Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING

PRELIMINARY HYDROLOGY CALCULATIONS

FOR

LOVETT 215
APNs: 329-240-046, -048 AND -051

PREPARED FOR

CROSLAND BARNES GROUP/UKIAH PARTNERS, LLC
6 CALENDAR COURT SUITE 3
COLUMBIA, SC 29206
PHONE: (732) 580-9053

MARCH 15, 2024
REVISED MAY 1, 2024
REVISED SEPTEMBER 17, 2024
REVISED JULY 10, 2025
REVISED AUGUST 7, 2025

JOB NO. 4100

PREPARED BY

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14349 FIRESTONE BLVD.
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PRELIMINARY HYDROLOGY CALCULATIONS

FOR

LOVETT 215

APNs: 329-240-046, -048 AND -051



PREPARED UNDER THE SUPERVISION OF:

8/7/2025

REINHARD STENZEL DATE
R.C.E. 56155
EXP. 12/31/2026

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INTRODUCTION

A: PROJECT LOCATION

The project site is located on Trumble Road approximately 200 feet south of Watson Road and Sherman Road in Menifee, California. Please see the next page for a vicinity map.

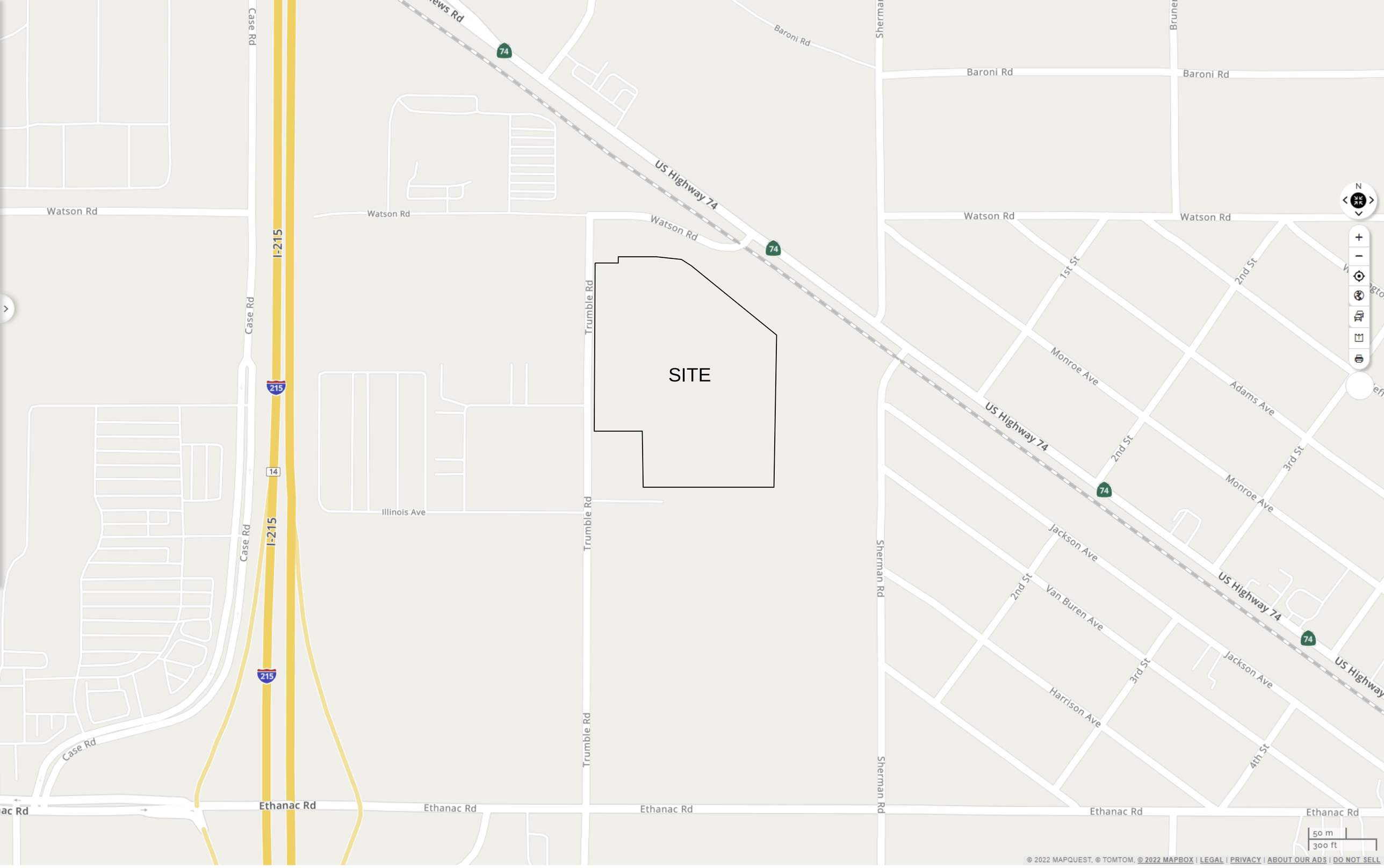
B: STUDY PURPOSE

The purpose of this study is to determine the 100-year peak flow rate for the project site that will ultimately discharge to an existing box culvert running underneath the Interstate 215 Freeway.

C: PROJECT STAFF:

Thienes Engineering staff involved in this study include:

Reinhard Stenzel
Morgan Holve


SITE
Watson Rd
Baroni Rd
US Highway 74
I-215
Case Rd
Trumble Rd
Sherman Rd
Illinois Ave
Ethanac Rd
1st St
2nd St
3rd St
4th St
Monroe Ave
Adams Ave
Jackson Ave
Van Buren Ave
Harrison Ave
50 m
300 ft
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DISCUSSION

Project Description

The project site encompasses approximately 17.20 acres. Proposed improvements include one warehouse-style building of approximately 328,208 square feet. There is a truck yard east of the building with trailer parking and vehicle parking to the west and south of the building. There will be landscaping along the northerly property line and located throughout the site.

FEMA Flood Zone

The project site is located in FEMA Flood Zone X, "area of minimal flood hazard", per FEMA FIRM Map 06065C1445H effective August 8, 2014.

See Appendix "A" for referenced materials.

Public Storm Drain

The project site is tabeled to an existing 6'x5' Caltrans concrete box culvert (RCB) that runs underneath the Interstate 215 Freeway. There is an existing public storm drain, Line "A", that runs southerly parallel to Trumble Road and continues westerly in Illinois Avenue. This storm drain system, designed by Albert A. Webb Associates (City File No. P8-921), discharges into the existing RCB. It appears the site is not tabled to discharge into the existing Line "A". The existing pipe is also full, therefore, any additional flow added to the pipe will cause negative downstream hydraulic impacts.

However, it is assumed that the site is tabled to drain to the existing Caltrans drain, and furthermore, that the drain is designed to handle flows from the site and surrounding parcels. The westerly adjacent site has connected directly to the box via a proposed storm drain and parcels adjacent to Trumble Road enter the box via street flow in the existing condition. Therefore, it is assumed that there are no downstream hydraulic impacts to the existing RCB with the inclusion of the project site.

The project site will instead drain to the existing box culvert via a proposed 30" RCP public storm drain system. The onsite storm drain system will "bubble out" into the public storm drain system. Once sufficient head is lost, a proposed pump will dry the pipe. The storm drain will convey flows southerly in Trumble Road then westerly through Illinois Avenue, running parallel to the existing Line "A". A proposed headwall will allow for both Line "A" and the proposed RCP to connect to the RCB.

See Appendix "A" for pertinent reference materials.

Existing Condition

The site is currently a roughly graded, undeveloped open pit. Most of the site (Nodes 100-111 on the existing condition hydrology map) sheet flow easterly into the open pit and is detained onsite. The 100-year peak flow rate to this area is approximately 24.3 cfs.

A portion of the site along Trumble Road and the southerly property line (Nodes 120-122) sheet flows southerly through the site and sits in a low spot along the southerly property line. A temporary solid fence prevents runoff from entering the residential houses to the south of the site. The 100-year peak flow rate from this area is approximately 1.0 cfs.

The total 100-year peak flow rate from the project site is approximately 25.8 cfs.

A portion of the northerly adjacent site (Nodes 200-201) sheet flow westerly onto the project site. These flows comingle with onsite runoff and are similarly detained onsite. The 100-year peak flow rate from this area is approximately 2.1 cfs.

See Appendix "B" for existing condition hydrology calculations and Appendix "D" for existing condition hydrology map.

Proposed Condition

As previously mentioned, the site will discharge to the existing Caltrans RCB via a proposed public storm drain.

The easterly portion of the proposed building and easterly truckyard area (Nodes 100-115 on the proposed condition hydrology map) drain to catch basins located in the easterly truck yard. A proposed onsite storm drain system will convey flows southerly then westerly around the proposed building. The southerly drive aisle (Nodes 116-117) will be confluenced in the system as it continues westerly. The westerly portion of the proposed building, northerly drive aisle and northerly landscaped area (Nodes 200-213) drain to catch basins located in the westerly vehicle parking area. Flows will confluence with runoff from the east and ultimately discharge into the proposed public storm drain system. The 100-year peak flow rate from the project site is approximately 45.7 cfs.

The northerly offsite run-on will be captured in a v-gutter along the northerly property line and conveyed southerly through the site. Flows will ultimately discharge into the onsite storm drain past the water quality "bleed off" point.

The total 100-year peak flow rate to the proposed public storm drain system (including offsite runoff) is approximately 47.8 cfs.

See Appendix "B" for proposed condition hydrology calculations and Appendix "D" for proposed condition hydrology map.

Detention

For final design, Riverside County typically requires detention analysis for the 1-hour, 3-hour, 6-hour and 24-hour duration events for the 2-year, 5-year and 10-year return frequencies. Detention basin and outlet sizing will ensure that none of these storm events has a higher peak discharge in the post-development condition than in the pre-development condition. Therefore, there will be no negative impact on existing downstream drainage facilities.

Hydrographs for the above-described events were established for both existing (pre-developed) and proposed (commercial) development conditions. Hydrograph parameters are as follows:

- For the 2-year and 5-year events, the loss rate will be determined using an AMC I condition. For the 10-year event, AMC II was used.
- Undeveloped condition Low Loss=90%
- Basin site Low Loss=10%
- Rainfall values from the Riverside County Hydrology Manual

For preliminary design purposes, sizing may be based on the largest difference in runoff hydrograph volume between the "developed" condition and the "pre-developed" conditions.

Hydrographs were established using the area tributary to each underground system (site only, no offsite area) for the existing and proposed condition for the 1-hour, 3-hour, 6-hour and 24-hour events for the 10-year storm frequencies. The following table summarizes the volumes for the specified storm events:

Table 1: Easterly Truck Yard

Storm Duration	Existing Condition Volume (ac-ft)	Proposed Condition Volume (ac-ft)	Difference (ac-ft)
10 Year 1-Hour	0.4667	0.4947	0.028
10 Year 3-Hour	0.6568	0.7738	0.1171
10 Year 6-Hour	0.7548	1.0258	0.271
10 Year 24-Hour	**0.8417**	**1.6281**	**0.7864**

From the above table, the largest difference in volume occurs during the 10-year, 24-hour storm event and is approximately 0.7864 acre-feet. This volume can be stored at the surface of the truck year at a depth of approximately 0.74'.

Truck yard detention does not pose flooding risks to the proposed building or onsite operations. The proposed building has a finished floor of approximately 1429.26, while the detention water surface elevation is at approximately 1425.22. This leaves approximately 4.04' of freeboard with the proposed building. Furthermore, there are no

pedestrian pathways within the detention area, allowing site operations to continue while detained water is present on the surface.

Table 2: Westerly Parking Lot

Storm Duration	Existing Condition Volume (ac-ft)	Proposed Condition Volume (ac-ft)	Difference (ac-ft)
10 Year 1-Hour	0.4901	0.5194	0.0293
10 Year 3-Hour	0.6897	0.8125	0.1228
10 Year 6-Hour	0.7926	1.0771	0.2845
10 Year 24-Hour	**0.8838**	**1.7096**	**0.8258**

From the above table, the largest difference in volume occurs during the 10-year, 24-hour storm event and is approximately 0.8258 acre-feet. This volume will be solely stored in the underground chamber systems located in the westerly truck yard.

The following table summarizes pre- and post-development peak flow rates for the specified events:

Table 3: Easterly Truck Yard

Storm Duration	Existing Condition Discharge (cfs)	Proposed Condition Discharge (cfs)	Difference (cfs)
10 Year 1-Hour	12.9	17.7	4.8
10 Year 3-Hour	8.3	9.2	0.9
10 Year 6-Hour	7.3	8.2	0.9
10 Year 24-Hour	2.3	2.7	0.4

Table 4: Westerly Truck Yard

Storm Duration	Existing Condition Discharge (cfs)	Proposed Condition Discharge (cfs)	Difference (cfs)
10 Year 1-Hour	14.0	17.7	3.7
10 Year 3-Hour	8.4	9.6	1.2
10 Year 6-Hour	7.4	8.5	1.1
10 Year 24-Hour	2.4	2.8	0.4

As previously stated, truck yard detention will be utilized such that the post-development peak flow rate does not exceed the pre-development peak flow rate. Therefore, there will be no negative impacts to existing downstream facilities, nor any adverse flooding affects in adjacent streets.

See Appendix “C” for existing and proposed condition hydrographs.

Water Quality

Water quality requirements will be met with a system of low flow lines that convey required flows to proposed underground detention systems located in the easterly truck yard and westerly parking area. From here, low flows will be routed through a proposed modular wetland system before confluencing back into the proposed onsite storm drain system via a proposed sump pump.

The underground detention systems are also sized for peak flow detention and hydrologic conditions of concern (HCOC) mitigation. Separate pumps are also proposed to allow the appropriate discharge of HCOC and peak flows.

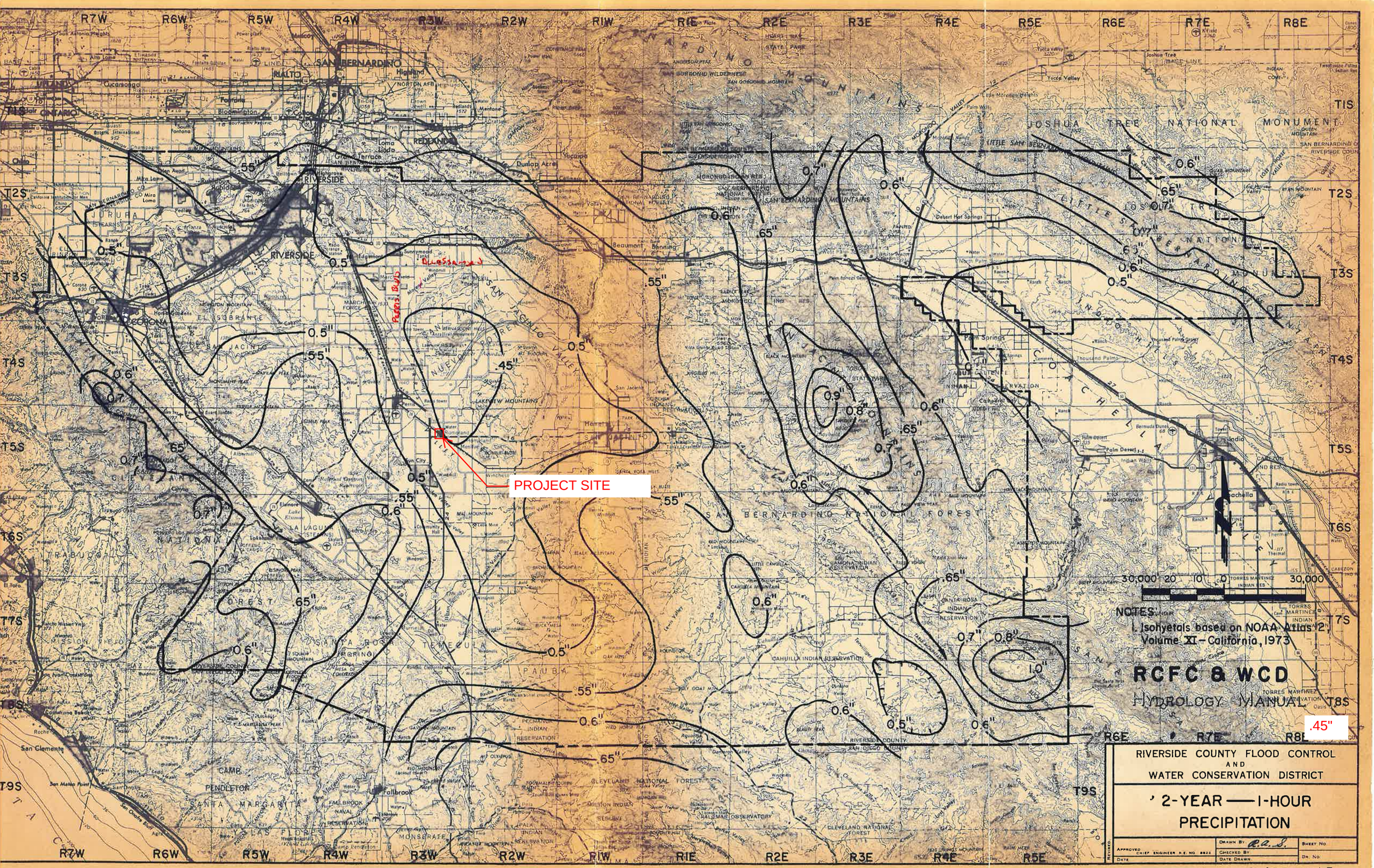
Methodology

Hydrology calculations were computed using the Riverside County Rational Method program (by AES Software). The soil type is “D” per the Riverside County Hydrology Manual. Hydrograph calculations were run in the CivilD hydrograph program. See Appendix “A” for pertinent reference materials.

APPENDIX	DESCRIPTION
A	REFERENCE MATERIAL
B	HYDROLOGY CALCULATIONS
C	DETENTION ANALYSIS
D	HYDROLOGY MAPS
E	CONCEPTUAL STORM DRAIN PLANS
F	CITY OF MENIFEE DETENTION MEMO

APPENDIX A

REFERENCE MATERIALS


PROJECT SITE
.45"
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 1-HOUR PRECIPITATION
PLATE D-4,3

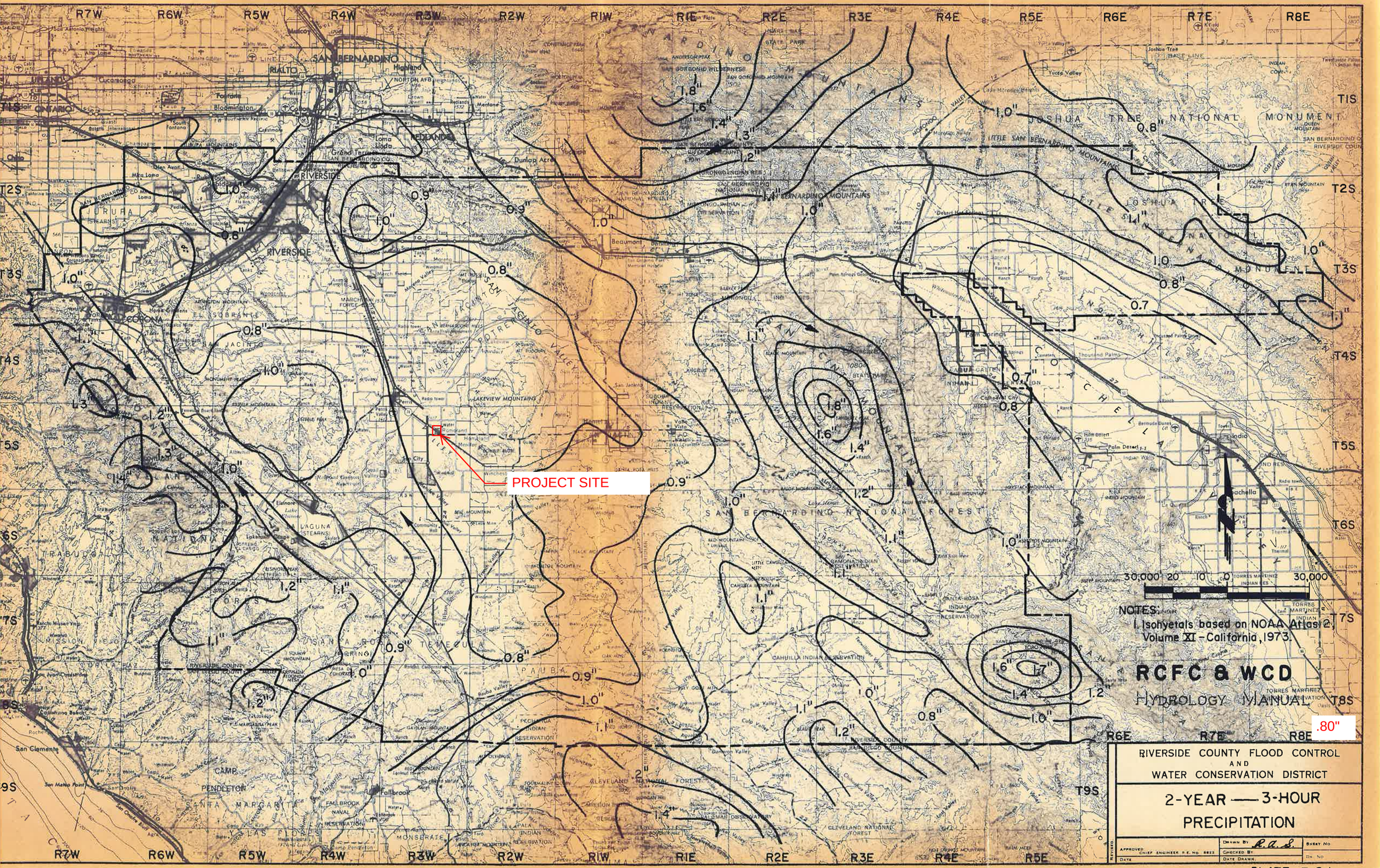
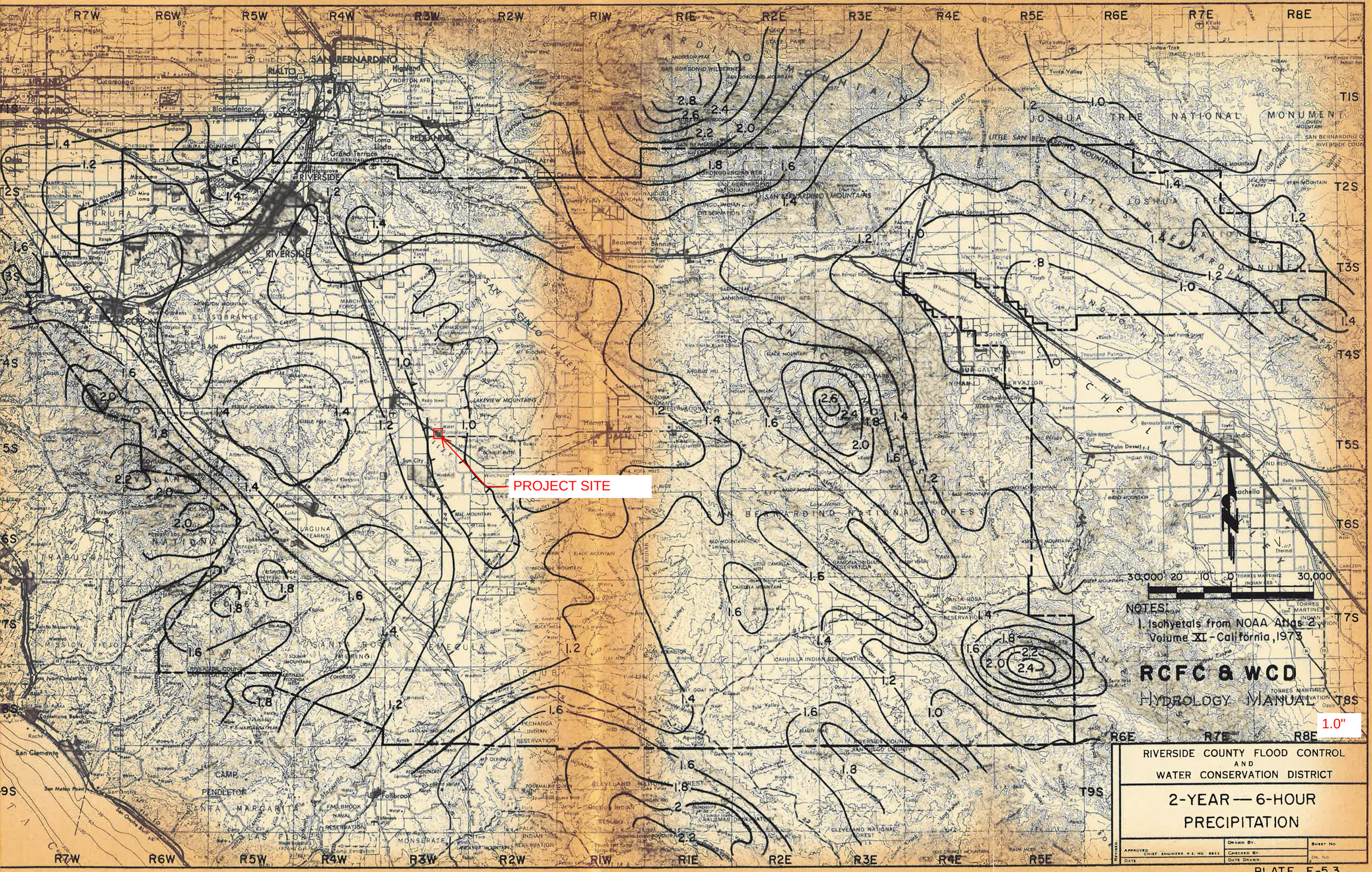
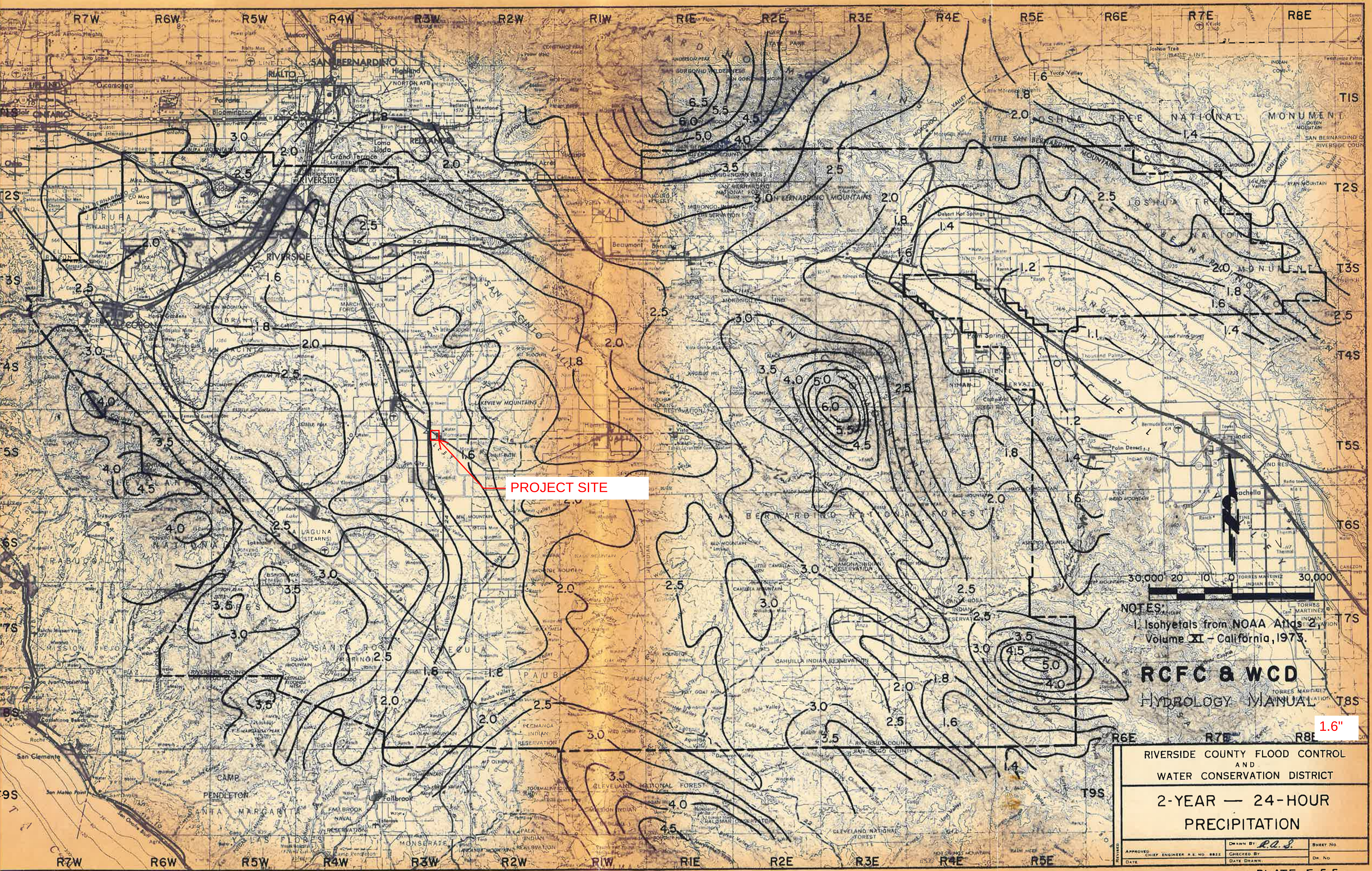

