

APN 0459-451-31, 32, 33 & 34

Hibiscus Road
Adelanto, CA 92301

Preliminary Drainage Report



Prepared for:
United Truck Parking
6240 Palladio Lane
Fontana, CA 92336
209-456-9699

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Original: February 23, 2026

Prepared under the supervision of:

Shelly Jones

Date

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OVERVIEW

APN 0459-451-31, 32, 33 & 34 are four adjacent parcels located between Hibiscus Road and Yucca Road, 4000 feet east of Highway 395 in Adelanto, California. A truck parking facility is proposed to be constructed on the four parcels. The domain of analysis is 10.29 acres of onsite and offsite area. The site currently consists of vacant desert property that is proposed to be developed into a truck parking facility.

The onsite terrain drains to the north at a slope of approximately 1-1.5%. A ridge runs along the center of the site that separates the site into two drainage areas (DA1 and DA2). The westerly drainage area (DA1) is 6.39 acres, and the easterly drainage area (DA2) is 3.90 acres. Hydrologic Soil Class C can be found throughout the immediate area. The site is bordered to the north by an existing trucking parking facility, to the east by vacant land, to the south by an existing truck parking facility and to the west by a Truck repair facility. The property to the south contains an existing infiltration basin. The existing site land coverage consists of poor desert brush. According to FEMA the site is in Zone X, which is an area with potential flooding during the 500-year storm event.

This project proposes to construct a Truck storage facility and will add 0.24 acres of impervious surface and 8.27 acres of base material. Due to the removal of vegetation and placement of the base and construction of impervious surfaces discharge area expected to increase in the proposed condition. Drainage improvements will include two infiltration basins to mitigate increases in runoff from proposed improvements and infiltrate the runoff. Total new imperviousness is anticipated to be 0.24 acres. Impervious surfaces include an office building, driveway, and parking lot. Mitigation facilities shall be sized based on the 100-year storm event to reduce proposed flow to the existing levels of flow discharged from the site.

PURPOSE

The purpose of this report is to discuss the hydrologic characteristics of the site and quantify the existing and proposed runoff quantities. Sizing of the proposed stormwater mitigation facilities will also be included. Calculations will be provided for sizing of proposed infrastructure to illustrate they are adequately sized.

CRITERIA

The criteria utilized in this report are set forth by the San Bernardino County Hydrology Manual. AES software was used to perform computations.

METHODOLOGY

Rational methods were applied to estimate peak flow rates for the existing and proposed condition. The base material surface condition was simulated as a barren surface coverage. Hydrographs were then developed and routed through the infiltration basins.

The onsite domain of analysis is 10.29 acres as this represents the proposed area tributary to the onsite proposed mitigation facilities. Hydrographs were developed and routed separately for the drainage area tributary to each infiltration basin.

RESULTS

Onsite rational method analysis indicates DA1 produces an existing 100-year peak flow rate of 12.042 cfs and 54933.5 ft³ of runoff. DA2 produces an existing 100-year peak flow rate of 8.06 cfs and 33,654.52 ft³ of runoff. In order to reduce proposed flows to the existing level mitigation facilities will include two infiltration basins. Infiltration Basin 1 will provide 5310 ft³ of storage. DA2 will provide 2326 ft³ of storage. Hydrograph routing indicates the peak flow out of infiltration basin 1 will be 10.72 cfs and 7.63 cfs out of infiltration basin 2.

As indicated in Table 1 below, the total amount of storage will be adequate to preserve existing discharge volume and reduce peak flows to less than existing.

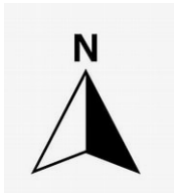
Table 1. Q100 Summary Table

<u>DA1- 6.39 Ac</u>			<u>DA2- 3.09 Ac</u>		
	Volume (ft ³)	Peak (cfs)		Volume (ft ³)	Peak (cfs)
Existing	54933.5	12.04	Existing	33654.5	8.06
Proposed	60243.5	12.36	Proposed	35980.5	8.19
Mitigated	54933.5	10.72	Mitigated	33654.5	7.63

This report has clearly demonstrated flows will be conveyed and managed. The report has clearly demonstrated proposed flows will be reduced to the existing level. Furthermore, this report has demonstrated drainage infrastructure is adequately sized to mitigate for increased runoff. Calculations and exhibits accompany this discussion to further illustrate these findings.

Reference Material

VICINITY EXHIBIT



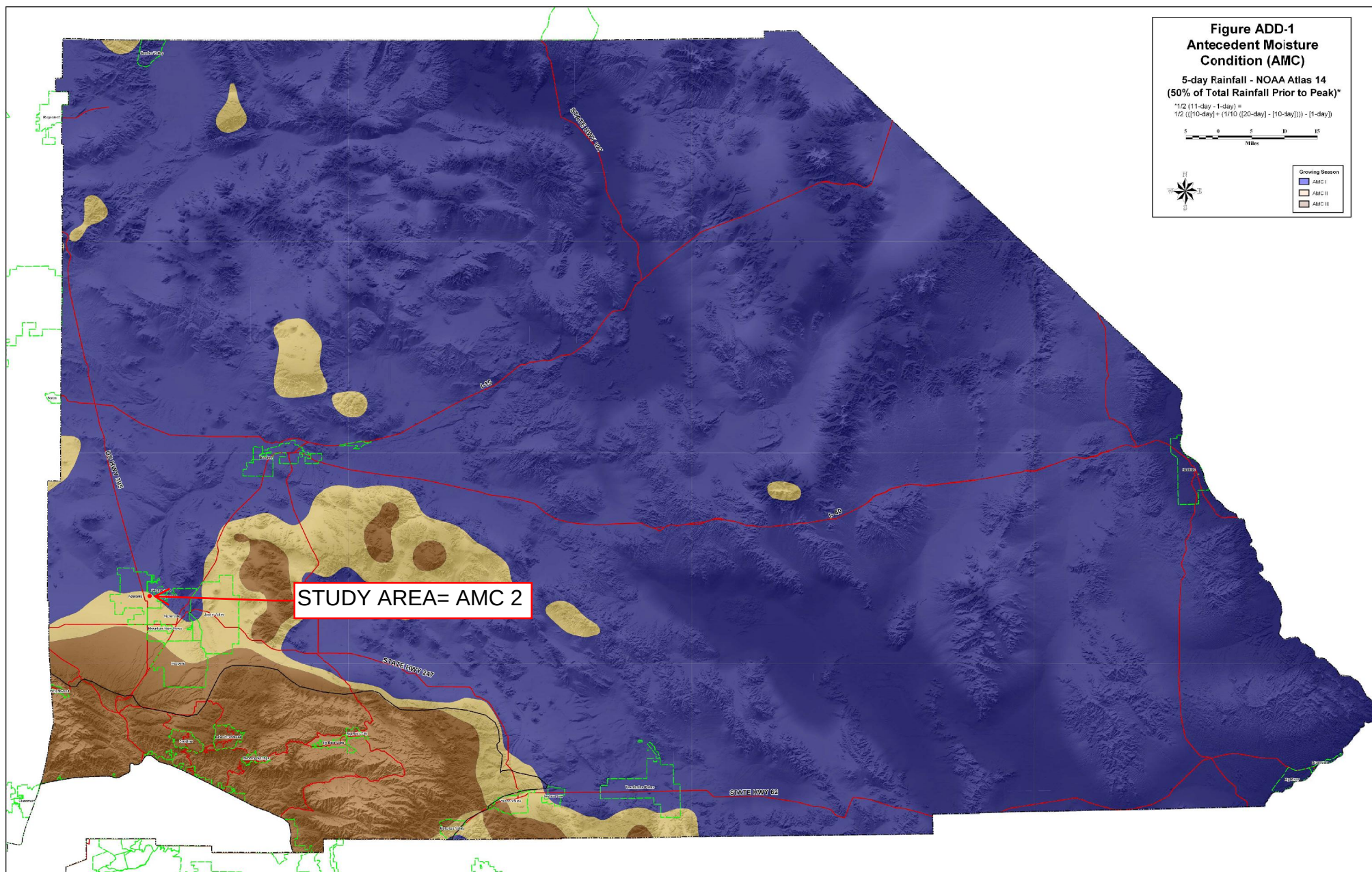
 [Print page](#)

