
 4.833    0.27    0.20      0.024  |  O I   |       |       |       |    0.08
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  4.917     0.29     0.20      0.024  |   OI  |       |       |       |      0.08
  5.000     0.29     0.21      0.025  |   OI  |       |       |       |      0.09
  5.083     0.26     0.21      0.025  |   OI  |       |       |       |      0.09
  5.167     0.23     0.21      0.026  |   O   |       |       |       |      0.09
  5.250     0.22     0.21      0.026  |   O   |       |       |       |      0.09
  5.333     0.24     0.21      0.026  |   O   |       |       |       |      0.09
  5.417     0.25     0.21      0.026  |   OI  |       |       |       |      0.09
  5.500     0.26     0.22      0.026  |   OI  |       |       |       |      0.09
  5.583     0.27     0.22      0.027  |   OI  |       |       |       |      0.09
  5.667     0.29     0.22      0.027  |   OI  |       |       |       |      0.09
  5.750     0.29     0.23      0.028  |   OI  |       |       |       |      0.09
  5.833     0.29     0.23      0.028  |   OI  |       |       |       |      0.10
  5.917     0.29     0.23      0.028  |   OI  |       |       |       |      0.10
  6.000     0.29     0.24      0.029  |   OI  |       |       |       |      0.10
  6.083     0.31     0.24      0.029  |   O I |       |       |       |      0.10
  6.167     0.33     0.25      0.030  |   O I |       |       |       |      0.10
  6.250     0.33     0.25      0.030  |    OI |       |       |       |      0.10
  6.333     0.33     0.25      0.031  |    OI |       |       |       |      0.11
  6.417     0.33     0.26      0.031  |    OI |       |       |       |      0.11
  6.500     0.33     0.26      0.032  |    OI |       |       |       |      0.11
  6.583     0.35     0.27      0.032  |    O I|       |       |       |      0.11
  6.667     0.36     0.27      0.033  |    O I|       |       |       |      0.11
  6.750     0.37     0.28      0.034  |    O I|       |       |       |      0.12
  6.833     0.37     0.28      0.034  |    O I|       |       |       |      0.12
  6.917     0.37     0.29      0.035  |    O I|       |       |       |      0.12
  7.000     0.37     0.29      0.035  |    O I|       |       |       |      0.12
  7.083     0.37     0.30      0.036  |    O I|       |       |       |      0.12
  7.167     0.37     0.30      0.036  |     OI|       |       |       |      0.13
  7.250     0.37     0.30      0.037  |     OI|       |       |       |      0.13
  7.333     0.38     0.31      0.037  |     OI|       |       |       |      0.13
  7.417     0.40     0.31      0.038  |     O I       |       |       |      0.13
  7.500     0.40     0.32      0.038  |     O I       |       |       |      0.13
  7.583     0.42     0.32      0.039  |     O I       |       |       |      0.13
  7.667     0.44     0.33      0.040  |     O I       |       |       |      0.14
  7.750     0.44     0.33      0.041  |     O I       |       |       |      0.14
  7.833     0.46     0.34      0.041  |     O |I      |       |       |      0.14
  7.917     0.47     0.35      0.042  |      O|I      |       |       |      0.15
  8.000     0.48     0.35      0.043  |      O|I      |       |       |      0.15
  8.083     0.51     0.36      0.044  |      O| I     |       |       |      0.15
  8.167     0.54     0.37      0.045  |      O| I     |       |       |      0.16
  8.250     0.55     0.38      0.046  |      O|  I    |       |       |      0.16
  8.333     0.55     0.39      0.047  |      O|  I    |       |       |      0.16
  8.417     0.55     0.40      0.048  |       O  I    |       |       |      0.17
  8.500     0.55     0.41      0.049  |       O  I    |       |       |      0.17
  8.583     0.57     0.42      0.050  |       O  I    |       |       |      0.17
  8.667     0.58     0.43      0.052  |       O  I    |       |       |      0.18
  8.750     0.59     0.43      0.053  |       O  I    |       |       |      0.18
  8.833     0.61     0.44      0.054  |       O   I   |       |       |      0.19
  8.917     0.62     0.45      0.055  |       |O  I   |       |       |      0.19
  9.000     0.62     0.46      0.056  |       |O  I   |       |       |      0.19
  9.083     0.66     0.47      0.057  |       |O   I  |       |       |      0.20
  9.167     0.69     0.48      0.059  |       |O   I  |       |       |      0.20
  9.250     0.70     0.49      0.060  |       |O    I |       |       |      0.21
  9.333     0.72     0.51      0.061  |       | O   I |       |       |      0.21
  9.417     0.73     0.52      0.063  |       | O   I |       |       |      0.22
  9.500     0.73     0.53      0.064  |       | O   I |       |       |      0.22
  9.583     0.75     0.54      0.066  |       | O    I|       |       |      0.23
  9.667     0.77     0.55      0.067  |       |  O   I|       |       |      0.23
  9.750     0.77     0.57      0.069  |       |  O   I|       |       |      0.24
  9.833     0.79     0.58      0.070  |       |  O   I|       |       |      0.24
  9.917     0.81     0.59      0.072  |       |  O    I       |       |      0.25
 10.000     0.81     0.60      0.073  |       |   O   I       |       |      0.25
 10.083     0.69     0.61      0.074  |       |   OI  |       |       |      0.26
 10.167     0.58     0.61      0.074  |       |  IO   |       |       |      0.26
 10.250     0.56     0.61      0.074  |       |  IO   |       |       |      0.25
 10.333     0.55     0.61      0.073  |       |  IO   |       |       |      0.25
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10.417    0.55    0.60      0.073  |       |  IO   |       |       |     0.25
10.500    0.55    0.60      0.073  |       |  IO   |       |       |     0.25
10.583    0.64    0.60      0.073  |       |   O   |       |       |     0.25
10.667    0.72    0.60      0.073  |       |   O I |       |       |     0.25
10.750    0.73    0.61      0.074  |       |   O I |       |       |     0.26
10.833    0.74    0.62      0.075  |       |   O I |       |       |     0.26
10.917    0.74    0.62      0.076  |       |   O I |       |       |     0.26
11.000    0.74    0.63      0.076  |       |   O I |       |       |     0.26
11.083    0.72    0.64      0.077  |       |   O I |       |       |     0.27
11.167    0.70    0.64      0.078  |       |   O I |       |       |     0.27
11.250    0.70    0.64      0.078  |       |   O I |       |       |     0.27
11.333    0.70    0.65      0.078  |       |    OI |       |       |     0.27
11.417    0.70    0.65      0.079  |       |    OI |       |       |     0.27
11.500    0.70    0.65      0.079  |       |    OI |       |       |     0.27
11.583    0.66    0.65      0.079  |       |    O  |       |       |     0.27
11.667    0.63    0.65      0.079  |       |   IO  |       |       |     0.27
11.750    0.63    0.65      0.079  |       |   IO  |       |       |     0.27
11.833    0.64    0.65      0.079  |       |   IO  |       |       |     0.27
11.917    0.66    0.65      0.079  |       |    O  |       |       |     0.27
12.000    0.66    0.65      0.079  |       |    O  |       |       |     0.27
12.083    0.78    0.65      0.079  |       |    O I|       |       |     0.27
12.167    0.89    0.67      0.081  |       |    O  | I     |       |     0.28
12.250    0.91    0.68      0.082  |       |    O  | I     |       |     0.28
12.333    0.94    0.69      0.084  |       |    O  | I     |       |     0.29
12.417    0.95    0.71      0.086  |       |     O |  I    |       |     0.30
12.500    0.96    0.72      0.087  |       |     O |  I    |       |     0.30
12.583    0.99    0.73      0.089  |       |     O |  I    |       |     0.31
12.667    1.02    0.75      0.091  |       |      O|   I   |       |     0.31
12.750    1.03    0.76      0.093  |       |      O|   I   |       |     0.32
12.833    1.05    0.78      0.095  |       |      O|    I  |       |     0.33
12.917    1.07    0.79      0.096  |       |       O    I  |       |     0.33
13.000    1.08    0.81      0.098  |       |       O    I  |       |     0.34
13.083    1.30    0.83      0.101  |       |       O       | I     |     0.35
13.167    1.51    0.86      0.105  |       |       |O      |     I |     0.36
13.250    1.55    0.90      0.109  |       |       | O     |      I|     0.38
13.333    1.57    0.94      0.113  |       |       | O     |      I|     0.39
13.417    1.58    0.97      0.118  |       |       |  O    |      I|     0.41
13.500    1.58    1.00      0.122  |       |       |   O   |       I     0.42
13.583    1.24    1.03      0.125  |       |       |   O   |I      |     0.43
13.667    0.92    1.03      0.125  |       |       | I O   |       |     0.43
13.750    0.86    1.02      0.124  |       |       |I  O   |       |     0.43
13.833    0.85    1.01      0.123  |       |       |I  O   |       |     0.42
13.917    0.85    1.00      0.122  |       |       |I  O   |       |     0.42
14.000    0.85    0.99      0.121  |       |       |I  O   |       |     0.42
14.083    0.92    0.99      0.120  |       |       | IO    |       |     0.41
14.167    0.99    0.99      0.120  |       |       |  O    |       |     0.41
14.250    1.01    0.99      0.120  |       |       |  OI   |       |     0.41
14.333    0.99    0.99      0.120  |       |       |  O    |       |     0.41
14.417    0.96    0.99      0.120  |       |       |  O    |       |     0.41
14.500    0.96    0.99      0.120  |       |       |  O    |       |     0.41
14.583    0.96    0.98      0.119  |       |       |  O    |       |     0.41
14.667    0.96    0.98      0.119  |       |       |  O    |       |     0.41
14.750    0.96    0.98      0.119  |       |       |  O    |       |     0.41
14.833    0.94    0.98      0.119  |       |       |  O    |       |     0.41
14.917    0.92    0.98      0.119  |       |       | IO    |       |     0.41
15.000    0.92    0.97      0.118  |       |       | IO    |       |     0.41
15.083    0.90    0.97      0.118  |       |       | IO    |       |     0.41
15.167    0.89    0.97      0.117  |       |       |I O    |       |     0.40
15.250    0.88    0.96      0.117  |       |       |I O    |       |     0.40
15.333    0.87    0.96      0.116  |       |       |I O    |       |     0.40
15.417    0.85    0.95      0.115  |       |       |I O    |       |     0.40
15.500    0.85    0.95      0.115  |       |       |I O    |       |     0.40
15.583    0.78    0.94      0.114  |       |      I| O     |       |     0.39
15.667    0.71    0.93      0.113  |       |     I | O     |       |     0.39
15.750    0.70    0.92      0.111  |       |     I | O     |       |     0.38
15.833    0.70    0.90      0.110  |       |     I | O     |       |     0.38
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15.917    0.70    0.89      0.108  |       |     I | O     |       |    0.37
16.000    0.70    0.88      0.107  |       |     I |O      |       |    0.37
16.083    0.44    0.86      0.105  |       I       |O      |       |    0.36
16.167    0.20    0.83      0.101  |   I   |       O       |       |    0.35
16.250    0.16    0.80      0.097  |  I    |       O       |       |    0.33
16.333    0.15    0.76      0.093  | I     |      O|       |       |    0.32
16.417    0.15    0.73      0.088  | I     |     O |       |       |    0.30
16.500    0.15    0.70      0.085  | I     |     O |       |       |    0.29
16.583    0.13    0.67      0.081  | I     |    O  |       |       |    0.28
16.667    0.11    0.64      0.077  | I     |   O   |       |       |    0.27
16.750    0.11    0.61      0.074  | I     |   O   |       |       |    0.25
16.833    0.11    0.58      0.070  | I     |  O    |       |       |    0.24
16.917    0.11    0.55      0.067  | I     |  O    |       |       |    0.23
17.000    0.11    0.53      0.064  | I     | O     |       |       |    0.22
17.083    0.14    0.51      0.062  | I     | O     |       |       |    0.21
17.167    0.18    0.49      0.059  |  I    |O      |       |       |    0.20
17.250    0.18    0.47      0.057  |  I    |O      |       |       |    0.20
17.333    0.18    0.46      0.055  |  I    |O      |       |       |    0.19
17.417    0.18    0.44      0.053  |  I    O       |       |       |    0.18
17.500    0.18    0.43      0.052  |  I    O       |       |       |    0.18
17.583    0.18    0.41      0.050  |  I    O       |       |       |    0.17
17.667    0.18    0.40      0.049  |  I    O       |       |       |    0.17
17.750    0.18    0.39      0.047  |  I   O|       |       |       |    0.16
17.833    0.17    0.38      0.046  |  I   O|       |       |       |    0.16
17.917    0.15    0.36      0.044  |  I   O|       |       |       |    0.15
18.000    0.15    0.35      0.043  | I    O|       |       |       |    0.15
18.083    0.15    0.34      0.041  | I   O |       |       |       |    0.14
18.167    0.15    0.33      0.040  | I   O |       |       |       |    0.14
18.250    0.15    0.32      0.039  | I   O |       |       |       |    0.13
18.333    0.15    0.31      0.038  | I   O |       |       |       |    0.13
18.417    0.15    0.30      0.037  | I   O |       |       |       |    0.13