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SAN BERNARDINO
RIALTO
ONTARIO
RIVERSIDE
CORONA
PENDLETON
CAMP PENDLETON
Fallbrook
Temecula
Beaumont
Banning
Palm Springs
Cathedral City
Indio
Coachella
Yucca Valley
Joshua Tree
SAN BERNARDINO MOUNTAINS
SAN JACINTO MOUNTAINS
SAN GABRIEL MOUNTAINS
SANTA ROSA MOUNTAINS
LITTLE SAN BERNARDINO MOUNTAINS
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
SAN JACINTO VALLEY
SAN TIMOTEO CANYON
SAN GORGONIO WILDERNESS
SAN JACINTO WILDERNESS
SANTA ROSA PLATEAU
LAKEVIEW MOUNTAINS
SANTA ROSA MESA
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NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
.80"
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 3-HOUR PRECIPITATION
APPROVED CHIEF ENGINEER R.E. NO. 8822
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PLATE E-5.1


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Grand Terrace
Colton
Fontana
Rancho Cucamonga
Ontario
Upland
Mira Loma
Jurupa
Pedley
Glen Avon
Norco
Corona
Eastvale
Beaumont
Banning
Sunnymead
Edgemont
Moreno Valley
March Air Force Base
Norton AFB
Dunlap Acres
Cherry Valley
San Bernardino Mountains
San Bernardino National Forest
Santa Ana Mountains
San Jacinto Mountains
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Perris
Sun City
Romoland
Homeland
Hemet
Winchester
Menifee
Lake Elsinore
Laguna Mountains
Cleveland National Forest
Santa Rosa Plateau
Murrieta
Temecula
Pechanga Indian Reservation
Cahuilla Indian Reservation
Santa Rosa Indian Reservation
Morongo Indian Reservation
San Manuel Indian Reservation
Agua Caliente Indian Reservation
Torres Martinez Indian Reservation
Twenty-nine Palms Indian Reservation
Joshua Tree National Monument
Little San Bernardino Mountains
Yucca Valley
Palm Springs
Desert Hot Springs
Cathedral City
Thousand Palms
Indio
Coachella
Bermuda Dunes
Palm Desert
Indian Wells
La Quinta
Mecca
Thermal
Oasis
Salton Sea
Lake Mathews
Lake Perris
Lake Skinner
Diamond Valley Lake
Vail Lake
Tule Valley
Aguanga
Anza
Dameron Valley
Warner Springs
Mt. Palomar
Fallbrook
Camp Pendleton
Marine Corps Base
Camp Pendleton
San Clemente
Capistrano Beach
Dana Point
San Mateo Point
Trabuco
Foothill Ranch
Lake Forest
Rancho Santa Margarita
Mission Viejo
El Toro
Irvine
Tustin
Orange
Santa Ana
Corona del Mar
Newport Beach
Costa Mesa
Huntington Beach
Seal Beach
Los Alamitos
Long Beach
Signal Hill
Lakewood
Cerritos
Norwalk
Whittier
La Habra
Brea
Yorba Linda
Placentia
Anaheim
Garden Grove
Westminster
Fountain Valley
Huntington Harbour
Sunset Beach
Rossmoor
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Los Alamitos Naval Air Station
Seal Beach Naval Weapons Station
Naval Weapons Station
Naval Reserve Center
Naval Hospital
Naval Air Station
Naval Amphibious Base
Naval Ammunition Depot
Naval Radio Station
Naval Ordnance Test Station
Naval Ordnance Plant
Naval Supply Center
Naval Training Center
Naval Submarine Base
Naval Shipyard
Naval Station
Naval Air Facility
Naval Air Rework Facility
Naval Air Development Center
Naval Air Warfare Center
Naval Air Weapons Station
Naval Air Engineering Center
Naval Air Propulsion Center
Naval Air Systems Command
Naval Air Test Center
Naval Air Training Command
Naval Air Reserve Force
Naval Air Logistics Center
Naval Air Depot
Naval Air Station
Naval Air Facility
Naval Air Rework Facility
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1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
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2-YEAR — 6-HOUR PRECIPITATION
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PLATE E-5.3


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 24-HOUR PRECIPITATION
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HYDROLOGY MANUAL
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SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
CAMP PENDLETON
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TEMECULA
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Palm Springs
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Sun City
Fallbrook
San Clemente

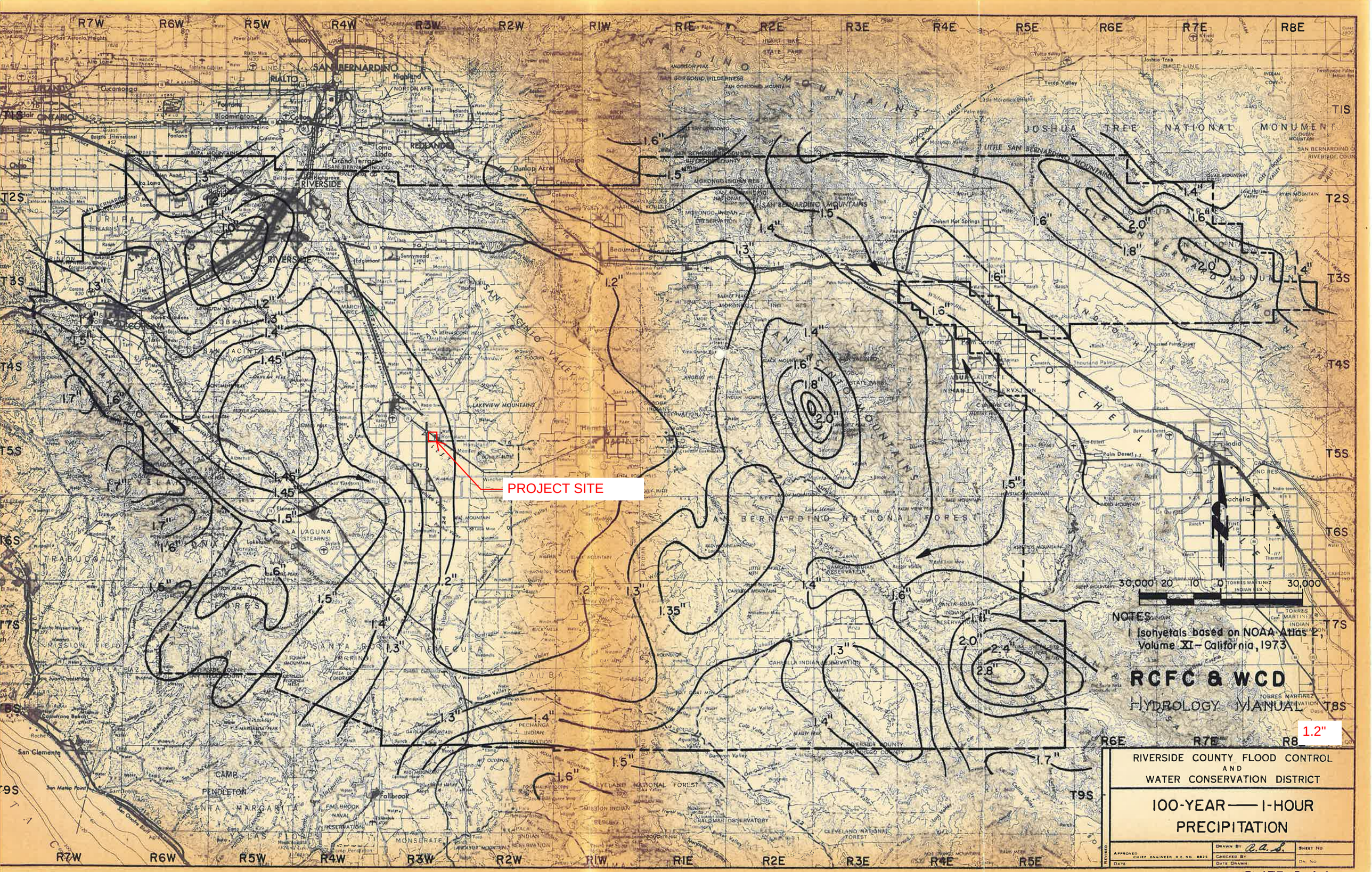
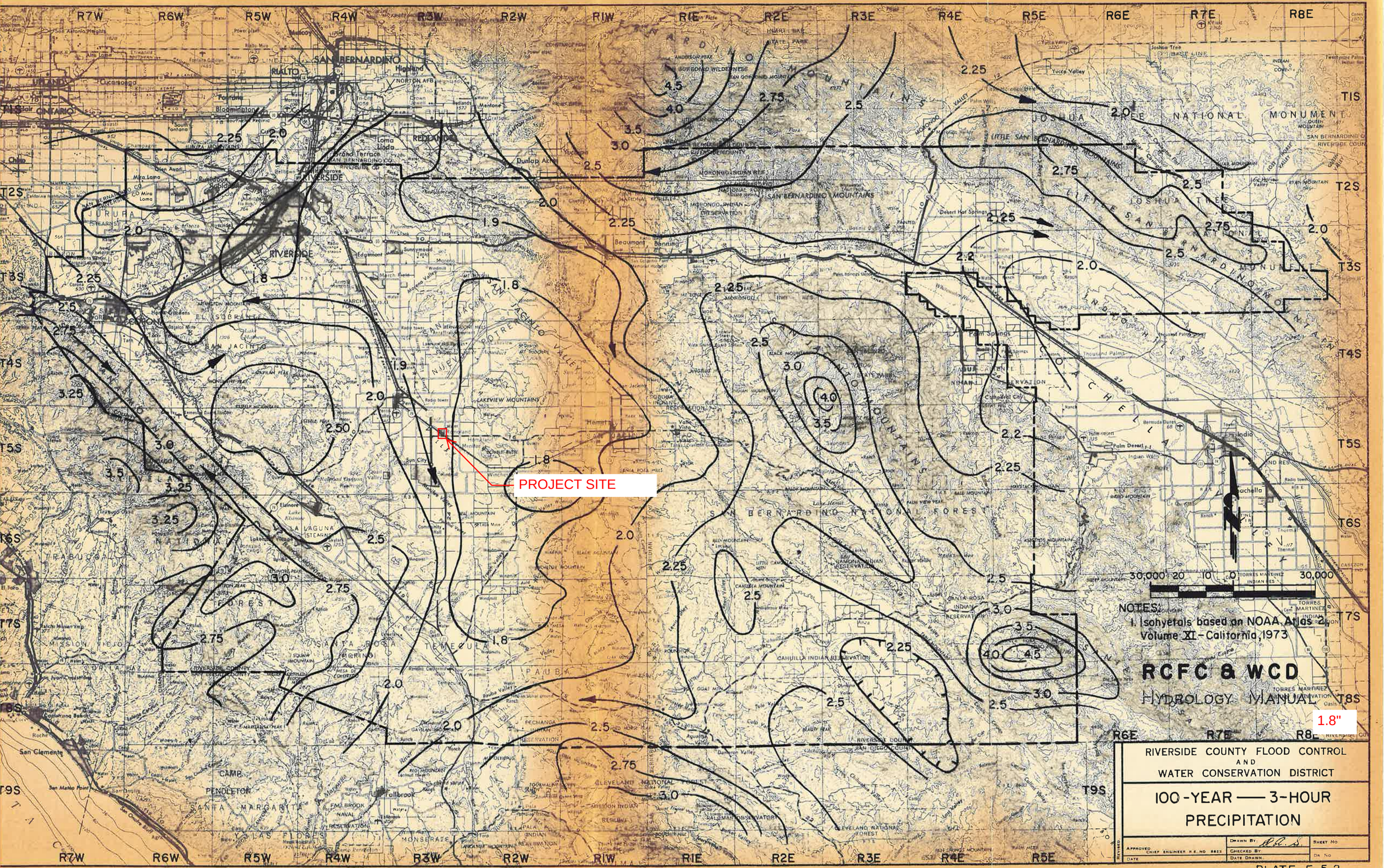

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PECHANGA INDIAN RESERVATION
MISSION INDIAN RESERVATION
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SAN JACINTO WILDERNESS
CLEVELAND NATIONAL FOREST
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REDLANDS
RIVERSIDE
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Yucaipa
Dunlap Acres
Loma Linda
Grand Terrace
Colton
Mentone
Bloomington
Fontana
Rancho Cucamonga
Upland
Ontario
Norton AFB
Jurupa
Arlington
Corona
Norco
Eastvale
Mira Loma
Edgemont
Sunnymead
Moreno Valley
Beaumont
Banning
Cabazon
Desert Hot Springs
Palm Springs
Thousand Palms
Indio
Coachella
Yucca Valley
Joshua Tree
Twentynine Palms
Lake Mathews
Lake Perris
Lake Elsinore
Lake Skinner
Lake Hemet
Diamond Valley Lake
Temecula
Murrieta
Wildomar
Menifee
Hemet
San Jacinto
Winchester
Romoland
Homeland
Valle Vista
Lake Riverside Estates
Lakeview Mountains
Santa Rosa Plateau
Agua Tibia Wilderness
Agua Tibia Mountain
Santa Ana Mountains
Santa Margarita
Fallbrook
Bonsall
Vista
San Clemente
Dana Point
Capistrano Beach
Mission Viejo
Rancho Santa Margarita
Lake Forest
Laguna Beach
Laguna Niguel
Aliso Viejo
Laguna Hills
Laguna Woods
Irvine
Tustin
Orange
Anaheim
Yorba Linda
Brea
Placentia
Fullerton
Buena Park
Cypress
Garden Grove
Westminster
Huntington Beach
Seal Beach
Los Alamitos
Long Beach
Santa Ana
Costa Mesa
Newport Beach
Balboa Island
Balboa Peninsula
Corona del Mar
Laguna Canyon
Trabuco Canyon
Silverado Canyon
Modjeska Canyon
Santiago Canyon
Irvine Lake
Santiago Reservoir
Prado Dam
Chino
Chino Hills
Pomona
Claremont
La Verne
San Dimas
Glendora
Azusa
Covina
West Covina
Baldwin Park
Irwindale
Duarte
Monrovia
Arcadia
Temple City
Rosemead
El Monte
South El Monte
Industry
La Puente
Hacienda Heights
Whittier
Pico Rivera
Santa Fe Springs
Norwalk
Downey
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Paramount
Artesia
Cerritos
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Lynwood
Compton
Carson
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RCFC & WCD
HYDROLOGY MANUAL
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RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 1-HOUR PRECIPITATION
APPROVED: CHIEF ENGINEER R.E. NO. 6822
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CHECKED BY
DATE DRAWN
SHEET NO
DR. NO
REVISED

PLATE D-4.4



NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973

RCFC & WCD
HYDROLOGY MANUAL

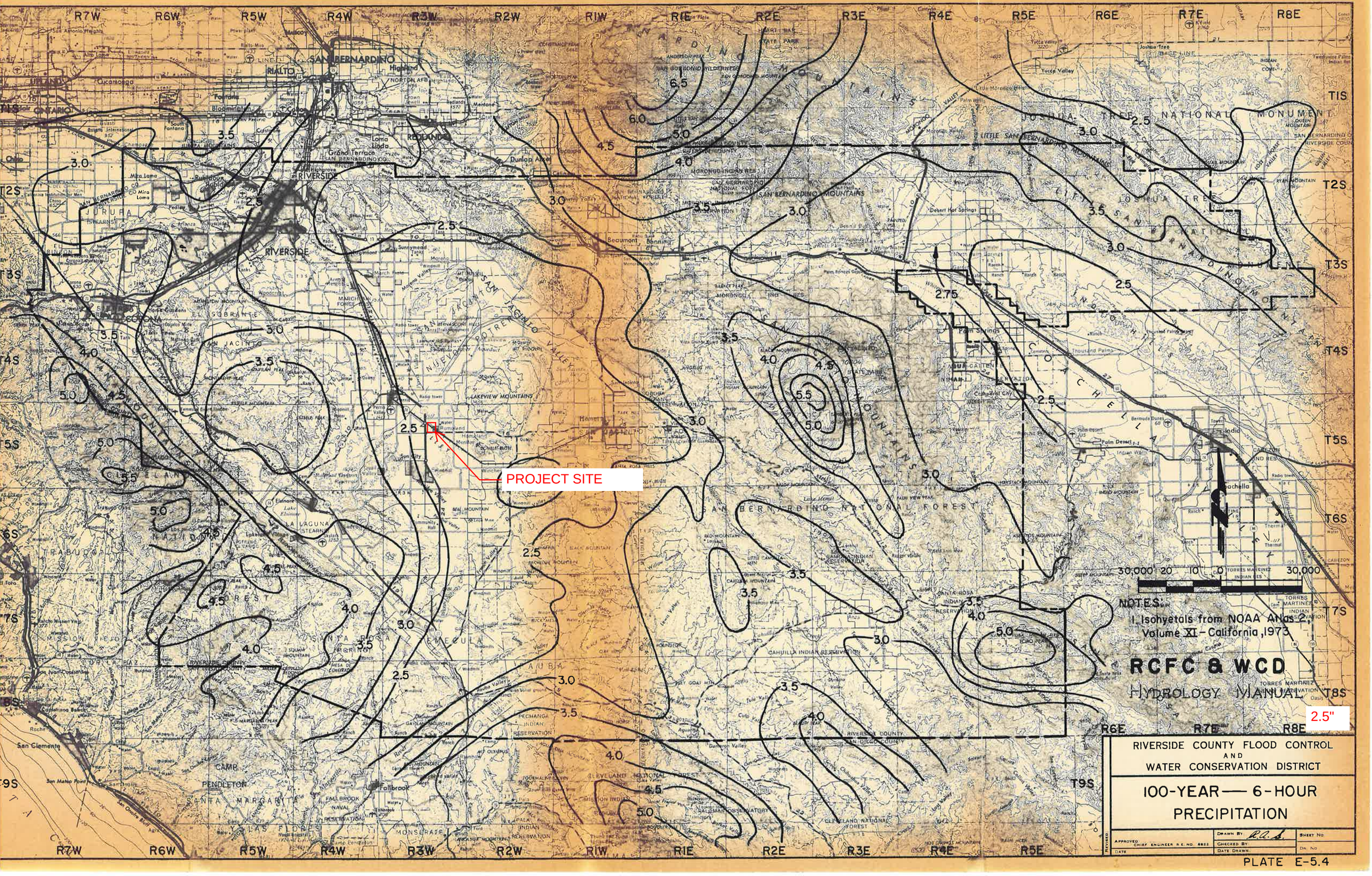
1.8"

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

100 - YEAR — 3 - HOUR PRECIPITATION

APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
DRAWN BY R.C.S.
CHECKED BY
DATE DRAWN
SHEET NO
DR NO
REVISED

PLATE E-5.2


PROJECT SITE
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
2.5"
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR PRECIPITATION
PLATE E-5.4