PDS-based 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	0.085 (0.070-0.104)	0.118 (0.098-0.145)	0.164 (0.135-0.202)	0.203 (0.166-0.251)	0.259 (0.20-0.332)	0.304 (0.235-0.397)	0.351 (0.265-0.470)	0.402 (0.295-0.553)	0.473 (0.333-0.679)	0.531 (0.36-0.788)
10-min	0.122 (0.101-0.149)	0.170 (0.140-0.208)	0.236 (0.194-0.290)	0.291 (0.238-0.361)	0.371 (0.293-0.475)	0.435 (0.336-0.569)	0.503 (0.380-0.674)	0.576 (0.422-0.793)	0.678 (0.477-0.93)	0.761 (0.517-1.13)
15-min	0.148 (0.122-0.181)	0.205 (0.169-0.252)	0.285 (0.234-0.350)	0.352 (0.287-0.437)	0.449 (0.354-0.575)	0.526 (0.407-0.688)	0.609 (0.459-0.815)	0.696 (0.511-0.959)	0.820 (0.577-1.18)	0.920 (0.626-1.37)
30-min	0.201 (0.166-0.246)	0.279 (0.230-0.342)	0.388 (0.319-0.477)	0.480 (0.391-0.594)	0.611 (0.482-0.782)	0.717 (0.554-0.933)	0.828 (0.625-1.11)	0.948 (0.695-1.30)	1.12 (0.76-1.60)	1.25 (0.852-1.86)
60-min	0.243 (0.200-0.297)	0.337 (0.278-0.413)	0.468 (0.385-0.575)	0.579 (0.472-0.717)	0.737 (0.582-0.944)	0.865 (0.668-1.13)	1.00 (0.754-1.34)	1.14 (0.831-1.58)	1.35 (0.948-1.93)	1.51 (1.032-2.24)
2-hr	0.338 (0.279-0.413)	0.455 (0.375-0.558)	0.617 (0.508-0.759)	0.756 (0.616-0.936)	0.953 (0.752-1.22)	1.11 (0.859-1.45)	1.28 (0.986-1.71)	1.46 (1.07-2.01)	1.71 (1.20-2.45)	1.91 (1.30-2.84)
3-hr	0.405 (0.334-0.495)	0.540 (0.445-0.662)	0.727 (0.597-0.893)	0.886 (0.722-1.10)	1.11 (0.871-1.43)	1.30 (1.00-1.70)	1.49 (1.12-2.00)	1.70 (1.24-2.34)	1.98 (1.40-2.85)	2.22 (1.51-3.29)
6-hr	0.541 (0.447-0.663)	0.718 (0.592-0.880)	0.961 (0.790-1.18)	1.17 (0.952-1.45)	1.46 (1.15-1.87)	1.70 (1.31-2.22)	1.95 (1.47-2.61)	2.21 (1.62-3.04)	2.58 (1.82-3.71)	2.88 (2.06-4.28)
12-hr	0.675 (0.557-0.826)	0.914 (0.756-1.12)	1.24 (1.02-1.52)	1.51 (1.25-1.88)	1.90 (1.50-2.43)	2.21 (1.7-2.89)	2.53 (1.9-3.39)	2.87 (2.10-3.95)	3.34 (2.35-4.79)	3.72 (2.53-5.52)
24-hr	0.870 (0.772-1.00)	1.21 (1.07-1.39)	1.67 (1.48-1.93)	2.05 (1.80-2.39)	2.59 (2.19-3.11)	3.01 (2.50-3.70)	3.44 (2.79-4.34)	3.90 (3.05-5.06)	4.54 (3.46-6.14)	5.05 (3.69-7.05)
2-day	0.976 (0.866-1.12)	1.38 (1.22-1.58)	1.92 (1.70-2.22)	2.37 (2.08-2.76)	3.00 (2.54-3.61)	3.49 (2.90-4.29)	4.00 (3.24-5.04)	4.55 (3.58-5.89)	5.29 (4.00-7.15)	5.88 (4.30-8.27)
3-day	1.06 (0.935-1.21)	1.49 (1.32-1.72)	2.10 (1.85-2.42)	2.60 (2.27-3.02)	3.29 (2.79-3.96)	3.83 (3.18-4.71)	4.34 (3.56-5.54)	5.00 (3.94-6.47)	5.83 (4.40-7.87)	6.49 (4.74-9.06)
4-day	1.12 (0.992-1.29)	1.59 (1.41-1.83)	2.23 (1.97-2.58)	2.77 (2.42-3.22)	3.51 (2.97-4.22)	4.09 (3.39-5.03)	4.69 (3.80-5.91)	5.33 (4.06-8.00)	6.21 (4.69-8.38)	6.90 (5.04-9.65)
7-day	1.18 (1.05-1.36)	1.68 (1.49-1.94)	2.36 (2.09-2.73)	2.93 (2.57-3.42)	3.72 (3.15-4.48)	4.34 (3.60-5.33)	4.96 (4.02-6.25)	5.62 (4.43-7.28)	6.50 (4.82-8.80)	7.21 (5.26-10.1)
10-day	1.24 (1.10-1.43)	1.76 (1.56-2.03)	2.49 (2.20-2.87)	3.09 (2.71-3.60)	3.93 (3.33-4.73)	4.58 (3.80-5.64)	5.25 (4.26-6.62)	5.94 (4.68-7.70)	6.90 (5.21-9.31)	7.63 (5.51-10.7)
20-day	1.41 (1.25-1.63)	2.04 (1.81-2.35)	2.92 (2.58-3.36)	3.67 (3.21-4.27)	4.73 (4.01-5.69)	5.57 (4.62-6.84)	6.43 (5.21-8.05)	7.33 (5.78-9.50)	8.55 (6.66-11.5)	9.48 (6.92-13.3)
30-day	1.58 (1.40-1.82)	2.30 (2.04-2.65)	3.34 (2.95-3.85)	4.23 (3.70-4.92)	5.52 (4.68-6.64)	6.54 (5.43-8.05)	7.61 (6.16-9.58)	8.72 (6.87-11.3)	10.2 (7.73-13.8)	11.4 (8.32-15.9)
45-day	1.82 (1.62-2.10)	2.67 (2.37-3.08)	3.91 (3.46-4.52)	5.01 (4.39-5.83)	6.62 (5.61-7.97)	7.94 (6.59-9.77)	9.32 (7.55-11.7)	10.8 (8.48-13.9)	12.4 (9.64-17.2)	14.3 (10.4-20.0)
60-day	2.00 (1.78-2.31)	2.94 (2.60-3.33)	4.34 (3.63-5.01)	5.58 (4.89-6.50)	7.44 (6.31-8.96)	8.99 (7.46-11.2)	10.6 (8.62-13.4)	12.4 (9.74-16.0)	14.2 (11.2-20.0)	16.7 (12.2-23.3)

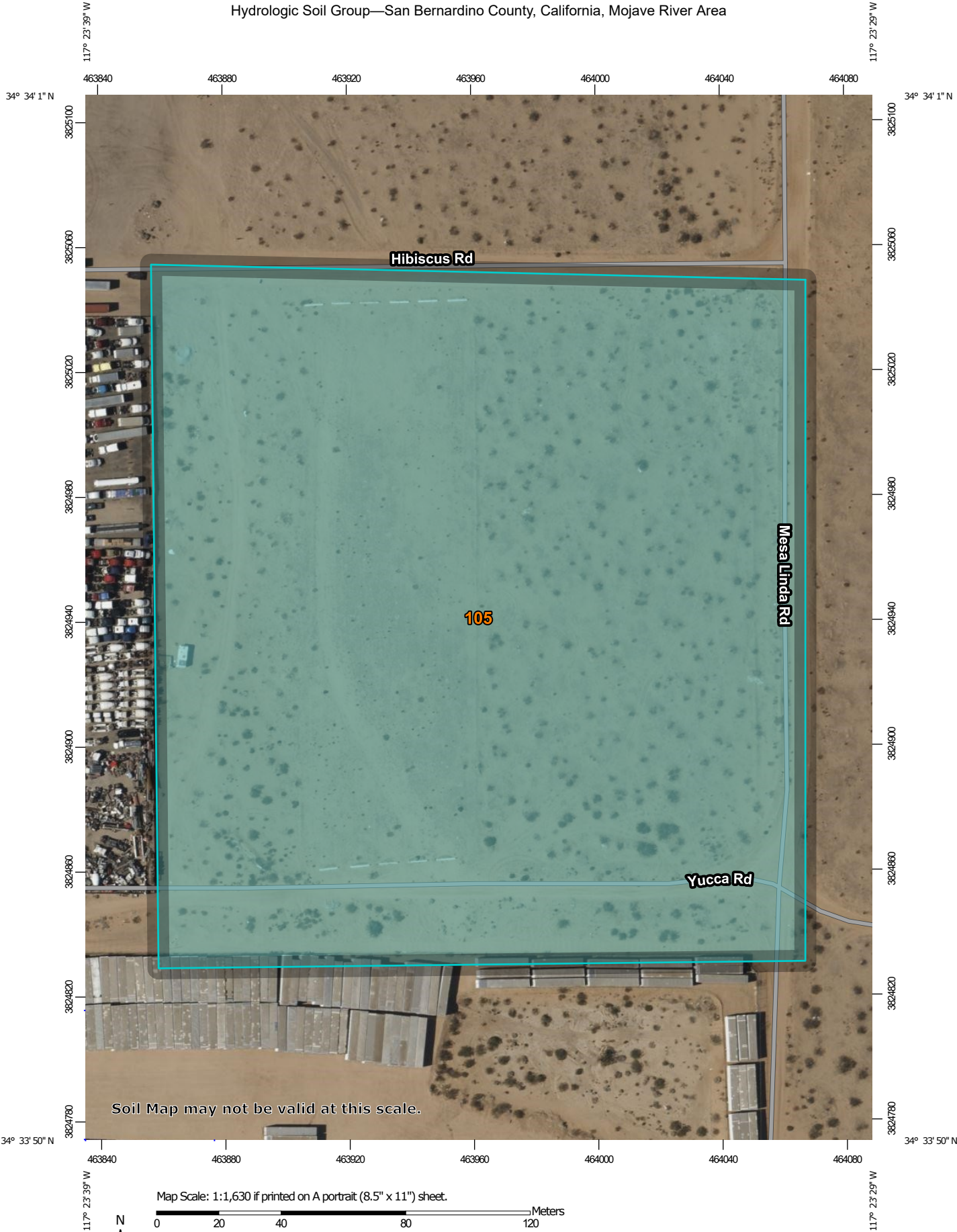
**Figure ADD-1
Antecedent Moisture
Condition (AMC)**

**5-day Rainfall - NOAA Atlas 14
(50% of Total Rainfall Prior to Peak)***

$$\frac{1}{2} \left(\frac{1}{10\text{-day}} + \frac{1}{10} \left(\frac{20\text{-day}}{10\text{-day}} - 1 \right) \right) - 1\text{-day}$$



Hydrologic Soil Group—San Bernardino County, California, Mojave River Area



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area

Survey Area Data: Version 17, Sep 8, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 17, 2022—Jun 12, 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
105	BRYMAN LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES	C	11.5	100.0%
Totals for Area of Interest			11.5	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

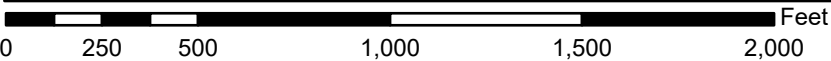
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMette



117°23'53"W 34°34'12"N



1:6,000

117°23'16"W 34°33'42"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **2/24/2026 at 5:05 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Rational Methods

RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
(Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)
(c) Copyright 1983-2011 Advanced Engineering Software (aes)
Ver. 18.0 Release Date: 07/01/2011 License ID 1501

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* APN 0459-451-31, 32, 33&34 *
* Existing Condition *
* 100 Year Storm Event *

FILE NAME: 045945E.DAT
TIME/DATE OF STUDY: 10:14 02/21/2026

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USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

=====

--*TIME-OF-CONCENTRATION MODEL*--

USER SPECIFIED STORM EVENT(YEAR) = 100.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL

SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.7000
USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.0000

ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

	HALF- WIDTH	CROWN TO CROSSFALL	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT	GUTTER-GEOMETRIES: WIDTH	LIP	HIKE	MANNING FACTOR
NO.	(FT)	(FT)		(FT)	(FT)	(FT)	(FT)	(n)
===	=====	=====	=====	=====	=====	=====	=====	=====
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00	0.0312	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)

*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

*USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

FLOW PROCESS FROM NODE 0.00 TO NODE 1.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

INITIAL SUBAREA FLOW-LENGTH(FEET) = 280.00

ELEVATION DATA: UPSTREAM(FEET) = 2925.80 DOWNSTREAM(FEET) = 2921.00

$T_c = K * [(LENGTH^{**} 3.00) / (ELEVATION CHANGE)]^{**0.20}$

SUBAREA ANALYSIS USED MINIMUM T_c (MIN.) = 11.277

* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.222

SUBAREA T_c AND LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	T_c (MIN.)
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NATURAL DESERT COVER

"DESERT BRUSH" (20.0%)	C	0.72	0.24	1.000	88	11.28
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SUBAREA AVERAGE PERVIOUS LOSS RATE, F_p (INCH/HR) = 0.24

SUBAREA AVERAGE PERVIOUS AREA FRACTION, A_p = 1.000

SUBAREA RUNOFF(CFS) = 1.94

TOTAL AREA(ACRES) = 0.72 PEAK FLOW RATE(CFS) = 1.94

FLOW PROCESS FROM NODE 1.00 TO NODE 2.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<

>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 2921.00 DOWNSTREAM(FEET) = 2916.20

CHANNEL LENGTH THRU SUBAREA(FEET) = 606.00 CHANNEL SLOPE = 0.0079

CHANNEL FLOW THRU SUBAREA(CFS) = 1.94

FLOW VELOCITY(FEET/SEC) = 1.52 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)

TRAVEL TIME(MIN.) = 6.64 T_c (MIN.) = 17.92

LONGEST FLOWPATH FROM NODE 0.00 TO NODE 2.00 = 886.00 FEET.