18.500    0.15    0.29      0.036  | I  O  |       |       |       |    0.12
18.583    0.13    0.28      0.035  | I  O  |       |       |       |    0.12
18.667    0.11    0.28      0.033  | I  O  |       |       |       |    0.12
18.750    0.11    0.27      0.032  | I  O  |       |       |       |    0.11
18.833    0.09    0.26      0.031  |I   O  |       |       |       |    0.11
18.917    0.08    0.25      0.030  |I   O  |       |       |       |    0.10
19.000    0.07    0.24      0.029  |I  O   |       |       |       |    0.10
19.083    0.09    0.23      0.028  |I  O   |       |       |       |    0.10
19.167    0.11    0.22      0.027  | I O   |       |       |       |    0.09
19.250    0.11    0.22      0.026  | I O   |       |       |       |    0.09
19.333    0.13    0.21      0.026  | I O   |       |       |       |    0.09
19.417    0.14    0.21      0.025  | I O   |       |       |       |    0.09
19.500    0.15    0.20      0.025  | I O   |       |       |       |    0.09
19.583    0.13    0.20      0.024  | I O   |       |       |       |    0.08
19.667    0.11    0.20      0.024  | IO    |       |       |       |    0.08
19.750    0.11    0.19      0.023  | IO    |       |       |       |    0.08
19.833    0.09    0.19      0.023  |I O    |       |       |       |    0.08
19.917    0.08    0.18      0.022  |I O    |       |       |       |    0.08
20.000    0.07    0.17      0.021  |I O    |       |       |       |    0.07
20.083    0.09    0.17      0.021  |I O    |       |       |       |    0.07
20.167    0.11    0.17      0.020  | IO    |       |       |       |    0.07
20.250    0.11    0.16      0.020  | IO    |       |       |       |    0.07
20.333    0.11    0.16      0.019  | IO    |       |       |       |    0.07
20.417    0.11    0.16      0.019  | IO    |       |       |       |    0.07
20.500    0.11    0.15      0.019  | IO    |       |       |       |    0.06
20.583    0.11    0.15      0.018  | IO    |       |       |       |    0.06
20.667    0.11    0.15      0.018  | IO    |       |       |       |    0.06
20.750    0.11    0.15      0.018  | O     |       |       |       |    0.06
20.833    0.09    0.14      0.018  |IO     |       |       |       |    0.06
20.917    0.08    0.14      0.017  |IO     |       |       |       |    0.06
21.000    0.07    0.14      0.017  |IO     |       |       |       |    0.06
21.083    0.09    0.13      0.016  |IO     |       |       |       |    0.06
21.167    0.11    0.13      0.016  | O     |       |       |       |    0.06
21.250    0.11    0.13      0.016  | O     |       |       |       |    0.06
21.333    0.09    0.13      0.016  |IO     |       |       |       |    0.05
```

```
21.417    0.08    0.13      0.015  |IO      |       |       |       |     0.05
21.500    0.07    0.12      0.015  |IO      |       |       |       |     0.05
21.583    0.09    0.12      0.015  |IO      |       |       |       |     0.05
21.667    0.11    0.12      0.015  | O      |       |       |       |     0.05
21.750    0.11    0.12      0.015  | O      |       |       |       |     0.05
21.833    0.09    0.12      0.014  |IO      |       |       |       |     0.05
21.917    0.08    0.12      0.014  |IO      |       |       |       |     0.05
22.000    0.07    0.11      0.014  |IO      |       |       |       |     0.05
22.083    0.09    0.11      0.014  |IO      |       |       |       |     0.05
22.167    0.11    0.11      0.014  | O      |       |       |       |     0.05
22.250    0.11    0.11      0.014  | O      |       |       |       |     0.05
22.333    0.09    0.11      0.014  |IO      |       |       |       |     0.05
22.417    0.08    0.11      0.013  |IO      |       |       |       |     0.05
22.500    0.07    0.11      0.013  |IO      |       |       |       |     0.05
22.583    0.07    0.11      0.013  |IO      |       |       |       |     0.04
22.667    0.07    0.10      0.013  |IO      |       |       |       |     0.04
22.750    0.07    0.10      0.012  |IO      |       |       |       |     0.04
22.833    0.07    0.10      0.012  |IO      |       |       |       |     0.04
22.917    0.07    0.10      0.012  |IO      |       |       |       |     0.04
23.000    0.07    0.10      0.012  |O       |       |       |       |     0.04
23.083    0.07    0.10      0.012  |O       |       |       |       |     0.04
23.167    0.07    0.10      0.012  |O       |       |       |       |     0.04
23.250    0.07    0.09      0.011  |O       |       |       |       |     0.04
23.333    0.07    0.09      0.011  |O       |       |       |       |     0.04
23.417    0.07    0.09      0.011  |O       |       |       |       |     0.04
23.500    0.07    0.09      0.011  |O       |       |       |       |     0.04
23.583    0.07    0.09      0.011  |O       |       |       |       |     0.04
23.667    0.07    0.09      0.011  |O       |       |       |       |     0.04
23.750    0.07    0.09      0.011  |O       |       |       |       |     0.04
23.833    0.07    0.09      0.011  |O       |       |       |       |     0.04
23.917    0.07    0.09      0.011  |O       |       |       |       |     0.04
24.000    0.07    0.09      0.010  |O       |       |       |       |     0.04
24.083    0.04    0.08      0.010  IO       |       |       |       |     0.04
24.167    0.01    0.08      0.010  IO       |       |       |       |     0.03
24.250    0.00    0.08      0.009  IO       |       |       |       |     0.03
24.333    0.00    0.07      0.009  IO       |       |       |       |     0.03
24.417    0.00    0.07      0.008  IO       |       |       |       |     0.03
24.500    0.00    0.06      0.008  IO       |       |       |       |     0.03
24.583    0.00    0.06      0.007  IO       |       |       |       |     0.03
24.667    0.00    0.06      0.007  IO       |       |       |       |     0.02
24.750    0.00    0.05      0.007  IO       |       |       |       |     0.02
24.833    0.00    0.05      0.006  IO       |       |       |       |     0.02
24.917    0.00    0.05      0.006  O        |       |       |       |     0.02
25.000    0.00    0.05      0.006  O        |       |       |       |     0.02
25.083    0.00    0.04      0.005  O        |       |       |       |     0.02
25.167    0.00    0.04      0.005  O        |       |       |       |     0.02
25.250    0.00    0.04      0.005  O        |       |       |       |     0.02
25.333    0.00    0.04      0.004  O        |       |       |       |     0.02
25.417    0.00    0.03      0.004  O        |       |       |       |     0.01
25.500    0.00    0.03      0.004  O        |       |       |       |     0.01
25.583    0.00    0.03      0.004  O        |       |       |       |     0.01
25.667    0.00    0.03      0.004  O        |       |       |       |     0.01
25.750    0.00    0.03      0.003  O        |       |       |       |     0.01
25.833    0.00    0.03      0.003  O        |       |       |       |     0.01
25.917    0.00    0.02      0.003  O        |       |       |       |     0.01
26.000    0.00    0.02      0.003  O        |       |       |       |     0.01
26.083    0.00    0.02      0.003  O        |       |       |       |     0.01
26.167    0.00    0.02      0.003  O        |       |       |       |     0.01
26.250    0.00    0.02      0.002  O        |       |       |       |     0.01
26.333    0.00    0.02      0.002  O        |       |       |       |     0.01
26.417    0.00    0.02      0.002  O        |       |       |       |     0.01
26.500    0.00    0.02      0.002  O        |       |       |       |     0.01
26.583    0.00    0.02      0.002  O        |       |       |       |     0.01
26.667    0.00    0.01      0.002  O        |       |       |       |     0.01
26.750    0.00    0.01      0.002  O        |       |       |       |     0.01
26.833    0.00    0.01      0.002  O        |       |       |       |     0.01
```

```
26.917    0.00    0.01      0.002  O        |       |       |       |     0.01
27.000    0.00    0.01      0.001  O        |       |       |       |     0.00
27.083    0.00    0.01      0.001  O        |       |       |       |     0.00
27.167    0.00    0.01      0.001  O        |       |       |       |     0.00
27.250    0.00    0.01      0.001  O        |       |       |       |     0.00
27.333    0.00    0.01      0.001  O        |       |       |       |     0.00
27.417    0.00    0.01      0.001  O        |       |       |       |     0.00
27.500    0.00    0.01      0.001  O        |       |       |       |     0.00
27.583    0.00    0.01      0.001  O        |       |       |       |     0.00
27.667    0.00    0.01      0.001  O        |       |       |       |     0.00
27.750    0.00    0.01      0.001  O        |       |       |       |     0.00
27.833    0.00    0.01      0.001  O        |       |       |       |     0.00
27.917    0.00    0.01      0.001  O        |       |       |       |     0.00
28.000    0.00    0.01      0.001  O        |       |       |       |     0.00
28.083    0.00    0.01      0.001  O        |       |       |       |     0.00
28.167    0.00    0.01      0.001  O        |       |       |       |     0.00
28.250    0.00    0.01      0.001  O        |       |       |       |     0.00
28.333    0.00    0.00      0.001  O        |       |       |       |     0.00
28.417    0.00    0.00      0.001  O        |       |       |       |     0.00
28.500    0.00    0.00      0.001  O        |       |       |       |     0.00
28.583    0.00    0.00      0.000  O        |       |       |       |     0.00
28.667    0.00    0.00      0.000  O        |       |       |       |     0.00
28.750    0.00    0.00      0.000  O        |       |       |       |     0.00
28.833    0.00    0.00      0.000  O        |       |       |       |     0.00
28.917    0.00    0.00      0.000  O        |       |       |       |     0.00
29.000    0.00    0.00      0.000  O        |       |       |       |     0.00
29.083    0.00    0.00      0.000  O        |       |       |       |     0.00
29.167    0.00    0.00      0.000  O        |       |       |       |     0.00
29.250    0.00    0.00      0.000  O        |       |       |       |     0.00
29.333    0.00    0.00      0.000  O        |       |       |       |     0.00
29.417    0.00    0.00      0.000  O        |       |       |       |     0.00

      ****************************HYDROGRAPH DATA****************************
                     Number of intervals =   353
                     Time interval =    5.0 (Min.)
                     Maximum/Peak flow rate =        1.030 (CFS)
                     Total volume =       0.773 (Ac.Ft)
              Status of hydrographs being held in storage
                         Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
              Peak (CFS)      0.000     0.000     0.000     0.000     0.000
              Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
      ***********************************************************************

      --------------------------------------------------------------------
```

APPENDIX E

HYDROLOGY RESULTS

APPENDIX F

SOILS INFILTRATION REPORT

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

September 20, 2021

Project No. 544-21317
21-09-612

Commerce Construction Company, L.P.
13191 Crossroads Parkway North, Sixth Floor
City of Industry, California 91746-3497

Project: Proposed Warehouse Building
NEC Rio Del Sol Road & 30th Avenue
Thousand Palms Area
Riverside County, California

Subject: Infiltration Testing for On-Site Storm Water Management

In accordance with your request, we have performed infiltration testing on the subject site to evaluate the infiltration potential of the near surface soil to assist in storm water management system design. The infiltration rates determined by testing should be useful in the assessment of on-site storm water management needs. The approximate locations of the tests are indicated on the attached Exploration Location Plan (Figure 2).

Infiltration testing was performed on September 4, 2021 utilizing double-ring infiltrometers. The tests were performed at a depth of approximately five (5) feet below the existing ground surface (bgs). The soil conditions encountered consisted of fine to coarse-grained, grayish brown, gravelly sand (SP). Testing was performed in general accordance with the *Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer* (ASTM D-3385).

INFILTRATION TEST RESULTS

Test Location No.	Depth Below Existing Ground Surface (ft)	Infiltration Rate (in/hr)
DR-1	5.0	8.9
DR-2	5.0	9.5

The rates determined represent ultimate rates and an appropriate safety factor should be incorporated into the design to account for long-term saturation and potential "silting" of the surface soil. The safety factor should be determined with consideration to other factors considered in the storm water retention system design (specifically storm water volume estimates) and the safety factors associated with the related design components.

If you have any questions regarding this memo or the testing summarized herein, please contact the undersigned.