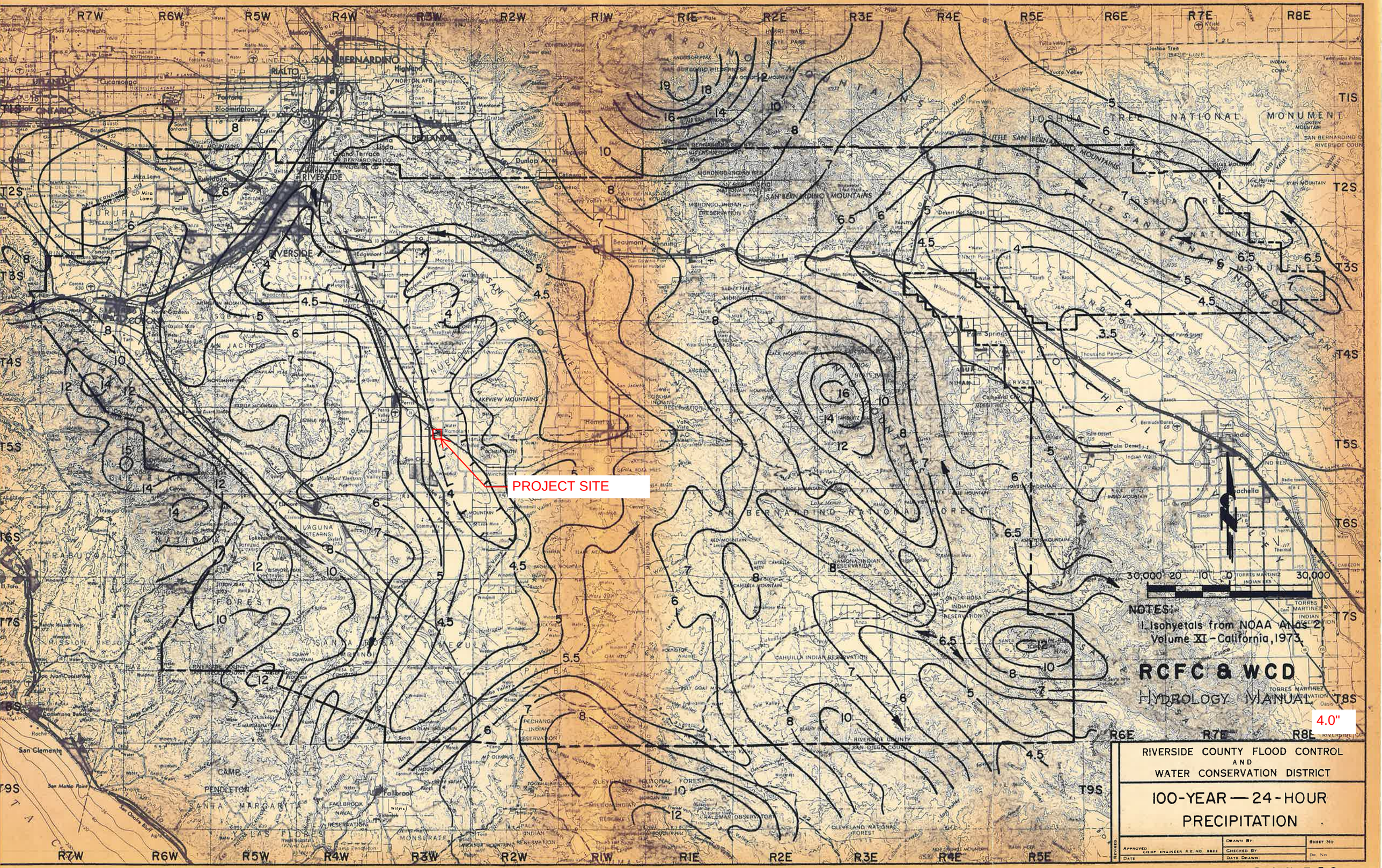
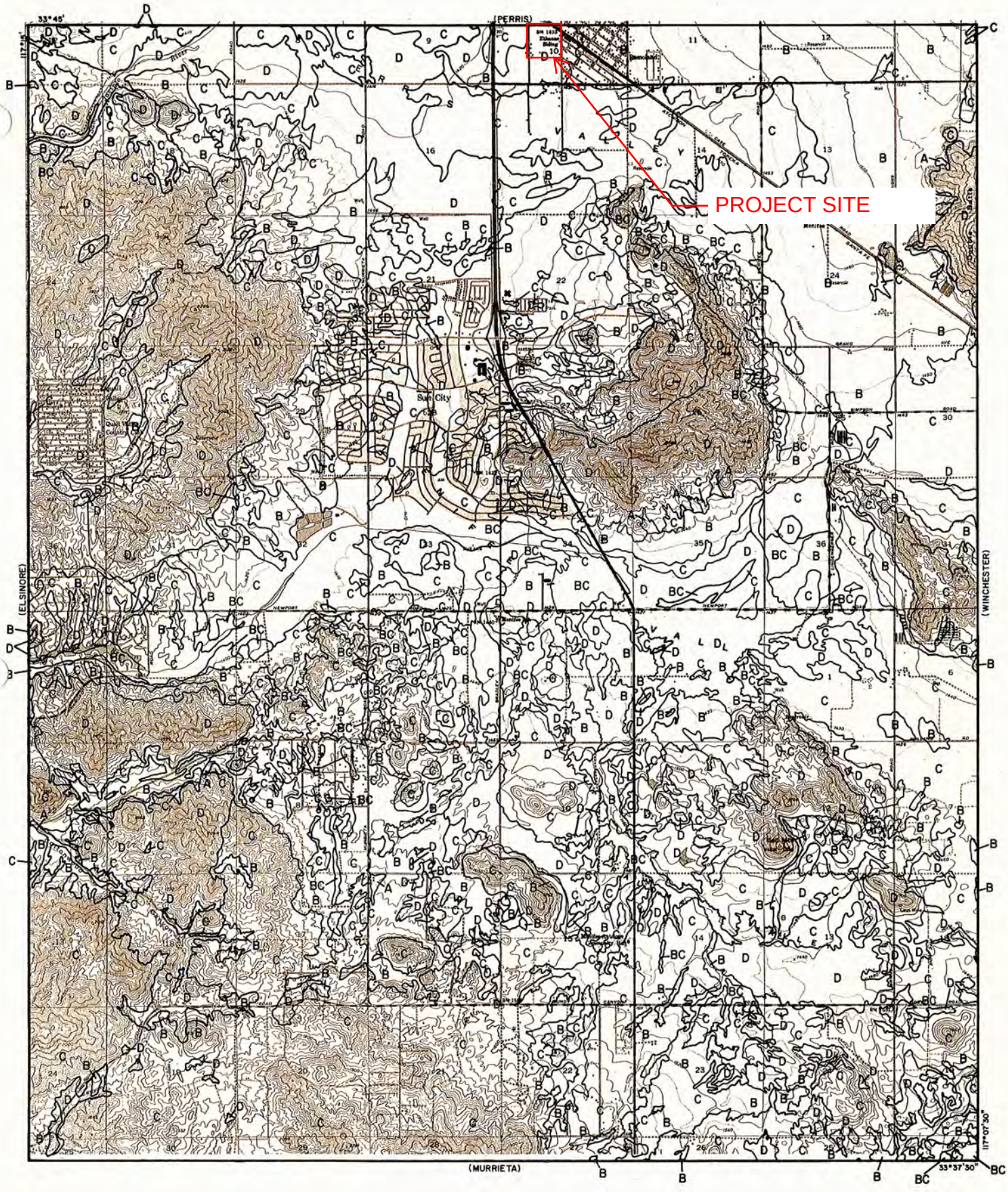

PROJECT SITE
SAN BERNARDINO
RIALTO
RIVERSIDE
CORONA
NORCO
JURUPA
ONTARIO
Cucamonga
Fontana
Bloomington
Rubidoux
Mira Loma
Grand Terrace
Colton
Redlands
Highland
Yucaipa
Dunlap Acres
Calimesa
Beaumont
Banning
Edgemont
Moreno Valley
March
Sunnymead
Perris
Romoland
San Jacinto
Hemet
Valle Vista
Winchester
Menifee
Lake Elsinore
Wildomar
Murrieta
Temecula
Pechanga
Fallbrook
Bonsall
Vista
San Clemente
Camp Pendleton
Oceanside
Escondido
Rancho California
Pauba
Aguanga
Anza
Cahuilla
Santa Rosa
Thousand Palms
Palm Springs
Cathedral City
Desert Hot Springs
Palm Desert
Indian Wells
La Quinta
Indio
Coachella
Joshua Tree
Yucca Valley
Morongo Valley
Twentynine Palms
SAN BERNARDINO MOUNTAINS
SAN JACINTO MOUNTAINS
SAN JACINTO VALLEY
SAN JACINTO FAULT
SAN JACINTO PEAK
SAN GORGONIO WILDERNESS
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
JOSHUA TREE NATIONAL MONUMENT
MORONGO INDIAN RESERVATION
SOBOBA INDIAN RESERVATION
AGUA CALIENTE INDIAN RESERVATION
CAHUILLA INDIAN RESERVATION
SANTA ROSA INDIAN RESERVATION
TORRES MARTINEZ INDIAN RESERVATION
PECHANGA INDIAN RESERVATION
CAMP PENDLETON
MARINE CORPS BASE
SANTA MARGARITA
LAS FLORES
TRABUCO
MAIDA
LAGUNA
SANTA ROSA PLATEAU
MISSION VIEJO
LAKEVIEW MOUNTAINS
NUEVO
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
30,000 20 10 0 30,000
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
4.0"
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 24-HOUR PRECIPITATION
APPROVED CHIEF ENGINEER R.E. NO. 6822
DATE
DRAWN BY
CHECKED BY
DATE DRAWN
SHEET NO
DR. NO
REVISED

PLATE E-5.6



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC & WCD

HYDROLOGY MANUAL

N

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR ROMOLAND

PLATE C-1.42

National Flood Hazard Layer FIRMette

FEMA

117°11'19"W 33°45'9"N



117°10'41"W 33°44'39"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/5/2022 at 3:32 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

STORM DRAIN IMPROVEMENT PLANS FOR:

CLASSIC PACIFIC BUSINESS PARK (PM 34082)

IN THE CITY OF PERRIS, CALIFORNIA

STORM DRAIN GENERAL NOTES

1. THE CONTRACTOR SHALL CONSTRUCT THE FLOOD CONTROL IMPROVEMENTS SHOWN ON THE DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT'S MEMORANDUM OF UNDERSTANDING STANDARD SPECIFICATIONS DATED SEPTEMBER 1984 AND DESIGN MANUAL STANDARD DRAWINGS DATED MAY 1971.
2. ALL STATIONING REFERS TO THE CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED.
3. STATIONING FOR LATERALS AND CONNECTOR PIPES REFER TO THE CENTERLINE– CENTERLINE INTERSECTION STATION, UNLESS OTHERWISE NOTED.
4. FORTY–EIGHT HOURS BEFORE EXCAVATION, CALL UNDERGROUND SERVICE ALERT 1–800–227–2600.
5. ALL ELEVATIONS SHOWN ARE IN FEET AND DECIMALS THEREOF BASED ON U.S.C. & G.S. DATUM.
6. ALL CROSS SECTIONS ARE TAKEN LOOKING DOWNSTREAM.
7. ELEVATIONS OF UTILITIES ARE APPROXIMATE UNLESS OTHERWISE NOTED.
8. OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES, OR SIMILAR STRUCTURES TO BE ABANDONED SHALL BE SEALED WITH 8" OF CLASS "B" CONCRETE.
9. "V" IS THE DEPTH OF INLET OF CATCH BASINS MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CONNECTOR PIPE.
10. ALL CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND OTHER EXISTING IMPROVEMENTS TO BE RECONSTRUCTED IN KIND AND AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS UNLESS OTHERWISE NOTED.
11. ROAD CLOSURES SHALL BE PERMITTED FOR A SHORT PERIOD ONLY. THE CONTRACTOR IS TO SUBMIT A DETOUR PLAN TO THE CITY ENGINEER FOR APPROVAL AND PLACE SIGNS PER APPROVED PLANS PRIOR TO BEGINNING CONSTRUCTION.
12. VIDEO OF STORM DRAIN FACILITIES SHOWN ON THESE PLANS MUST BE SUBMITTED TO CITY ENGINEER FOR REVIEW.
13. TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL.
14. ALL MANHOLE COVERS FOR STORM DRAIN LOCATED OUTSIDE OF DEDICATED RIGHT–OF–WAY SHALL BE LOCKED PRESSURE TYPE, AND SHALL READ "CITY OF PERRIS S.D."
15. VIDEO OF ALL ON–SITE AND OFF–SITE STORM DRAIN SHALL BE SUBMITTED TO CITY ENGINEER FOR REVIEW AND APPROVAL.

NOTICE TO CONTRACTOR:

THE EXISTENCE AND LOCATIONS OF ALL UNDERGROUND UTILITIES (UTILITY PIPES, STRUCTURES, ETC.) SHOWN ON THESE PLANS (MAIN LINES ONLY – NO SERVICE LATERALS) WERE ASCERTAINED BY A REVIEW OF RECORDS PROVIDED BY THESE MEMBER AGENCIES AND ARE APPROXIMATE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY FOR UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN.

THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. LOCATIONS OF UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.

BASIS OF BEARINGS

BASIS OF BEARING IS THE CENTERLINE OF PERRIS BOULEVARD TAKEN AS N00°16'30"E, AS SHOWN BY AMENDED PARCEL MAP 16950 PER P.M. 113/62–70, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

NOTE

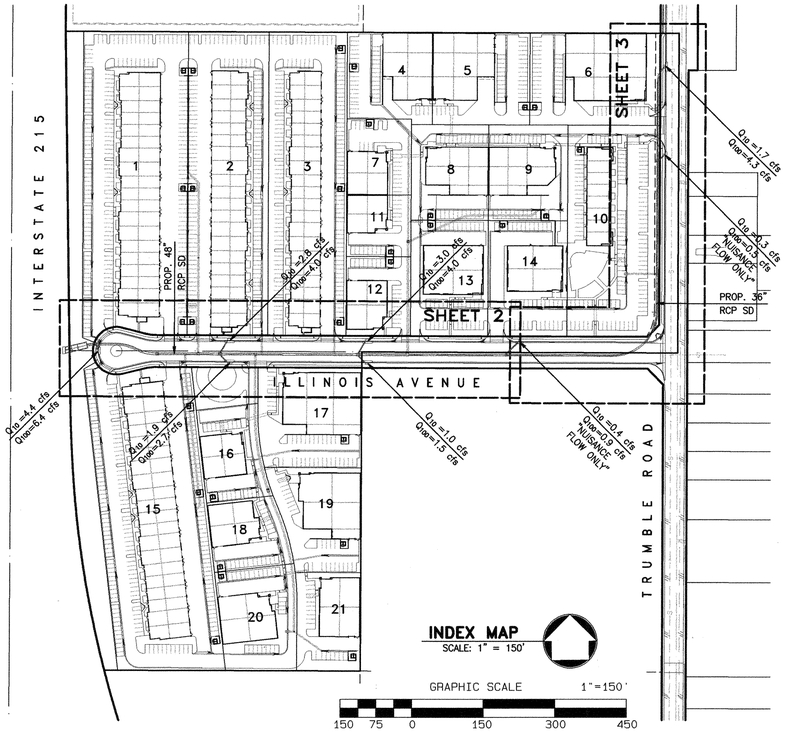
ALL ON–SITE STORM DRAIN AND PRIVATE LATERALS REFERRED TO ON THESE PLANS ARE TO BE CONSTRUCTED PER SEPARATE ON–SITE DRAINAGE PLANS AND CONCURRENTLY WITH PUBLIC STORM DRAIN SHOWN HEREON.

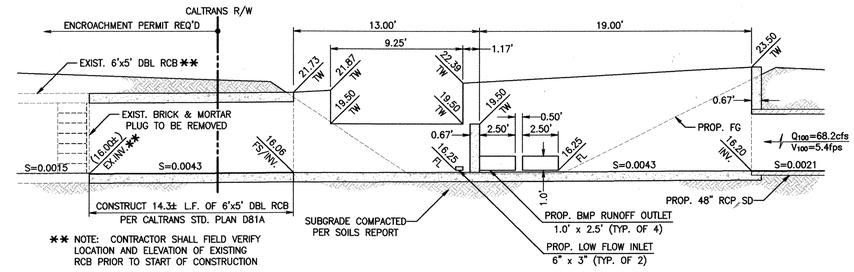
CONSTRUCTION NOTES

		QUANTITIES	
(1)	INSTALL 48" RCP, D–LOAD PER PLAN	661	LF
(2)	INSTALL 36" RCP, D–LOAD PER PLAN	638	LF
(3)	INTENTIONALLY LEFT BLANK	–	–
(4)	INSTALL 24" RCP, D–LOAD PER PLAN	437	LF
(5)	INSTALL 18" RCP, D–LOAD PER PLAN	180	LF
(6)	CONSTRUCT CURB OPENING CATCH BASIN PER APWA STD. PLAN 300–2 (H=4" – W NOTED ON PLANS)	5	EA
(7)	CONSTRUCT LOCAL DEPRESSION PER AWA STD. PLAN 313–1 CASE B	5	EA
(8)	CONSTRUCT MANHOLE NO. 2 PER RCFCD STD. DWG. NO. MH252	4	EA
(9)	CONSTRUCT MANHOLE NO. 4 PER RCFCD STD. DWG. NO. MH254	1	EA
(10)	INTENTIONALLY LEFT BLANK	–	–
(11)	CONSTRUCT MANHOLE NO. 1 PER RCFCD STD. DWG. NO. MH251	1	EA
(12)	CONSTRUCT JUNCTION STRUCTURE NO. 2 PER RCFCD STD. DWG. NO. JS227	4	EA
(13)	CONSTRUCT TRANSITION STRUCTURE NO. 3 PER RCFCD STD. DWG. NO. TS303	2	EA
(14)	CONSTRUCT JUNCTION STRUCTURE NO. 4 PER RCFCD STD. DWG. NO. JS229	2	EA

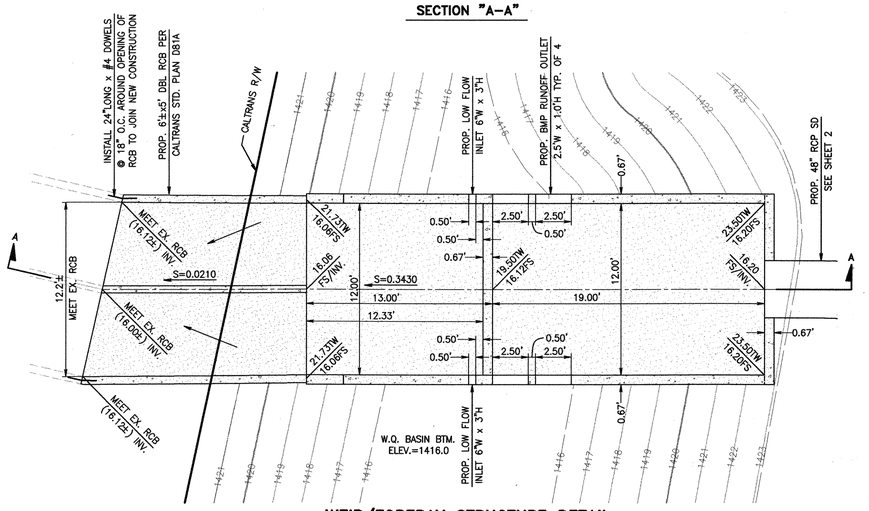
AS BUILT
THESE PLANS REFLECT ANY SUBSTANTIAL DESIGN MODIFICATIONS AS PROVIDED TO WEBB ASSOCIATES BY THE CONTRACTOR.
SCOTT R. HILDEBRANDT R.C.E. C44762 DATE 9/30/08

REGISTERED PROFESSIONAL ENGINEER SCOTT R. HILDEBRANDT NO. C44762 Exp. 3/31/10 CIVIL STATE OF CALIFORNIA



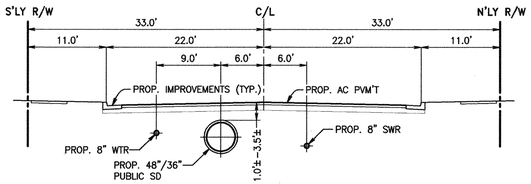


SECTION "A–A"



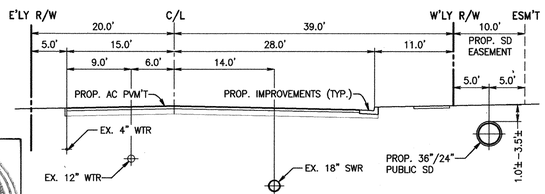
WEIR/FOREBAY STRUCTURE DETAIL

SCALE: 1" = 5'



UNDERGROUND UTILITIES TYPICAL SECTION ILLINOIS AVENUE

NOT TO SCALE

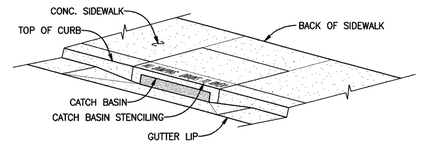


UNDERGROUND UTILITIES TYPICAL SECTION TRUMBLE ROAD

NOT TO SCALE

LIST OF ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
BC	BEGINNING OF CURVE
BCR	BEGINNING OF CURVE RETURN
BTM	BOTTOM
BVC	BEGINNING OF VERTICAL CURVE
CB	CATCH BASIN
C/L	CENTERLINE
C&G	CURB & GUTTER
EC	END OF CURVE
ECC.	ECCENTRIC
ECR	END OF CURVE RETURN
ESMT	EASEMENT
EVC	END OF VERTICAL CURVE
FH	FIRE HYDRANT
FL	FLOWLINE
FS	FINISH SURFACE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
INV	INVERT ELEVATION
JS	JUNCTION STRUCTURE
LAT.	LATERAL
LF	LINEAR FEET
LP	LOW POINT
MC	MEDIAN CURB
MH	MANHOLE
MVC	MIDDLE OF VERTICAL CURVE
NTS	NOT TO SCALE
PCC	PORTLAND CEMENT CONCRETE
PRC	POINT OF REVERSE CURVE
RCP	REINFORCED CONCRETE PIPE
RED.	REDUCER
R/W	RIGHT OF WAY
SCE	SOUTHERN CALIFORNIA EDISON
SEP.	SEPARATE
S/W	SIDEWALK
TC	TOP OF CURB
TS	TRANSITION STRUCTURE
XING	CROSSING



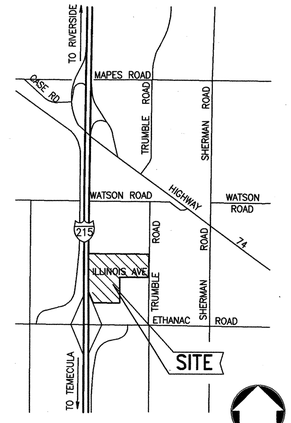
CATCH BASIN STENCILING DETAIL

NOT TO SCALE

A. STENCILS TO HAVE 2" LETTERS AS FOLLOW:
NO DUMPING
DRAINS TO RIVER
B. PLACE BOTH STENCILS CENTERED WITHIN THE CATCHBASIN OPENING AND WITHIN THE TOP OF CURB.
C. SPRAY BOTH STENCILS WITH WHITE PAINT.
D. REMOVE STENCILS WHEN PAINT IS DRY.

INDEX OF SHEETS

SHEET 1	TITLE SHEET
SHEET 2	STA 10+00 TO 19+00 – PLAN & PROFILE
SHEET 3	STA 19+00 TO 28+06 – PLAN & PROFILE



VICINITY MAP

T.5S., R3W., SECTION 18
N.T.S.