FLOW PROCESS FROM NODE 2.00 TO NODE 2.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE T_c (MIN.) = 17.92

* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.330

SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
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NATURAL DESERT COVER

"DESERT BRUSH" (20.0%)	C	5.67	0.24	1.000	88
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SUBAREA AVERAGE PERVIOUS LOSS RATE, F_p (INCH/HR) = 0.24

SUBAREA AVERAGE PERVIOUS AREA FRACTION, A_p = 1.000

SUBAREA AREA(ACRES) = 5.67 SUBAREA RUNOFF(CFS) = 10.69

EFFECTIVE AREA(ACRES) = 6.39 AREA-AVERAGED Fm(INCH/HR) = 0.24
AREA-AVERAGED Fp(INCH/HR) = 0.24 AREA-AVERAGED Ap = 1.00
TOTAL AREA(ACRES) = 6.4 PEAK FLOW RATE(CFS) = 12.04

FLOW PROCESS FROM NODE 3.00 TO NODE 4.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 150.00
ELEVATION DATA: UPSTREAM(FEET) = 2925.50 DOWNSTREAM(FEET) = 2923.30

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 9.064
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.755
SUBAREA Tc AND LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
NATURAL DESERT COVER						
"DESERT BRUSH" (20.0%)	C	0.37	0.24	1.000	88	9.06

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.24
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA RUNOFF(CFS) = 1.17
TOTAL AREA(ACRES) = 0.37 PEAK FLOW RATE(CFS) = 1.17

FLOW PROCESS FROM NODE 4.00 TO NODE 5.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<<

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ELEVATION DATA: UPSTREAM(FEET) = 2923.30 DOWNSTREAM(FEET) = 2916.30
CHANNEL LENGTH THRU SUBAREA(FEET) = 658.00 CHANNEL SLOPE = 0.0106
CHANNEL FLOW THRU SUBAREA(CFS) = 1.17
FLOW VELOCITY(FEET/SEC) = 1.59 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 6.88 Tc(MIN.) = 15.94
LONGEST FLOWPATH FROM NODE 3.00 TO NODE 5.00 = 808.00 FEET.

FLOW PROCESS FROM NODE 5.00 TO NODE 5.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

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MAINLINE Tc(MIN.) = 15.94
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.529
SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
NATURAL DESERT COVER					
"DESERT BRUSH" (20.0%)	C	3.53	0.24	1.000	88

SUBAREA AVERAGE PERVIOUS LOSS RATE, $F_p(\text{INCH/HR}) = 0.24$
SUBAREA AVERAGE PERVIOUS AREA FRACTION, $A_p = 1.000$
SUBAREA AREA(ACRES) = 3.53 SUBAREA RUNOFF(CFS) = 7.28
EFFECTIVE AREA(ACRES) = 3.90 AREA-AVERAGED $F_m(\text{INCH/HR}) = 0.24$
AREA-AVERAGED $F_p(\text{INCH/HR}) = 0.24$ AREA-AVERAGED $A_p = 1.00$
TOTAL AREA(ACRES) = 3.9 PEAK FLOW RATE(CFS) = 8.05

=====

END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 3.9 TC(MIN.) = 15.94
EFFECTIVE AREA(ACRES) = 3.90 AREA-AVERAGED $F_m(\text{INCH/HR}) = 0.24$
AREA-AVERAGED $F_p(\text{INCH/HR}) = 0.24$ AREA-AVERAGED $A_p = 1.000$
PEAK FLOW RATE(CFS) = 8.05

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END OF RATIONAL METHOD ANALYSIS



RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
(Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)
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Ver. 18.0 Release Date: 07/01/2011 License ID 1501

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* APN 0459-451-31, 32, 33&34 *
* Proposed Condition *
* 100 Year Storm Event *

FILE NAME: 045945P.DAT
TIME/DATE OF STUDY: 19:09 02/23/2026

=====

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

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--*TIME-OF-CONCENTRATION MODEL*--

USER SPECIFIED STORM EVENT(YEAR) = 100.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL

SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.7000
USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.0000

ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

	HALF- WIDTH	CROWN TO CROSSFALL	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT	GUTTER-GEOMETRIES: WIDTH	LIP	HIKE	MANNING FACTOR
NO.	(FT)	(FT)		(FT)	(FT)	(FT)	(FT)	(n)
===	=====	=====	=====	=====	=====	=====	=====	=====
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00	0.0313	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)

*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

*USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

INITIAL SUBAREA FLOW-LENGTH(FEET) = 280.00

ELEVATION DATA: UPSTREAM(FEET) = 2925.80 DOWNSTREAM(FEET) = 2921.00

$T_c = K * [(LENGTH^{**} 3.00) / (ELEVATION CHANGE)]^{**0.20}$

SUBAREA ANALYSIS USED MINIMUM T_c (MIN.) = 11.277

* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.222

SUBAREA T_c AND LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	T_c (MIN.)
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NATURAL DESERT COVER

"DESERT BRUSH" (20.0%)	C	0.72	0.24	1.000	88	11.28
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SUBAREA AVERAGE PERVIOUS LOSS RATE, F_p (INCH/HR) = 0.24

SUBAREA AVERAGE PERVIOUS AREA FRACTION, A_p = 1.000

SUBAREA RUNOFF(CFS) = 1.94

TOTAL AREA(ACRES) = 0.72 PEAK FLOW RATE(CFS) = 1.94

FLOW PROCESS FROM NODE 11.00 TO NODE 12.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<

>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 2921.00 DOWNSTREAM(FEET) = 2916.20

CHANNEL LENGTH THRU SUBAREA(FEET) = 606.00 CHANNEL SLOPE = 0.0079

CHANNEL FLOW THRU SUBAREA(CFS) = 1.94

FLOW VELOCITY(FEET/SEC) = 1.52 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)

TRAVEL TIME(MIN.) = 6.64 T_c (MIN.) = 17.92

LONGEST FLOWPATH FROM NODE 10.00 TO NODE 12.00 = 886.00 FEET.

FLOW PROCESS FROM NODE 12.00 TO NODE 12.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE T_c (MIN.) = 17.92

* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.330

SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
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COMMERCIAL	C	0.24	0.57	0.100	69
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NATURAL POOR COVER

"BARREN"	C	5.43	0.18	1.000	91
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SUBAREA AVERAGE PERVIOUS LOSS RATE, F_p (INCH/HR) = 0.18

SUBAREA AVERAGE PERVIOUS AREA FRACTION, A_p = 0.962

SUBAREA AREA(ACRES) = 5.67 SUBAREA RUNOFF(CFS) = 11.00
EFFECTIVE AREA(ACRES) = 6.39 AREA-AVERAGED Fm(INCH/HR) = 0.18
AREA-AVERAGED Fp(INCH/HR) = 0.19 AREA-AVERAGED Ap = 0.97
TOTAL AREA(ACRES) = 6.4 PEAK FLOW RATE(CFS) = 12.36

FLOW PROCESS FROM NODE 20.00 TO NODE 21.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 150.00
ELEVATION DATA: UPSTREAM(FEET) = 2925.50 DOWNSTREAM(FEET) = 2923.30

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 9.064
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.755
SUBAREA Tc AND LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
NATURAL DESERT COVER						
"DESERT BRUSH" (20.0%)	C	0.37	0.24	1.000	88	9.06

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.24
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA RUNOFF(CFS) = 1.17
TOTAL AREA(ACRES) = 0.37 PEAK FLOW RATE(CFS) = 1.17

FLOW PROCESS FROM NODE 21.00 TO NODE 22.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 2923.30 DOWNSTREAM(FEET) = 2916.30
CHANNEL LENGTH THRU SUBAREA(FEET) = 658.00 CHANNEL SLOPE = 0.0106
CHANNEL FLOW THRU SUBAREA(CFS) = 1.17
FLOW VELOCITY(FEET/SEC) = 1.59 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 6.88 Tc(MIN.) = 15.94
LONGEST FLOWPATH FROM NODE 20.00 TO NODE 22.00 = 808.00 FEET.

FLOW PROCESS FROM NODE 22.00 TO NODE 22.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 15.94
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.529
SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
NATURAL POOR COVER					

"BARREN"	C	2.84	0.18	1.000	91
NATURAL DESERT COVER					
"DESERT BRUSH" (20.0%)	C	0.69	0.24	1.000	88
SUBAREA AVERAGE PERVIOUS LOSS RATE, F_p (INCH/HR) = 0.19					
SUBAREA AVERAGE PERVIOUS AREA FRACTION, A_p = 1.000					
SUBAREA AREA(ACRES) =		3.53	SUBAREA RUNOFF(CFS) =		7.43
EFFECTIVE AREA(ACRES) =		3.90	AREA-AVERAGED F_m (INCH/HR) =		0.20
AREA-AVERAGED F_p (INCH/HR) =		0.20	AREA-AVERAGED A_p =		1.00
TOTAL AREA(ACRES) =		3.9	PEAK FLOW RATE(CFS) =		8.19

=====

END OF STUDY SUMMARY:

TOTAL AREA(ACRES)	=	3.9	TC(MIN.)	=	15.94
EFFECTIVE AREA(ACRES)	=	3.90	AREA-AVERAGED F_m (INCH/HR)	=	0.20
AREA-AVERAGED F_p (INCH/HR)	=	0.20	AREA-AVERAGED A_p	=	1.000
PEAK FLOW RATE(CFS)	=	8.19			

=====

END OF RATIONAL METHOD ANALYSIS



Hydrographs

DA1 Existing Condition 100 Year Storm

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*** NON-HOMOGENEOUS WATERSHED AREA-AVERAGED LOSS RATE (Fm)
AND LOW LOSS FRACTION ESTIMATIONS FOR AMC II:

TOTAL 24-HOUR DURATION RAINFALL DEPTH = 3.44 (inches)

SOIL-COVER TYPE	AREA (Acres)	PERCENT OF PVIOUS AREA	SCS CURVE NUMBER	LOSS RATE Fp(in./hr.)	YIELD
1	6.39	100.00	88.	0.236	0.644