Respectfully submitted,
SLADDEN ENGINEERING

Kusal F. Weerasinghe
Staff Engineer

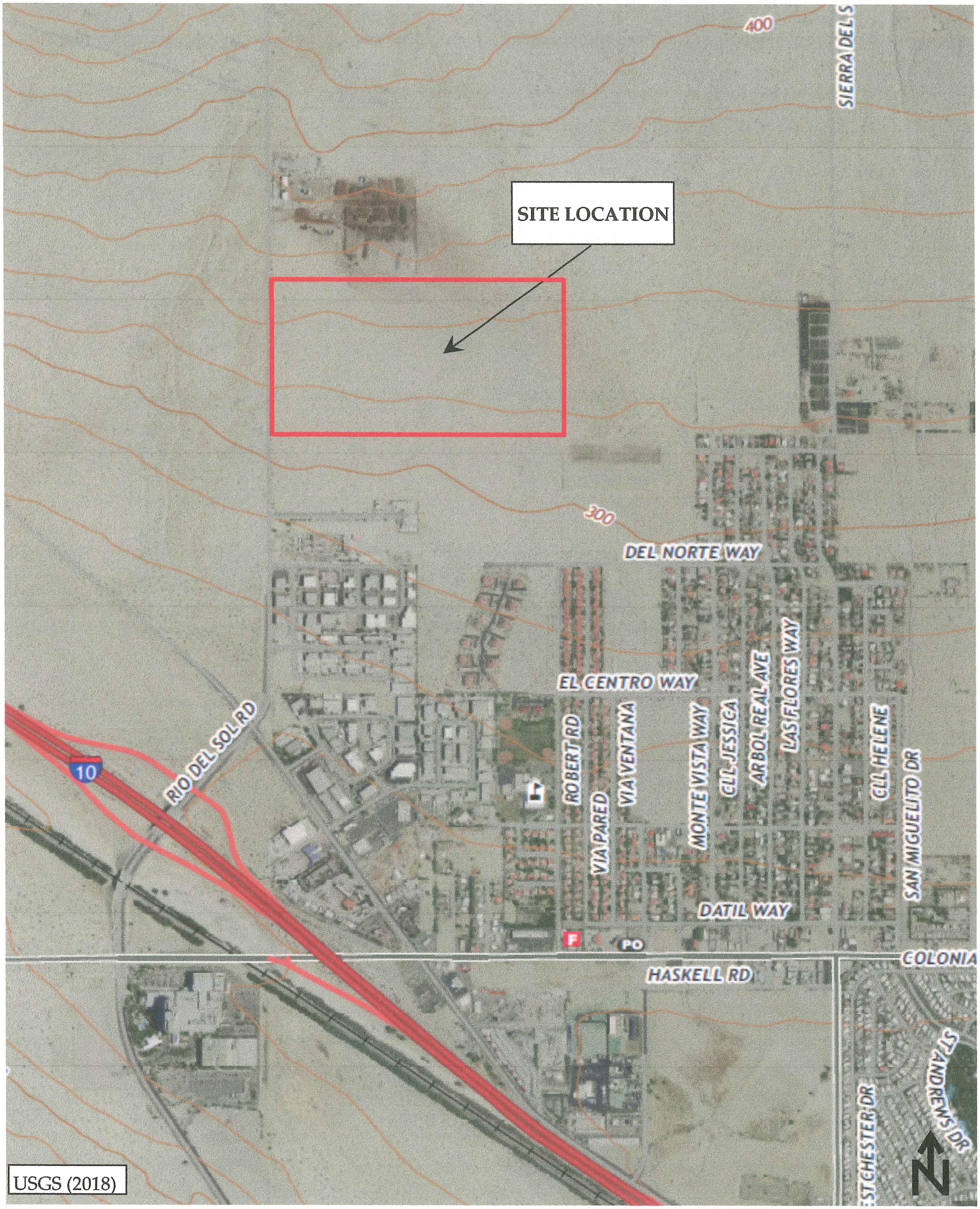
REGISTERED PROFESSIONAL ENGINEER
BRETT L. ANDERSON
No. C45389
CIVIL ENGINEERING
STATE OF CALIFORNIA

Brett L. Anderson
Principal Engineer

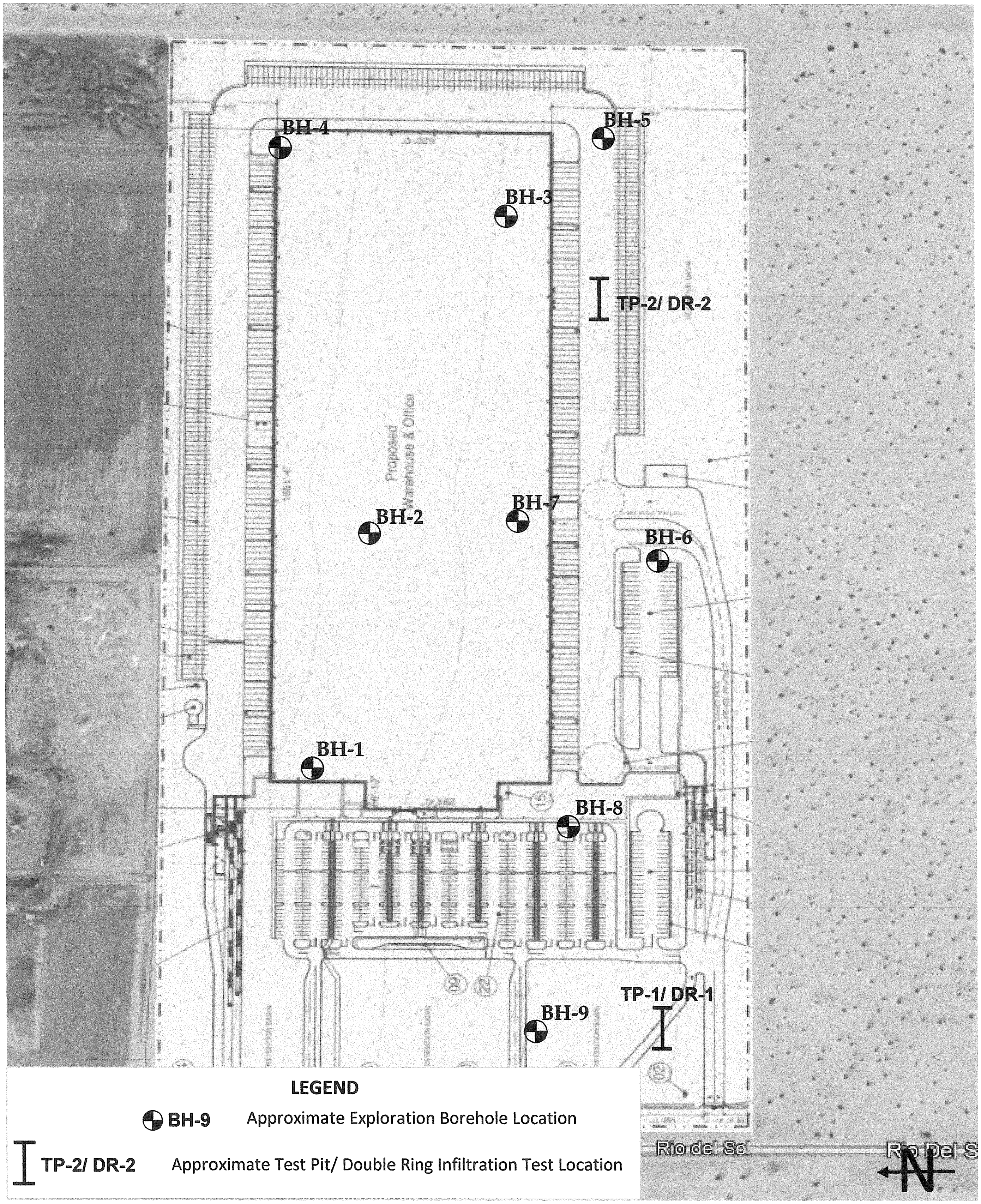
Copies: 4 / Addressee

FIGURES

SITE LOCATION MAP
EXPLORATION LOCATION PLAN



Sladden Engineering	SITE LOCATION MAP		FIGURE
	Project Number:	544-21317	1
	Report Number:	21-09-612	
	Date:	September 20, 2021	



Sladden Engineering	EXPLORATION LOCATION PLAN		FIGURE
	Project Number:	544-21317	2
	Report Number:	21-09-612	
	Date:	September 20, 2021	

APPENDIX A

DOUBLE RING TESTING DATA SHEETS

DOUBLE RING PERCOLATION RATE CALCULATIONS

Job No. 544-21317

Test Hole DR-1

INNER RING

Interval Number	Initial Water(cm)	Final Water(cm)	Con. Factor (cm to in)	Water (in)	Area Mar. (in2)	Volume (in3)	Area IR (in2)	Time (min)	Time (hr)	Vir (in/hr)
1	50.8	0.0	0.39	20.0	8.9	178.8	113.1	25	0.42	3.8
2	50.8	0.0	0.39	20.0	8.9	178.8	113.1	25	0.42	3.8
3	50.8	1.9	0.39	19.3	8.9	172.2	113.1	10	0.17	9.1
4	50.8	2.5	0.39	19.0	8.9	170.0	113.1	10	0.17	9.0
5	50.8	2.9	0.39	18.9	8.9	168.6	113.1	10	0.17	8.9
6	50.8	3.2	0.39	18.7	8.9	167.6	113.1	10	0.17	8.9
7	50.8	3.5	0.39	18.6	8.9	166.5	113.1	10	0.17	8.8
8	50.8	3.3	0.39	18.7	8.9	167.2	113.1	10	0.17	8.9
9	50.8	3.4	0.39	18.7	8.9	166.9	113.1	10	0.17	8.9
10	50.8	3.3	0.39	18.7	8.9	167.2	113.1	10	0.17	8.9
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
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27										
28										
29										
30										

AVERAGE RATE* = 8.9
(in/hr)

DOUBLE RING PERCOLATION RATE CALCULATIONS

Job No. 544-21317

Test Hole DR-2

INNER RING

Interval Number	Initial Water(cm)	Final Water(cm)	Con. Factor (cm to in)	Water (in)	Area Mar. (in2)	Volume (in3)	Area IR (in2)	Time (min)	Time (hr)	Vir (in/hr)
1	50.8	0.0	0.39	20.0	8.9	178.8	113.1	25	0.42	3.8
2	50.8	0.0	0.39	20.0	8.9	178.8	113.1	25	0.42	3.8
3	50.8	0.0	0.39	20.0	8.9	178.8	113.1	10	0.17	9.5
4	50.8	0.0	0.39	20.0	8.9	178.8	113.1	10	0.17	9.5
5	50.8	0.0	0.39	20.0	8.9	178.8	113.1	10	0.17	9.5
6	50.8	0.0	0.39	20.0	8.9	178.8	113.1	10	0.17	9.5
7	50.8	0.0	0.39	20.0	8.9	178.8	113.1	10	0.17	9.5
8	50.8	0.0	0.39	20.0	8.9	178.8	113.1	10	0.17	9.5
9										
10										
11										
12										
13										
14										
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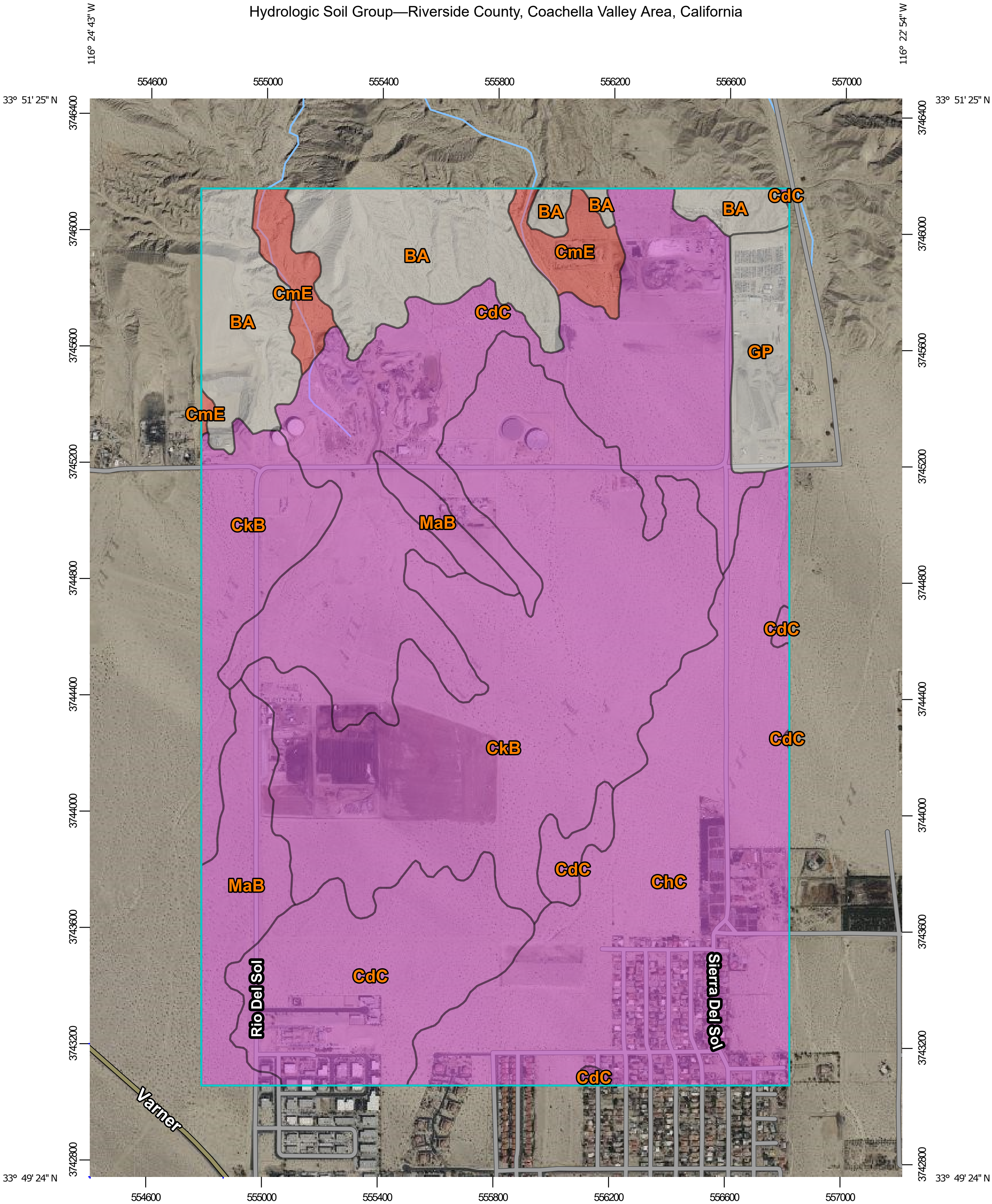
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

AVERAGE RATE* = 9.5
(in/hr)

APPENDIX G

RIVERSIDE COUNTY HYDROLOGY REFERENCE DATA

Hydrologic Soil Group—Riverside County, Coachella Valley Area, California



Map Scale: 1:18,100 if printed on A portrait (8.5" x 11") sheet.

Meters: 0, 250, 500, 1000, 1500

Feet: 0, 500, 1000, 2000, 3000

N

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.