BENCHMARK

RIVERSIDE COUNTY B.M. M–26–2, BRASS DISC ON BRIDGE
ELEV = 1423.462, DATUM NGVD29.
AT THE SOUTHWEST CORNER OF THE BRIDGE SO 14–P OVER THE SAN JACINTO RIVER AT NUEVO ROAD; 14.0 FEET SOUTH OF NUEVO ROAD; A BRASS DISK SET IN THE TOP OF A CONCRETE BRIDGE ABUTMENT AND MARKED M–26–2 1963.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER CITY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.

DIGALERT
DIAL BEFORE YOU DIG TOLL FREE
A PUBLIC SEVICE BY UNDERGROUND SERVICE ALERT
TWO WORKING DAYS BEFORE YOU DIG 1–800–227–2600

DATE	BY	MARK	REVISIONS	APPR.	DATE
9/30/08	RR	1	AS BUILT		

ENGINEER | CITY

DESIGNED BY: RB DRAWN BY: BTE CHECKED BY: RB

SEAL

SEAL

REGISTERED PROFESSIONAL ENGINEER SCOTT R. HILDEBRANDT NO. C44762 EXP. 3–31–08 CIVIL STATE OF CALIFORNIA

APPROVED BY: DATE: 2-15-07
CITY ENGINEER

PREPARED UNDER THE SUPERVISION OF: DATE: 2-9-07
SCOTT R. HILDEBRANDT
R.C.E. NO. C44762 EXP. DATE 3–31–08

ALBERT A. WEBB ASSOCIATES ENGINEERING CONSULTANTS
CIVIL ENGINEERS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH: (951) 686–1070
FAX: (951) 788–1256

SCALE: AS SHOWN
DATE: Feb 2007

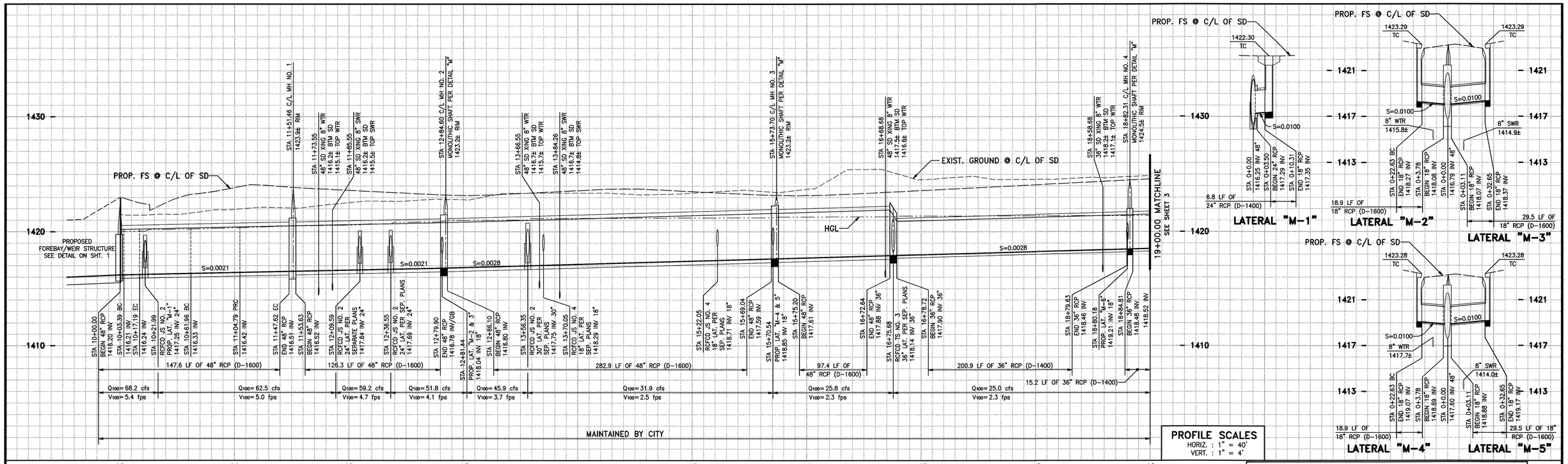
CITY OF PERRIS
STORM DRAIN PLANS
CLASSIC PACIFIC BUSINESS PARK (PM 34082)
TITLE SHEET
INDEX MAP

FOR: CLASSIC PACIFIC W.O. 04–0425

SHEET 1 OF 3 SHEETS
CITY FILE NO: P8–921

G:\2004\04–0425\Varsa&scroll\Design\04–425sd.prn8/9/2007|10:55:49AM

P-412



JS STA 10+21.99	
ANGLE A	90°00'00"
B	24"
C	3.50'
D	48"
E	1.44'
F	1.84'
G	1.59'
L	2.88'
ELEV. R	1417.39
ELEV. S	1417.27

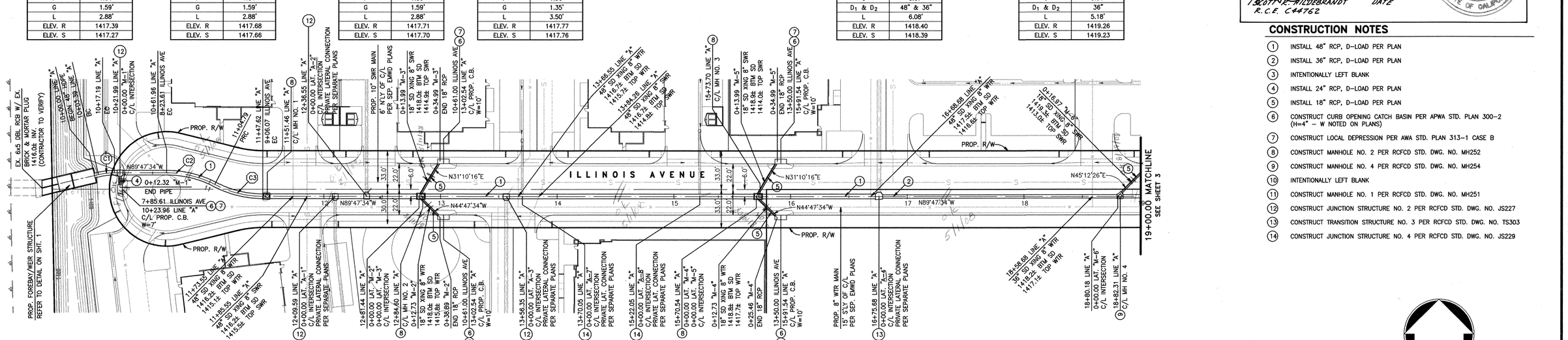
JS STA 12+09.59	
ANGLE A	90°00'00"
B	24"
C	3.50'
D	48"
E	1.44'
F	1.84'
G	1.59'
L	2.88'
ELEV. R	1417.68
ELEV. S	1417.66

JS STA 12+36.55	
ANGLE A	90°00'00"
B	24"
C	3.50'
D	48"
E	1.44'
F	1.85'
G	1.59'
L	2.88'
ELEV. R	1417.71
ELEV. S	1417.70

JS STA 13+56.35	
ANGLE A	90°00'00"
B	30"
C	3.50'
D	48"
E	2.25'
F	1.56'
G	1.35'
L	3.50'
ELEV. R	1417.77
ELEV. S	1417.76

TS STA 16+75.68	
ANGLE A	90°00'00"
B	36"
C	3.67'
D_1 & D_2	48" & 36"
L	6.08'
ELEV. R	1418.40
ELEV. S	1418.39

MH STA 18+80.18	
ANGLE A	45°00'00"
B	18"
C	5.01'
D_1 & D_2	36"
L	5.18'
ELEV. R	1419.26
ELEV. S	1419.23



CURVE DATA TABLE	RADIUS	DELTA	LENGTH	TANGENT
C1	60.00'	13°10'44"	13.80'	6.93'
C2	90.00'	27°15'58"	42.83'	21.83'
C3	90.00'	27°15'58"	42.83'	21.83'

AS BUILT
THESE PLANS REFLECT ANY SUBSTANTIAL FIELD MODIFICATIONS AS PROVIDED TO ME BY ASSOCIATES AND THE CONTRACTOR
SCOTT R. HILDEBRANDT R.C.E. C44762
16-3-08 DATE

REGISTERED PROFESSIONAL ENGINEER SCOTT R. HILDEBRANDT No. C44762 Exp. 3/31/10 CIVIL STATE OF CALIFORNIA

CONSTRUCTION NOTES

1. INSTALL 48" RCP, D-LOAD PER PLAN
2. INSTALL 36" RCP, D-LOAD PER PLAN
3. INTENTIONALLY LEFT BLANK
4. INSTALL 24" RCP, D-LOAD PER PLAN
5. INSTALL 18" RCP, D-LOAD PER PLAN
6. CONSTRUCT CURB OPENING CATCH BASIN PER APWA STD. PLAN 300-2 (H=4" – W NOTED ON PLANS)
7. CONSTRUCT LOCAL DEPRESSION PER AWA STD. PLAN 313-1 CASE B
8. CONSTRUCT MANHOLE NO. 2 PER RCFCD STD. DWG. NO. MH252
9. CONSTRUCT MANHOLE NO. 4 PER RCFCD STD. DWG. NO. MH254
10. INTENTIONALLY LEFT BLANK
11. CONSTRUCT MANHOLE NO. 1 PER RCFCD STD. DWG. NO. MH251
12. CONSTRUCT JUNCTION STRUCTURE NO. 2 PER RCFCD STD. DWG. NO. JS227
13. CONSTRUCT TRANSITION STRUCTURE NO. 3 PER RCFCD STD. DWG. NO. TS303
14. CONSTRUCT JUNCTION STRUCTURE NO. 4 PER RCFCD STD. DWG. NO. JS229

NOTE

ALL ON-SITE STORM DRAIN AND PRIVATE LATERALS REFERRED TO ON THESE PLANS ARE TO BE CONSTRUCTED PER SEPARATE ON-SITE DRAINAGE PLANS AND CONCURRENTLY WITH PUBLIC STORM DRAIN SHOWN HEREON.

GRAPHIC SCALE 1"=40'
40 20 0 40 80 120

BENCHMARK

RIVERSIDE COUNTY B.M. M-26-2, BRASS DISC ON BRIDGE
ELEV = 1423.462, DATUM NGVD29.
AT THE SOUTHWEST CORNER OF THE BRIDGE SO 14-P OVER THE SAN JACINTO RIVER AT NUEVO ROAD; 14.0 FEET SOUTH OF NUEVO ROAD; A BRASS DISK SET IN THE TOP OF A CONCRETE BRIDGE ABUTMENT AND MARKED M-26-2 1963.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER CITY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.

DIGALERT — DIAL BEFORE YOU DIG TOLL FREE — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SEVICE BY 1-800-227-2600 UNDERGROUND SERVICE ALERT

DATE	BY	MARK	REVISIONS	APPR.	DATE
9-30-08	RR	1	AS BUILT		

ENGINEER — CITY

DESIGNED BY: RB DRAWN BY: BTE CHECKED BY: RB

SEAL

SEAL — REGISTERED PROFESSIONAL ENGINEER SCOTT R. HILDEBRANDT NO. C44762 EXP. 3-31-08 CIVIL STATE OF CALIFORNIA

APPROVED BY: DATE: 2-9-07
CITY ENGINEER

PREPARED UNDER THE SUPERVISION OF: DATE: 2-9-07
SCOTT R. HILDEBRANDT
R.C.E. NO. C44762 EXP. DATE 3-31-08

ALBERT A. WEBB ASSOCIATES — ENGINEERING CONSULTANTS
CIVIL ENGINEERS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH: (951) 686-1070
FAX: (951) 788-1256

SCALE: AS SHOWN
DATE: Feb 2007

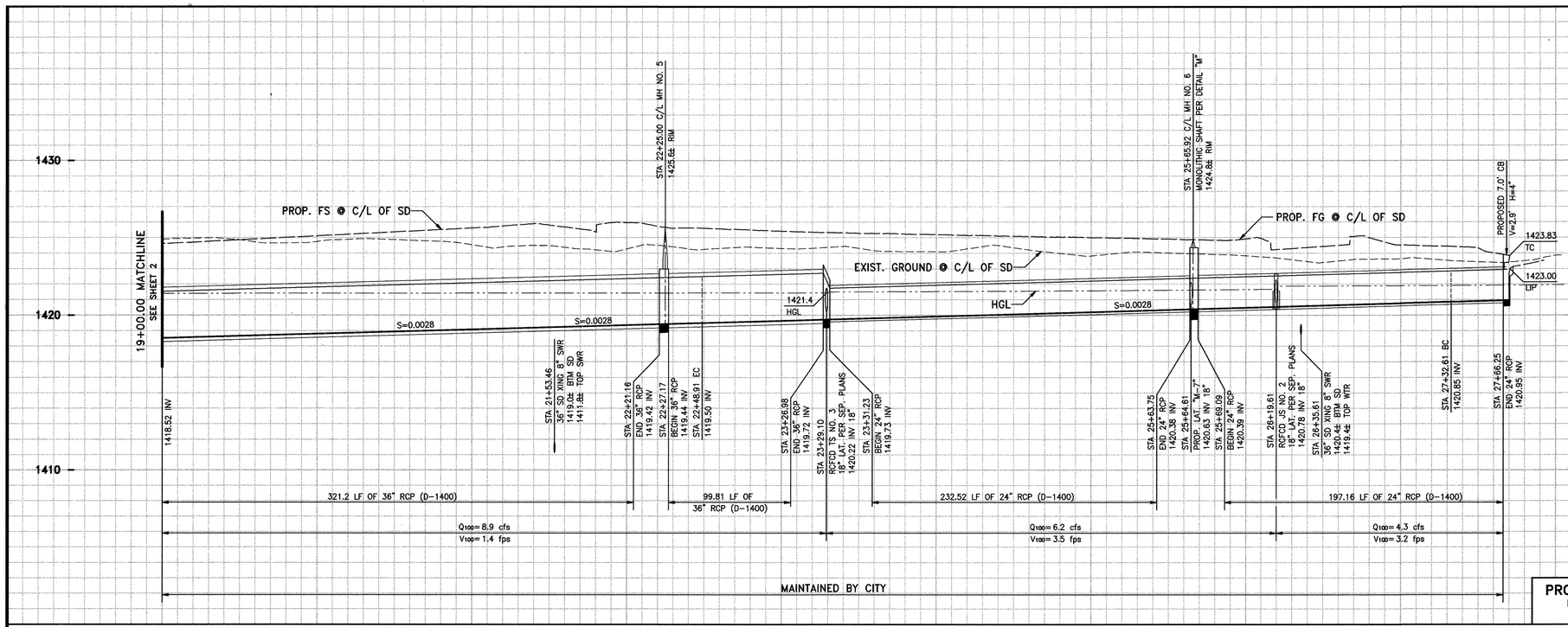
CITY OF PERRIS
STORM DRAIN PLANS
CLASSIC PACIFIC BUSINESS PARK (PM 34082)
PLAN AND PROFILE
STA. 10+00 TO STA. 19+00

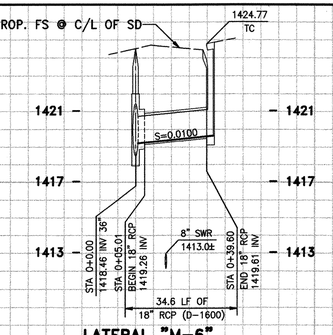
FOR: CLASSIC PACIFIC
W.O. 04-0425

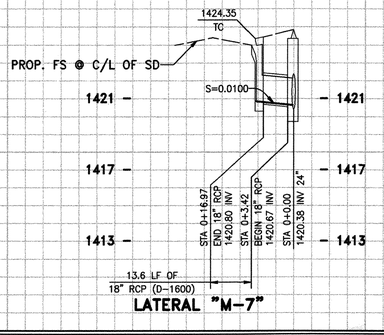
SHEET 2 OF 3 SHEETS
CITY FILE NO: P8-921

P-412

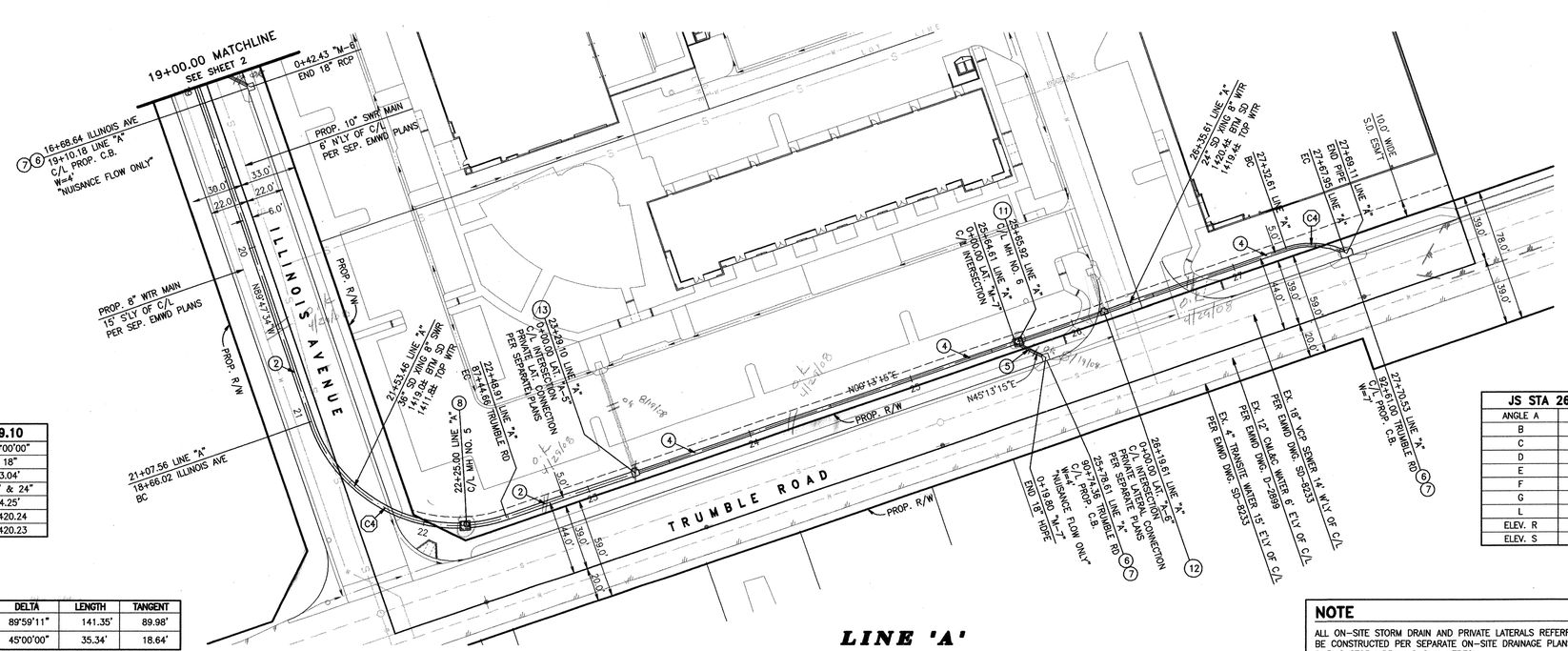
C:\3004\04-0425\dwg\Exhibits\Design\04-425sdp.mp9 9/20/2007 10:56:27 AM







PROFILE SCALES
HORIZ. : 1" = 40'
VERT. : 1" = 4'



TS STA 23+29.10	
ANGLE A	90°00'00"
B	18"
C	3.04'
D_1 & D_2	36" & 24"
L	4.25'
ELEV. R	1420.24
ELEV. S	1420.23

JS STA 26+19.61	
ANGLE A	90°00'00"
B	18"
C	2.33'
D	24"
E	1.13'
F	0.75'
G	0.65'
L	2.25'
ELEV. R	1420.81
ELEV. S	1420.79

CURVE DATA TABLE	RADIUS	DELTA	LENGTH	TANGENT
C4	90.00'	89°59'11"	141.35'	89.98'
C5	45.00'	45°00'00"	35.34'	18.64'

AS BUILT
THESE PLANS REFLECT ANY SUBSTANTIAL DESIGN MODIFICATIONS AS PROVIDED TO WEBB ASSOCIATES BY THE CONTRACTOR
SCOTT R. HILDEBRANDT
R.C.E. C44762
DATE 10-3-08

REGISTERED PROFESSIONAL ENGINEER
SCOTT R. HILDEBRANDT
NO. C44762
EXP. 3/31/10
CIVIL
STATE OF CALIFORNIA

CONSTRUCTION NOTES

1. INSTALL 48" RCP, D-LOAD PER PLAN
2. INSTALL 36" RCP, D-LOAD PER PLAN
3. INTENTIONALLY LEFT BLANK
4. INSTALL 24" RCP, D-LOAD PER PLAN
5. INSTALL 18" RCP, D-LOAD PER PLAN
6. CONSTRUCT CURB OPENING CATCH BASIN PER APWA STD. PLAN 300-2 (H=4" - W NOTED ON PLANS)
7. CONSTRUCT LOCAL DEPRESSION PER AWA STD. PLAN 313-1 CASE B
8. CONSTRUCT MANHOLE NO. 2 PER RCFCD STD. DWG. NO. MH252
9. CONSTRUCT MANHOLE NO. 4 PER RCFCD STD. DWG. NO. MH254
10. INTENTIONALLY LEFT BLANK
11. CONSTRUCT MANHOLE NO. 1 PER RCFCD STD. DWG. NO. MH251
12. CONSTRUCT JUNCTION STRUCTURE NO. 2 PER RCFCD STD. DWG. NO. JS227
13. CONSTRUCT TRANSITION STRUCTURE NO. 3 PER RCFCD STD. DWG. NO. TS303
14. CONSTRUCT JUNCTION STRUCTURE NO. 4 PER RCFCD STD. DWG. NO. JS229

NOTE
ALL ON-SITE STORM DRAIN AND PRIVATE LATERALS REFERRED TO ON THESE PLANS ARE TO BE CONSTRUCTED PER SEPARATE ON-SITE DRAINAGE PLANS AND CONCURRENTLY WITH PUBLIC STORM DRAIN SHOWN HEREON.

GRAPHIC SCALE 1"=40'
40 20 0 40 80 120

BENCHMARK
RIVERSIDE COUNTY B.M. M-26-2, BRASS DISC ON BRIDGE
ELEV = 1423.462, DATUM NGVD29.
AT THE SOUTHWEST CORNER OF THE BRIDGE SO 14-P OVER THE SAN JACINTO RIVER AT NUEVO ROAD; 14.0 FEET SOUTH OF NUEVO ROAD; A BRASS DISK SET IN THE TOP OF A CONCRETE BRIDGE ABUTMENT AND MARKED M-26-2 1963.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER CITY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.