TOTAL AREA (Acres) = 6.39

AREA-AVERAGED LOSS RATE, Fm (in./hr.) = 0.236

AREA-AVERAGED LOW LOSS FRACTION, Y = 0.356

=====

RATIONAL METHOD CALIBRATION COEFFICIENT = 1.00

TOTAL CATCHMENT AREA(ACRES) = 6.39

SOIL-LOSS RATE, Fm,(INCH/HR) = 0.236

LOW LOSS FRACTION = 0.356

TIME OF CONCENTRATION(MIN.) = 17.90

SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA

USER SPECIFIED RAINFALL VALUES ARE USED

RETURN FREQUENCY(YEARS) = 100

5-MINUTE POINT RAINFALL VALUE(INCHES) = 0.35

30-MINUTE POINT RAINFALL VALUE(INCHES) = 0.83

1-HOUR POINT RAINFALL VALUE(INCHES) = 1.00

3-HOUR POINT RAINFALL VALUE(INCHES) = 1.49

6-HOUR POINT RAINFALL VALUE(INCHES) = 1.95

24-HOUR POINT RAINFALL VALUE(INCHES) = 3.44

TOTAL CATCHMENT RUNOFF VOLUME(ACRE-FEET) = 1.26

TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) = 0.57

TIME (HOURS)	VOLUME (AF)	Q (CFS)
0.		
5.0		
10.0		
15.0		
20.0		

0.19	0.0019	0.24	Q	.	.	.	.
------	--------	------	---	---	---	---	---

0.49	0.0079	0.24 Q	.	.	.	.
0.79	0.0139	0.25 Q	.	.	.	.
1.08	0.0200	0.25 Q	.	.	.	.
1.38	0.0262	0.25 Q	.	.	.	.
1.68	0.0325	0.25 Q	.	.	.	.
1.98	0.0388	0.26 Q	.	.	.	.
2.28	0.0452	0.26 Q	.	.	.	.
2.58	0.0517	0.27 Q	.	.	.	.
2.87	0.0583	0.27 Q	.	.	.	.
3.17	0.0649	0.27 Q	.	.	.	.
3.47	0.0717	0.28 Q	.	.	.	.
3.77	0.0785	0.28 Q	.	.	.	.
4.07	0.0855	0.28 Q	.	.	.	.
4.37	0.0925	0.29 Q	.	.	.	.
4.66	0.0997	0.29 Q	.	.	.	.
4.96	0.1069	0.30 Q	.	.	.	.
5.26	0.1143	0.30 Q	.	.	.	.
5.56	0.1218	0.31 Q	.	.	.	.
5.86	0.1294	0.31 Q	.	.	.	.
6.16	0.1372	0.32 Q	.	.	.	.
6.45	0.1451	0.32 Q	.	.	.	.
6.75	0.1531	0.33 Q	.	.	.	.
7.05	0.1613	0.33 Q	.	.	.	.
7.35	0.1696	0.34 Q	.	.	.	.
7.65	0.1781	0.35 Q	.	.	.	.
7.95	0.1868	0.36 Q	.	.	.	.
8.24	0.1957	0.36 Q	.	.	.	.
8.54	0.2047	0.37 Q	.	.	.	.
8.84	0.2140	0.38 Q	.	.	.	.
9.14	0.2235	0.39 Q	.	.	.	.
9.44	0.2332	0.40 Q	.	.	.	.
9.74	0.2432	0.41 Q	.	.	.	.
10.03	0.2535	0.42 Q	.	.	.	.
10.33	0.2641	0.44 Q	.	.	.	.
10.63	0.2750	0.45 Q	.	.	.	.
10.93	0.2862	0.47 Q	.	.	.	.
11.23	0.2978	0.48 Q	.	.	.	.
11.52	0.3098	0.50 Q	.	.	.	.
11.82	0.3223	0.51 .Q	.	.	.	.
12.12	0.3352	0.54 .Q	.	.	.	.
12.42	0.3484	0.53 .Q	.	.	.	.
12.72	0.3619	0.57 .Q	.	.	.	.
13.02	0.3761	0.59 .Q	.	.	.	.
13.32	0.3911	0.63 .Q	.	.	.	.
13.61	0.4071	0.66 .Q	.	.	.	.

13.91	0.4243	0.73 .Q	.	.	.	.
14.21	0.4428	0.77 .Q	.	.	.	.
14.51	0.4625	0.83 .Q	.	.	.	.
14.81	0.4837	0.89 .Q	.	.	.	.
15.10	0.5082	1.09 .Q	.	.	.	.
15.40	0.5369	1.24 .Q	.	.	.	.
15.70	0.5695	1.40 .Q	.	.	.	.
16.00	0.6268	3.25 . Q	.	.	.	.
16.30	0.8191	12.04 .	.	.	Q	.
16.60	0.9875	1.32 .Q	.	.	.	.
16.90	1.0159	0.98 .Q	.	.	.	.
17.19	1.0375	0.77 .Q	.	.	.	.
17.49	1.0556	0.69 .Q	.	.	.	.
17.79	1.0716	0.61 .Q	.	.	.	.
18.09	1.0859	0.55 .Q	.	.	.	.
18.39	1.0991	0.53 .Q	.	.	.	.
18.68	1.1116	0.49 Q	.	.	.	.
18.98	1.1232	0.46 Q	.	.	.	.
19.28	1.1341	0.43 Q	.	.	.	.
19.58	1.1444	0.41 Q	.	.	.	.
19.88	1.1541	0.39 Q	.	.	.	.
20.18	1.1634	0.37 Q	.	.	.	.
20.48	1.1723	0.35 Q	.	.	.	.
20.77	1.1808	0.34 Q	.	.	.	.
21.07	1.1890	0.33 Q	.	.	.	.
21.37	1.1969	0.31 Q	.	.	.	.
21.67	1.2045	0.30 Q	.	.	.	.
21.97	1.2119	0.29 Q	.	.	.	.
22.27	1.2190	0.29 Q	.	.	.	.
22.56	1.2260	0.28 Q	.	.	.	.
22.86	1.2327	0.27 Q	.	.	.	.
23.16	1.2393	0.26 Q	.	.	.	.
23.46	1.2457	0.26 Q	.	.	.	.
23.76	1.2520	0.25 Q	.	.	.	.
24.06	1.2581	0.25 Q	.	.	.	.
24.35	1.2611	0.00 Q	.	.	.	.
						54933.52

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 Peak Flow Rate	Duration (minutes)
=====	=====

0%	1449.9
10%	89.5
20%	35.8
30%	17.9
40%	17.9
50%	17.9
60%	17.9
70%	17.9
80%	17.9
90%	17.9

DA2 Existing Condition 100 Year Storm

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*** NON-HOMOGENEOUS WATERSHED AREA-AVERAGED LOSS RATE (Fm)
AND LOW LOSS FRACTION ESTIMATIONS FOR AMC II:

TOTAL 24-HOUR DURATION RAINFALL DEPTH = 3.44 (inches)

SOIL-COVER TYPE	AREA (Acres)	PERCENT OF PVIOUS AREA	SCS CURVE NUMBER	LOSS RATE Fp(in./hr.)	YIELD
1	3.90	100.00	88.	0.236	0.644

TOTAL AREA (Acres) = 3.90

AREA-AVERAGED LOSS RATE, Fm (in./hr.) = 0.236

AREA-AVERAGED LOW LOSS FRACTION, Y = 0.356

=====

RATIONAL METHOD CALIBRATION COEFFICIENT = 1.00

TOTAL CATCHMENT AREA(ACRES) = 3.90

SOIL-LOSS RATE, Fm,(INCH/HR) = 0.236

LOW LOSS FRACTION = 0.356

TIME OF CONCENTRATION(MIN.) = 15.94

SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA

USER SPECIFIED RAINFALL VALUES ARE USED

RETURN FREQUENCY(YEARS) = 100

5-MINUTE POINT RAINFALL VALUE(INCHES) = 0.35

30-MINUTE POINT RAINFALL VALUE(INCHES) = 0.83

1-HOUR POINT RAINFALL VALUE(INCHES) = 1.00

3-HOUR POINT RAINFALL VALUE(INCHES) = 1.49

6-HOUR POINT RAINFALL VALUE(INCHES) = 1.95

24-HOUR POINT RAINFALL VALUE(INCHES) = 3.44

TOTAL CATCHMENT RUNOFF VOLUME(ACRE-FEET) = 0.77

TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) = 0.35

TIME (HOURS)	VOLUME (AF)	Q (CFS)
0.		
2.5		
5.0		
7.5		
10.0		

0.06	0.0000	0.00	Q	.	.	.	.
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0.33	0.0016	0.15 Q	.	.	.	.
0.59	0.0049	0.15 Q	.	.	.	.
0.86	0.0082	0.15 Q	.	.	.	.
1.12	0.0115	0.15 Q	.	.	.	.
1.39	0.0149	0.15 Q	.	.	.	.
1.65	0.0183	0.16 Q	.	.	.	.
1.92	0.0217	0.16 Q	.	.	.	.
2.19	0.0252	0.16 Q	.	.	.	.
2.45	0.0287	0.16 Q	.	.	.	.
2.72	0.0323	0.16 Q	.	.	.	.
2.98	0.0359	0.17 Q	.	.	.	.
3.25	0.0395	0.17 Q	.	.	.	.
3.51	0.0432	0.17 Q	.	.	.	.
3.78	0.0469	0.17 Q	.	.	.	.
4.05	0.0507	0.17 Q	.	.	.	.
4.31	0.0545	0.18 Q	.	.	.	.
4.58	0.0584	0.18 Q	.	.	.	.
4.84	0.0624	0.18 Q	.	.	.	.
5.11	0.0663	0.18 Q	.	.	.	.
5.37	0.0704	0.18 Q	.	.	.	.
5.64	0.0745	0.19 Q	.	.	.	.
5.90	0.0786	0.19 Q	.	.	.	.
6.17	0.0829	0.19 Q	.	.	.	.
6.44	0.0872	0.20 Q	.	.	.	.
6.70	0.0915	0.20 Q	.	.	.	.
6.97	0.0960	0.20 Q	.	.	.	.
7.23	0.1005	0.21 Q	.	.	.	.
7.50	0.1051	0.21 Q	.	.	.	.
7.76	0.1097	0.22 Q	.	.	.	.
8.03	0.1145	0.22 Q	.	.	.	.
8.30	0.1194	0.22 Q	.	.	.	.
8.56	0.1243	0.23 Q	.	.	.	.
8.83	0.1294	0.23 Q	.	.	.	.
9.09	0.1345	0.24 Q	.	.	.	.
9.36	0.1398	0.24 Q	.	.	.	.
9.62	0.1452	0.25 Q	.	.	.	.
9.89	0.1507	0.26 .Q	.	.	.	.
10.16	0.1564	0.26 .Q	.	.	.	.
10.42	0.1622	0.27 .Q	.	.	.	.
10.69	0.1682	0.27 .Q	.	.	.	.
10.95	0.1743	0.29 .Q	.	.	.	.
11.22	0.1807	0.29 .Q	.	.	.	.
11.48	0.1872	0.30 .Q	.	.	.	.
11.75	0.1940	0.31 .Q	.	.	.	.
12.02	0.2010	0.33 .Q	.	.	.	.