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 14, Sep 1, 2022

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
BA	Badland		161.4	10.4%
CdC	Carsitas gravelly sand, 0 to 9 percent slopes	A	459.7	29.5%
ChC	Carsitas cobbly sand, 2 to 9 percent slopes	A	320.0	20.6%
CkB	Carsitas fine sand, 0 to 5 percent slopes	A	452.9	29.1%
CmE	Carsitas variant, 5 to 30 percent slopes	D	43.2	2.8%
GP	Gravel pits and dumps		41.0	2.6%
MaB	Myoma fine sand, 0 to 5 percent slopes	A	77.8	5.0%
Totals for Area of Interest			**1,556.0**	**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

Tie-break Rule: Higher

NOAA Atlas 14, Volume 6, Version 2
Location name: Thousand Palms, California, USA*
Latitude: 33.8325°, Longitude: -116.4034°
Elevation: 324.69 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	**0.056** (0.047-0.068)	**0.085** (0.070-0.103)	**0.128** (0.106-0.156)	**0.167** (0.138-0.206)	**0.229** (0.182-0.291)	**0.283** (0.220-0.367)	**0.345** (0.262-0.459)	**0.416** (0.307-0.570)	**0.527** (0.373-0.753)	**0.627** (0.428-0.927)
10-min	**0.080** (0.067-0.097)	**0.121** (0.101-0.147)	**0.183** (0.152-0.223)	**0.240** (0.197-0.295)	**0.328** (0.261-0.417)	**0.406** (0.316-0.527)	**0.494** (0.375-0.658)	**0.597** (0.440-0.817)	**0.756** (0.535-1.08)	**0.898** (0.613-1.33)
15-min	**0.097** (0.081-0.117)	**0.147** (0.122-0.178)	**0.221** (0.184-0.270)	**0.290** (0.239-0.356)	**0.397** (0.316-0.504)	**0.491** (0.382-0.637)	**0.598** (0.454-0.795)	**0.722** (0.532-0.988)	**0.914** (0.646-1.31)	**1.09** (0.742-1.61)
30-min	**0.149** (0.124-0.181)	**0.226** (0.188-0.275)	**0.342** (0.283-0.416)	**0.448** (0.368-0.550)	**0.612** (0.487-0.778)	**0.757** (0.589-0.983)	**0.922** (0.700-1.23)	**1.11** (0.821-1.52)	**1.41** (0.997-2.01)	**1.68** (1.14-2.48)
60-min	**0.227** (0.189-0.275)	**0.344** (0.286-0.418)	**0.519** (0.430-0.632)	**0.680** (0.559-0.835)	**0.930** (0.739-1.18)	**1.15** (0.895-1.49)	**1.40** (1.06-1.86)	**1.69** (1.25-2.31)	**2.14** (1.52-3.06)	**2.55** (1.74-3.76)
2-hr	**0.335** (0.279-0.406)	**0.493** (0.410-0.599)	**0.726** (0.602-0.884)	**0.938** (0.771-1.15)	**1.26** (1.00-1.60)	**1.54** (1.20-2.00)	**1.86** (1.41-2.47)	**2.22** (1.63-3.03)	**2.76** (1.95-3.94)	**3.24** (2.21-4.79)
3-hr	**0.407** (0.339-0.494)	**0.594** (0.494-0.722)	**0.869** (0.720-1.06)	**1.12** (0.919-1.37)	**1.50** (1.19-1.90)	**1.82** (1.42-2.36)	**2.19** (1.66-2.91)	**2.60** (1.92-3.56)	**3.23** (2.28-4.61)	**3.77** (2.57-5.58)
6-hr	**0.564** (0.470-0.684)	**0.823** (0.685-1.00)	**1.20** (0.998-1.47)	**1.55** (1.27-1.90)	**2.07** (1.64-2.62)	**2.51** (1.96-3.26)	**3.01** (2.29-4.00)	**3.57** (2.64-4.89)	**4.42** (3.13-6.32)	**5.16** (3.52-7.63)
12-hr	**0.667** (0.556-0.810)	**0.997** (0.830-1.21)	**1.49** (1.23-1.81)	**1.93** (1.59-2.37)	**2.61** (2.08-3.32)	**3.20** (2.49-4.16)	**3.87** (2.94-5.15)	**4.63** (3.41-6.33)	**5.79** (4.09-8.26)	**6.80** (4.64-10.1)
24-hr	**0.773** (0.684-0.891)	**1.19** (1.05-1.37)	**1.81** (1.60-2.10)	**2.38** (2.08-2.78)	**3.26** (2.76-3.93)	**4.03** (3.34-4.95)	**4.89** (3.97-6.16)	**5.89** (4.64-7.61)	**7.41** (5.62-9.98)	**8.75** (6.42-12.2)
2-day	**0.838** (0.742-0.966)	**1.32** (1.17-1.52)	**2.03** (1.79-2.35)	**2.67** (2.33-3.11)	**3.64** (3.09-4.39)	**4.48** (3.72-5.50)	**5.41** (4.39-6.81)	**6.48** (5.11-8.37)	**8.08** (6.13-10.9)	**9.48** (6.95-13.2)
3-day	**0.869** (0.769-1.00)	**1.38** (1.22-1.60)	**2.13** (1.88-2.47)	**2.80** (2.45-3.27)	**3.82** (3.23-4.60)	**4.68** (3.89-5.75)	**5.64** (4.57-7.10)	**6.72** (5.30-8.69)	**8.34** (6.33-11.2)	**9.74** (7.14-13.5)
4-day	**0.893** (0.790-1.03)	**1.43** (1.26-1.65)	**2.21** (1.95-2.56)	**2.91** (2.54-3.39)	**3.95** (3.35-4.76)	**4.84** (4.02-5.95)	**5.82** (4.72-7.32)	**6.92** (5.46-8.95)	**8.57** (6.50-11.5)	**9.98** (7.32-13.9)
7-day	**0.950** (0.841-1.10)	**1.54** (1.36-1.78)	**2.39** (2.11-2.76)	**3.14** (2.75-3.66)	**4.27** (3.62-5.14)	**5.22** (4.34-6.42)	**6.27** (5.08-7.89)	**7.44** (5.87-9.62)	**9.19** (6.96-12.4)	**10.7** (7.83-14.9)
10-day	**1.00** (0.887-1.15)	**1.63** (1.44-1.88)	**2.53** (2.23-2.93)	**3.33** (2.91-3.88)	**4.52** (3.83-5.45)	**5.53** (4.59-6.79)	**6.64** (5.38-8.35)	**7.87** (6.21-10.2)	**9.71** (7.36-13.1)	**11.3** (8.26-15.7)
20-day	**1.10** (0.973-1.27)	**1.78** (1.58-2.06)	**2.76** (2.44-3.20)	**3.64** (3.18-4.24)	**4.94** (4.18-5.95)	**6.04** (5.01-7.42)	**7.24** (5.87-9.11)	**8.59** (6.78-11.1)	**10.6** (8.03-14.2)	**12.3** (9.01-17.1)
30-day	**1.24** (1.10-1.43)	**2.00** (1.77-2.30)	**3.09** (2.72-3.57)	**4.06** (3.55-4.73)	**5.50** (4.66-6.63)	**6.73** (5.59-8.27)	**8.07** (6.55-10.2)	**9.58** (7.56-12.4)	**11.8** (8.96-15.9)	**13.7** (10.1-19.1)
45-day	**1.36** (1.21-1.57)	**2.18** (1.93-2.52)	**3.36** (2.96-3.89)	**4.41** (3.86-5.14)	**5.99** (5.07-7.21)	**7.32** (6.08-9.00)	**8.80** (7.13-11.1)	**10.4** (8.24-13.5)	**12.9** (9.78-17.4)	**15.0** (11.0-20.9)
60-day	**1.50** (1.33-1.73)	**2.38** (2.10-2.75)	**3.65** (3.22-4.22)	**4.78** (4.18-5.58)	**6.49** (5.50-7.81)	**7.94** (6.59-9.76)	**9.55** (7.74-12.0)	**11.3** (8.96-14.7)	**14.0** (10.6-18.9)	**16.3** (12.0-22.7)

[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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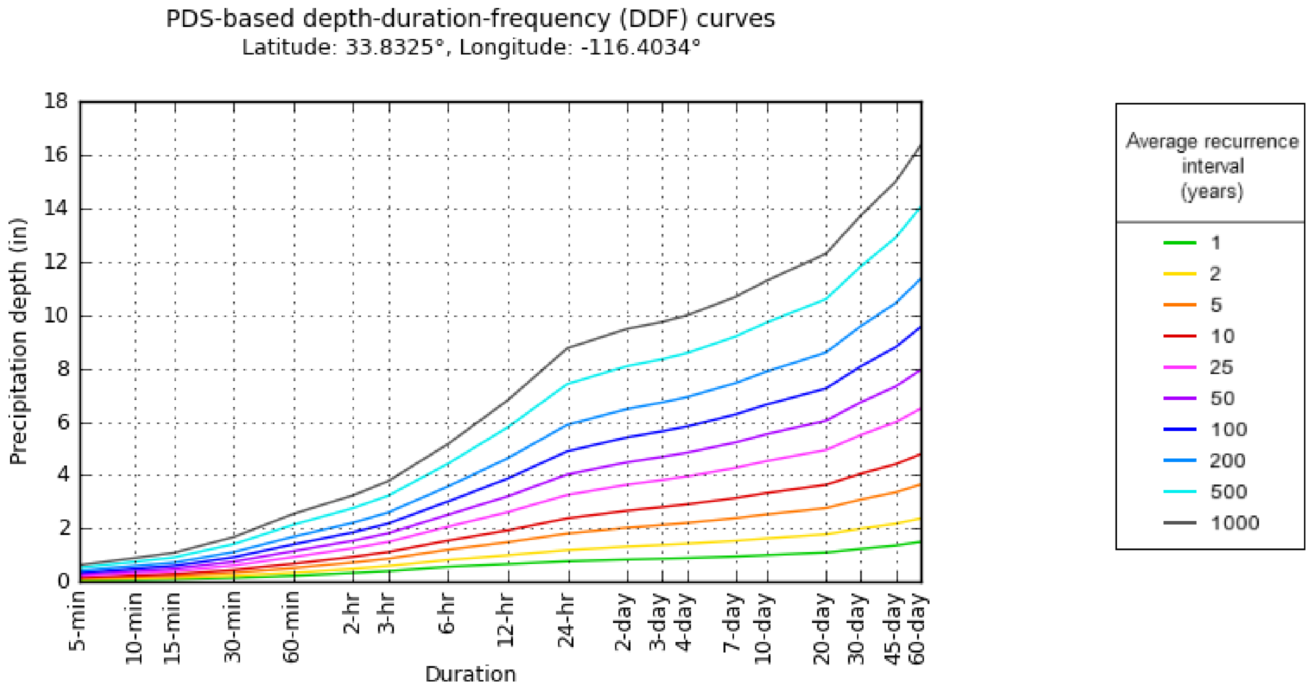
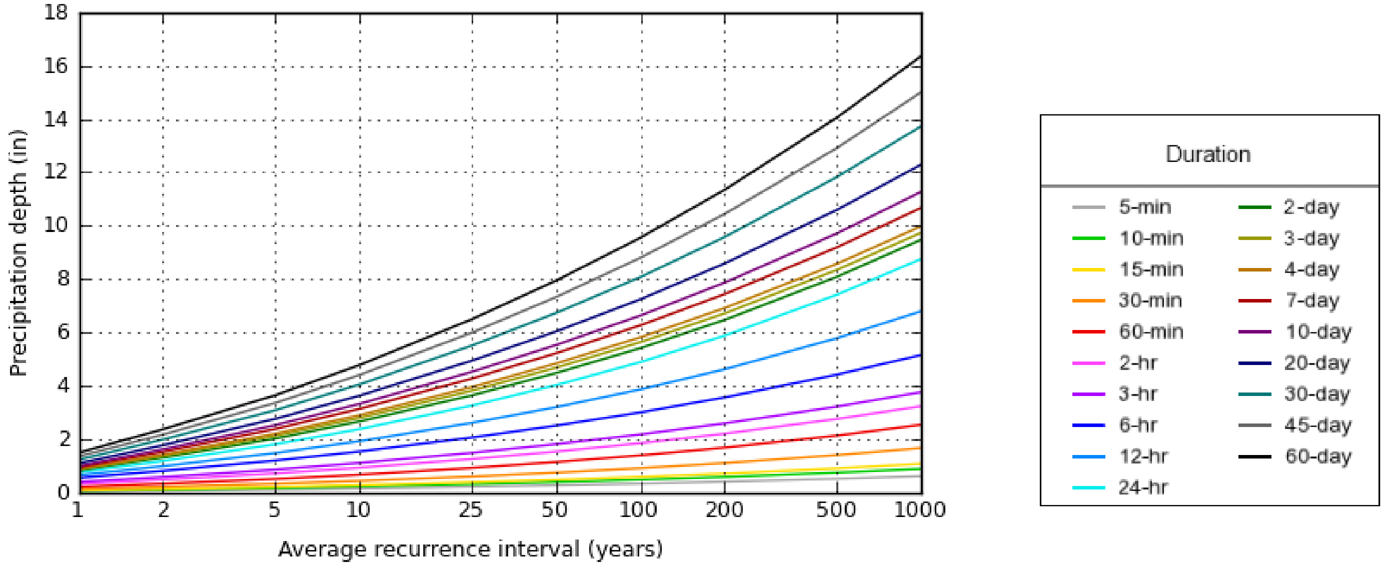
PF graphical





NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Mon Mar 14 20:17:52 2022

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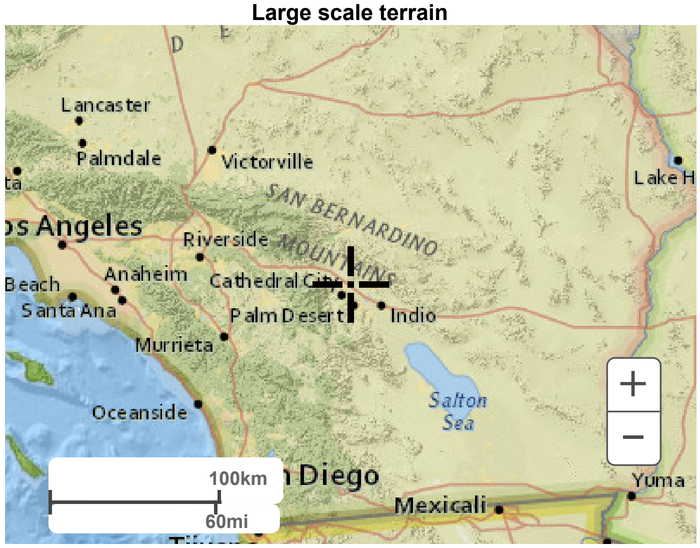
Maps & aerials

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

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

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HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREAS

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	Soil Group B	Soil Group C	Soil Group D
AGRICULTURAL COVERS (cont.) -					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Deciduous (Apples, apricots, pears, walnuts, etc.)		See Note 4			
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small Grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	75	83	87
Vineyard		See Note 4			

Notes:

1. All runoff index (RI) numbers are for Antecedent Moisture Condition (AMC) II.

2. Quality of cover definitions:
   Poor-Heavily grazed or regularly burned areas. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.