DIGALERT
DIAL BEFORE YOU DIG TOLL FREE
A PUBLIC SEVICE BY UNDERGROUND SERVICE ALERT
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

DATE	BY	MARK	REVISIONS	APPR.	DATE
9-30-08	RR	1	AS BUILT	CITY	

DESIGNED BY: RB DRAWN BY: BTE CHECKED BY: RB

SEAL

SEAL
REGISTERED PROFESSIONAL ENGINEER
SCOTT R. HILDEBRANDT
NO. C44762
EXP. 3-31-08
CIVIL
STATE OF CALIFORNIA

APPROVED BY: DATE: 2.7.07
CITY ENGINEER
PREPARED UNDER THE SUPERVISION OF: DATE: 2-9-07
SCOTT R. HILDEBRANDT
R.C.E. NO. C44762 EXP. DATE 3-31-08

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
CIVIL ENGINEERS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH: (951) 686-1070
FAX: (951) 788-1256

SCALE: AS SHOWN
DATE: Feb 2007

CITY OF PERRIS
STORM DRAIN PLANS
CLASSIC PACIFIC BUSINESS PARK (PM 34082)
PLAN AND PROFILE
STA. 19+00 TO STA. 28+06

FOR: CLASSIC PACIFIC
W.O. 04-0425

SHEET 3 OF 3 SHEETS
CITY FILE NO: P8-921

P-412

G:\2004\04-0425\dwg\design\Design\04-425sd.mp12/9/2007|10:55:06AM

APPENDIX B

HYDROLOGY CALCULATIONS

```
______________________________________________________________________________
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                      (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2016 Advanced Engineering Software (aes)
                      (Rational Tabling Version 23.0)
                  Release Date: 07/01/2016  License ID 1435

                           Analysis prepared by:

                         THIENES ENGINEERING, INC.
                            14349 FIRESTONE BLVD
                            LA MIRIADA, CA 90638
                                714-521-4811

 ************************ DESCRIPTION OF STUDY ************************
* TEI JOB NUMBER 4100                                                    *
* EXISTING CONDITIONS                                                    *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: W:\4100\X100.DAT
  TIME/DATE OF STUDY: 13:41 03/14/2024
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =  100.00   1-HOUR INTENSITY(INCH/HOUR) =   1.200
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (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.*

******************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   829.00
  UPSTREAM ELEVATION(FEET) =   1427.57
  DOWNSTREAM ELEVATION(FEET) =   1383.71
  ELEVATION DIFFERENCE(FEET) =     43.86
  TC = 0.533*[(  829.00**3)/(    43.86)]**.2 =   14.097
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.476
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7630
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =     13.26
  TOTAL AREA(ACRES) =      7.02   TOTAL RUNOFF(CFS) =     13.26
==============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        7.0  TC(MIN.) =     14.10
  PEAK FLOW RATE(CFS)   =      13.26
==============================================================================
==============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
______________________________________________________________________________
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
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         (c) Copyright 1982-2016 Advanced Engineering Software (aes)
                      (Rational Tabling Version 23.0)
                  Release Date: 07/01/2016  License ID 1435

                           Analysis prepared by:

                         THIENES ENGINEERING, INC.
                            14349 FIRESTONE BLVD
                            LA MIRIADA, CA 90638
                                714-521-4811

 ************************ DESCRIPTION OF STUDY ************************
* TEI JOB NUMBER 4100                                                    *
* EXISTING CONDITIONS                                                    *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: W:\4100\X110.DAT
  TIME/DATE OF STUDY: 16:41 06/13/2022
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   12.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   12.00   1-HOUR INTENSITY(INCH/HOUR) =   0.798
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (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.*

******************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    111.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   719.00
  UPSTREAM ELEVATION(FEET) =   1430.44
  DOWNSTREAM ELEVATION(FEET) =   1383.71
  ELEVATION DIFFERENCE(FEET) =     46.73
  TC = 0.533*[(  719.00**3)/(    46.73)]**.2 =   12.780
    12 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.730
  USER-SPECIFIED RUNOFF COEFFICIENT = .7160
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =     10.99
  TOTAL AREA(ACRES) =      8.87   TOTAL RUNOFF(CFS) =     10.99
==============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        8.9  TC(MIN.) =     12.78
  PEAK FLOW RATE(CFS)   =      10.99
==============================================================================
==============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
______________________________________________________________________________
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                      (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2016 Advanced Engineering Software (aes)
                      (Rational Tabling Version 23.0)
                  Release Date: 07/01/2016  License ID 1435

                           Analysis prepared by:

                         THIENES ENGINEERING, INC.
                            14349 FIRESTONE BLVD
                            LA MIRIADA, CA 90638
                                714-521-4811

 ************************ DESCRIPTION OF STUDY ************************
* TEI JOB NUMBER 4100                                                    *
* EXISTING CONDITIONS                                                    *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: W:\4100\X120.DAT
  TIME/DATE OF STUDY: 16:45 06/13/2022
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   12.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   12.00   1-HOUR INTENSITY(INCH/HOUR) =   0.798
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (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.*

******************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    121.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   515.00
  UPSTREAM ELEVATION(FEET) =   1428.54
  DOWNSTREAM ELEVATION(FEET) =   1427.76
  ELEVATION DIFFERENCE(FEET) =      0.78
  TC = 0.533*[(  515.00**3)/(     0.78)]**.2 =   23.717
    12 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.270
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6667
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      0.28
  TOTAL AREA(ACRES) =      0.33   TOTAL RUNOFF(CFS) =      0.28

******************************************************************************
  FLOW PROCESS FROM NODE    121.00 TO NODE    122.00 IS CODE =  52
------------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1427.76  DOWNSTREAM(FEET) =   1427.52
  CHANNEL LENGTH THRU SUBAREA(FEET) =   186.00   CHANNEL SLOPE =  0.0013
```

```
  NOTE: CHANNEL FLOW OF 1. CFS WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       0.28
  FLOW VELOCITY(FEET/SEC) =   0.54 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   5.75   Tc(MIN.) =   29.47
  LONGEST FLOWPATH FROM NODE    120.00 TO NODE    122.00 =     701.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    122.00 TO NODE    122.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    12 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.139
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6474
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.98   SUBAREA RUNOFF(CFS) =    0.72
  TOTAL AREA(ACRES) =        1.3   TOTAL RUNOFF(CFS) =       1.00
  TC(MIN.) =   29.47
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        1.3  TC(MIN.) =     29.47
  PEAK FLOW RATE(CFS)   =       1.00
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
______________________________________________________________________________
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                      (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2016 Advanced Engineering Software (aes)
                      (Rational Tabling Version 23.0)
                  Release Date: 07/01/2016  License ID 1435

                           Analysis prepared by:

                         THIENES ENGINEERING, INC.
                            14349 FIRESTONE BLVD
                            LA MIRIADA, CA 90638
                                714-521-4811

 ************************ DESCRIPTION OF STUDY ************************
* TEI JOB NUMBER 4100                                                    *
* EXISTING OFFSITE CONDITIONS                                            *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: W:\4100\X200.DAT
  TIME/DATE OF STUDY: 14:00 03/14/2024
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   12.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   12.00   1-HOUR INTENSITY(INCH/HOUR) =   0.798
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (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.*

******************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    201.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   675.00
  UPSTREAM ELEVATION(FEET) =   1431.36
  DOWNSTREAM ELEVATION(FEET) =   1428.21
  ELEVATION DIFFERENCE(FEET) =      3.15
  TC = 0.533*[(  675.00**3)/(     3.15)]**.2 =   21.102
    12 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.346
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6766
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      2.08
  TOTAL AREA(ACRES) =      2.28   TOTAL RUNOFF(CFS) =      2.08
==============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        2.3  TC(MIN.) =     21.10
  PEAK FLOW RATE(CFS)   =       2.08
==============================================================================
==============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
******************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                    (RCFC&WCD)  1978 HYDROLOGY MANUAL
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                    (Rational Tabling Version 23.0)
                Release Date: 07/01/2016  License ID 1435

                        Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* TEI JOB NUMBER 4100                                                    *
* PROPOSED CONDITIONS                                                    *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: Z:\4100\P100.DAT
  TIME/DATE OF STUDY: 14:33 08/06/2025
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =  100.00   1-HOUR INTENSITY(INCH/HOUR) =   1.200
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (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.*

******************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   224.00
  UPSTREAM ELEVATION(FEET) =   1426.03
  DOWNSTREAM ELEVATION(FEET) =   1422.50
  ELEVATION DIFFERENCE(FEET) =      3.53
  TC = 0.303*[(  224.00**3)/(     3.53)]**.2 =    6.056
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.777
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8905
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      6.26
```

```
  TOTAL AREA(ACRES) =      1.86   TOTAL RUNOFF(CFS) =      6.26

****************************************************************************
  FLOW PROCESS FROM NODE    101.00 TO NODE    101.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.777
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8905
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.16   SUBAREA RUNOFF(CFS) =    0.54
  TOTAL AREA(ACRES) =        2.0   TOTAL RUNOFF(CFS) =       6.79
  TC(MIN.) =    6.06

****************************************************************************
  FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.97  DOWNSTREAM(FEET) =  1419.76
  FLOW LENGTH(FEET) =   100.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  15.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.60
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       6.79
  PIPE TRAVEL TIME(MIN.) =   0.46    Tc(MIN.) =    6.52
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    102.00 =     324.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.641
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8902
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    1.05   SUBAREA RUNOFF(CFS) =    3.40
  TOTAL AREA(ACRES) =        3.1   TOTAL RUNOFF(CFS) =      10.20
  TC(MIN.) =    6.52

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.641
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8902
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.22   SUBAREA RUNOFF(CFS) =    0.71
  TOTAL AREA(ACRES) =        3.3   TOTAL RUNOFF(CFS) =      10.91
  TC(MIN.) =    6.52

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    103.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.76  DOWNSTREAM(FEET) =  1419.56
  FLOW LENGTH(FEET) =   100.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  17.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.03
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      10.91
  PIPE TRAVEL TIME(MIN.) =   0.41    Tc(MIN.) =    6.93
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    103.00 =     424.00 FEET.

****************************************************************************
```

```
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.530
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8899
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    1.05   SUBAREA RUNOFF(CFS) =    3.30
  TOTAL AREA(ACRES) =        4.3   TOTAL RUNOFF(CFS) =      14.21
  TC(MIN.) =    6.93

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.530
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8899
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.22   SUBAREA RUNOFF(CFS) =    0.69
  TOTAL AREA(ACRES) =        4.6   TOTAL RUNOFF(CFS) =      14.90
  TC(MIN.) =    6.93

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    104.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.56  DOWNSTREAM(FEET) =  1419.35
  FLOW LENGTH(FEET) =   100.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  22.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.30
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      14.90
  PIPE TRAVEL TIME(MIN.) =   0.39    Tc(MIN.) =    7.32
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    104.00 =     524.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    104.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.436
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8897
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    1.05   SUBAREA RUNOFF(CFS) =    3.21
  TOTAL AREA(ACRES) =        5.6   TOTAL RUNOFF(CFS) =      18.11
  TC(MIN.) =    7.32

****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    104.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.436
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8897
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.22   SUBAREA RUNOFF(CFS) =    0.67
  TOTAL AREA(ACRES) =        5.8   TOTAL RUNOFF(CFS) =      18.78
  TC(MIN.) =    7.32

****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    105.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.35  DOWNSTREAM(FEET) =  1419.12
```

```
  FLOW LENGTH(FEET) =   119.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  24.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.42
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      18.78
  PIPE TRAVEL TIME(MIN.) =   0.45    Tc(MIN.) =    7.77
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    105.00 =     643.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    105.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.335
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8894
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    2.09   SUBAREA RUNOFF(CFS) =    6.20
  TOTAL AREA(ACRES) =        7.9   TOTAL RUNOFF(CFS) =      24.98
  TC(MIN.) =    7.77

****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    105.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.335
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8894
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.47   SUBAREA RUNOFF(CFS) =    1.39
  TOTAL AREA(ACRES) =        8.4   TOTAL RUNOFF(CFS) =      26.38
  TC(MIN.) =    7.77

****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    106.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.12  DOWNSTREAM(FEET) =  1418.77
  FLOW LENGTH(FEET) =   174.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  25.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.00
  ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      26.38
  PIPE TRAVEL TIME(MIN.) =   0.58    Tc(MIN.) =    8.35
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    106.00 =     817.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    106.00 TO NODE    106.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.217
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8891
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.88   SUBAREA RUNOFF(CFS) =    2.52
  TOTAL AREA(ACRES) =        9.3   TOTAL RUNOFF(CFS) =      28.89
  TC(MIN.) =    8.35

****************************************************************************
  FLOW PROCESS FROM NODE    106.00 TO NODE    107.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1418.77  DOWNSTREAM(FEET) =  1417.64
  FLOW LENGTH(FEET) =   564.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  27.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.06
```

```
  ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      28.89
  PIPE TRAVEL TIME(MIN.) =   1.86    Tc(MIN.) =   10.21
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    107.00 =    1381.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    107.00 TO NODE    107.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.910
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8881
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.76   SUBAREA RUNOFF(CFS) =    1.96
  TOTAL AREA(ACRES) =       10.0   TOTAL RUNOFF(CFS) =      30.86
  TC(MIN.) =   10.21

****************************************************************************
  FLOW PROCESS FROM NODE    107.00 TO NODE    214.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1417.64  DOWNSTREAM(FEET) =  1417.12
  FLOW LENGTH(FEET) =   258.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  28.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.10
  ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      30.86
  PIPE TRAVEL TIME(MIN.) =   0.84    Tc(MIN.) =   11.05
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    214.00 =    1639.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    214.00 TO NODE    214.00 IS CODE =  10
----------------------------------------------------------------------------
  >>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<
============================================================================

****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    201.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   256.00
  UPSTREAM ELEVATION(FEET) =   1425.92
  DOWNSTREAM ELEVATION(FEET) =   1424.65
  ELEVATION DIFFERENCE(FEET) =      1.27
  TC = 0.303*[(  256.00**3)/(     1.27)]**.2 =    8.049
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.276
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8892
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      2.07
  TOTAL AREA(ACRES) =      0.71   TOTAL RUNOFF(CFS) =      2.07

****************************************************************************
  FLOW PROCESS FROM NODE    201.00 TO NODE    202.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1422.48  DOWNSTREAM(FEET) =  1420.79
  FLOW LENGTH(FEET) =   339.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   7.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.75
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.07
```

```
  PIPE TRAVEL TIME(MIN.) =   1.51    Tc(MIN.) =    9.56
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    202.00 =     595.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    202.00 TO NODE    202.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.007
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8884
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    1.57   SUBAREA RUNOFF(CFS) =    4.19
  TOTAL AREA(ACRES) =        2.3   TOTAL RUNOFF(CFS) =       6.26
  TC(MIN.) =    9.56

****************************************************************************
  FLOW PROCESS FROM NODE    202.00 TO NODE    213.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1420.79  DOWNSTREAM(FEET) =  1420.69
  FLOW LENGTH(FEET) =   347.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  21.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   1.68
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       6.26
  PIPE TRAVEL TIME(MIN.) =   3.44    Tc(MIN.) =   12.99
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    213.00 =     942.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    212.00 TO NODE    212.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   12.99
  RAINFALL INTENSITY(INCH/HR) =   2.58
  TOTAL STREAM AREA(ACRES) =     2.28
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      6.26

****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    211.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   292.00
  UPSTREAM ELEVATION(FEET) =   1427.01
  DOWNSTREAM ELEVATION(FEET) =   1424.61
  ELEVATION DIFFERENCE(FEET) =      2.40
  TC = 0.303*[(  292.00**3)/(     2.40)]**.2 =    7.670
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.356
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8895
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      7.16
  TOTAL AREA(ACRES) =      2.40   TOTAL RUNOFF(CFS) =      7.16

****************************************************************************
  FLOW PROCESS FROM NODE    211.00 TO NODE    212.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1421.61  DOWNSTREAM(FEET) =  1420.89
  FLOW LENGTH(FEET) =   144.00   MANNING'S N =  0.012
```

```
  DEPTH OF FLOW IN  18.0 INCH PIPE IS  13.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.03
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       7.16
  PIPE TRAVEL TIME(MIN.) =   0.48    Tc(MIN.) =    8.15
  LONGEST FLOWPATH FROM NODE    210.00 TO NODE    212.00 =     436.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    212.00 TO NODE    212.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.257
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8892
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    2.47   SUBAREA RUNOFF(CFS) =    7.15
  TOTAL AREA(ACRES) =        4.9   TOTAL RUNOFF(CFS) =      14.32
  TC(MIN.) =    8.15

****************************************************************************
  FLOW PROCESS FROM NODE    212.00 TO NODE    213.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1420.89  DOWNSTREAM(FEET) =  1420.69
  FLOW LENGTH(FEET) =    40.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  17.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.03
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      14.32
  PIPE TRAVEL TIME(MIN.) =   0.11    Tc(MIN.) =    8.26
  LONGEST FLOWPATH FROM NODE    210.00 TO NODE    213.00 =     476.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    213.00 TO NODE    213.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.26
  RAINFALL INTENSITY(INCH/HR) =   3.23
  TOTAL STREAM AREA(ACRES) =     4.87
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     14.32

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        6.26    12.99        2.579          2.28
      2       14.32     8.26        3.235          4.87

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       18.30     8.26       3.235
      2       17.68    12.99       2.579

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      18.30   Tc(MIN.) =    8.26
  TOTAL AREA(ACRES) =        7.1
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    213.00 =     942.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    213.00 TO NODE    214.00 IS CODE =  31
```

```
------------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1420.69  DOWNSTREAM(FEET) =  1417.12
  FLOW LENGTH(FEET) =   293.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  17.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.75
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      18.30
  PIPE TRAVEL TIME(MIN.) =   0.56    Tc(MIN.) =    8.81
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    214.00 =    1235.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    214.00 TO NODE    214.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<
==============================================================================

  ** MAIN STREAM CONFLUENCE DATA **
  STREAM     RUNOFF      Tc      INTENSITY     AREA
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)   (ACRE)
      1       18.30     8.81       3.131        7.15
      2       17.68    13.55       2.525        7.15
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    214.00 =    1235.00 FEET.

  ** MEMORY BANK #  1 CONFLUENCE DATA **
  STREAM     RUNOFF      Tc      INTENSITY     AREA
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)   (ACRE)
      1       30.86    11.05       2.796       10.03
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    214.00 =    1639.00 FEET.

  ** PEAK FLOW RATE TABLE **
  STREAM    RUNOFF       Tc      INTENSITY
  NUMBER     (CFS)     (MIN.)   (INCH/HOUR)
      1      42.92       8.81        3.131
      2      47.20      11.05        2.796
      3      45.54      13.55        2.525

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      47.20   Tc(MIN.) =   11.05
  TOTAL AREA(ACRES) =       17.2
==============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       17.2  TC(MIN.) =     11.05
  PEAK FLOW RATE(CFS)   =      47.20
  *** PEAK FLOW RATE TABLE ***
         Q(CFS)   Tc(MIN.)
  1       42.92       8.81
  2       47.20      11.05
  3       45.54      13.55
==============================================================================
==============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

APPENDIX C

DETENTION CALCULATIONS

LOVETT 215
PONDING IN EASTERLY TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	Σ Volume (c.f.)	Σ Volume (ac-ft)
1424.48	0.00	0			
			372	372	0.01
1424.60	0.12	6200			
			1363	1,735	0.04
1424.70	0.22	21065			
			3150	4,885	0.11
1424.80	0.32	41936			
			4993	9,878	0.23
1424.90	0.42	57915			
			6390	16,268	0.37
1425.00	0.52	69880			
			7594	23,861	0.55
1425.10	0.62	81997			
			8813	32,675	0.75
1425.20	0.72	94268			
			1910	34,585	0.79
1425.22	0.74	96741			
			8135	42,720	0.98
1425.30	0.82	106640			
			11281	54,001	1.24
1425.40	0.92	118978			

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 08/07/25 File: 4100EX10B110.out

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

Program License Serial Number 6400

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

English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.051 Hr.
Lag time = 3.04 Min.
25% of lag time = 0.76 Min.
40% of lag time = 1.22 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]
8.39	0.45	3.78

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.20	10.07

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.450(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 0.759(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.758(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
          8.390           93.00         0.000
 Total Area Entered =      8.39(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                  Sum (F) =   0.091
 Area averaged mean soil loss (F) (In/Hr) =  0.091
 Minimum soil loss rate ((In/Hr)) =  0.045
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.900
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5000
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------------
     1   0.083        164.477         36.504             3.087
     2   0.167        328.955         45.930             3.884
     3   0.250        493.432         10.407             0.880
     4   0.333        657.909          4.440             0.375
     5   0.417        822.386          2.719             0.230
                                Sum = 100.000   Sum=       8.456
-------------------------------------------------------------------------


 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.382          0.091    (  0.344)        0.291
   2   0.17     4.30      0.391          0.091    (  0.352)        0.300
   3   0.25     5.00      0.455          0.091    (  0.410)        0.364
   4   0.33     5.00      0.455          0.091    (  0.410)        0.364
   5   0.42     5.80      0.528          0.091    (  0.475)        0.437
   6   0.50     6.50      0.592          0.091    (  0.532)        0.501
   7   0.58     7.40      0.674          0.091    (  0.606)        0.583
   8   0.67     8.60      0.783          0.091    (  0.704)        0.692
   9   0.75    12.30      1.120          0.091    (  1.008)        1.029
  10   0.83    29.10      2.649          0.091    (  2.384)        2.558
  11   0.92     6.80      0.619          0.091    (  0.557)        0.528
  12   1.00     5.00      0.455          0.091    (  0.410)        0.364
               (Loss Rate Not Used)
     Sum =     100.0                                 Sum =     8.0
        Flood volume = Effective rainfall      0.67(In)
         times area       8.4(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
        Total soil loss =      0.09(In)
        Total soil loss =     0.064(Ac.Ft)
        Total rainfall =      0.76(In)
        Flood volume =       20329.1 Cubic Feet
        Total soil loss =        2771.5 Cubic Feet
        ------------------------------------------------------------------
         Peak flow rate of this hydrograph =     12.868(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	0.0062	0.90	VQ				
0+10	0.0204	2.06	V Q				
0+15	0.0379	2.55	V Q				
0+20	0.0580	2.91	VQ				
0+25	0.0805	3.26	Q				
0+30	0.1064	3.77	Q V				
0+35	0.1364	4.35	Q V				
0+40	0.1714	5.09	Q V				
0+45	0.2173	6.67	Q V				
0+50	0.3058	12.84			QV		
0+55	0.3944	12.87			Q	V	
1+ 0	0.4355	5.97	Q			V	
1+ 5	0.4567	3.08	Q				V
1+10	0.4643	1.11	Q				V
1+15	0.4661	0.26	Q				V
1+20	0.4667	0.08	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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

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

English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.051 Hr.
Lag time = 3.04 Min.
25% of lag time = 0.76 Min.
40% of lag time = 1.22 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]
8.39	0.80	6.71

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.80	15.10

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
     8.390          93.00         0.000
 Total Area Entered =      8.39(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        164.477         36.504              3.087
    2   0.167        328.955         45.930              3.884
    3   0.250        493.432         10.407              0.880
    4   0.333        657.909          4.440              0.375
    5   0.417        822.386          2.719              0.230
                              Sum = 100.000   Sum=       8.456
------------------------------------------------------------------------
```