12.28	0.2081	0.32	.Q	.	.	.	.
12.55	0.2154	0.34	.Q	.	.	.	.
12.81	0.2229	0.35	.Q	.	.	.	.
13.08	0.2307	0.37	.Q	.	.	.	.
13.34	0.2390	0.38	.Q	.	.	.	.
13.61	0.2478	0.42	.Q	.	.	.	.
13.87	0.2571	0.43	.Q	.	.	.	.
14.14	0.2670	0.47	.Q	.	.	.	.
14.41	0.2774	0.47	.Q	.	.	.	.
14.67	0.2886	0.54	.Q	.	.	.	.
14.94	0.3010	0.59	.Q	.	.	.	.
15.20	0.3153	0.72	.Q	.	.	.	.
15.47	0.3321	0.82	.Q	.	.	.	.
15.73	0.3512	0.92	.Q	.	.	.	.
16.00	0.3885	2.48	.Q	.	.	.	.
16.27	0.5043	8.06	.	.	.	.Q	.
16.53	0.6012	0.77	.Q	.	.	.	.
16.80	0.6168	0.64	.Q	.	.	.	.
17.06	0.6294	0.51	.Q	.	.	.	.
17.33	0.6399	0.46	.Q	.	.	.	.
17.59	0.6493	0.40	.Q	.	.	.	.
17.86	0.6576	0.36	.Q	.	.	.	.
18.13	0.6651	0.33	.Q	.	.	.	.
18.39	0.6722	0.32	.Q	.	.	.	.
18.66	0.6790	0.30	.Q	.	.	.	.
18.92	0.6853	0.28	.Q	.	.	.	.
19.19	0.6913	0.26	.Q	.	.	.	.
19.45	0.6970	0.25	.Q	.	.	.	.
19.72	0.7024	0.24	Q	.	.	.	.
19.98	0.7075	0.23	Q	.	.	.	.
20.25	0.7125	0.22	Q	.	.	.	.
20.52	0.7173	0.21	Q	.	.	.	.
20.78	0.7218	0.21	Q	.	.	.	.
21.05	0.7263	0.20	Q	.	.	.	.
21.31	0.7306	0.19	Q	.	.	.	.
21.58	0.7347	0.19	Q	.	.	.	.
21.84	0.7388	0.18	Q	.	.	.	.
22.11	0.7427	0.18	Q	.	.	.	.
22.38	0.7465	0.17	Q	.	.	.	.
22.64	0.7503	0.17	Q	.	.	.	.
22.91	0.7539	0.16	Q	.	.	.	.
23.17	0.7575	0.16	Q	.	.	.	.
23.44	0.7609	0.16	Q	.	.	.	.
23.70	0.7644	0.15	Q	.	.	.	.
23.97	0.7677	0.15	Q	.	.	.	.

24.24	0.7710	0.15 Q	.	.	.	.	
24.50	0.7726	0.00 Q	.	.	.	.	33654.46

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 Peak Flow Rate	Duration (minutes)
=====	=====
0%	1450.5
10%	63.8
20%	31.9
30%	31.9
40%	15.9
50%	15.9
60%	15.9
70%	15.9
80%	15.9
90%	15.9

DA1 Proposed Condition 100 Year Storm

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*** NON-HOMOGENEOUS WATERSHED AREA-AVERAGED LOSS RATE (Fm)
AND LOW LOSS FRACTION ESTIMATIONS FOR AMC II:

TOTAL 24-HOUR DURATION RAINFALL DEPTH = 3.44 (inches)

SOIL-COVER TYPE	AREA (Acres)	PERCENT OF PVIOUS AREA	SCS CURVE NUMBER	LOSS RATE Fp(in./hr.)	YIELD
1	0.72	100.00	88.	0.236	0.644
2	0.24	0.00	98.	0.000	0.932
3	5.43	100.00	9.		

TOTAL AREA (Acres) = 6.39

AREA-AVERAGED LOSS RATE, Fm (in./hr.) = 0.180

AREA-AVERAGED LOW LOSS FRACTION, Y = 0.279

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RATIONAL METHOD CALIBRATION COEFFICIENT = 1.00

TOTAL CATCHMENT AREA(ACRES) = 6.39

SOIL-LOSS RATE, Fm,(INCH/HR) = 0.180

LOW LOSS FRACTION = 0.279

TIME OF CONCENTRATION(MIN.) = 17.92

SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA

USER SPECIFIED RAINFALL VALUES ARE USED

RETURN FREQUENCY(YEARS) = 100

5-MINUTE POINT RAINFALL VALUE(INCHES) = 0.35

30-MINUTE POINT RAINFALL VALUE(INCHES) = 0.83

1-HOUR POINT RAINFALL VALUE(INCHES) = 1.00

3-HOUR POINT RAINFALL VALUE(INCHES) = 1.49

6-HOUR POINT RAINFALL VALUE(INCHES) = 1.95

24-HOUR POINT RAINFALL VALUE(INCHES) = 3.44

TOTAL CATCHMENT RUNOFF VOLUME(ACRE-FEET) = 1.38

TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) = 0.45

TIME (HOURS)	VOLUME (AF)	Q (CFS)	0.	5.0	10.0	15.0	20.0
--------------	-------------	---------	----	-----	------	------	------

0.02	0.0000	0.00 Q	.	.	.	.
0.33	0.0035	0.27 Q	.	.	.	.
0.65	0.0106	0.27 Q	.	.	.	.
0.96	0.0177	0.28 Q	.	.	.	.
1.27	0.0250	0.28 Q	.	.	.	.
1.59	0.0323	0.28 Q	.	.	.	.
1.90	0.0397	0.29 Q	.	.	.	.
2.21	0.0472	0.29 Q	.	.	.	.
2.53	0.0548	0.30 Q	.	.	.	.
2.84	0.0625	0.30 Q	.	.	.	.
3.15	0.0704	0.30 Q	.	.	.	.
3.47	0.0783	0.31 Q	.	.	.	.
3.78	0.0863	0.31 Q	.	.	.	.
4.09	0.0945	0.32 Q	.	.	.	.
4.41	0.1028	0.32 Q	.	.	.	.
4.72	0.1112	0.33 Q	.	.	.	.
5.03	0.1198	0.33 Q	.	.	.	.
5.35	0.1285	0.34 Q	.	.	.	.
5.66	0.1374	0.35 Q	.	.	.	.
5.97	0.1464	0.35 Q	.	.	.	.
6.29	0.1555	0.36 Q	.	.	.	.
6.60	0.1649	0.36 Q	.	.	.	.
6.91	0.1744	0.37 Q	.	.	.	.
7.23	0.1841	0.38 Q	.	.	.	.
7.54	0.1940	0.39 Q	.	.	.	.
7.85	0.2042	0.39 Q	.	.	.	.
8.17	0.2145	0.41 Q	.	.	.	.
8.48	0.2251	0.41 Q	.	.	.	.
8.79	0.2360	0.43 Q	.	.	.	.
9.11	0.2471	0.43 Q	.	.	.	.
9.42	0.2585	0.45 Q	.	.	.	.
9.73	0.2702	0.46 Q	.	.	.	.
10.05	0.2823	0.48 Q	.	.	.	.
10.36	0.2947	0.48 Q	.	.	.	.
10.67	0.3076	0.51 .Q	.	.	.	.
10.99	0.3208	0.52 .Q	.	.	.	.
11.30	0.3345	0.54 .Q	.	.	.	.
11.61	0.3488	0.56 .Q	.	.	.	.
11.93	0.3636	0.59 .Q	.	.	.	.
12.24	0.3791	0.60 .Q	.	.	.	.
12.55	0.3948	0.61 .Q	.	.	.	.
12.87	0.4110	0.64 .Q	.	.	.	.
13.18	0.4282	0.69 .Q	.	.	.	.
13.49	0.4464	0.72 .Q	.	.	.	.

13.81	0.4660	0.79 .Q	.	.	.	.
14.12	0.4872	0.84 .Q	.	.	.	.
14.43	0.5097	0.90 .Q	.	.	.	.
14.75	0.5338	0.97 .Q	.	.	.	.
15.06	0.5617	1.18 .Q	.	.	.	.
15.37	0.5945	1.35 .Q	.	.	.	.
15.69	0.6313	1.49 .Q	.	.	.	.
16.00	0.6936	3.32 . Q	.	.	.	.
16.31	0.8967	12.36 .	.	.	. Q	.
16.63	1.0762	1.50 .Q	.	.	.	.
16.94	1.1094	1.06 .Q	.	.	.	.
17.25	1.1343	0.86 .Q	.	.	.	.
17.57	1.1552	0.75 .Q	.	.	.	.
17.88	1.1735	0.66 .Q	.	.	.	.
18.19	1.1898	0.59 .Q	.	.	.	.
18.51	1.2049	0.57 .Q	.	.	.	.
18.82	1.2192	0.53 .Q	.	.	.	.
19.13	1.2324	0.50 Q	.	.	.	.
19.45	1.2449	0.47 Q	.	.	.	.
19.76	1.2566	0.44 Q	.	.	.	.
20.07	1.2677	0.42 Q	.	.	.	.
20.39	1.2783	0.40 Q	.	.	.	.
20.70	1.2885	0.38 Q	.	.	.	.
21.01	1.2982	0.37 Q	.	.	.	.
21.33	1.3075	0.35 Q	.	.	.	.
21.64	1.3166	0.34 Q	.	.	.	.
21.95	1.3253	0.33 Q	.	.	.	.
22.27	1.3337	0.32 Q	.	.	.	.
22.58	1.3419	0.31 Q	.	.	.	.
22.89	1.3498	0.30 Q	.	.	.	.
23.21	1.3575	0.29 Q	.	.	.	.
23.52	1.3650	0.29 Q	.	.	.	.
23.83	1.3723	0.28 Q	.	.	.	.
24.15	1.3795	0.27 Q	.	.	.	.
24.46	1.3830	0.00 Q	.	.	.	.
						60243.48 5309.964

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 Peak Flow Rate	Duration (minutes)
=====	=====
0%	1447.6

10%	94.0
20%	37.6
30%	18.8
40%	18.8
50%	18.8
60%	18.8
70%	18.8
80%	18.8
90%	18.8

DA2 Proposed Condition 100 Year Storm

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*** NON-HOMOGENEOUS WATERSHED AREA-AVERAGED LOSS RATE (Fm)
AND LOW LOSS FRACTION ESTIMATIONS FOR AMC II:

TOTAL 24-HOUR DURATION RAINFALL DEPTH = 3.44 (inches)

SOIL-COVER TYPE	AREA (Acres)	PERCENT OF PERVIOUS AREA	SCS CURVE NUMBER	LOSS RATE Fp(in./hr.)	YIELD
1	1.06	100.00	88.	0.236	0.644
2	2.84	100.00	91.	0.180	0.722