   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.
   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.

3. See Plate C-2 for a detailed description of cover types.

4. Use runoff index numbers based on ground cover type. See discussion under "Cover Type Descriptions" on Plate C-2.

5. Reference Bibliography item 17.

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RUNOFF INDEX NUMBERS FOR PERVIOUS AREAS

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.

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HYDROLOGY MANUAL

IMPERVIOUS COVER
FOR
DEVELOPED AREAS

APPENDIX H

ALLUVIAL FAN FLOOD ROUTING ANALYSIS

MEMORANDUM

To: Steve Levisee, PBLA JN 40.116.000

From: Zack Snyder

Date: October 9, 2023

Subject: Assessment of RCTD Requirements for Thousand Palms Building 1

Q3 Consulting (Q3) has performed an assessment of the performance of proposed drainage improvements per Riverside County Transportation District (RCTD) criteria. A separate report detailing mitigation of offsite flood impacts titled "Thousand Palms Building 1 Flood Protection Plan Design Report" dated June 21, 2023 was prepared by Q3 Consulting and submitted to Coachella Valley Water District (CVWD).

The main tributary to the project site is the 1.5 square mile Edom Hill watershed. Water from the Edom Hill watershed exits the canyon and flows south along an alluvial fan before reaching the project site. Per the Flood Protection Plan Design Report, a flow path uncertainty analysis was performed to determine within reason the most conservative flow path scenario to utilize as a basis for design of flood protection improvements. A system of virtual levees were implemented in the existing condition model to deflect flow from the Edom Hill watershed towards the project site. The flow path uncertainty analysis found that the Scenario 2 virtual levee configuration resulted in the most conservative flow rates impacting the project site. A more detailed discussion of this analysis can be found in the Flood Protection Plan Design Report. Figure 1 shows the regional watersheds in the project vicinity.

The proposed drainage improvements consist of two diversion channels that capture flow from the north and convey it through the project site before discharging it in a manner consistent with existing drainage patterns. The eastern diversion channel conveys flow east along the northern property boundary and discharges regional offsite flow into the onsite retention basin. Water in excess of the volume of the basin flows over a dip crossing over 30th Avenue. Additionally, there is a second emergency overflow located near the western edge of the onsite retention basin that also discharges onto 30th Avenue. This portion of 30th Avenue is not a dip crossing and is sloped to drain west towards Rio Del Sol. The western diversion channel conveys offsite flow to the west and discharges into a stilling basin that reduces velocities and spreads flow back onto Rio Del Sol. This portion of Rio Del Sol is not a dip crossing and is sloped to drain towards the south. These diversion channels are designed to convey the 100-year flow rate with 1 foot of freeboard per CVWD criteria. The layout of the proposed flood protection facilities can be seen in Figure 2.

27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610
T: 949.259.6770
F: 949.716.7461

Figure 1. Regional Watersheds

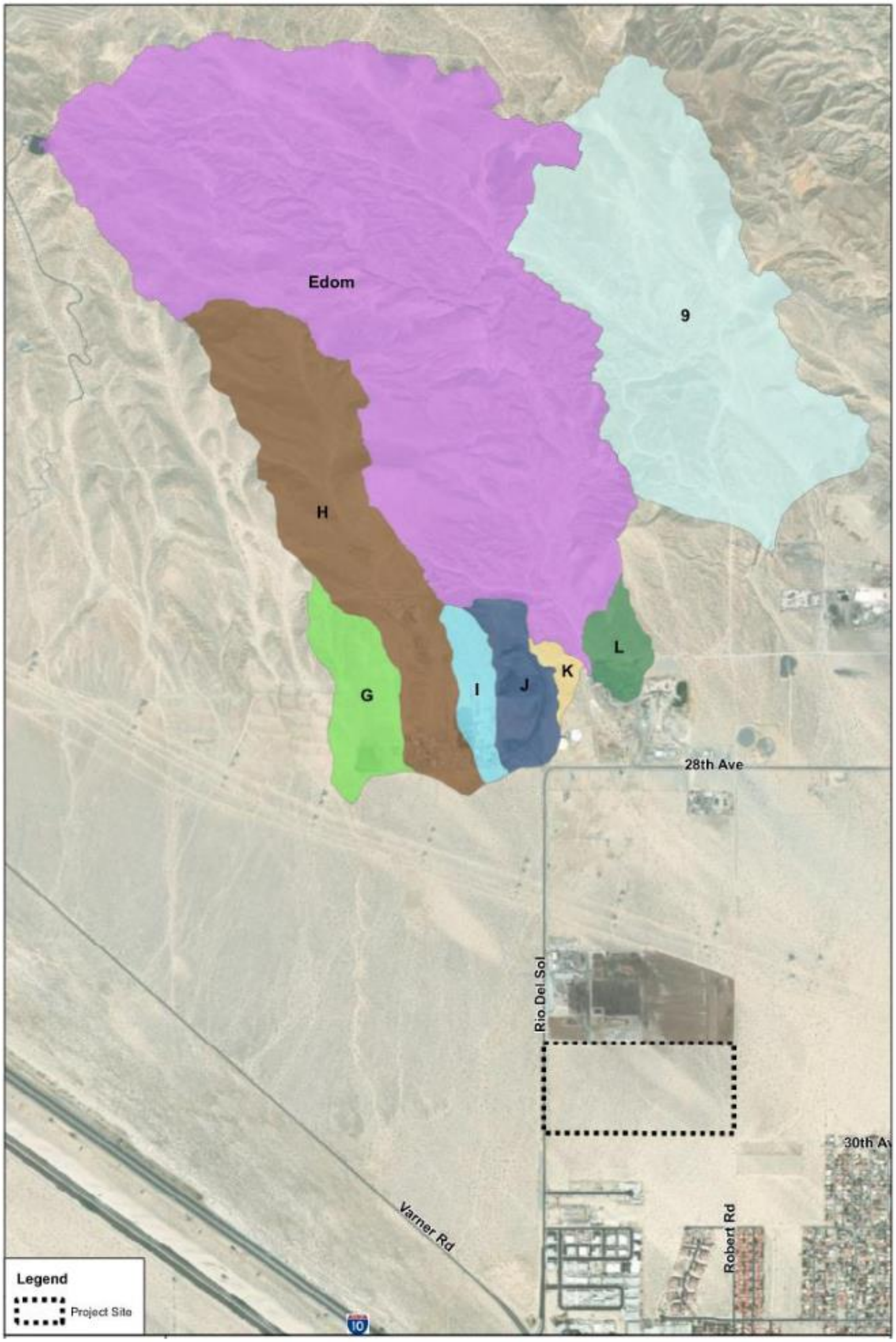
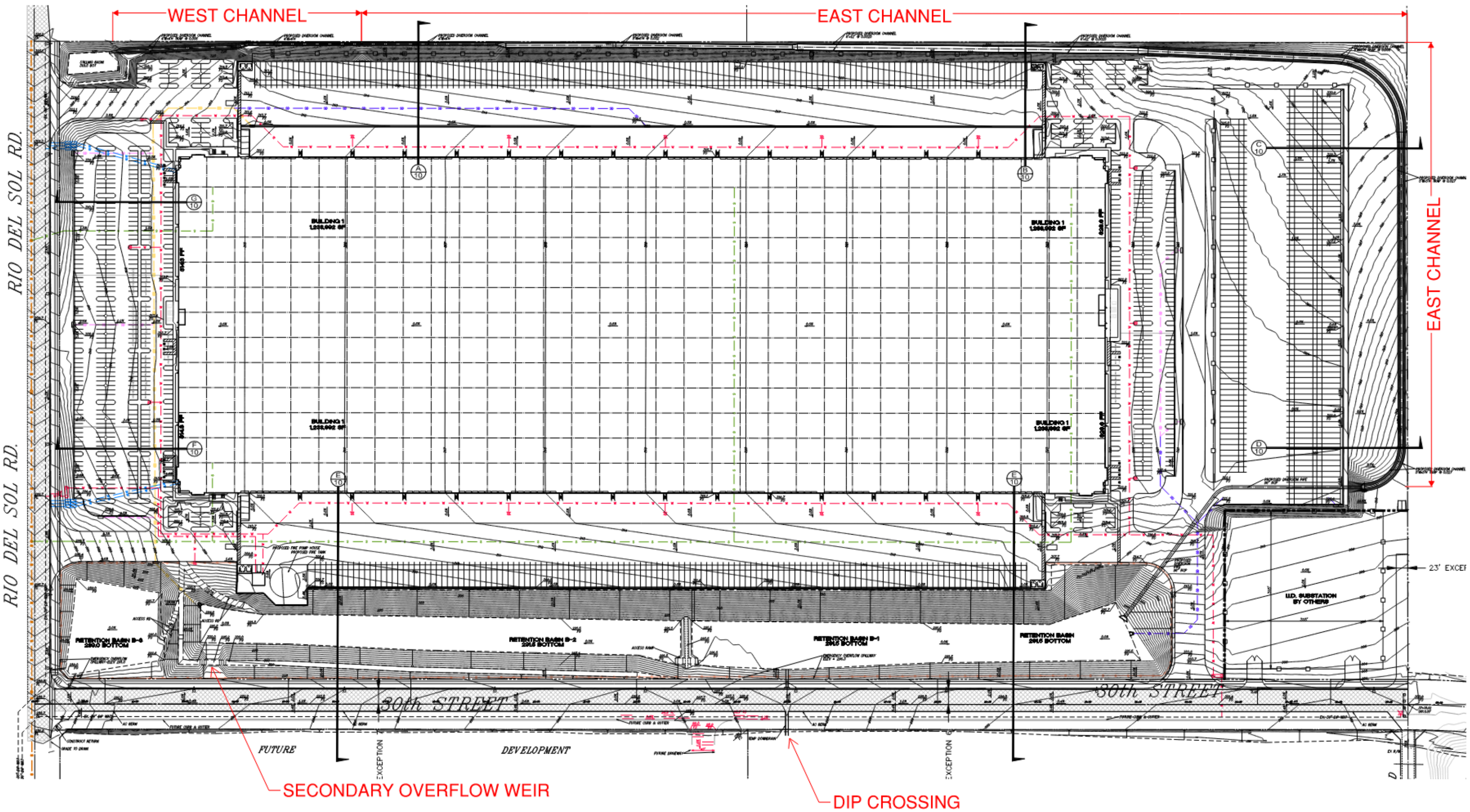


Figure 2. Flood Protection Facilities



30th Avenue Dip Crossing

RCTD criteria requires dip crossings convey the 100-year flow rate across the roadway at a depth not to exceed 9” and a velocity not to exceed 1.5 feet per second. A discussion with RCTD staff indicated that the 100-year 24-hour storm can be used to evaluate compliance with this criteria. A 100-year 24-hour single area unit hydrograph analysis was carried out using AES software. The results of this AES analysis can be seen in the appendix. The flow path uncertainty analysis showed that the hydrographs that impact the project site are Edom Hill, CP-K, and CP-L. CP-K and CP-L are approximately 6 and 24 acres respectively while Edom Hill is approximately 890 acres. As Edom Hill is the main tributary, CP-K and CP-L drainage areas were lumped in with Edom Hill to form one combined study watershed. Parameters such as lag time and loss rates were derived from the JE Fuller report titled “Autodromo Existing Conditions Offsite Hydrologic and Hydraulic Analysis” dated December 2017 and the Riverside County Hydrology Manual. Rainfall depth for the 24-hour storm was derived from NOAA Atlas 14 data. Hydrology parameters are described in Table 1.

Table 1. 100-Year 24-Hour Hydrology Parameters

Subbasin	Area (ac)	Lag Time (hrs)	Fp (in/hr)
Edom Hill	896	0.67	0.28
CP-K	6.4	0.04	0.15
CP-L	25.6	0.12	0.23
Combined Basin Parameters	928	0.67	0.28

The proposed condition scenario 2 XPSTORM hydraulic model prepared as part of the Flood Protection Plan Design Report was modified to include the 100-year 24-hour hydrographs described above. Depths and velocities over the 30th Avenue dip crossing were then evaluated. The resulting flow over the dip crossing is 160 cfs. Figure 3 shows the depths over the 30th Avenue dip crossing. The majority of depths over 30th Avenue are below the 9” requirement, with only a small portion of the roadway along the northern right of way line above the required depth. The portion of the roadway with depths exceeding 9” corresponds to the gutter intended to direct flows from more regular storm frequencies within 30th Avenue into the onsite retention basin. The travel lanes within 30th Avenue remain below the 9” depth requirement.

To evaluate velocities over the dip crossing, three cross sections were taken at the northern right of way line, the centerline, and the southern right of way line. Average velocities were then computed for each cross section. The resulting average velocities were 0.49 ft/sec for the north cross section, 1.44 ft/sec for the centerline cross section, and 1.43 ft/sec for the south cross section. The proposed dip crossing, therefore, satisfies RCTD criteria. Figure 5 shows a closeup of the maximum depths over 30th Avenue in the 100-year 24-hour scenario, with the locations of the cross sections used in the average velocity analysis shown in red.