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	0.189	0.091	(0.170)	0.098
2	0.17	1.30	0.189	0.091	(0.170)	0.098
3	0.25	1.10	0.160	0.091	(0.144)	0.069
4	0.33	1.50	0.218	0.091	(0.196)	0.127
5	0.42	1.50	0.218	0.091	(0.196)	0.127
6	0.50	1.80	0.262	0.091	(0.235)	0.171
7	0.58	1.50	0.218	0.091	(0.196)	0.127
8	0.67	1.80	0.262	0.091	(0.235)	0.171
9	0.75	1.80	0.262	0.091	(0.235)	0.171
10	0.83	1.50	0.218	0.091	(0.196)	0.127
11	0.92	1.60	0.233	0.091	(0.209)	0.142
12	1.00	1.80	0.262	0.091	(0.235)	0.171
13	1.08	2.20	0.320	0.091	(0.288)	0.229
14	1.17	2.20	0.320	0.091	(0.288)	0.229
15	1.25	2.20	0.320	0.091	(0.288)	0.229
16	1.33	2.00	0.291	0.091	(0.262)	0.200
17	1.42	2.60	0.378	0.091	(0.340)	0.287
18	1.50	2.70	0.392	0.091	(0.353)	0.301
19	1.58	2.40	0.349	0.091	(0.314)	0.258
20	1.67	2.70	0.392	0.091	(0.353)	0.301
21	1.75	3.30	0.480	0.091	(0.432)	0.389
22	1.83	3.10	0.451	0.091	(0.406)	0.360
23	1.92	2.90	0.422	0.091	(0.379)	0.331
24	2.00	3.00	0.436	0.091	(0.392)	0.345
25	2.08	3.10	0.451	0.091	(0.406)	0.360
26	2.17	4.20	0.611	0.091	(0.549)	0.520
27	2.25	5.00	0.727	0.091	(0.654)	0.636
28	2.33	3.50	0.509	0.091	(0.458)	0.418
29	2.42	6.80	0.988	0.091	(0.890)	0.897
30	2.50	7.30	1.061	0.091	(0.955)	0.970
31	2.58	8.20	1.192	0.091	(1.073)	1.101
32	2.67	5.90	0.858	0.091	(0.772)	0.767
33	2.75	2.00	0.291	0.091	(0.262)	0.200

```
34   2.83     1.80      0.262          0.091    (  0.235)        0.171
35   2.92     1.80      0.262          0.091    (  0.235)        0.171
36   3.00     0.60      0.087       (  0.091)       0.078        0.009
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    11.3
      Flood volume = Effective rainfall      0.94(In)
       times area       8.4(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
      Total soil loss =      0.27(In)
      Total soil loss =     0.190(Ac.Ft)
      Total rainfall =      1.21(In)
      Flood volume =       28610.3 Cubic Feet
      Total soil loss =        8282.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.263(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       0.0068      0.68  V Q       |         |         |         |
  0+15       0.0115      0.68  V Q       |         |         |         |
  0+20       0.0169      0.78  |V Q      |         |         |         |
  0+25       0.0238      1.01  |V  Q     |         |         |         |
  0+30       0.0319      1.18  |V  Q     |         |         |         |
  0+35       0.0404      1.23  | V Q     |         |         |         |
  0+40       0.0490      1.25  | V Q     |         |         |         |
  0+45       0.0586      1.40  |  V Q    |         |         |         |
  0+50       0.0675      1.29  |   VQ    |         |         |         |
  0+55       0.0756      1.17  |   Q     |         |         |         |
  1+ 0       0.0845      1.29  |    Q    |         |         |         |
  1+ 5       0.0954      1.58  |    VQ   |         |         |         |
  1+10       0.1080      1.83  |     VQ  |         |         |         |
  1+15       0.1210      1.89  |      Q  |         |         |         |
  1+20       0.1336      1.83  |      QV |         |         |         |
  1+25       0.1474      2.00  |       Q |         |         |         |
  1+30       0.1637      2.36  |        Q|         |         |         |
  1+35       0.1799      2.35  |        QV         |         |         |
  1+40       0.1961      2.35  |        Q|V        |         |         |
  1+45       0.2152      2.78  |         |Q V      |         |         |
  1+50       0.2362      3.05  |         | Q V     |         |         |
  1+55       0.2564      2.93  |         |Q   V    |         |         |
  2+ 0       0.2763      2.88  |         |Q    V   |         |         |
  2+ 5       0.2967      2.97  |         |Q      V |         |         |
  2+10       0.3209      3.51  |         |   Q    V|         |         |
  2+15       0.3519      4.50  |         |       Q |V        |         |
  2+20       0.3824      4.43  |         |      Q  |  V      |         |
  2+25       0.4185      5.23  |         |         Q    V    |         |
  2+30       0.4681      7.21  |         |         |       Q |         |
  2+35       0.5250      8.26  |         |         |         |V Q      |
  2+40       0.5797      7.93  |         |         |         |Q   V    |
  2+45       0.6150      5.14  |         |         Q         |      V  |
  2+50       0.6331      2.61  |         Q         |         |       V |
  2+55       0.6462      1.91  |      Q  |         |         |        V|
  3+ 0       0.6537      1.09  |   Q     |         |         |        V|
  3+ 5       0.6557      0.29  |Q        |         |         |        V|
  3+10       0.6565      0.11  Q         |         |         |        V|
  3+15       0.6568      0.04  Q         |         |         |        V|
  3+20       0.6568      0.00  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 08/07/25 File: 4100EX10B610.out

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

Program License Serial Number 6400

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English Rainfall Data (Inches) Input Values Used

English Units used in output format

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EASTERLY TRUCK YARD
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Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
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Length along longest watercourse measured to centroid = 0.041 Mi.
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Lag time = 0.051 Hr.
Lag time = 3.04 Min.
25% of lag time = 0.76 Min.
40% of lag time = 1.22 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]
8.39	1.00	8.39

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	2.50	20.98

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
     8.390          93.00         0.000
 Total Area Entered =      8.39(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

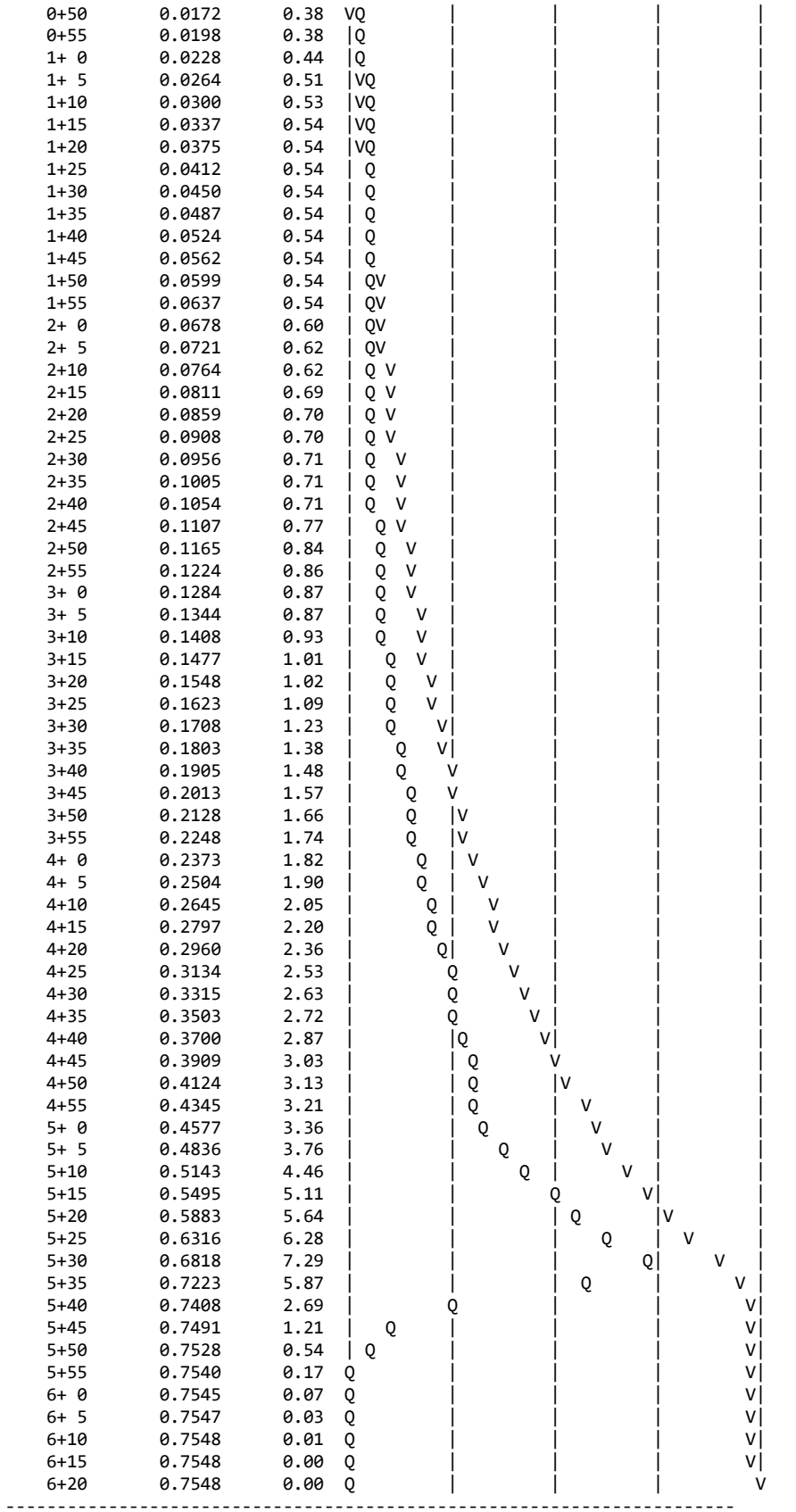
               U n i t  H y d r o g r a p h
                      VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        164.477         36.504              3.087
    2   0.167        328.955         45.930              3.884
    3   0.250        493.432         10.407              0.880
    4   0.333        657.909          4.440              0.375
    5   0.417        822.386          2.719              0.230
                              Sum = 100.000   Sum=       8.456
------------------------------------------------------------------------

 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     0.50      0.097       (  0.091)      0.087        0.010
   2   0.17     0.60      0.116          0.091    (  0.105)        0.025
   3   0.25     0.60      0.116          0.091    (  0.105)        0.025
   4   0.33     0.60      0.116          0.091    (  0.105)        0.025
   5   0.42     0.60      0.116          0.091    (  0.105)        0.025
   6   0.50     0.70      0.136          0.091    (  0.122)        0.045
   7   0.58     0.70      0.136          0.091    (  0.122)        0.045
   8   0.67     0.70      0.136          0.091    (  0.122)        0.045
   9   0.75     0.70      0.136          0.091    (  0.122)        0.045
  10   0.83     0.70      0.136          0.091    (  0.122)        0.045
  11   0.92     0.70      0.136          0.091    (  0.122)        0.045
  12   1.00     0.80      0.155          0.091    (  0.140)        0.064
  13   1.08     0.80      0.155          0.091    (  0.140)        0.064
  14   1.17     0.80      0.155          0.091    (  0.140)        0.064
  15   1.25     0.80      0.155          0.091    (  0.140)        0.064
  16   1.33     0.80      0.155          0.091    (  0.140)        0.064
  17   1.42     0.80      0.155          0.091    (  0.140)        0.064
  18   1.50     0.80      0.155          0.091    (  0.140)        0.064
  19   1.58     0.80      0.155          0.091    (  0.140)        0.064
  20   1.67     0.80      0.155          0.091    (  0.140)        0.064
  21   1.75     0.80      0.155          0.091    (  0.140)        0.064
  22   1.83     0.80      0.155          0.091    (  0.140)        0.064
  23   1.92     0.80      0.155          0.091    (  0.140)        0.064
  24   2.00     0.90      0.175          0.091    (  0.157)        0.084
  25   2.08     0.80      0.155          0.091    (  0.140)        0.064
  26   2.17     0.90      0.175          0.091    (  0.157)        0.084
  27   2.25     0.90      0.175          0.091    (  0.157)        0.084
  28   2.33     0.90      0.175          0.091    (  0.157)        0.084
  29   2.42     0.90      0.175          0.091    (  0.157)        0.084
  30   2.50     0.90      0.175          0.091    (  0.157)        0.084
  31   2.58     0.90      0.175          0.091    (  0.157)        0.084
  32   2.67     0.90      0.175          0.091    (  0.157)        0.084
  33   2.75     1.00      0.194          0.091    (  0.175)        0.103
```

```
34   2.83     1.00      0.194          0.091    (  0.175)        0.103
35   2.92     1.00      0.194          0.091    (  0.175)        0.103
36   3.00     1.00      0.194          0.091    (  0.175)        0.103
37   3.08     1.00      0.194          0.091    (  0.175)        0.103
38   3.17     1.10      0.213          0.091    (  0.192)        0.122
39   3.25     1.10      0.213          0.091    (  0.192)        0.122
40   3.33     1.10      0.213          0.091    (  0.192)        0.122
41   3.42     1.20      0.233          0.091    (  0.210)        0.142
42   3.50     1.30      0.252          0.091    (  0.227)        0.161
43   3.58     1.40      0.272          0.091    (  0.245)        0.181
44   3.67     1.40      0.272          0.091    (  0.245)        0.181
45   3.75     1.50      0.291          0.091    (  0.262)        0.200
46   3.83     1.50      0.291          0.091    (  0.262)        0.200
47   3.92     1.60      0.310          0.091    (  0.279)        0.219
48   4.00     1.60      0.310          0.091    (  0.279)        0.219
49   4.08     1.70      0.330          0.091    (  0.297)        0.239
50   4.17     1.80      0.349          0.091    (  0.314)        0.258
51   4.25     1.90      0.369          0.091    (  0.332)        0.278
52   4.33     2.00      0.388          0.091    (  0.349)        0.297
53   4.42     2.10      0.408          0.091    (  0.367)        0.317
54   4.50     2.10      0.408          0.091    (  0.367)        0.317
55   4.58     2.20      0.427          0.091    (  0.384)        0.336
56   4.67     2.30      0.446          0.091    (  0.402)        0.355
57   4.75     2.40      0.466          0.091    (  0.419)        0.375
58   4.83     2.40      0.466          0.091    (  0.419)        0.375
59   4.92     2.50      0.485          0.091    (  0.437)        0.394
60   5.00     2.60      0.505          0.091    (  0.454)        0.414
61   5.08     3.10      0.602          0.091    (  0.541)        0.511
62   5.17     3.60      0.699          0.091    (  0.629)        0.608
63   5.25     3.90      0.757          0.091    (  0.681)        0.666
64   5.33     4.20      0.815          0.091    (  0.734)        0.724
65   5.42     4.70      0.912          0.091    (  0.821)        0.821
66   5.50     5.60      1.087          0.091    (  0.978)        0.996
67   5.58     1.90      0.369          0.091    (  0.332)        0.278
68   5.67     0.90      0.175          0.091    (  0.157)        0.084
69   5.75     0.60      0.116          0.091    (  0.105)        0.025
70   5.83     0.50      0.097       (  0.091)       0.087        0.010
71   5.92     0.30      0.058       (  0.091)       0.052        0.006
72   6.00     0.20      0.039       (  0.091)       0.035        0.004
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    13.0
      Flood volume = Effective rainfall      1.08(In)
       times area       8.4(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.54(In)
      Total soil loss =     0.376(Ac.Ft)
      Total rainfall =      1.62(In)
      Flood volume =       32879.0 Cubic Feet
      Total soil loss =       16369.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.292(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       0.0002      0.03  Q         |         |         |         |
  0+10       0.0010      0.12  Q         |         |         |         |
  0+15       0.0023      0.19  Q         |         |         |         |
  0+20       0.0037      0.20  Q         |         |         |         |
  0+25       0.0051      0.21  Q         |         |         |         |
  0+30       0.0070      0.28  VQ        |         |         |         |
  0+35       0.0095      0.35  VQ        |         |         |         |
  0+40       0.0120      0.37  VQ        |         |         |         |
  0+45       0.0146      0.37  VQ        |         |         |         |
```


0+50 0.0172 0.38
0+55 0.0198 0.38
1+ 0 0.0228 0.44
1+ 5 0.0264 0.51
1+10 0.0300 0.53
1+15 0.0337 0.54
1+20 0.0375 0.54
1+25 0.0412 0.54
1+30 0.0450 0.54
1+35 0.0487 0.54
1+40 0.0524 0.54
1+45 0.0562 0.54
1+50 0.0599 0.54
1+55 0.0637 0.54
2+ 0 0.0678 0.60
2+ 5 0.0721 0.62
2+10 0.0764 0.62
2+15 0.0811 0.69
2+20 0.0859 0.70
2+25 0.0908 0.70
2+30 0.0956 0.71
2+35 0.1005 0.71
2+40 0.1054 0.71
2+45 0.1107 0.77
2+50 0.1165 0.84
2+55 0.1224 0.86
3+ 0 0.1284 0.87
3+ 5 0.1344 0.87
3+10 0.1408 0.93
3+15 0.1477 1.01
3+20 0.1548 1.02
3+25 0.1623 1.09
3+30 0.1708 1.23
3+35 0.1803 1.38
3+40 0.1905 1.48
3+45 0.2013 1.57
3+50 0.2128 1.66
3+55 0.2248 1.74
4+ 0 0.2373 1.82
4+ 5 0.2504 1.90
4+10 0.2645 2.05
4+15 0.2797 2.20
4+20 0.2960 2.36
4+25 0.3134 2.53
4+30 0.3315 2.63
4+35 0.3503 2.72
4+40 0.3700 2.87
4+45 0.3909 3.03
4+50 0.4124 3.13
4+55 0.4345 3.21
5+ 0 0.4577 3.36
5+ 5 0.4836 3.76
5+10 0.5143 4.46
5+15 0.5495 5.11
5+20 0.5883 5.64
5+25 0.6316 6.28
5+30 0.6818 7.29
5+35 0.7223 5.87
5+40 0.7408 2.69
5+45 0.7491 1.21
5+50 0.7528 0.54
5+55 0.7540 0.17
6+ 0 0.7545 0.07
6+ 5 0.7547 0.03
6+10 0.7548 0.01
6+15 0.7548 0.00
6+20 0.7548 0.00

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 08/07/25 File: 4100EX10B2410.out

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

Program License Serial Number 6400

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

 English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.051 Hr.
Lag time = 3.04 Min.
25% of lag time = 0.76 Min.
40% of lag time = 1.22 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]
8.39	1.60	13.42

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	4.00	33.56

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          8.390           93.00         0.000
 Total Area Entered =      8.39(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                  Sum (F) =   0.091
 Area averaged mean soil loss (F) (In/Hr) =  0.091
 Minimum soil loss rate ((In/Hr)) =  0.045
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.900
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        164.477         36.504              3.087
     2   0.167        328.955         45.930              3.884
     3   0.250        493.432         10.407              0.880
     4   0.333        657.909          4.440              0.375
     5   0.417        822.386          2.719              0.230
                               Sum = 100.000   Sum=       8.456
-------------------------------------------------------------------------