TOTAL AREA (Acres) = 3.90

AREA-AVERAGED LOSS RATE, Fm (in./hr.) = 0.195

AREA-AVERAGED LOW LOSS FRACTION, Y = 0.299

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RATIONAL METHOD CALIBRATION COEFFICIENT = 1.00

TOTAL CATCHMENT AREA(ACRES) = 3.90

SOIL-LOSS RATE, Fm,(INCH/HR) = 0.195

LOW LOSS FRACTION = 0.299

TIME OF CONCENTRATION(MIN.) = 15.94

SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA

USER SPECIFIED RAINFALL VALUES ARE USED

RETURN FREQUENCY(YEARS) = 100

5-MINUTE POINT RAINFALL VALUE(INCHES) = 0.35

30-MINUTE POINT RAINFALL VALUE(INCHES) = 0.83

1-HOUR POINT RAINFALL VALUE(INCHES) = 1.00

3-HOUR POINT RAINFALL VALUE(INCHES) = 1.49

6-HOUR POINT RAINFALL VALUE(INCHES) = 1.95

24-HOUR POINT RAINFALL VALUE(INCHES) = 3.44

TOTAL CATCHMENT RUNOFF VOLUME(ACRE-FEET) = 0.83

TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) = 0.29

TIME (HOURS)	VOLUME (AF)	Q (CFS)	0.	2.5	5.0	7.5	10.0
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0.20	0.0013	0.16 Q	.	.	.	.
0.47	0.0049	0.16 Q	.	.	.	.
0.73	0.0085	0.16 Q	.	.	.	.
1.00	0.0121	0.16 Q	.	.	.	.
1.27	0.0158	0.17 Q	.	.	.	.
1.54	0.0195	0.17 Q	.	.	.	.
1.80	0.0233	0.17 Q	.	.	.	.
2.07	0.0271	0.17 Q	.	.	.	.
2.34	0.0309	0.17 Q	.	.	.	.
2.61	0.0348	0.18 Q	.	.	.	.
2.88	0.0387	0.18 Q	.	.	.	.
3.14	0.0427	0.18 Q	.	.	.	.
3.41	0.0467	0.18 Q	.	.	.	.
3.68	0.0508	0.18 Q	.	.	.	.
3.95	0.0549	0.19 Q	.	.	.	.
4.22	0.0591	0.19 Q	.	.	.	.
4.48	0.0633	0.19 Q	.	.	.	.
4.75	0.0676	0.19 Q	.	.	.	.
5.02	0.0720	0.20 Q	.	.	.	.
5.29	0.0764	0.20 Q	.	.	.	.
5.55	0.0809	0.20 Q	.	.	.	.
5.82	0.0854	0.21 Q	.	.	.	.
6.09	0.0900	0.21 Q	.	.	.	.
6.36	0.0947	0.21 Q	.	.	.	.
6.63	0.0995	0.22 Q	.	.	.	.
6.89	0.1043	0.22 Q	.	.	.	.
7.16	0.1093	0.23 Q	.	.	.	.
7.43	0.1143	0.23 Q	.	.	.	.
7.70	0.1194	0.23 Q	.	.	.	.
7.97	0.1246	0.24 Q	.	.	.	.
8.23	0.1299	0.24 Q	.	.	.	.
8.50	0.1353	0.25 Q	.	.	.	.
8.77	0.1408	0.25 .Q	.	.	.	.
9.04	0.1465	0.26 .Q	.	.	.	.
9.30	0.1522	0.26 .Q	.	.	.	.
9.57	0.1581	0.27 .Q	.	.	.	.
9.84	0.1641	0.28 .Q	.	.	.	.
10.11	0.1703	0.28 .Q	.	.	.	.
10.38	0.1767	0.29 .Q	.	.	.	.
10.64	0.1832	0.30 .Q	.	.	.	.
10.91	0.1899	0.31 .Q	.	.	.	.
11.18	0.1968	0.32 .Q	.	.	.	.
11.45	0.2040	0.33 .Q	.	.	.	.
11.71	0.2114	0.34 .Q	.	.	.	.
11.98	0.2190	0.35 .Q	.	.	.	.

12.25	0.2269	0.36	.Q	.	.	.	.
12.52	0.2348	0.36	.Q	.	.	.	.
12.79	0.2430	0.38	.Q	.	.	.	.
13.05	0.2516	0.40	.Q	.	.	.	.
13.32	0.2606	0.42	.Q	.	.	.	.
13.59	0.2702	0.45	.Q	.	.	.	.
13.86	0.2804	0.47	.Q	.	.	.	.
14.13	0.2913	0.51	.Q	.	.	.	.
14.39	0.3026	0.51	.Q	.	.	.	.
14.66	0.3148	0.59	.Q	.	.	.	.
14.93	0.3284	0.64	.Q	.	.	.	.
15.20	0.3440	0.78	.Q	.	.	.	.
15.46	0.3624	0.88	.Q	.	.	.	.
15.73	0.3832	0.99	.Q	.	.	.	.
16.00	0.4230	2.61	.Q	.	.	.	.
16.27	0.5424	8.19	.	.	.	.Q	.
16.54	0.6423	0.84	.Q	.	.	.	.
16.80	0.6594	0.70	.Q	.	.	.	.
17.07	0.6732	0.55	.Q	.	.	.	.
17.34	0.6847	0.49	.Q	.	.	.	.
17.61	0.6949	0.43	.Q	.	.	.	.
17.87	0.7040	0.39	.Q	.	.	.	.
18.14	0.7122	0.35	.Q	.	.	.	.
18.41	0.7199	0.35	.Q	.	.	.	.
18.68	0.7273	0.32	.Q	.	.	.	.
18.95	0.7342	0.30	.Q	.	.	.	.
19.21	0.7408	0.29	.Q	.	.	.	.
19.48	0.7470	0.27	.Q	.	.	.	.
19.75	0.7529	0.26	.Q	.	.	.	.
20.02	0.7585	0.25	Q	.	.	.	.
20.29	0.7639	0.24	Q	.	.	.	.
20.55	0.7691	0.23	Q	.	.	.	.
20.82	0.7741	0.22	Q	.	.	.	.
21.09	0.7790	0.22	Q	.	.	.	.
21.36	0.7837	0.21	Q	.	.	.	.
21.62	0.7882	0.20	Q	.	.	.	.
21.89	0.7926	0.20	Q	.	.	.	.
22.16	0.7969	0.19	Q	.	.	.	.
22.43	0.8011	0.19	Q	.	.	.	.
22.70	0.8052	0.18	Q	.	.	.	.
22.96	0.8091	0.18	Q	.	.	.	.
23.23	0.8130	0.17	Q	.	.	.	.
23.50	0.8168	0.17	Q	.	.	.	.
23.77	0.8205	0.17	Q	.	.	.	.
24.03	0.8242	0.16	Q	.	.	.	.

24.30 0.8260 0.00 Q 35980.56 2326

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 Peak Flow Rate	Duration (minutes)
=====	=====
0%	1446.3
10%	80.3
20%	32.1
30%	32.1
40%	16.1
50%	16.1
60%	16.1
70%	16.1
80%	16.1
90%	16.1

DA1 Proposed Condition 100 Year Storm Routed

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FLOW-THROUGH DETENTION BASIN MODEL

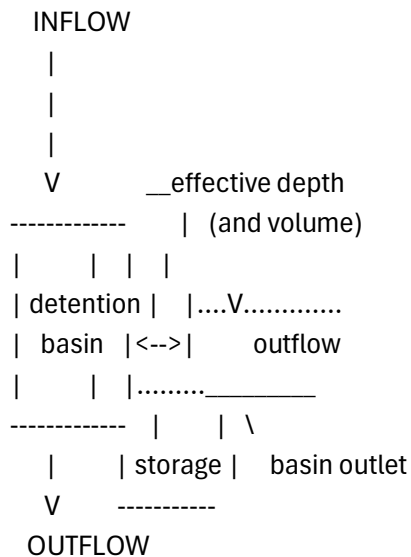
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

CONSTANT HYDROGRAPH TIME UNIT(MINUTES) = 18.800

DEAD STORAGE(AF) = 0.00

SPECIFIED DEAD STORAGE(AF) FILLED = 0.00

ASSUMED INITIAL DEPTH(FEET) IN STORAGE BASIN = 0.00



DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:

TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 3

*BASIN-DEPTH STORAGE OUTFLOW **BASIN-DEPTH STORAGE OUTFL

* (FEET) (ACRE-FEET) (CFS) ** (FEET) (ACRE-FEET) (CFS) *

* 0.000 0.000 0.000** 0.500 0.060 0.000*

* 1.000 0.120 18.000**

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL DEPTH {S-O*DT/2} {S+O*DT/2}

NUMBER (FEET) (ACRE-FEET) (ACRE-FEET)

1 0.00 0.00000 0.00000

2 0.50 0.06000 0.06000

3 1.00 -0.11306 0.35306

WHERE S=STORAGE(AF);O=OUTFLOW(AF/MIN.);DT=UNIT INTERVAL(MIN.)

DETENTION BASIN ROUTING RESULTS:

NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES

OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE

AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

TIME DEAD-STORAGE INFLOW EFFECTIVE OUTFLOW EFFECTIVE
(HRS) FILLED(AF) (CFS) DEPTH(FT) (CFS) VOLUME(AF)

0.020	0.000	0.00	0.00	0.00	0.000
0.333	0.000	0.27	0.06	0.00	0.007
0.647	0.000	0.27	0.12	0.00	0.014
0.960	0.000	0.28	0.18	0.00	0.021
1.273	0.000	0.28	0.24	0.00	0.029
1.587	0.000	0.28	0.30	0.00	0.036
1.900	0.000	0.29	0.36	0.00	0.043
2.213	0.000	0.29	0.42	0.00	0.051
2.527	0.000	0.30	0.49	0.00	0.059
2.840	0.000	0.30	0.51	0.20	0.061
3.153	0.000	0.30	0.51	0.32	0.061
3.467	0.000	0.31	0.51	0.30	0.061
3.780	0.000	0.31	0.51	0.32	0.061
4.093	0.000	0.32	0.51	0.31	0.061
4.407	0.000	0.32	0.51	0.32	0.061
4.720	0.000	0.33	0.51	0.33	0.061
5.033	0.000	0.33	0.51	0.33	0.061
5.347	0.000	0.34	0.51	0.34	0.061
5.660	0.000	0.35	0.51	0.34	0.061
5.973	0.000	0.35	0.51	0.35	0.061
6.287	0.000	0.36	0.51	0.36	0.061
6.600	0.000	0.36	0.51	0.36	0.061
6.913	0.000	0.37	0.51	0.37	0.061
7.227	0.000	0.38	0.51	0.38	0.061
7.540	0.000	0.39	0.51	0.39	0.061
7.853	0.000	0.39	0.51	0.39	0.061
8.167	0.000	0.41	0.51	0.40	0.061
8.480	0.000	0.41	0.51	0.41	0.061
8.793	0.000	0.43	0.51	0.42	0.061
9.107	0.000	0.43	0.51	0.43	0.061
9.420	0.000	0.45	0.51	0.45	0.062
9.733	0.000	0.46	0.51	0.46	0.062
10.047	0.000	0.48	0.51	0.47	0.062
10.360	0.000	0.48	0.51	0.49	0.062
10.673	0.000	0.51	0.51	0.50	0.062
10.987	0.000	0.52	0.51	0.52	0.062
11.300	0.000	0.54	0.52	0.54	0.062
11.613	0.000	0.56	0.52	0.56	0.062
11.927	0.000	0.59	0.52	0.58	0.062
12.240	0.000	0.60	0.52	0.60	0.062