Figure 3. 100-Year 24-Hour Max Depth Results

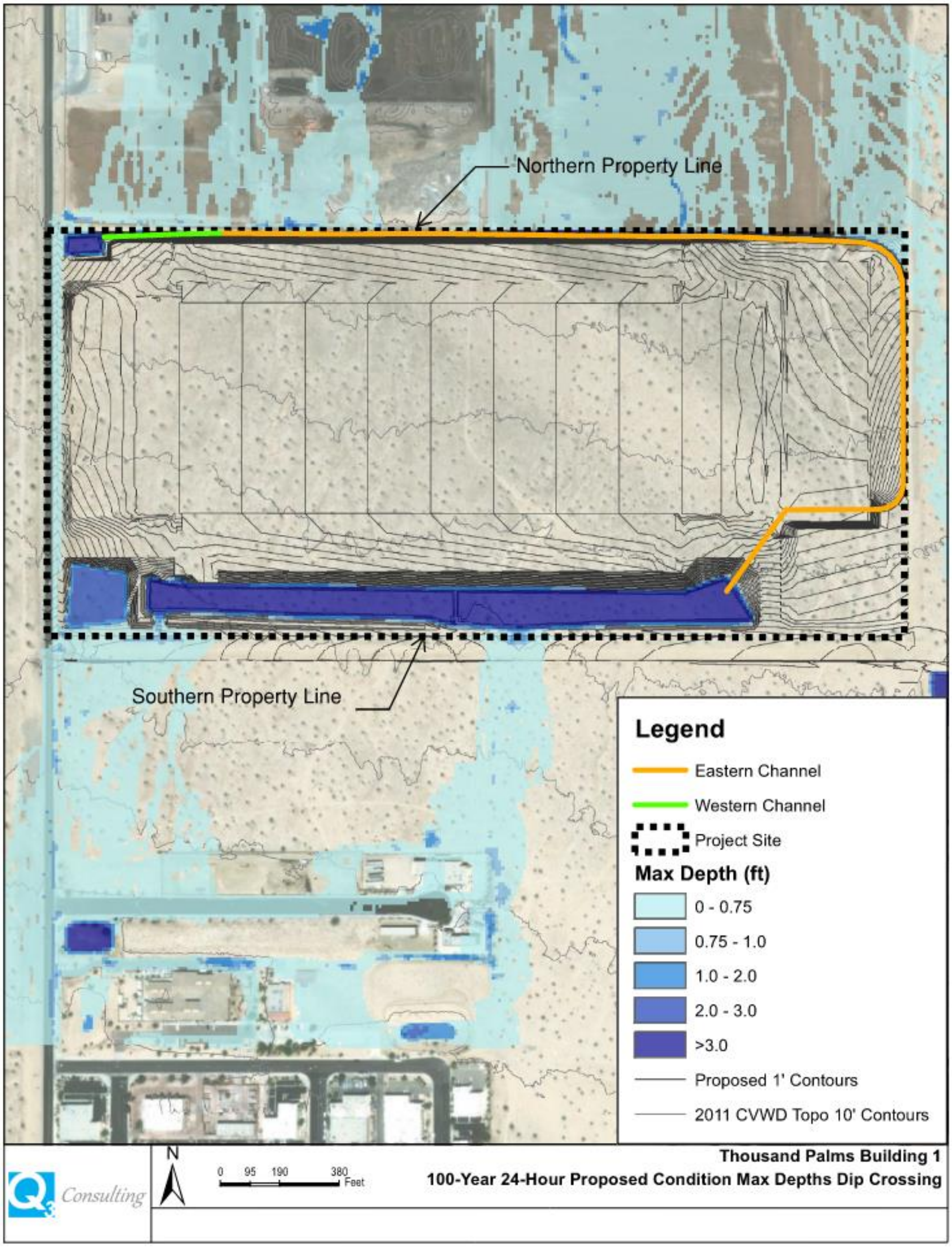
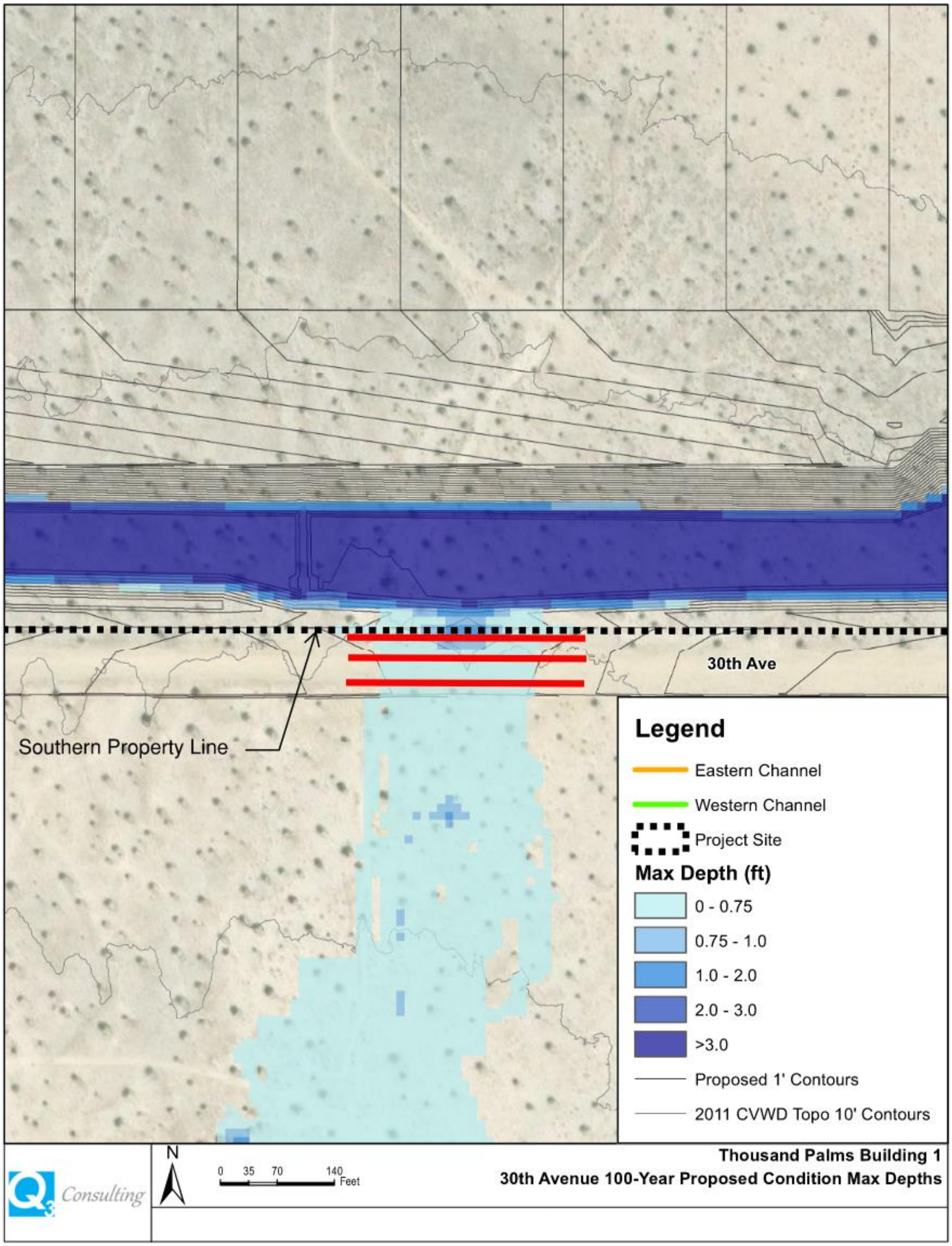


Figure 4. 30th Avenue Crossing Depths and Cross Sections



30th Avenue Secondary Overflow Weir and Rio Del Sol Stilling Basin

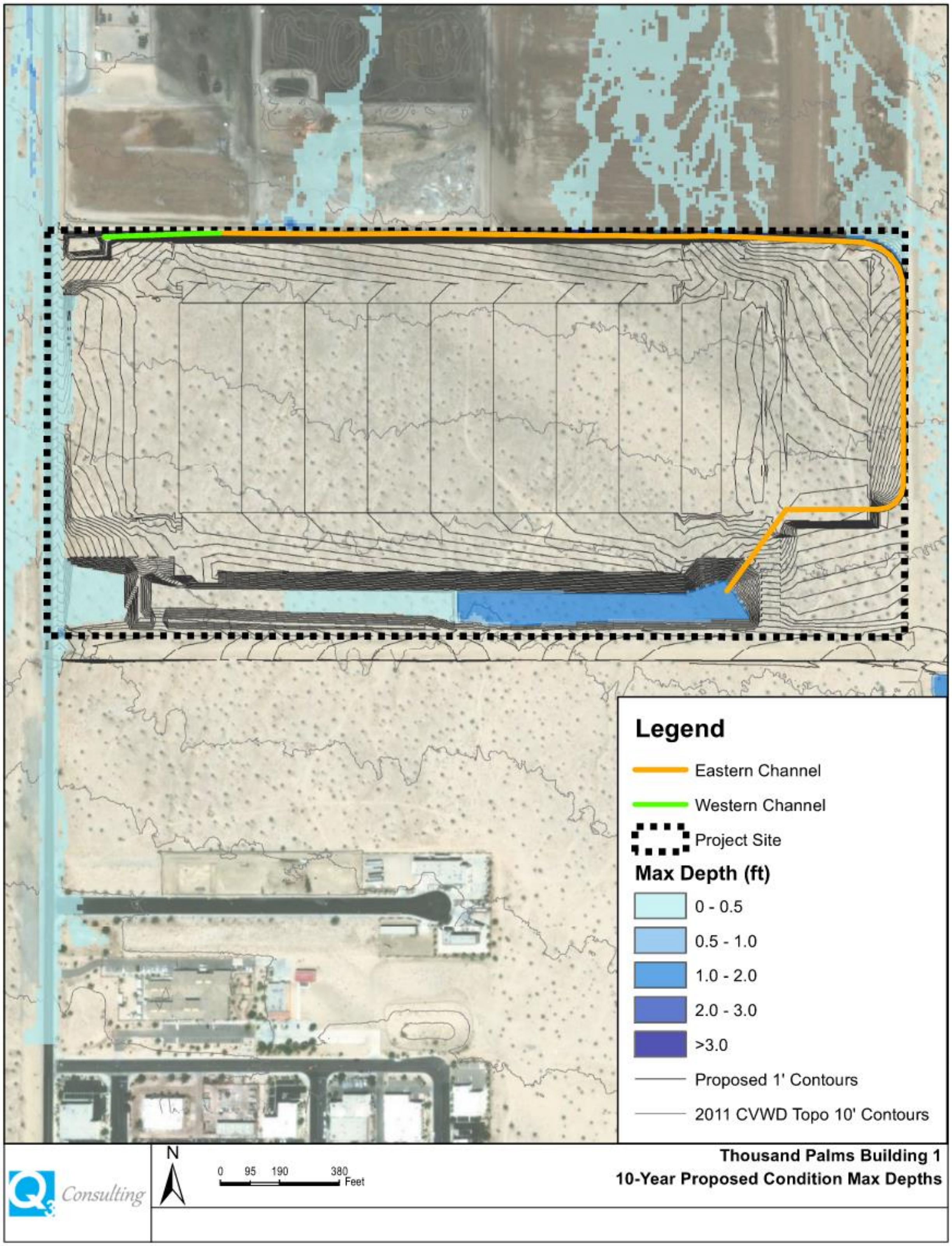
In addition to the 30th Avenue dip crossing, flow also exits the onsite retention basin via a secondary overflow weir onto the proposed 30th Avenue at the western end of the retention basin. This portion of 30th Avenue is sloped towards Rio Del Sol. Separately, the western diversion channel discharges flow into a stilling basin adjacent to Rio Del Sol. This stilling basin overtops onto Rio Del Sol where flows continue to the south.

RCTD criteria requires the 10-year flow rate not to exceed 6” in depth in order to provide a dry lane in the roadway. A separate single area unit hydrograph analysis was conducted for the 10-year event. The HEC-HMS model originally used in the Autodromo study by JE Fuller was modified to include the 10-year rainfall pattern and depth. The resulting hydrograph was plugged into the Scenario 2 XPSTORM hydraulic model. Figure 5 shows depths along Rio Del Sol and 30th Avenue. Depths in these areas remain under 6”, satisfying RCTD criteria.

Conclusion

The dip crossing over 30th Avenue satisfies the RCTD criteria of depths less than 9” and velocities less than 1.5 feet per second in the 100-year storm. The secondary overflow weir onto 30th Avenue and the stilling basin overflowing onto Rio Del Sol satisfy the RCTD criteria of depths less than 6” with one dry lane in the 10-year storm.