 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.07      0.021       (  0.161)       0.019        0.002
    2   0.17     0.07      0.021       (  0.161)       0.019        0.002
    3   0.25     0.07      0.021       (  0.160)       0.019        0.002
    4   0.33     0.10      0.031       (  0.159)       0.028        0.003
    5   0.42     0.10      0.031       (  0.159)       0.028        0.003
    6   0.50     0.10      0.031       (  0.158)       0.028        0.003
    7   0.58     0.10      0.031       (  0.158)       0.028        0.003
    8   0.67     0.10      0.031       (  0.157)       0.028        0.003
    9   0.75     0.10      0.031       (  0.156)       0.028        0.003
   10   0.83     0.13      0.041       (  0.156)       0.037        0.004
   11   0.92     0.13      0.041       (  0.155)       0.037        0.004
   12   1.00     0.13      0.041       (  0.155)       0.037        0.004
   13   1.08     0.10      0.031       (  0.154)       0.028        0.003
   14   1.17     0.10      0.031       (  0.153)       0.028        0.003
   15   1.25     0.10      0.031       (  0.153)       0.028        0.003
   16   1.33     0.10      0.031       (  0.152)       0.028        0.003
   17   1.42     0.10      0.031       (  0.151)       0.028        0.003
   18   1.50     0.10      0.031       (  0.151)       0.028        0.003
   19   1.58     0.10      0.031       (  0.150)       0.028        0.003
   20   1.67     0.10      0.031       (  0.150)       0.028        0.003
   21   1.75     0.10      0.031       (  0.149)       0.028        0.003
   22   1.83     0.13      0.041       (  0.148)       0.037        0.004
   23   1.92     0.13      0.041       (  0.148)       0.037        0.004
   24   2.00     0.13      0.041       (  0.147)       0.037        0.004
   25   2.08     0.13      0.041       (  0.147)       0.037        0.004
   26   2.17     0.13      0.041       (  0.146)       0.037        0.004
   27   2.25     0.13      0.041       (  0.145)       0.037        0.004
   28   2.33     0.13      0.041       (  0.145)       0.037        0.004
   29   2.42     0.13      0.041       (  0.144)       0.037        0.004
   30   2.50     0.13      0.041       (  0.144)       0.037        0.004
   31   2.58     0.17      0.052       (  0.143)       0.047        0.005
   32   2.67     0.17      0.052       (  0.143)       0.047        0.005
   33   2.75     0.17      0.052       (  0.142)       0.047        0.005
```

34	2.83	0.17	0.052	(	0.141)	0.047		0.005
35	2.92	0.17	0.052	(	0.141)	0.047		0.005
36	3.00	0.17	0.052	(	0.140)	0.047		0.005
37	3.08	0.17	0.052	(	0.140)	0.047		0.005
38	3.17	0.17	0.052	(	0.139)	0.047		0.005
39	3.25	0.17	0.052	(	0.138)	0.047		0.005
40	3.33	0.17	0.052	(	0.138)	0.047		0.005
41	3.42	0.17	0.052	(	0.137)	0.047		0.005
42	3.50	0.17	0.052	(	0.137)	0.047		0.005
43	3.58	0.17	0.052	(	0.136)	0.047		0.005
44	3.67	0.17	0.052	(	0.136)	0.047		0.005
45	3.75	0.17	0.052	(	0.135)	0.047		0.005
46	3.83	0.20	0.062	(	0.134)	0.056		0.006
47	3.92	0.20	0.062	(	0.134)	0.056		0.006
48	4.00	0.20	0.062	(	0.133)	0.056		0.006
49	4.08	0.20	0.062	(	0.133)	0.056		0.006
50	4.17	0.20	0.062	(	0.132)	0.056		0.006
51	4.25	0.20	0.062	(	0.132)	0.056		0.006
52	4.33	0.23	0.072	(	0.131)	0.065		0.007
53	4.42	0.23	0.072	(	0.131)	0.065		0.007
54	4.50	0.23	0.072	(	0.130)	0.065		0.007
55	4.58	0.23	0.072	(	0.129)	0.065		0.007
56	4.67	0.23	0.072	(	0.129)	0.065		0.007
57	4.75	0.23	0.072	(	0.128)	0.065		0.007
58	4.83	0.27	0.083	(	0.128)	0.075		0.008
59	4.92	0.27	0.083	(	0.127)	0.075		0.008
60	5.00	0.27	0.083	(	0.127)	0.075		0.008
61	5.08	0.20	0.062	(	0.126)	0.056		0.006
62	5.17	0.20	0.062	(	0.126)	0.056		0.006
63	5.25	0.20	0.062	(	0.125)	0.056		0.006
64	5.33	0.23	0.072	(	0.124)	0.065		0.007
65	5.42	0.23	0.072	(	0.124)	0.065		0.007
66	5.50	0.23	0.072	(	0.123)	0.065		0.007
67	5.58	0.27	0.083	(	0.123)	0.075		0.008
68	5.67	0.27	0.083	(	0.122)	0.075		0.008
69	5.75	0.27	0.083	(	0.122)	0.075		0.008
70	5.83	0.27	0.083	(	0.121)	0.075		0.008
71	5.92	0.27	0.083	(	0.121)	0.075		0.008
72	6.00	0.27	0.083	(	0.120)	0.075		0.008
73	6.08	0.30	0.093	(	0.120)	0.084		0.009
74	6.17	0.30	0.093	(	0.119)	0.084		0.009
75	6.25	0.30	0.093	(	0.119)	0.084		0.009
76	6.33	0.30	0.093	(	0.118)	0.084		0.009
77	6.42	0.30	0.093	(	0.117)	0.084		0.009
78	6.50	0.30	0.093	(	0.117)	0.084		0.009
79	6.58	0.33	0.103	(	0.116)	0.093		0.010
80	6.67	0.33	0.103	(	0.116)	0.093		0.010
81	6.75	0.33	0.103	(	0.115)	0.093		0.010
82	6.83	0.33	0.103	(	0.115)	0.093		0.010
83	6.92	0.33	0.103	(	0.114)	0.093		0.010
84	7.00	0.33	0.103	(	0.114)	0.093		0.010
85	7.08	0.33	0.103	(	0.113)	0.093		0.010
86	7.17	0.33	0.103	(	0.113)	0.093		0.010
87	7.25	0.33	0.103	(	0.112)	0.093		0.010
88	7.33	0.37	0.114	(	0.112)	0.102		0.011
89	7.42	0.37	0.114	(	0.111)	0.102		0.011
90	7.50	0.37	0.114	(	0.111)	0.102		0.011
91	7.58	0.40	0.124		0.110	(	0.112)	0.014
92	7.67	0.40	0.124		0.110	(	0.112)	0.014
93	7.75	0.40	0.124		0.109	(	0.112)	0.015
94	7.83	0.43	0.135		0.109	(	0.121)	0.026
95	7.92	0.43	0.135		0.108	(	0.121)	0.026
96	8.00	0.43	0.135		0.108	(	0.121)	0.027
97	8.08	0.50	0.155		0.107	(	0.140)	0.048
98	8.17	0.50	0.155		0.107	(	0.140)	0.049
99	8.25	0.50	0.155		0.106	(	0.140)	0.049
100	8.33	0.50	0.155		0.106	(	0.140)	0.050
101	8.42	0.50	0.155		0.105	(	0.140)	0.050
102	8.50	0.50	0.155		0.105	(	0.140)	0.051

103	8.58	0.53	0.166	0.104	(	0.149)	0.061
104	8.67	0.53	0.166	0.104	(	0.149)	0.062
105	8.75	0.53	0.166	0.103	(	0.149)	0.062
106	8.83	0.57	0.176	0.103	(	0.158)	0.073
107	8.92	0.57	0.176	0.102	(	0.158)	0.074
108	9.00	0.57	0.176	0.102	(	0.158)	0.074
109	9.08	0.63	0.197	0.101	(	0.177)	0.095
110	9.17	0.63	0.197	0.101	(	0.177)	0.096
111	9.25	0.63	0.197	0.100	(	0.177)	0.096
112	9.33	0.67	0.207	0.100	(	0.186)	0.107
113	9.42	0.67	0.207	0.099	(	0.186)	0.108
114	9.50	0.67	0.207	0.099	(	0.186)	0.108
115	9.58	0.70	0.217	0.098	(	0.196)	0.119
116	9.67	0.70	0.217	0.098	(	0.196)	0.119
117	9.75	0.70	0.217	0.097	(	0.196)	0.120
118	9.83	0.73	0.228	0.097	(	0.205)	0.131
119	9.92	0.73	0.228	0.097	(	0.205)	0.131
120	10.00	0.73	0.228	0.096	(	0.205)	0.132
121	10.08	0.50	0.155	0.096	(	0.140)	0.060
122	10.17	0.50	0.155	0.095	(	0.140)	0.060
123	10.25	0.50	0.155	0.095	(	0.140)	0.061
124	10.33	0.50	0.155	0.094	(	0.140)	0.061
125	10.42	0.50	0.155	0.094	(	0.140)	0.061
126	10.50	0.50	0.155	0.093	(	0.140)	0.062
127	10.58	0.67	0.207	0.093	(	0.186)	0.114
128	10.67	0.67	0.207	0.092	(	0.186)	0.115
129	10.75	0.67	0.207	0.092	(	0.186)	0.115
130	10.83	0.67	0.207	0.092	(	0.186)	0.115
131	10.92	0.67	0.207	0.091	(	0.186)	0.116
132	11.00	0.67	0.207	0.091	(	0.186)	0.116
133	11.08	0.63	0.197	0.090	(	0.177)	0.106
134	11.17	0.63	0.197	0.090	(	0.177)	0.107
135	11.25	0.63	0.197	0.089	(	0.177)	0.107
136	11.33	0.63	0.197	0.089	(	0.177)	0.108
137	11.42	0.63	0.197	0.088	(	0.177)	0.108
138	11.50	0.63	0.197	0.088	(	0.177)	0.109
139	11.58	0.57	0.176	0.088	(	0.158)	0.088
140	11.67	0.57	0.176	0.087	(	0.158)	0.089
141	11.75	0.57	0.176	0.087	(	0.158)	0.089
142	11.83	0.60	0.186	0.086	(	0.168)	0.100
143	11.92	0.60	0.186	0.086	(	0.168)	0.100
144	12.00	0.60	0.186	0.085	(	0.168)	0.101
145	12.08	0.83	0.259	0.085	(	0.233)	0.174
146	12.17	0.83	0.259	0.085	(	0.233)	0.174
147	12.25	0.83	0.259	0.084	(	0.233)	0.175
148	12.33	0.87	0.269	0.084	(	0.242)	0.185
149	12.42	0.87	0.269	0.083	(	0.242)	0.186
150	12.50	0.87	0.269	0.083	(	0.242)	0.186
151	12.58	0.93	0.290	0.082	(	0.261)	0.207
152	12.67	0.93	0.290	0.082	(	0.261)	0.208
153	12.75	0.93	0.290	0.082	(	0.261)	0.208
154	12.83	0.97	0.300	0.081	(	0.270)	0.219
155	12.92	0.97	0.300	0.081	(	0.270)	0.219
156	13.00	0.97	0.300	0.080	(	0.270)	0.220
157	13.08	1.13	0.352	0.080	(	0.317)	0.272
158	13.17	1.13	0.352	0.080	(	0.317)	0.272
159	13.25	1.13	0.352	0.079	(	0.317)	0.273
160	13.33	1.13	0.352	0.079	(	0.317)	0.273
161	13.42	1.13	0.352	0.078	(	0.317)	0.274
162	13.50	1.13	0.352	0.078	(	0.317)	0.274
163	13.58	0.77	0.238	0.078	(	0.214)	0.160
164	13.67	0.77	0.238	0.077	(	0.214)	0.161
165	13.75	0.77	0.238	0.077	(	0.214)	0.161
166	13.83	0.77	0.238	0.076	(	0.214)	0.162
167	13.92	0.77	0.238	0.076	(	0.214)	0.162
168	14.00	0.77	0.238	0.076	(	0.214)	0.162
169	14.08	0.90	0.279	0.075	(	0.251)	0.204
170	14.17	0.90	0.279	0.075	(	0.251)	0.205
171	14.25	0.90	0.279	0.074	(	0.251)	0.205

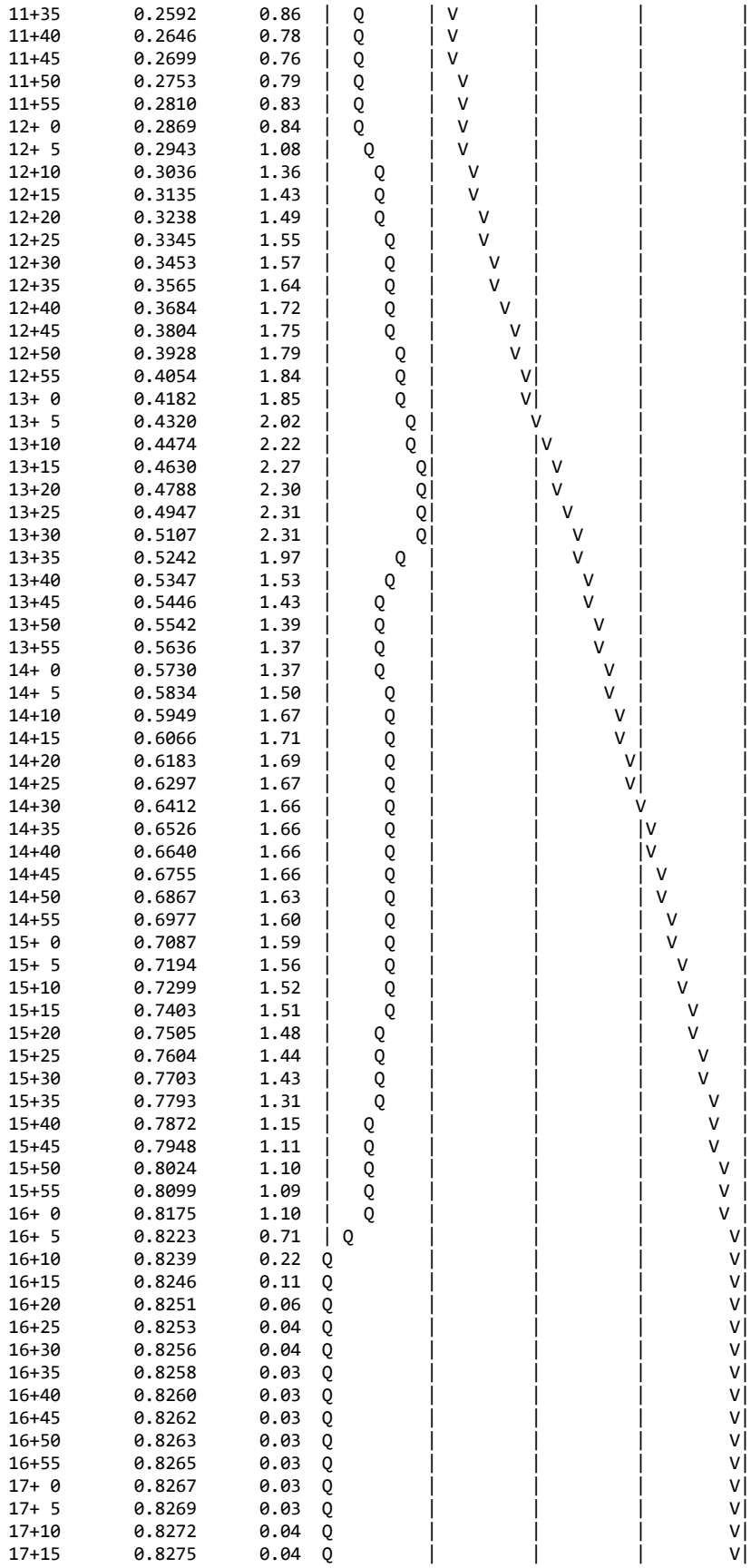
172	14.33	0.87	0.269		0.074	(	0.242)	0.195
173	14.42	0.87	0.269		0.074	(	0.242)	0.195
174	14.50	0.87	0.269		0.073	(	0.242)	0.196
175	14.58	0.87	0.269		0.073	(	0.242)	0.196
176	14.67	0.87	0.269		0.073	(	0.242)	0.197
177	14.75	0.87	0.269		0.072	(	0.242)	0.197
178	14.83	0.83	0.259		0.072	(	0.233)	0.187
179	14.92	0.83	0.259		0.071	(	0.233)	0.187
180	15.00	0.83	0.259		0.071	(	0.233)	0.188
181	15.08	0.80	0.248		0.071	(	0.224)	0.178
182	15.17	0.80	0.248		0.070	(	0.224)	0.178
183	15.25	0.80	0.248		0.070	(	0.224)	0.178
184	15.33	0.77	0.238		0.070	(	0.214)	0.168
185	15.42	0.77	0.238		0.069	(	0.214)	0.169
186	15.50	0.77	0.238		0.069	(	0.214)	0.169
187	15.58	0.63	0.197		0.069	(	0.177)	0.128
188	15.67	0.63	0.197		0.068	(	0.177)	0.128
189	15.75	0.63	0.197		0.068	(	0.177)	0.129
190	15.83	0.63	0.197		0.068	(	0.177)	0.129
191	15.92	0.63	0.197		0.067	(	0.177)	0.129
192	16.00	0.63	0.197		0.067	(	0.177)	0.130
193	16.08	0.13	0.041	(	0.066)		0.037	0.004
194	16.17	0.13	0.041	(	0.066)		0.037	0.004
195	16.25	0.13	0.041	(	0.066)		0.037	0.004
196	16.33	0.13	0.041	(	0.065)		0.037	0.004
197	16.42	0.13	0.041	(	0.065)		0.037	0.004
198	16.50	0.13	0.041	(	0.065)		0.037	0.004
199	16.58	0.10	0.031	(	0.064)		0.028	0.003
200	16.67	0.10	0.031	(	0.064)		0.028	0.003
201	16.75	0.10	0.031	(	0.064)		0.028	0.003
202	16.83	0.10	0.031	(	0.063)		0.028	0.003
203	16.92	0.10	0.031	(	0.063)		0.028	0.003
204	17.00	0.10	0.031	(	0.063)		0.028	0.003
205	17.08	0.17	0.052	(	0.063)		0.047	0.005
206	17.17	0.17	0.052	(	0.062)		0.047	0.005
207	17.25	0.17	0.052	(	0.062)		0.047	0.005
208	17.33	0.17	0.052	(	0.062)		0.047	0.005
209	17.42	0.17	0.052	(	0.061)		0.047	0.005
210	17.50	0.17	0.052	(	0.061)		0.047	0.005
211	17.58	0.17	0.052	(	0.061)		0.047	0.005
212	17.67	0.17	0.052	(	0.060)		0.047	0.005
213	17.75	0.17	0.052	(	0.060)		0.047	0.005
214	17.83	0.13	0.041	(	0.060)		0.037	0.004
215	17.92	0.13	0.041	(	0.059)		0.037	0.004
216	18.00	0.13	0.041	(	0.059)		0.037	0.004
217	18.08	0.13	0.041	(	0.059)		0.037	0.004
218	18.17	0.13	0.041	(	0.059)		0.037	0.004
219	18.25	0.13	0.041	(	0.058)		0.037	0.004
220	18.33	0.13	0.041	(	0.058)		0.037	0.004
221	18.42	0.13	0.041	(	0.058)		0.037	0.004
222	18.50	0.13	0.041	(	0.057)		0.037	0.004
223	18.58	0.10	0.031	(	0.057)		0.028	0.003
224	18.67	0.10	0.031	(	0.057)		0.028	0.003
225	18.75	0.10	0.031	(	0.057)		0.028	0.003
226	18.83	0.07	0.021	(	0.056)		0.019	0.002
227	18.92	0.07	0.021	(	0.056)		0.019	0.002
228	19.00	0.07	0.021	(	0.056)		0.019	0.002
229	19.08	0.10	0.031	(	0.056)		0.028	0.003
230	19.17	0.10	0.031	(	0.055)		0.028	0.003
231	19.25	0.10	0.031	(	0.055)		0.028	0.003
232	19.33	0.13	0.041	(	0.055)		0.037	0.004
233	19.42	0.13	0.041	(	0.055)		0.037	0.004
234	19.50	0.13	0.041	(	0.054)		0.037	0.004
235	19.58	0.10	0.031	(	0.054)		0.028	0.003
236	19.67	0.10	0.031	(	0.054)		0.028	0.003
237	19.75	0.10	0.031	(	0.054)		0.028	0.003
238	19.83	0.07	0.021	(	0.053)		0.019	0.002
239	19.92	0.07	0.021	(	0.053)		0.019	0.002
240	20.00	0.07	0.021	(	0.053)		0.019	0.002

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241  20.08     0.10      0.031       (  0.053)       0.028        0.003
242  20.17     0.10      0.031       (  0.052)       0.028        0.003
243  20.25     0.10      0.031       (  0.052)       0.028        0.003
244  20.33     0.10      0.031       (  0.052)       0.028        0.003
245  20.42     0.10      0.031       (  0.052)       0.028        0.003
246  20.50     0.10      0.031       (  0.051)       0.028        0.003
247  20.58     0.10      0.031       (  0.051)       0.028        0.003
248  20.67     0.10      0.031       (  0.051)       0.028        0.003
249  20.75     0.10      0.031       (  0.051)       0.028        0.003
250  20.83     0.07      0.021       (  0.051)       0.019        0.002
251  20.92     0.07      0.021       (  0.050)       0.019        0.002
252  21.00     0.07      0.021       (  0.050)       0.019        0.002
253  21.08     0.10      0.031       (  0.050)       0.028        0.003
254  21.17     0.10      0.031       (  0.050)       0.028        0.003
255  21.25     0.10      0.031       (  0.050)       0.028        0.003
256  21.33     0.07      0.021       (  0.049)       0.019        0.002
257  21.42     0.07      0.021       (  0.049)       0.019        0.002
258  21.50     0.07      0.021       (  0.049)       0.019        0.002
259  21.58     0.10      0.031       (  0.049)       0.028        0.003
260  21.67     0.10      0.031       (  0.049)       0.028        0.003
261  21.75     0.10      0.031       (  0.049)       0.028        0.003
262  21.83     0.07      0.021       (  0.048)       0.019        0.002
263  21.92     0.07      0.021       (  0.048)       0.019        0.002
264  22.00     0.07      0.021       (  0.048)       0.019        0.002
265  22.08     0.10      0.031       (  0.048)       0.028        0.003
266  22.17     0.10      0.031       (  0.048)       0.028        0.003
267  22.25     0.10      0.031       (  0.048)       0.028        0.003
268  22.33     0.07      0.021       (  0.047)       0.019        0.002
269  22.42     0.07      0.021       (  0.047)       0.019        0.002
270  22.50     0.07      0.021       (  0.047)       0.019        0.002
271  22.58     0.07      0.021       (  0.047)       0.019        0.002
272  22.67     0.07      0.021       (  0.047)       0.019        0.002
273  22.75     0.07      0.021       (  0.047)       0.019        0.002
274  22.83     0.07      0.021       (  0.047)       0.019        0.002
275  22.92     0.07      0.021       (  0.047)       0.019        0.002
276  23.00     0.07      0.021       (  0.046)       0.019        0.002
277  23.08     0.07      0.021       (  0.046)       0.019        0.002
278  23.17     0.07      0.021       (  0.046)       0.019        0.002
279  23.25     0.07      0.021       (  0.046)       0.019        0.002
280  23.33     0.07      0.021       (  0.046)       0.019        0.002
281  23.42     0.07      0.021       (  0.046)       0.019        0.002
282  23.50     0.07      0.021       (  0.046)       0.019        0.002
283  23.58     0.07      0.021       (  0.046)       0.019        0.002
284  23.67     0.07      0.021       (  0.046)       0.019        0.002
285  23.75     0.07      0.021       (  0.046)       0.019        0.002
286  23.83     0.07      0.021       (  0.046)       0.019        0.002
287  23.92     0.07      0.021       (  0.046)       0.019        0.002
288  24.00     0.07      0.021       (  0.046)       0.019        0.002
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    14.4
       Flood volume = Effective rainfall      1.20(In)
        times area       8.4(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
       Total soil loss =      1.38(In)
       Total soil loss =     0.967(Ac.Ft)
       Total rainfall =      2.59(In)
       Flood volume =       36664.5 Cubic Feet
       Total soil loss =       42134.7 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.314(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
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0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0003	0.02	Q	|	|	|	|
0+20	0.0004	0.02	Q	|	|	|	|
0+25	0.0006	0.02	Q	|	|	|	|
0+30	0.0007	0.03	Q	|	|	|	|
0+35	0.0009	0.03	Q	|	|	|	|
0+40	0.0011	0.03	Q	|	|	|	|
0+45	0.0013	0.03	Q	|	|	|	|
0+50	0.0015	0.03	Q	|	|	|	|
0+55	0.0017	0.03	Q	|	|	|	|
1+ 0	0.0020	0.03	Q	|	|	|	|
1+ 5	0.0022	0.03	Q	|	|	|	|
1+10	0.0024	0.03	Q	|	|	|	|
1+15	0.0025	0.03	Q	|	|	|	|
1+20	0.0027	0.03	Q	|	|	|	|
1+25	0.0029	0.03	Q	|	|	|	|
1+30	0.0031	0.03	Q	|	|	|	|
1+35	0.0033	0.03	Q	|	|	|	|
1+40	0.0035	0.03	Q	|	|	|	|
1+45	0.0036	0.03	Q	|	|	|	|
1+50	0.0038	0.03	Q	|	|	|	|
1+55	0.0041	0.03	Q	|	|	|	|
2+ 0	0.0043	0.03	Q	|	|	|	|
2+ 5	0.0045	0.03	Q	|	|	|	|
2+10	0.0048	0.04	Q	|	|	|	|
2+15	0.0050	0.04	Q	|	|	|	|
2+20	0.0053	0.04	Q	|	|	|	|
2+25	0.0055	0.04	Q	|	|	|	|
2+30	0.0058	0.04	Q	|	|	|	|
2+35	0.0060	0.04	Q	|	|	|	|
2+40	0.0063	0.04	Q	|	|	|	|
2+45	0.0066	0.04	Q	|	|	|	|
2+50	0.0069	0.04	Q	|	|	|	|
2+55	0.0072	0.04	Q	|	|	|	|
3+ 0	0.0075	0.04	Q	|	|	|	|
3+ 5	0.0078	0.04	Q	|	|	|	|
3+10	0.0081	0.04	Q	|	|	|	|
3+15	0.0084	0.04	Q	|	|	|	|
3+20	0.0087	0.04	Q	|	|	|	|
3+25	0.0090	0.04	Q	|	|	|	|
3+30	0.0093	0.04	Q	|	|	|	|
3+35	0.0096	0.04	Q	|	|	|	|
3+40	0.0099	0.04	Q	|	|	|	|
3+45	0.0102	0.04	Q	|	|	|	|
3+50	0.0105	0.05	Q	|	|	|	|
3+55	0.0109	0.05	Q	|	|	|	|
4+ 0	0.0113	0.05	Q	|	|	|	|
4+ 5	0.0116	0.05	Q	|	|	|	|
4+10	0.0120	0.05	Q	|	|	|	|
4+15	0.0123	0.05	Q	|	|	|	|
4+20	0.0127	0.06	Q	|	|	|	|
4+25	0.0131	0.06	Q	|	|	|	|
4+30	0.0135	0.06	Q	|	|	|	|
4+35	0.0140	0.06	Q	|	|	|	|
4+40	0.0144	0.06	Q	|	|	|	|
4+45	0.0148	0.06	Q	|	|	|	|
4+50	0.0153	0.06	Q	|	|	|	|
4+55	0.0157	0.07	Q	|	|	|	|
5+ 0	0.0162	0.07	Q	|	|	|	|
5+ 5	0.0166	0.06	Q	|	|	|	|
5+10	0.0170	0.06	Q	|	|	|	|
5+15	0.0174	0.05	Q	|	|	|	|
5+20	0.0178	0.06	Q	|	|	|	|
5+25	0.0182	0.06	Q	|	|	|	|
5+30	0.0186	0.06	Q	|	|	|	|
5+35	0.0191	0.06	Q	|	|	|	|
5+40	0.0195	0.07	Q	|	|	|	|
5+45	0.0200	0.07	Q	|	|	|	|

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 5+50       0.0205      0.07  Q         |         |         |         |
 5+55       0.0210      0.07  Q         |         |         |         |
 6+ 0       0.0214      0.07  QV        |         |         |         |
 6+ 5       0.0220      0.07  QV        |         |         |         |
 6+10       0.0225      0.08  QV        |         |         |         |
 6+15       0.0230      0.08  QV        |         |         |         |
 6+20       0.0236      0.08  QV        |         |         |         |
 6+25       0.0241      0.08  QV        |         |         |         |
 6+30       0.0247      0.08  QV        |         |         |         |
 6+35       0.0252      0.08  QV        |         |         |         |
 6+40       0.0258      0.09  QV        |         |         |         |
 6+45       0.0264      0.09  QV        |         |         |         |
 6+50       0.0270      0.09  QV        |         |         |         |
 6+55       0.0276      0.09  QV        |         |         |         |
 7+ 0       0.0282      0.09  QV        |         |         |         |
 7+ 5       0.0288      0.09  QV        |         |         |         |
 7+10       0.0294      0.09  QV        |         |         |         |
 7+15       0.0300      0.09  QV        |         |         |         |
 7+20       0.0306      0.09  QV        |         |         |         |
 7+25       0.0313      0.09  QV        |         |         |         |
 7+30       0.0320      0.10  QV        |         |         |         |
 7+35       0.0327      0.10  QV        |         |         |         |
 7+40       0.0335      0.12  QV        |         |         |         |
 7+45       0.0343      0.12  QV        |         |         |         |
 7+50       0.0354      0.16  QV        |         |         |         |
 7+55       0.0368      0.20  QV        |         |         |         |
 8+ 0       0.0383      0.22  QV        |         |         |         |
 8+ 5       0.0403      0.29  |Q        |         |         |         |
 8+10       0.0429      0.38  |QV       |         |         |         |
 8+15       0.0456      0.40  |QV       |         |         |         |
 8+20       0.0485      0.41  |QV       |         |         |         |
 8+25       0.0513      0.42  |QV       |         |         |         |
 8+30       0.0543      0.42  |QV       |         |         |         |
 8+35       0.0574      0.46  |QV       |         |         |         |
 8+40       0.0609      0.50  | Q       |         |         |         |
 8+45       0.0645      0.52  | QV      |         |         |         |
 8+50       0.0683      0.56  | QV      |         |         |         |
 8+55       0.0725      0.60  | QV      |         |         |         |
 9+ 0       0.0767      0.62  | QV      |         |         |         |
 9+ 5       0.0815      0.69  | QV      |         |         |         |
 9+10       0.0868      0.78  |  QV     |         |         |         |
 9+15       0.0923      0.80  |  QV     |         |         |         |
 9+20       0.0981      0.84  |  QV     |         |         |         |
 9+25       0.1042      0.89  |  QV     |         |         |         |
 9+30       0.1105      0.90  |  Q V    |         |         |         |
 9+35       0.1170      0.94  |  Q V    |         |         |         |
 9+40       0.1238      0.99  |  Q V    |         |         |         |
 9+45       0.1307      1.00  |   Q V   |         |         |         |
 9+50       0.1379      1.04  |   Q V   |         |         |         |
 9+55       0.1454      1.09  |   Q V   |         |         |         |
10+ 0       0.1530      1.10  |   Q  V  |         |         |         |
10+ 5       0.1591      0.89  |  Q   V  |         |         |         |
10+10       0.1633      0.61  | Q    V  |         |         |         |
10+15       0.1671      0.55  | Q    V  |         |         |         |
10+20       0.1708      0.53  | Q     V |         |         |         |
10+25       0.1743      0.52  | Q     V |         |         |         |
10+30       0.1779      0.52  | Q     V |         |         |         |
10+35       0.1826      0.68  | Q     V |         |         |         |
10+40       0.1888      0.89  |  Q    V |         |         |         |
10+45       0.1952      0.94  |  Q     V|         |         |         |
10+50       0.2018      0.96  |  Q     V|         |         |         |
10+55       0.2086      0.98  |  Q     V|         |         |         |
11+ 0       0.2153      0.98  |  Q      V         |         |         |
11+ 5       0.2219      0.95  |  Q      V         |         |         |
11+10       0.2282      0.92  |  Q      V         |         |         |
11+15       0.2345      0.91  |  Q      |V        |         |         |
11+20       0.2407      0.91  |  Q      |V        |         |         |
11+25       0.2470      0.91  |  Q      |V        |         |         |
11+30       0.2533      0.92  |  Q      | V       |         |         |
```