12.553	0.000	0.61	0.52	0.61	0.062
12.867	0.000	0.64	0.52	0.63	0.062
13.180	0.000	0.69	0.52	0.68	0.062
13.493	0.000	0.72	0.52	0.72	0.062
13.807	0.000	0.79	0.52	0.78	0.063
14.120	0.000	0.84	0.52	0.84	0.063
14.433	0.000	0.90	0.53	0.89	0.063
14.747	0.000	0.97	0.53	0.96	0.063
15.060	0.000	1.18	0.54	1.15	0.064
15.373	0.000	1.35	0.54	1.34	0.065
15.687	0.000	1.49	0.54	1.47	0.065
16.000	0.000	3.32	0.62	2.96	0.075
16.313	0.000	12.36	0.97	10.72	0.117
16.627	0.000	1.50	0.32	8.54	0.039
16.940	0.000	1.06	0.51	0.20	0.061
17.253	0.000	0.86	0.53	0.76	0.064
17.567	0.000	0.75	0.51	0.83	0.062
17.880	0.000	0.66	0.52	0.63	0.062
18.193	0.000	0.59	0.51	0.62	0.062
18.507	0.000	0.57	0.52	0.56	0.062
18.820	0.000	0.53	0.51	0.55	0.062
19.133	0.000	0.50	0.51	0.49	0.062
19.447	0.000	0.47	0.51	0.47	0.061
19.760	0.000	0.44	0.51	0.44	0.061
20.073	0.000	0.42	0.51	0.42	0.061
20.387	0.000	0.40	0.51	0.40	0.061
20.700	0.000	0.38	0.51	0.39	0.061
21.013	0.000	0.37	0.51	0.37	0.061
21.327	0.000	0.35	0.51	0.36	0.061
21.640	0.000	0.34	0.51	0.34	0.061
21.953	0.000	0.33	0.51	0.33	0.061
22.267	0.000	0.32	0.51	0.32	0.061
22.580	0.000	0.31	0.51	0.31	0.061
22.893	0.000	0.30	0.51	0.30	0.061
23.207	0.000	0.29	0.51	0.29	0.061
23.520	0.000	0.29	0.51	0.29	0.061
23.833	0.000	0.28	0.51	0.28	0.061
24.147	0.000	0.27	0.51	0.27	0.061
24.460	0.000	0.00	0.48	0.14	0.057

DA2 Proposed Condition 100 Year Storm Routed

=====

FLOW-THROUGH DETENTION BASIN MODEL

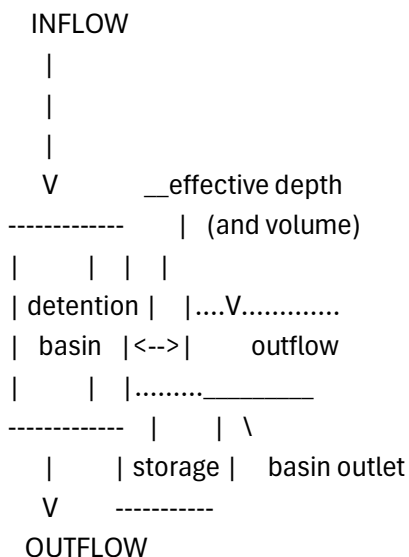
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

CONSTANT HYDROGRAPH TIME UNIT(MINUTES) = 16.070

DEAD STORAGE(AF) = 0.00

SPECIFIED DEAD STORAGE(AF) FILLED = 0.00

ASSUMED INITIAL DEPTH(FEET) IN STORAGE BASIN = 0.00



DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:

TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 3

*BASIN-DEPTH STORAGE OUTFLOW **BASIN-DEPTH STORAGE OUTFLOW *

* (FEET) (ACRE-FEET) (CFS) ** (FEET) (ACRE-FEET) (CFS) *

* 0.000 0.000 0.000** 0.500 0.025 0.000*

* 1.000 0.053 12.000**

=====

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL DEPTH {S-O*DT/2} {S+O*DT/2}

NUMBER (FEET) (ACRE-FEET) (ACRE-FEET)

1 0.00 0.00000 0.00000

2 0.50 0.02500 0.02500

3 1.00 -0.07981 0.18581

WHERE S=STORAGE(AF);O=OUTFLOW(AF/MIN.);DT=UNIT INTERVAL(MIN.)

=====

DETENTION BASIN ROUTING RESULTS:

NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES

OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE

AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

TIME DEAD-STORAGE INFLOW EFFECTIVE OUTFLOW EFFECTIVE
(HRS) FILLED(AF) (CFS) DEPTH(FT) (CFS) VOLUME(AF)

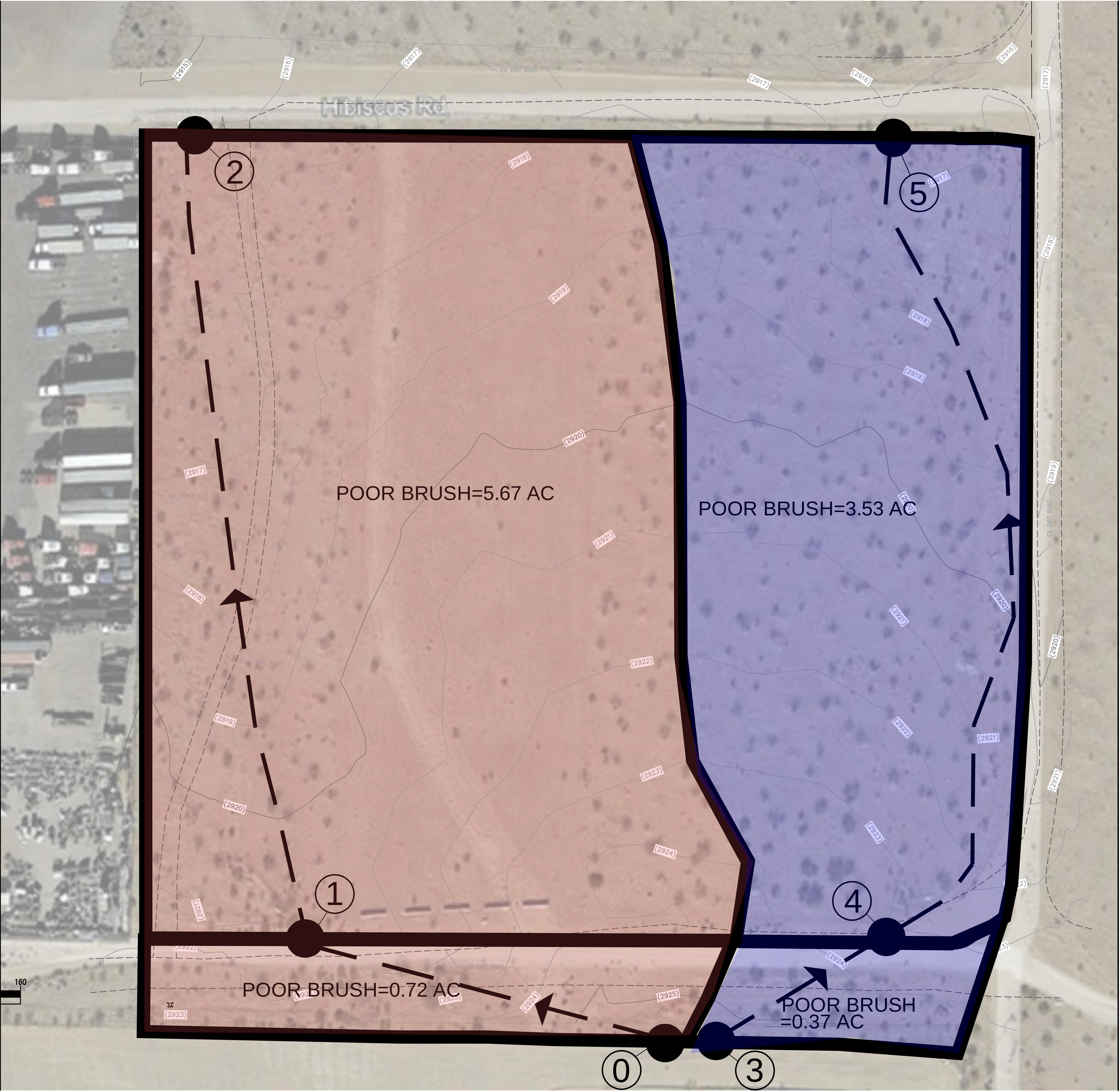
0.198	0.000	0.16	0.07	0.00	0.004
0.466	0.000	0.16	0.14	0.00	0.007
0.734	0.000	0.16	0.22	0.00	0.011
1.001	0.000	0.16	0.29	0.00	0.014
1.269	0.000	0.17	0.36	0.00	0.018
1.537	0.000	0.17	0.44	0.00	0.022
1.805	0.000	0.17	0.50	0.02	0.025
2.073	0.000	0.17	0.51	0.15	0.026
2.341	0.000	0.17	0.51	0.19	0.025
2.608	0.000	0.18	0.51	0.17	0.025
2.876	0.000	0.18	0.51	0.18	0.025
3.144	0.000	0.18	0.51	0.18	0.025
3.412	0.000	0.18	0.51	0.19	0.025
3.680	0.000	0.18	0.51	0.18	0.025
3.947	0.000	0.19	0.51	0.19	0.025
4.215	0.000	0.19	0.51	0.19	0.025
4.483	0.000	0.19	0.51	0.19	0.025
4.751	0.000	0.19	0.51	0.19	0.025
5.019	0.000	0.20	0.51	0.20	0.025
5.287	0.000	0.20	0.51	0.20	0.025
5.555	0.000	0.20	0.51	0.20	0.025
5.822	0.000	0.21	0.51	0.21	0.025
6.090	0.000	0.21	0.51	0.21	0.025
6.358	0.000	0.21	0.51	0.21	0.025
6.626	0.000	0.22	0.51	0.22	0.026
6.894	0.000	0.22	0.51	0.22	0.026
7.161	0.000	0.23	0.51	0.22	0.026
7.429	0.000	0.23	0.51	0.23	0.026
7.697	0.000	0.23	0.51	0.23	0.026
7.965	0.000	0.24	0.51	0.24	0.026
8.233	0.000	0.24	0.51	0.24	0.026
8.501	0.000	0.25	0.51	0.25	0.026
8.768	0.000	0.25	0.51	0.25	0.026
9.036	0.000	0.26	0.51	0.26	0.026
9.304	0.000	0.26	0.51	0.26	0.026
9.572	0.000	0.27	0.51	0.27	0.026
9.840	0.000	0.28	0.51	0.28	0.026
10.108	0.000	0.28	0.51	0.28	0.026
10.376	0.000	0.29	0.51	0.29	0.026
10.643	0.000	0.30	0.51	0.30	0.026