Figure 5. 10-Year Proposed Condition Maximum Depths



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F L O O D   R O U T I N G   A N A L Y S I S

ACCORDING TO RIVERSIDE COUNTY FLOOD CONTORL AND WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL

(Synthetic Unit Hydrograph Version 22.0)
Release Date: 07/01/2015 License ID 1673

Analysis prepared by:

Q3 Consulting

************************** DESCRIPTION OF STUDY **************************
* EDOM HILL CP-K CP-L COMBINED *
* 100 YEAR 24 HOUR STORM *
* ZSNYDER 6/1/2023 *
****

FILE NAME: E100Y24H.DAT
TIME/DATE OF STUDY: 11:55 06/08/2023

****
FLOW PROCESS FROM NODE   100.00 TO NODE   101.00 IS CODE =   1

>>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
==

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA =   921.760 ACRES
BASEFLOW =   0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME =   0.670 HOURS
DESERT S-GRAPH SELECTED
UNIFORM MEAN SOIL-LOSS(INCH/HOUR) = 0.280
LOW SOIL-LOSS RATE PERCENT(DECIMAL) = 0.900
MINIMUM SOIL-LOSS RATE(INCH/HOUR) =   0.140
USER-ENTERED RAINFALL = 5.46 INCHES
RCFC&WCD 24-Hour Storm (15-Minute period) SELECTED
RCFC&WCD DEPTH-AREA ADJUSTMENT FACTOR(PLATE E-5.8) = 0.9983

UNIT HYDROGRAPH TIME UNIT = 15.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 37.313

==
UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	2.464	91.572
2	15.733	493.053
3	44.992	1087.218
4	62.792	661.421
5	72.445	358.673
6	78.902	239.954
7	83.474	169.855
8	87.047	132.790
9	89.723	99.429
10	91.793	76.933
11	93.524	64.306
12	94.889	50.742
13	96.026	42.242
14	96.943	34.073
15	97.629	25.468
16	98.084	16.906
17	98.488	15.035
18	98.936	16.630
19	99.375	16.319
20	99.750	13.936
21	99.937	6.968
22	100.000	2.323

****

UNIT PERIOD (NUMBER)	UNIT RAINFALL (INCHES)	UNIT SOIL-LOSS (INCHES)	EFFECTIVE RAINFALL (INCHES)
1	0.0109	0.0098	0.0011
2	0.0164	0.0147	0.0016
3	0.0164	0.0147	0.0016
4	0.0218	0.0196	0.0022
5	0.0164	0.0147	0.0016
6	0.0164	0.0147	0.0016
7	0.0164	0.0147	0.0016
8	0.0218	0.0196	0.0022
9	0.0218	0.0196	0.0022
10	0.0218	0.0196	0.0022
11	0.0273	0.0245	0.0027
12	0.0273	0.0245	0.0027
13	0.0273	0.0245	0.0027
14	0.0273	0.0245	0.0027
15	0.0273	0.0245	0.0027
16	0.0327	0.0294	0.0033
17	0.0327	0.0294	0.0033
18	0.0382	0.0344	0.0038
19	0.0382	0.0344	0.0038
20	0.0436	0.0393	0.0044
21	0.0327	0.0294	0.0033
22	0.0382	0.0344	0.0038
23	0.0436	0.0393	0.0044
24	0.0436	0.0393	0.0044
25	0.0491	0.0442	0.0049
26	0.0491	0.0442	0.0049
27	0.0545	0.0491	0.0055
28	0.0545	0.0491	0.0055
29	0.0545	0.0491	0.0055
30	0.0600	0.0540	0.0060
31	0.0654	0.0589	0.0065
32	0.0709	0.0638	0.0071
33	0.0818	0.0736	0.0082
34	0.0818	0.0736	0.0082
35	0.0872	0.0785	0.0087
36	0.0927	0.0787	0.0140
37	0.1036	0.0776	0.0260
38	0.1091	0.0765	0.0326
39	0.1145	0.0754	0.0391
40	0.1200	0.0743	0.0457
41	0.0818	0.0732	0.0086
42	0.0818	0.0721	0.0096
43	0.1091	0.0711	0.0380
44	0.1091	0.0701	0.0390
45	0.1036	0.0690	0.0346
46	0.1036	0.0680	0.0356
47	0.0927	0.0670	0.0257
48	0.0982	0.0660	0.0322
49	0.1363	0.0650	0.0713

50	0.1418	0.0640	0.0777
51	0.1527	0.0631	0.0896
52	0.1581	0.0621	0.0960
53	0.1854	0.0612	0.1242
54	0.1854	0.0603	0.1251
55	0.1254	0.0593	0.0661
56	0.1254	0.0584	0.0670
57	0.1472	0.0576	0.0897
58	0.1418	0.0567	0.0851
59	0.1418	0.0558	0.0860
60	0.1363	0.0550	0.0814
61	0.1309	0.0541	0.0768
62	0.1254	0.0533	0.0721
63	0.1036	0.0525	0.0511
64	0.1036	0.0517	0.0519
65	0.0218	0.0196	0.0022
66	0.0218	0.0196	0.0022
67	0.0164	0.0147	0.0016
68	0.0164	0.0147	0.0016
69	0.0273	0.0245	0.0027
70	0.0273	0.0245	0.0027
71	0.0273	0.0245	0.0027
72	0.0218	0.0196	0.0022
73	0.0218	0.0196	0.0022
74	0.0218	0.0196	0.0022
75	0.0164	0.0147	0.0016
76	0.0109	0.0098	0.0011
77	0.0164	0.0147	0.0016
78	0.0218	0.0196	0.0022
79	0.0164	0.0147	0.0016
80	0.0109	0.0098	0.0011
81	0.0164	0.0147	0.0016
82	0.0164	0.0147	0.0016
83	0.0164	0.0147	0.0016
84	0.0109	0.0098	0.0011
85	0.0164	0.0147	0.0016
86	0.0109	0.0098	0.0011
87	0.0164	0.0147	0.0016
88	0.0109	0.0098	0.0011
89	0.0164	0.0147	0.0016
90	0.0109	0.0098	0.0011
91	0.0109	0.0098	0.0011
92	0.0109	0.0098	0.0011
93	0.0109	0.0098	0.0011
94	0.0109	0.0098	0.0011
95	0.0109	0.0098	0.0011
96	0.0109	0.0098	0.0011

TOTAL STORM RAINFALL(INCHES) = 5.45
TOTAL SOIL-LOSS(INCHES) = 3.57
TOTAL EFFECTIVE RAINFALL(INCHES) = 1.88

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 274.3638
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 144.4152

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===============================================================================

                          2 4 - H O U R    S T O R M
                      R U N O F F    H Y D R O G R A P H

===============================================================================
               HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)
        (Note: Time indicated is at END of Each Unit Intervals)
-------------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.       100.0     200.0     300.0     400.0
-------------------------------------------------------------------------------
   0.083      0.0007      0.10  Q          .          .          .          .
   0.167      0.0014      0.10  Q          .          .          .          .
   0.250      0.0021      0.10  Q          .          .          .          .
   0.333      0.0068      0.69  Q          .          .          .          .
   0.417      0.0115      0.69  Q          .          .          .          .
   0.500      0.0163      0.69  Q          .          .          .          .
   0.583      0.0310      2.14  Q          .          .          .          .
   0.667      0.0458      2.14  Q          .          .          .          .
   0.750      0.0605      2.14  Q          .          .          .          .
   0.833      0.0847      3.51  Q          .          .          .          .
   0.917      0.1088      3.51  Q          .          .          .          .
   1.000      0.1330      3.51  Q          .          .          .          .
   1.083      0.1638      4.48  Q          .          .          .          .
   1.167      0.1946      4.48  Q          .          .          .          .
   1.250      0.2255      4.48  Q          .          .          .          .
   1.333      0.2617      5.26  Q          .          .          .          .
   1.417      0.2979      5.26  Q          .          .          .          .
   1.500      0.3341      5.26  Q          .          .          .          .
   1.583      0.3709      5.34  Q          .          .          .          .
   1.667      0.4077      5.34  Q          .          .          .          .
   1.750      0.4445      5.34  Q          .          .          .          .
   1.833      0.4821      5.46  Q          .          .          .          .
   1.917      0.5197      5.46  Q          .          .          .          .
   2.000      0.5574      5.46  Q          .          .          .          .
   2.083      0.5977      5.85  Q          .          .          .          .
   2.167      0.6379      5.85  Q          .          .          .          .
   2.250      0.6782      5.85  Q          .          .          .          .
   2.333      0.7233      6.54  Q          .          .          .          .
   2.417      0.7683      6.54  Q          .          .          .          .
   2.500      0.8134      6.54  Q          .          .          .          .
   2.583      0.8619      7.04  Q          .          .          .          .
   2.667      0.9104      7.04  Q          .          .          .          .
   2.750      0.9589      7.04  Q          .          .          .          .
   2.833      1.0112      7.58  Q          .          .          .          .
   2.917      1.0634      7.58  Q          .          .          .          .
   3.000      1.1156      7.58  Q          .          .          .          .
   3.083      1.1732      8.37  Q          .          .          .          .
   3.167      1.2308      8.37  Q          .          .          .          .
   3.250      1.2884      8.37  Q          .          .          .          .
   3.333      1.3496      8.87  Q          .          .          .          .
   3.417      1.4107      8.87  Q          .          .          .          .
   3.500      1.4718      8.87  Q          .          .          .          .
   3.583      1.5350      9.18  Q          .          .          .          .
   3.667      1.5982      9.18  Q          .          .          .          .
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   3.750      1.6614      9.18  Q          .          .          .          .
   3.833      1.7265      9.44  Q          .          .          .          .
   3.917      1.7915      9.44  Q          .          .          .          .
   4.000      1.8565      9.44  Q          .          .          .          .
   4.083      1.9245      9.87  Q          .          .          .          .
   4.167      1.9924      9.87  Q          .          .          .          .
   4.250      2.0604      9.87  Q          .          .          .          .
   4.333      2.1337     10.64  VQ         .          .          .          .
   4.417      2.2069     10.64  VQ         .          .          .          .
   4.500      2.2802     10.64  VQ         .          .          .          .
   4.583      2.3585     11.37  VQ         .          .          .          .
   4.667      2.4369     11.37  VQ         .          .          .          .
   4.750      2.5152     11.37  VQ         .          .          .          .
   4.833      2.5999     12.30  VQ         .          .          .          .
   4.917      2.6846     12.30  VQ         .          .          .          .
   5.000      2.7693     12.30  VQ         .          .          .          .
   5.083      2.8590     13.03  VQ         .          .          .          .
   5.167      2.9488     13.03  VQ         .          .          .          .
   5.250      3.0385     13.03  VQ         .          .          .          .
   5.333      3.1313     13.47  VQ         .          .          .          .
   5.417      3.2240     13.47  VQ         .          .          .          .
   5.500      3.3168     13.47  VQ         .          .          .          .
   5.583      3.4077     13.20  VQ         .          .          .          .
   5.667      3.4986     13.20  VQ         .          .          .          .
   5.750      3.5895     13.20  VQ         .          .          .          .
   5.833      3.6839     13.71  .Q         .          .          .          .
   5.917      3.7783     13.71  .Q         .          .          .          .
   6.000      3.8727     13.71  .Q         .          .          .          .
   6.083      3.9731     14.58  .Q         .          .          .          .
   6.167      4.0736     14.58  .Q         .          .          .          .
   6.250      4.1740     14.58  .Q         .          .          .          .
   6.333      4.2797     15.35  .Q         .          .          .          .
   6.417      4.3854     15.35  .Q         .          .          .          .
   6.500      4.4910     15.35  .Q         .          .          .          .
   6.583      4.6032     16.29  .Q         .          .          .          .
   6.667      4.7154     16.29  .Q         .          .          .          .
   6.750      4.8276     16.29  .Q         .          .          .          .
   6.833      4.9455     17.12  .Q         .          .          .          .
   6.917      5.0634     17.12  .Q         .          .          .          .
   7.000      5.1813     17.12  .Q         .          .          .          .
   7.083      5.3057     18.06  .Q         .          .          .          .
   7.167      5.4301     18.06  .Q         .          .          .          .
   7.250      5.5545     18.06  .Q         .          .          .          .
   7.333      5.6835     18.73  .Q         .          .          .          .
   7.417      5.8125     18.73  .Q         .          .          .          .
   7.500      5.9414     18.73  .Q         .          .          .          .
   7.583      6.0752     19.42  .Q         .          .          .          .
   7.667      6.2089     19.42  .Q         .          .          .          .
   7.750      6.3427     19.42  .Q         .          .          .          .
   7.833      6.4846     20.60  .VQ        .          .          .          .
   7.917      6.6265     20.60  .VQ        .          .          .          .
   8.000      6.7684     20.60  .VQ        .          .          .          .
   8.083      6.9207     22.13  .VQ        .          .          .          .
   8.167      7.0731     22.13  .VQ        .          .          .          .
   8.250      7.2255     22.13  . Q        .          .          .          .
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  8.333     7.3906     23.97  . Q       .         .         .         .
  8.417     7.5557     23.97  . Q       .         .         .         .
  8.500     7.7208     23.97  . Q       .         .         .         .
  8.583     7.9000     26.02  . Q       .         .         .         .
  8.667     8.0792     26.02  . Q       .         .         .         .
  8.750     8.2584     26.02  . Q       .         .         .         .
  8.833     8.4514     28.02  . Q       .         .         .         .
  8.917     8.6444     28.02  . Q       .         .         .         .
  9.000     8.8374     28.02  . Q       .         .         .         .
  9.083     9.0654     33.10  . VQ      .         .         .         .
  9.167     9.2933     33.10  . VQ      .         .         .         .
  9.250     9.5213     33.10  . VQ      .         .         .         .
  9.333     9.8401     46.29  . V Q     .         .         .         .
  9.417    10.1589     46.29  . V Q     .         .         .         .
  9.500    10.4777     46.29  . V Q     .         .         .         .
  9.583    10.9412     67.29  .  V  Q   .         .         .         .
  9.667    11.4046     67.29  .  V  Q   .         .         .         .
  9.750    11.8681     67.29  .  V  Q   .         .         .         .
  9.833    12.4778     88.54  .  V    Q .         .         .         .
  9.917    13.0876     88.54  .  V    Q .         .         .         .
 10.000    13.6974     88.54  .  V    Q .         .         .         .
 10.083    14.4256    105.74  .  V      Q         .         .         .
 10.167    15.1539    105.74  .   V     Q         .         .         .
 10.250    15.8821    105.74  .   V     Q         .         .         .
 10.333    16.6079    105.39  .   V     Q         .         .         .
 10.417    17.3337    105.39  .   V     Q         .         .         .
 10.500    18.0595    105.39  .    V    Q         .         .         .
 10.583    18.6062     79.38  .    V Q  .         .         .         .