10.911	0.000	0.31	0.51	0.31	0.026
11.179	0.000	0.32	0.51	0.32	0.026
11.447	0.000	0.33	0.51	0.33	0.026
11.715	0.000	0.34	0.51	0.34	0.026
11.983	0.000	0.35	0.52	0.35	0.026
12.250	0.000	0.36	0.51	0.36	0.026
12.518	0.000	0.36	0.52	0.36	0.026
12.786	0.000	0.38	0.52	0.38	0.026
13.054	0.000	0.40	0.52	0.40	0.026
13.322	0.000	0.42	0.52	0.42	0.026
13.589	0.000	0.45	0.52	0.44	0.026
13.857	0.000	0.47	0.52	0.47	0.026
14.125	0.000	0.51	0.52	0.50	0.026
14.393	0.000	0.51	0.52	0.52	0.026
14.661	0.000	0.59	0.53	0.57	0.027
14.929	0.000	0.64	0.53	0.64	0.026
15.196	0.000	0.78	0.54	0.75	0.027
15.464	0.000	0.88	0.54	0.88	0.027
15.732	0.000	0.99	0.54	0.98	0.027
16.000	0.000	2.61	0.65	2.34	0.033
16.268	0.000	8.19	0.99	7.63	0.052
16.536	0.000	0.84	0.37	5.83	0.019
16.804	0.000	0.70	0.53	0.34	0.027
17.071	0.000	0.55	0.52	0.57	0.026
17.339	0.000	0.49	0.52	0.49	0.026
17.607	0.000	0.43	0.52	0.45	0.026
17.875	0.000	0.39	0.52	0.39	0.026
18.143	0.000	0.35	0.51	0.36	0.026
18.410	0.000	0.35	0.51	0.34	0.026
18.678	0.000	0.32	0.51	0.33	0.026
18.946	0.000	0.30	0.51	0.30	0.026
19.214	0.000	0.29	0.51	0.29	0.026
19.482	0.000	0.27	0.51	0.27	0.026
19.750	0.000	0.26	0.51	0.26	0.026
20.017	0.000	0.25	0.51	0.25	0.026
20.285	0.000	0.24	0.51	0.24	0.026
20.553	0.000	0.23	0.51	0.23	0.026
20.821	0.000	0.22	0.51	0.22	0.026
21.089	0.000	0.22	0.51	0.22	0.025
21.357	0.000	0.21	0.51	0.21	0.025
21.625	0.000	0.20	0.51	0.20	0.025
21.892	0.000	0.20	0.51	0.20	0.025
22.160	0.000	0.19	0.51	0.19	0.025
22.428	0.000	0.19	0.51	0.19	0.025
22.696	0.000	0.18	0.51	0.18	0.025

22.964	0.000	0.18	0.51	0.18	0.025
23.232	0.000	0.17	0.51	0.17	0.025
23.499	0.000	0.17	0.51	0.17	0.025
23.767	0.000	0.17	0.51	0.17	0.025
24.035	0.000	0.16	0.51	0.16	0.025
24.303	0.000	0.00	0.47	0.08	0.024

Hydrology Exhibits

EXISTING CONDITION HYDROLOGY
UNITED TRUCK PARKING, LLC IN THE CITY OF ADELANTO



APPLICANT/OWNER

UNITED TRUCK PARKING
6240 PALLADIO LN
FONTANA, CA 92336
(209) 456-9699

PROJECT AGENT

STEENO DESIGN STUDIO
11774 HESPERIA ROAD
SUITE B
HESPERIA, CA 92345
(760) 244-5001

APN

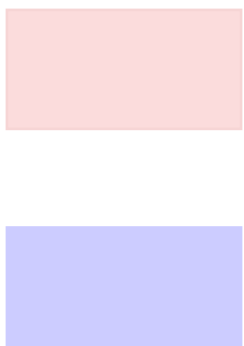
0459-451-31, 32, 33 & 34

LEGAL DESCRIPTION

IN THE CITY OF ADELANTO, BEING A
PORTION OF THE S 1/4 OF THE NW
1/4 OF SECTION 34, T6N, R5W, S6M

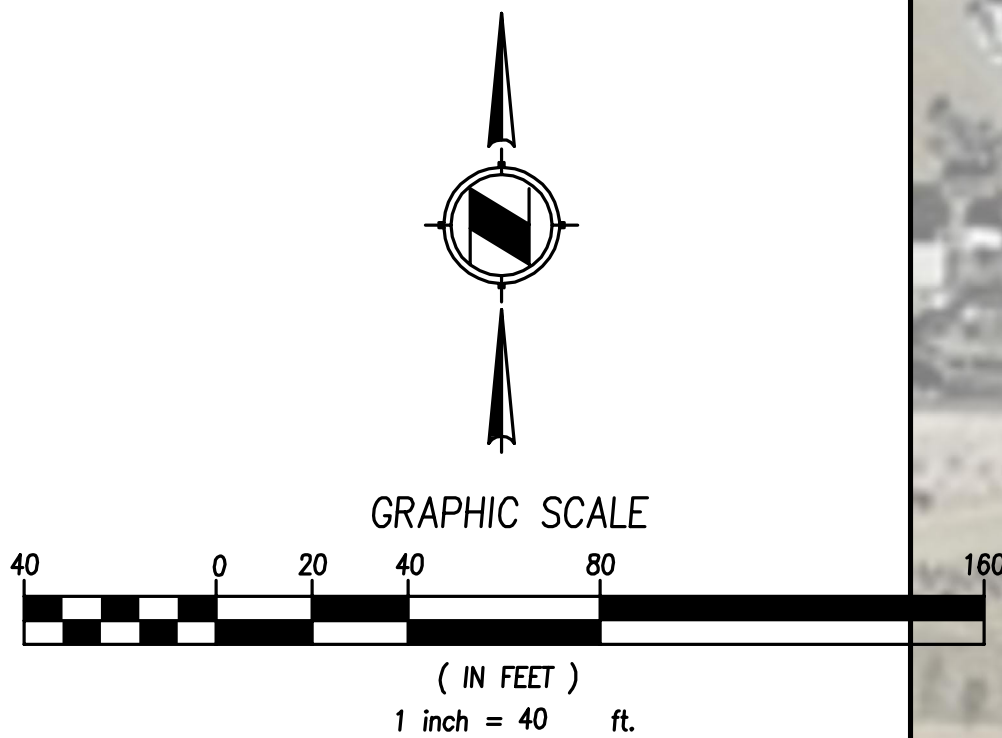
BENCHMARK

CITY OF ADELANTO BENCHMARK
BM #33-LC
AT THE NW COR OF ADELANTO ROAD
AND RANCHO ROAD
EL= 2947.875'

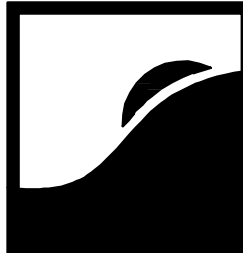


DA1

DA2

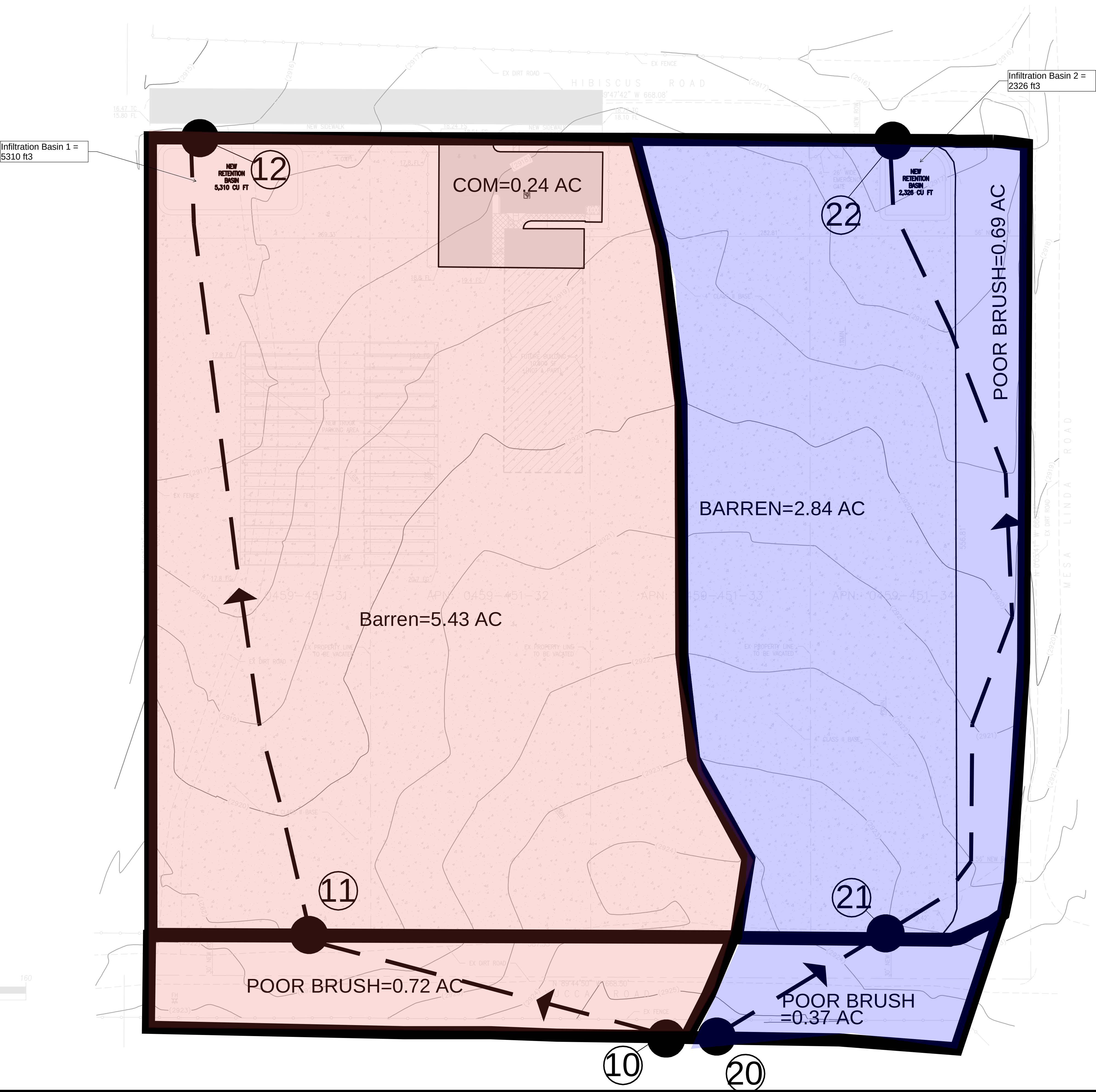


PREPARED BY

 **J.E. Miller
& Associates**
Civil Engineering • Planning • Surveying
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Phone (760) 242-6777 • info@jemillersurvey.com

PREPARED DATE: FEBRUARY 13, 2026

PROPOSED HYDROLOGY EXHIBIT
UNITED TRUCK PARKING, LLC IN THE CITY OF ADELANTO



APPLICANT/OWNER

UNITED TRUCK PARKING
6240 PALLADIO LN
FONTANA, CA 92336
(209) 456-9899

PROJECT AGENT

STEENO DESIGN STUDIO
11774 HESPERIA ROAD
SUITE B
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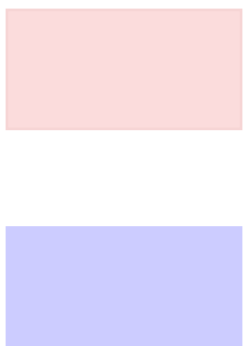
0459-451-31, 32, 33 & 34

LEGAL DESCRIPTION

IN THE CITY OF ADELANTO, BEING A
PORTION OF THE S 1/4 OF THE NW
1/4 OF SECTION 34, T6N, R5W, S8M

BENCHMARK

CITY OF ADELANTO BENCHMARK
BM #33-LC
AT THE NW COR OF ADELANTO ROAD
AND RANCHO ROAD
EL= 2947.875'



DA1

DA2

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PREPARED DATE: FEBRUARY 13, 2026