 10.667    19.1529     79.38  .    V Q  .         .         .         .
 10.750    19.6995     79.38  .    V Q  .         .         .         .
 10.833    20.2324     77.37  .    V Q  .         .         .         .
 10.917    20.7653     77.37  .    V Q  .         .         .         .
 11.000    21.2981     77.37  .    V Q  .         .         .         .
 11.083    21.9934    100.95  .     V   Q         .         .         .
 11.167    22.6886    100.95  .     V   Q         .         .         .
 11.250    23.3839    100.95  .     V   Q         .         .         .
 11.333    24.1704    114.20  .     V   .Q        .         .         .
 11.417    24.9569    114.20  .     V   .Q        .         .         .
 11.500    25.7434    114.20  .      V  .Q        .         .         .
 11.583    26.5488    116.93  .      V  .Q        .         .         .
 11.667    27.3541    116.93  .      V  .Q        .         .         .
 11.750    28.1594    116.93  .      V  .Q        .         .         .
 11.833    28.9564    115.72  .       V .Q        .         .         .
 11.917    29.7533    115.72  .       V .Q        .         .         .
 12.000    30.5503    115.72  .       V .Q        .         .         .
 12.083    31.3377    114.32  .       V .Q        .         .         .
 12.167    32.1250    114.32  .       V .Q        .         .         .
 12.250    32.9124    114.32  .        V.Q        .         .         .
 12.333    33.8545    136.80  .        V.  Q      .         .         .
 12.417    34.7966    136.80  .        V.  Q      .         .         .
 12.500    35.7387    136.80  .        V.  Q      .         .         .
 12.583    37.0180    185.75  .         V       Q .         .         .
 12.667    38.2972    185.75  .         V       Q .         .         .
 12.750    39.5764    185.75  .         V       Q .         .         .
 12.833    41.1332    226.04  .         .V        . Q       .         .
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 12.917    42.6899    226.04  .         .V        . Q       .         .
 13.000    44.2467    226.04  .         . V       . Q       .         .
 13.083    46.0629    263.71  .         . V       .     Q   .         .
 13.167    47.8791    263.71  .         .  V      .     Q   .         .
 13.250    49.6953    263.71  .         .  V      .     Q   .         .
 13.333    51.7939    304.71  .         .   V     .         Q         .
 13.417    53.8924    304.71  .         .   V     .         Q         .
 13.500    55.9910    304.71  .         .    V    .         Q         .
 13.583    58.3857    347.71  .         .     V   .         .   Q     .
 13.667    60.7804    347.71  .         .     V   .         .   Q     .
 13.750    63.1751    347.71  .         .      V  .         .   Q     .
 13.833    65.5885    350.42  .         .       V .         .    Q    .
 13.917    68.0018    350.42  .         .       V .         .    Q    .
 14.000    70.4151    350.42  .         .        V.         .    Q    .
 14.083    72.5370    308.10  .         .         V         Q         .
 14.167    74.6589    308.10  .         .         V         Q         .
 14.250    76.7808    308.10  .         .          V        Q         .
 14.333    78.8068    294.18  .         .         .V       Q.         .
 14.417    80.8328    294.18  .         .         . V      Q.         .
 14.500    82.8589    294.18  .         .         . V      Q.         .
 14.583    84.9663    305.99  .         .         .  V      Q         .
 14.667    87.0737    305.99  .         .         .   V     Q         .
 14.750    89.1811    305.99  .         .         .   V     Q         .
 14.833    91.3159    309.98  .         .         .    V    Q         .
 14.917    93.4508    309.98  .         .         .    V    Q         .
 15.000    95.5856    309.98  .         .         .     V   Q         .
 15.083    97.7197    309.87  .         .         .      V  Q         .
 15.167    99.8537    309.87  .         .         .      V  Q         .
 15.250   101.9878    309.87  .         .         .       V Q         .
 15.333   104.0816    304.01  .         .         .       V Q         .
 15.417   106.1753    304.01  .         .         .        VQ         .
 15.500   108.2690    304.01  .         .         .        VQ         .
 15.583   110.2877    293.12  .         .         .        QV         .
 15.667   112.3064    293.12  .         .         .        Q V        .
 15.750   114.3251    293.12  .         .         .        Q V        .
 15.833   116.2125    274.05  .         .         .      Q  . V       .
 15.917   118.0999    274.05  .         .         .      Q  . V       .
 16.000   119.9874    274.05  .         .         .      Q  .  V      .
 16.083   121.6520    241.70  .         .         .   Q     .  V      .
 16.167   123.3166    241.70  .         .         .   Q     .   V     .
 16.250   124.9812    241.70  .         .         .   Q     .   V     .
 16.333   126.3665    201.15  .         .         Q         .    V    .
 16.417   127.7519    201.15  .         .         Q         .    V    .
 16.500   129.1372    201.15  .         .         Q         .    V    .
 16.583   130.0880    138.05  .         .  Q      .         .     V   .
 16.667   131.0387    138.05  .         .  Q      .         .     V   .
 16.750   131.9895    138.05  .         .  Q      .         .     V   .
 16.833   132.6692     98.69  .        Q.         .         .     V   .
 16.917   133.3488     98.69  .        Q.         .         .     V   .
 17.000   134.0285     98.69  .        Q.         .         .      V  .
 17.083   134.5517     75.97  .      Q  .         .         .      V  .
 17.167   135.0749     75.97  .      Q  .         .         .      V  .
 17.250   135.5982     75.97  .      Q  .         .         .      V  .
 17.333   136.0182     60.99  .     Q   .         .         .      V  .
 17.417   136.4382     60.99  .     Q   .         .         .      V  .
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17.500	136.8582	60.99	. Q . . . V .
17.583	137.2088	50.91	. Q . . . V .
17.667	137.5594	50.91	. Q . . . V .
17.750	137.9100	50.91	. Q . . . V .
17.833	138.2019	42.39	. Q . . . V .
17.917	138.4938	42.39	. Q . . . V .
18.000	138.7858	42.39	. Q . . . V .
18.083	139.0279	35.16	. Q . . . V .
18.167	139.2700	35.16	. Q . . . V .
18.250	139.5121	35.16	. Q . . . V .
18.333	139.7121	29.03	. Q . . . V .
18.417	139.9120	29.03	. Q . . . V .
18.500	140.1119	29.03	. Q . . . V .
18.583	140.2790	24.26	. Q . . . V .
18.667	140.4461	24.26	. Q . . . V .
18.750	140.6131	24.26	. Q . . . V .
18.833	140.7543	20.50	. Q . . . V .
18.917	140.8956	20.50	. Q . . . V.
19.000	141.0368	20.50	. Q . . . V.
19.083	141.1532	16.91	.Q . . . V.
19.167	141.2697	16.91	.Q . . . V.
19.250	141.3862	16.91	.Q . . . V.
19.333	141.4827	14.02	.Q . . . V.
19.417	141.5793	14.02	.Q . . . V.
19.500	141.6759	14.02	.Q . . . V.
19.583	141.7617	12.46	.Q . . . V.
19.667	141.8475	12.46	.Q . . . V.
19.750	141.9334	12.46	.Q . . . V.
19.833	142.0119	11.41	.Q . . . V.
19.917	142.0905	11.41	.Q . . . V.
20.000	142.1690	11.41	.Q . . . V.
20.083	142.2361	9.73	Q . . . V.
20.167	142.3031	9.73	Q . . . V.
20.250	142.3701	9.73	Q . . . V.
20.333	142.4256	8.05	Q . . . V.
20.417	142.4810	8.05	Q . . . V.
20.500	142.5365	8.05	Q . . . V.
20.583	142.5862	7.22	Q . . . V.
20.667	142.6359	7.22	Q . . . V.
20.750	142.6857	7.22	Q . . . V.
20.833	142.7306	6.52	Q . . . V.
20.917	142.7755	6.52	Q . . . V.
21.000	142.8204	6.52	Q . . . V.
21.083	142.8615	5.97	Q . . . V.
21.167	142.9026	5.97	Q . . . V.
21.250	142.9438	5.97	Q . . . V.
21.333	142.9815	5.48	Q . . . V.
21.417	143.0192	5.48	Q . . . V.
21.500	143.0569	5.48	Q . . . V.
21.583	143.0947	5.49	Q . . . V.
21.667	143.1325	5.49	Q . . . V.
21.750	143.1703	5.49	Q . . . V.
21.833	143.2066	5.28	Q . . . V.
21.917	143.2430	5.28	Q . . . V.
22.000	143.2793	5.28	Q . . . V.

22.083	143.3162	5.35	Q . . . V.
22.167	143.3531	5.35	Q . . . V.
22.250	143.3899	5.35	Q . . . V.
22.333	143.4256	5.17	Q . . . V.
22.417	143.4612	5.17	Q . . . V.
22.500	143.4968	5.17	Q . . . V.
22.583	143.5327	5.21	Q . . . V.
22.667	143.5686	5.21	Q . . . V.
22.750	143.6045	5.21	Q . . . V.
22.833	143.6378	4.83	Q . . . V.
22.917	143.6711	4.83	Q . . . V.
23.000	143.7043	4.83	Q . . . V.
23.083	143.7357	4.56	Q . . . V.
23.166	143.7671	4.56	Q . . . V.
23.250	143.7984	4.56	Q . . . V.
23.333	143.8289	4.42	Q . . . V.
23.416	143.8593	4.42	Q . . . V.
23.500	143.8898	4.42	Q . . . V.
23.583	143.9196	4.33	Q . . . V.
23.666	143.9494	4.33	Q . . . V.
23.750	143.9793	4.33	Q . . . V.
23.833	144.0087	4.27	Q . . . V.
23.916	144.0381	4.27	Q . . . V.
24.000	144.0675	4.27	Q . . . V.
24.083	144.0959	4.12	Q . . . V.
24.166	144.1243	4.12	Q . . . V.
24.250	144.1527	4.12	Q . . . V.
24.333	144.1771	3.55	Q . . . V.
24.416	144.2015	3.55	Q . . . V.
24.500	144.2260	3.55	Q . . . V.
24.583	144.2420	2.33	Q . . . V.
24.666	144.2581	2.33	Q . . . V.
24.750	144.2742	2.33	Q . . . V.
24.833	144.2851	1.59	Q . . . V.
24.916	144.2961	1.59	Q . . . V.
25.000	144.3070	1.59	Q . . . V.
25.083	144.3152	1.18	Q . . . V.
25.166	144.3233	1.18	Q . . . V.
25.250	144.3315	1.18	Q . . . V.
25.333	144.3377	0.90	Q . . . V.
25.416	144.3439	0.90	Q . . . V.
25.500	144.3501	0.90	Q . . . V.
25.583	144.3550	0.71	Q . . . V.
25.666	144.3599	0.71	Q . . . V.
25.750	144.3647	0.71	Q . . . V.
25.833	144.3685	0.55	Q . . . V.
25.916	144.3723	0.55	Q . . . V.
26.000	144.3761	0.55	Q . . . V.
26.083	144.3792	0.44	Q . . . V.
26.166	144.3822	0.44	Q . . . V.
26.250	144.3852	0.44	Q . . . V.
26.333	144.3876	0.35	Q . . . V.
26.416	144.3900	0.35	Q . . . V.
26.500	144.3924	0.35	Q . . . V.
26.583	144.3943	0.28	Q . . . V.

```
  26.666    144.3962      0.28  Q         .         .         .        V.
  26.750    144.3981      0.28  Q         .         .         .        V.
  26.833    144.3996      0.22  Q         .         .         .        V.
  26.916    144.4010      0.22  Q         .         .         .        V.
  27.000    144.4025      0.22  Q         .         .         .        V.
  27.083    144.4036      0.16  Q         .         .         .        V.
  27.166    144.4048      0.16  Q         .         .         .        V.
  27.250    144.4059      0.16  Q         .         .         .        V.
  27.333    144.4068      0.13  Q         .         .         .        V.
  27.416    144.4076      0.13  Q         .         .         .        V.
  27.500    144.4085      0.13  Q         .         .         .        V.
  27.583    144.4091      0.10  Q         .         .         .        V.
  27.666    144.4098      0.10  Q         .         .         .        V.
  27.750    144.4104      0.10  Q         .         .         .        V.
  27.833    144.4110      0.08  Q         .         .         .        V.
  27.916    144.4115      0.08  Q         .         .         .        V.
  28.000    144.4120      0.08  Q         .         .         .        V.
  28.083    144.4125      0.06  Q         .         .         .        V.
  28.166    144.4129      0.06  Q         .         .         .        V.
  28.250    144.4133      0.06  Q         .         .         .        V.
  28.333    144.4136      0.04  Q         .         .         .        V.
  28.416    144.4139      0.04  Q         .         .         .        V.
  28.500    144.4142      0.04  Q         .         .         .        V.
  28.583    144.4144      0.03  Q         .         .         .        V.
  28.666    144.4145      0.03  Q         .         .         .        V.
  28.750    144.4147      0.03  Q         .         .         .        V.
  28.833    144.4148      0.01  Q         .         .         .        V.
  28.916    144.4148      0.01  Q         .         .         .        V.
  29.000    144.4149      0.01  Q         .         .         .        V.
  29.083    144.4149      0.00  Q         .         .         .        V.
  29.166    144.4149      0.00  Q         .         .         .        V.
  29.250    144.4150      0.00  Q         .         .         .        V.
--------------------------------------------------------------------------------
   TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
   (Note: 100% of Peak Flow Rate estimate assumed to have
   an instantaneous time duration)

   Percentile of Estimated                 Duration
       Peak Flow Rate                      (minutes)
   =======================                 =========
              0%                            1755.0
             10%                             540.0
             20%                             450.0
             30%                             360.0
             40%                             240.0
             50%                             240.0
             60%                             210.0
             70%                             180.0
             80%                             150.0
             90%                              30.0
 ============================================================================

  END OF FLOODSCx ROUTING ANALYSIS
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