17+20	0.8278	0.04	Q	|	|	|	V|
17+25	0.8281	0.04	Q	|	|	|	V|
17+30	0.8284	0.04	Q	|	|	|	V|
17+35	0.8287	0.04	Q	|	|	|	V|
17+40	0.8290	0.04	Q	|	|	|	V|
17+45	0.8293	0.04	Q	|	|	|	V|
17+50	0.8296	0.04	Q	|	|	|	V|
17+55	0.8298	0.04	Q	|	|	|	V|
18+ 0	0.8301	0.04	Q	|	|	|	V|
18+ 5	0.8303	0.04	Q	|	|	|	V|
18+10	0.8306	0.04	Q	|	|	|	V|
18+15	0.8308	0.04	Q	|	|	|	V|
18+20	0.8310	0.04	Q	|	|	|	V|
18+25	0.8313	0.04	Q	|	|	|	V|
18+30	0.8315	0.04	Q	|	|	|	V|
18+35	0.8318	0.03	Q	|	|	|	V|
18+40	0.8319	0.03	Q	|	|	|	V|
18+45	0.8321	0.03	Q	|	|	|	V|
18+50	0.8323	0.02	Q	|	|	|	V|
18+55	0.8324	0.02	Q	|	|	|	V|
19+ 0	0.8325	0.02	Q	|	|	|	V|
19+ 5	0.8327	0.02	Q	|	|	|	V|
19+10	0.8329	0.02	Q	|	|	|	V|
19+15	0.8330	0.03	Q	|	|	|	V|
19+20	0.8332	0.03	Q	|	|	|	V|
19+25	0.8335	0.03	Q	|	|	|	V|
19+30	0.8337	0.03	Q	|	|	|	V|
19+35	0.8339	0.03	Q	|	|	|	V|
19+40	0.8341	0.03	Q	|	|	|	V|
19+45	0.8343	0.03	Q	|	|	|	V|
19+50	0.8345	0.02	Q	|	|	|	V|
19+55	0.8346	0.02	Q	|	|	|	V|
20+ 0	0.8347	0.02	Q	|	|	|	V|
20+ 5	0.8349	0.02	Q	|	|	|	V|
20+10	0.8350	0.02	Q	|	|	|	V|
20+15	0.8352	0.03	Q	|	|	|	V|
20+20	0.8354	0.03	Q	|	|	|	V|
20+25	0.8356	0.03	Q	|	|	|	V|
20+30	0.8357	0.03	Q	|	|	|	V|
20+35	0.8359	0.03	Q	|	|	|	V|
20+40	0.8361	0.03	Q	|	|	|	V|
20+45	0.8363	0.03	Q	|	|	|	V|
20+50	0.8364	0.02	Q	|	|	|	V|
20+55	0.8366	0.02	Q	|	|	|	V|
21+ 0	0.8367	0.02	Q	|	|	|	V|
21+ 5	0.8368	0.02	Q	|	|	|	V|
21+10	0.8370	0.02	Q	|	|	|	V|
21+15	0.8372	0.03	Q	|	|	|	V|
21+20	0.8374	0.02	Q	|	|	|	V|
21+25	0.8375	0.02	Q	|	|	|	V|
21+30	0.8376	0.02	Q	|	|	|	V|
21+35	0.8378	0.02	Q	|	|	|	V|
21+40	0.8379	0.02	Q	|	|	|	V|
21+45	0.8381	0.03	Q	|	|	|	V|
21+50	0.8383	0.02	Q	|	|	|	V|
21+55	0.8384	0.02	Q	|	|	|	V|
22+ 0	0.8385	0.02	Q	|	|	|	V|
22+ 5	0.8387	0.02	Q	|	|	|	V|
22+10	0.8388	0.02	Q	|	|	|	V|
22+15	0.8390	0.03	Q	|	|	|	V|
22+20	0.8392	0.02	Q	|	|	|	V|
22+25	0.8393	0.02	Q	|	|	|	V|
22+30	0.8394	0.02	Q	|	|	|	V|
22+35	0.8395	0.02	Q	|	|	|	V|
22+40	0.8397	0.02	Q	|	|	|	V|
22+45	0.8398	0.02	Q	|	|	|	V|
22+50	0.8399	0.02	Q	|	|	|	V|
22+55	0.8400	0.02	Q	|	|	|	V|
23+ 0	0.8401	0.02	Q	|	|	|	V|

```
   23+ 5       0.8403      0.02  Q        |         |         |        V|
   23+10       0.8404      0.02  Q        |         |         |        V|
   23+15       0.8405      0.02  Q        |         |         |        V|
   23+20       0.8406      0.02  Q        |         |         |        V|
   23+25       0.8407      0.02  Q        |         |         |        V|
   23+30       0.8409      0.02  Q        |         |         |        V|
   23+35       0.8410      0.02  Q        |         |         |        V|
   23+40       0.8411      0.02  Q        |         |         |        V|
   23+45       0.8412      0.02  Q        |         |         |        V|
   23+50       0.8413      0.02  Q        |         |         |        V|
   23+55       0.8415      0.02  Q        |         |         |        V|
   24+ 0       0.8416      0.02  Q        |         |         |        V|
   24+ 5       0.8417      0.01  Q        |         |         |        V|
   24+10       0.8417      0.00  Q        |         |         |        V|
   24+15       0.8417      0.00  Q        |         |         |        V|
   24+20       0.8417      0.00  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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

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

 English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.46 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]
8.39	0.45	3.78

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.20	10.07

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.450(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 0.759(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.758(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          8.390          75.00         0.900
 Total Area Entered =      8.39(Ac.)

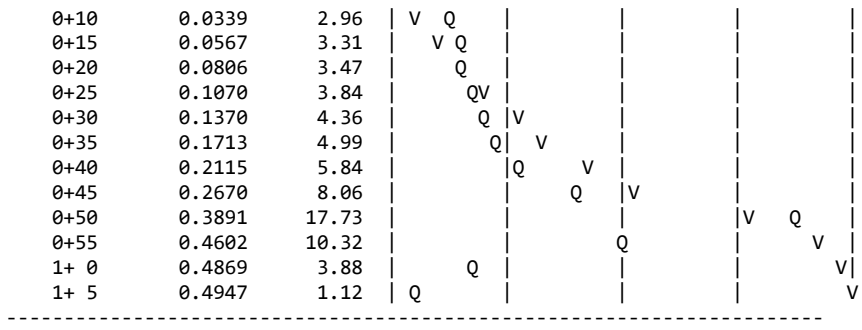

 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5000
 ------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
               Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------------
     1   0.083        438.606         67.570             5.713
     2   0.167        877.212         32.430             2.742
                                 Sum = 100.000   Sum=      8.456
-------------------------------------------------------------------------


 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.382       (  0.058)       0.038        0.344
   2   0.17     4.30      0.391       (  0.058)       0.039        0.352
   3   0.25     5.00      0.455       (  0.058)       0.046        0.410
   4   0.33     5.00      0.455       (  0.058)       0.046        0.410
   5   0.42     5.80      0.528       (  0.058)       0.053        0.475
   6   0.50     6.50      0.592          0.058    (  0.059)        0.534
   7   0.58     7.40      0.674          0.058    (  0.067)        0.616
   8   0.67     8.60      0.783          0.058    (  0.078)        0.725
   9   0.75    12.30      1.120          0.058    (  0.112)        1.062
  10   0.83    29.10      2.649          0.058    (  0.265)        2.591
  11   0.92     6.80      0.619          0.058    (  0.062)        0.561
  12   1.00     5.00      0.455       (  0.058)       0.046        0.410
                (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     8.5
        Flood volume = Effective rainfall      0.71(In)
         times area       8.4(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
        Total soil loss =      0.05(In)
        Total soil loss =     0.036(Ac.Ft)
        Total rainfall =      0.76(In)
        Flood volume =       21547.1 Cubic Feet
        Total soil loss =        1553.5 Cubic Feet
        ---------------------------------------------------------------------
         Peak flow rate of this hydrograph =     17.725(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       0.0135      1.97  |V Q      |         |         |         |
```


0+10 0.0339 2.96
0+15 0.0567 3.31
0+20 0.0806 3.47
0+25 0.1070 3.84
0+30 0.1370 4.36
0+35 0.1713 4.99
0+40 0.2115 5.84
0+45 0.2670 8.06
0+50 0.3891 17.73
0+55 0.4602 10.32
1+ 0 0.4869 3.88
1+ 5 0.4947 1.12

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 08/07/25 File: 4100PR10B310.out

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

Program License Serial Number 6400

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

English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.46 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]
8.39	0.80	6.71

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.80	15.10

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
          8.390           75.00         0.900
 Total Area Entered =      8.39(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        438.606         67.570              5.713
     2   0.167        877.212         32.430              2.742
                                Sum = 100.000   Sum=       8.456
-------------------------------------------------------------------------
```

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	0.189	(0.058)	0.019	0.170
2	0.17	1.30	0.189	(0.058)	0.019	0.170
3	0.25	1.10	0.160	(0.058)	0.016	0.144
4	0.33	1.50	0.218	(0.058)	0.022	0.196
5	0.42	1.50	0.218	(0.058)	0.022	0.196
6	0.50	1.80	0.262	(0.058)	0.026	0.235
7	0.58	1.50	0.218	(0.058)	0.022	0.196
8	0.67	1.80	0.262	(0.058)	0.026	0.235
9	0.75	1.80	0.262	(0.058)	0.026	0.235
10	0.83	1.50	0.218	(0.058)	0.022	0.196
11	0.92	1.60	0.233	(0.058)	0.023	0.209
12	1.00	1.80	0.262	(0.058)	0.026	0.235
13	1.08	2.20	0.320	(0.058)	0.032	0.288
14	1.17	2.20	0.320	(0.058)	0.032	0.288
15	1.25	2.20	0.320	(0.058)	0.032	0.288
16	1.33	2.00	0.291	(0.058)	0.029	0.262
17	1.42	2.60	0.378	(0.058)	0.038	0.340
18	1.50	2.70	0.392	(0.058)	0.039	0.353
19	1.58	2.40	0.349	(0.058)	0.035	0.314
20	1.67	2.70	0.392	(0.058)	0.039	0.353
21	1.75	3.30	0.480	(0.058)	0.048	0.432
22	1.83	3.10	0.451	(0.058)	0.045	0.406
23	1.92	2.90	0.422	(0.058)	0.042	0.379
24	2.00	3.00	0.436	(0.058)	0.044	0.392
25	2.08	3.10	0.451	(0.058)	0.045	0.406
26	2.17	4.20	0.611	0.058	(0.061)	0.553
27	2.25	5.00	0.727	0.058	(0.073)	0.669
28	2.33	3.50	0.509	(0.058)	0.051	0.458
29	2.42	6.80	0.988	0.058	(0.099)	0.931
30	2.50	7.30	1.061	0.058	(0.106)	1.004
31	2.58	8.20	1.192	0.058	(0.119)	1.134
32	2.67	5.90	0.858	0.058	(0.086)	0.800
33	2.75	2.00	0.291	(0.058)	0.029	0.262
34	2.83	1.80	0.262	(0.058)	0.026	0.235
35	2.92	1.80	0.262	(0.058)	0.026	0.235
36	3.00	0.60	0.087	(0.058)	0.009	0.078

```
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    13.3
       Flood volume = Effective rainfall      1.11(In)
        times area       8.4(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
       Total soil loss =      0.10(In)
       Total soil loss =     0.073(Ac.Ft)
       Total rainfall =      1.21(In)
       Flood volume =       33706.8 Cubic Feet
       Total soil loss =        3186.2 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      9.238(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       0.0067      0.97  V  Q      |         |         |         |
     0+10       0.0166      1.44  V    Q    |         |         |         |
     0+15       0.0255      1.29  |V   Q    |         |         |         |
     0+20       0.0359      1.52  |V    Q   |         |         |         |
     0+25       0.0474      1.66  | V   Q   |         |         |         |
     0+30       0.0603      1.88  |  V   Q  |         |         |         |
     0+35       0.0725      1.77  |  V   Q  |         |         |         |
     0+40       0.0855      1.88  |   V  Q  |         |         |         |
     0+45       0.0992      1.99  |    V Q  |         |         |         |
     0+50       0.1114      1.77  |    V Q  |         |         |         |
     0+55       0.1233      1.73  |     Q   |         |         |         |
     1+ 0       0.1366      1.92  |      Q  |         |         |         |
     1+ 5       0.1523      2.29  |      V Q|         |         |         |
     1+10       0.1691      2.43  |       VQ|         |         |         |
     1+15       0.1859      2.43  |        Q|         |         |         |
     1+20       0.2016      2.29  |        QV         |         |         |
     1+25       0.2200      2.66  |         QV        |         |         |
     1+30       0.2403      2.95  |         |QV       |         |         |
     1+35       0.2593      2.76  |         |Q V      |         |         |
     1+40       0.2792      2.88  |         |Q  V     |         |         |
     1+45       0.3028      3.44  |         |  Q V    |         |         |
     1+50       0.3270      3.50  |         |   Q V   |         |         |
     1+55       0.3496      3.28  |         |  Q    V |         |         |
     2+ 0       0.3722      3.28  |         |  Q     V|         |         |
     2+ 5       0.3956      3.40  |         |  Q      V         |         |
     2+10       0.4250      4.27  |         |      Q  |V        |         |
     2+15       0.4618      5.34  |         |         |Q V      |         |
     2+20       0.4925      4.45  |         |      Q  |    V    |         |
     2+25       0.5378      6.58  |         |         |     QV  |         |
     2+30       0.5949      8.29  |         |         |         |V  Q      |
     2+35       0.6585      9.24  |         |         |         |   V Q   |
     2+40       0.7114      7.69  |         |         |         Q     V   |
     2+45       0.7368      3.69  |         |   Q     |         |       V |
     2+50       0.7511      2.06  |       Q |         |         |       V |
     2+55       0.7648      1.99  |      Q  |         |         |        V|
     3+ 0       0.7723      1.09  |   Q     |         |         |        V|
     3+ 5       0.7738      0.22  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 08/07/25 File: 4100PR10B610.out

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

Program License Serial Number 6400

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

English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.46 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]
8.39	1.00	8.39

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	2.50	20.98

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

8.390 75.00 0.900
Total Area Entered = 8.39(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

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

Unit Hydrograph Data

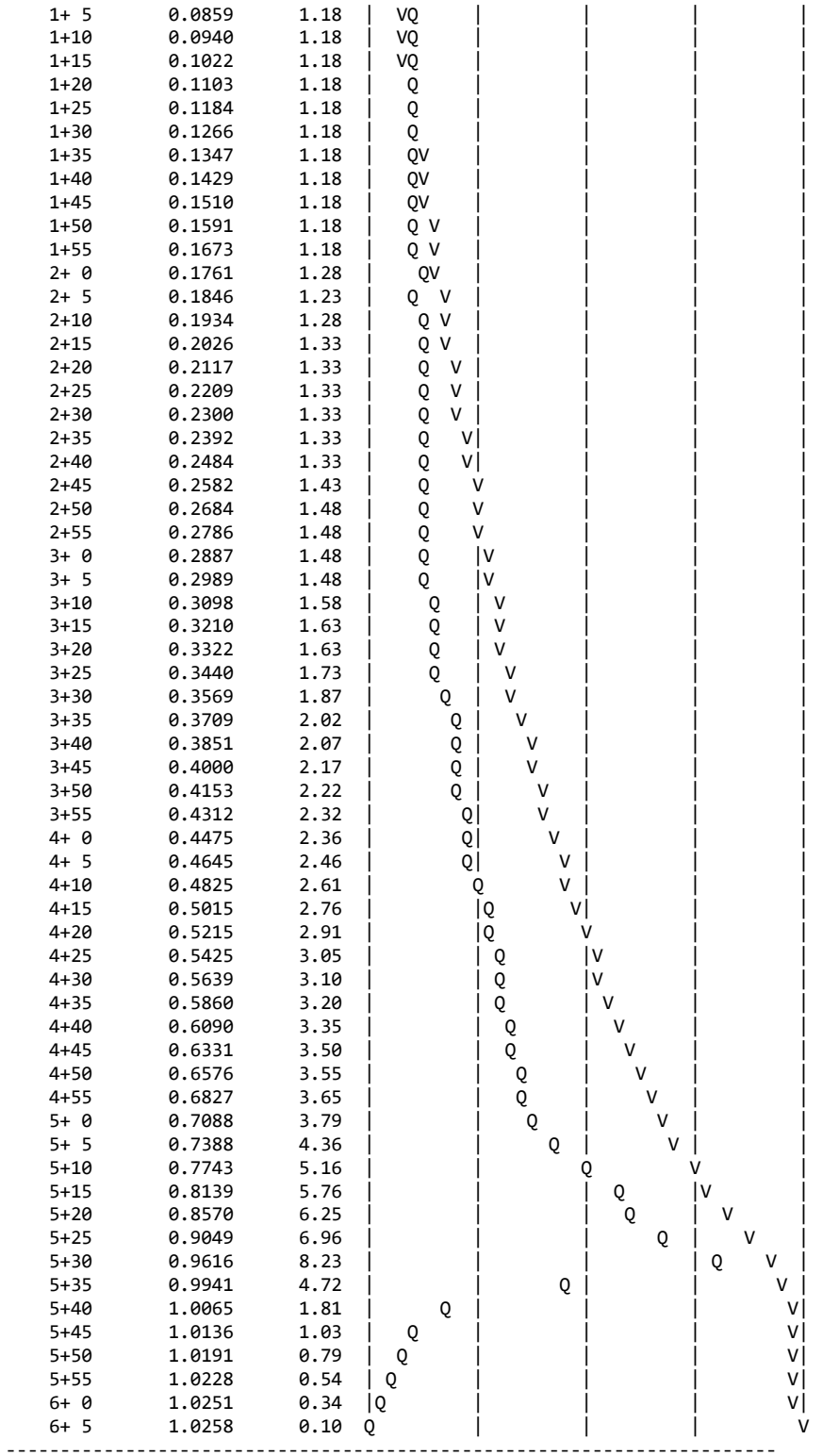
Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	438.606	67.570	5.713
2	0.167	877.212	32.430	2.742
		Sum = 100.000	Sum=	8.456

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	0.097	(0.058)	0.010	0.087
2	0.17	0.60	0.116	(0.058)	0.012	0.105
3	0.25	0.60	0.116	(0.058)	0.012	0.105
4	0.33	0.60	0.116	(0.058)	0.012	0.105
5	0.42	0.60	0.116	(0.058)	0.012	0.105
6	0.50	0.70	0.136	(0.058)	0.014	0.122
7	0.58	0.70	0.136	(0.058)	0.014	0.122
8	0.67	0.70	0.136	(0.058)	0.014	0.122
9	0.75	0.70	0.136	(0.058)	0.014	0.122
10	0.83	0.70	0.136	(0.058)	0.014	0.122
11	0.92	0.70	0.136	(0.058)	0.014	0.122
12	1.00	0.80	0.155	(0.058)	0.016	0.140
13	1.08	0.80	0.155	(0.058)	0.016	0.140
14	1.17	0.80	0.155	(0.058)	0.016	0.140
15	1.25	0.80	0.155	(0.058)	0.016	0.140
16	1.33	0.80	0.155	(0.058)	0.016	0.140
17	1.42	0.80	0.155	(0.058)	0.016	0.140
18	1.50	0.80	0.155	(0.058)	0.016	0.140
19	1.58	0.80	0.155	(0.058)	0.016	0.140
20	1.67	0.80	0.155	(0.058)	0.016	0.140
21	1.75	0.80	0.155	(0.058)	0.016	0.140
22	1.83	0.80	0.155	(0.058)	0.016	0.140
23	1.92	0.80	0.155	(0.058)	0.016	0.140
24	2.00	0.90	0.175	(0.058)	0.017	0.157
25	2.08	0.80	0.155	(0.058)	0.016	0.140
26	2.17	0.90	0.175	(0.058)	0.017	0.157
27	2.25	0.90	0.175	(0.058)	0.017	0.157
28	2.33	0.90	0.175	(0.058)	0.017	0.157
29	2.42	0.90	0.175	(0.058)	0.017	0.157
30	2.50	0.90	0.175	(0.058)	0.017	0.157
31	2.58	0.90	0.175	(0.058)	0.017	0.157
32	2.67	0.90	0.175	(0.058)	0.017	0.157
33	2.75	1.00	0.194	(0.058)	0.019	0.175
34	2.83	1.00	0.194	(0.058)	0.019	0.175
35	2.92	1.00	0.194	(0.058)	0.019	0.175
36	3.00	1.00	0.194	(0.058)	0.019	0.175

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37   3.08     1.00      0.194       (  0.058)       0.019        0.175
38   3.17     1.10      0.213       (  0.058)       0.021        0.192
39   3.25     1.10      0.213       (  0.058)       0.021        0.192
40   3.33     1.10      0.213       (  0.058)       0.021        0.192
41   3.42     1.20      0.233       (  0.058)       0.023        0.210
42   3.50     1.30      0.252       (  0.058)       0.025        0.227
43   3.58     1.40      0.272       (  0.058)       0.027        0.245
44   3.67     1.40      0.272       (  0.058)       0.027        0.245
45   3.75     1.50      0.291       (  0.058)       0.029        0.262
46   3.83     1.50      0.291       (  0.058)       0.029        0.262
47   3.92     1.60      0.310       (  0.058)       0.031        0.279
48   4.00     1.60      0.310       (  0.058)       0.031        0.279
49   4.08     1.70      0.330       (  0.058)       0.033        0.297
50   4.17     1.80      0.349       (  0.058)       0.035        0.314
51   4.25     1.90      0.369       (  0.058)       0.037        0.332
52   4.33     2.00      0.388       (  0.058)       0.039        0.349
53   4.42     2.10      0.408       (  0.058)       0.041        0.367
54   4.50     2.10      0.408       (  0.058)       0.041        0.367
55   4.58     2.20      0.427       (  0.058)       0.043        0.384
56   4.67     2.30      0.446       (  0.058)       0.045        0.402
57   4.75     2.40      0.466       (  0.058)       0.047        0.419
58   4.83     2.40      0.466       (  0.058)       0.047        0.419
59   4.92     2.50      0.485       (  0.058)       0.049        0.437
60   5.00     2.60      0.505       (  0.058)       0.050        0.454
61   5.08     3.10      0.602          0.058    (  0.060)       0.544
62   5.17     3.60      0.699          0.058    (  0.070)       0.641
63   5.25     3.90      0.757          0.058    (  0.076)       0.699
64   5.33     4.20      0.815          0.058    (  0.082)       0.757
65   5.42     4.70      0.912          0.058    (  0.091)       0.854
66   5.50     5.60      1.087          0.058    (  0.109)       1.029
67   5.58     1.90      0.369       (  0.058)       0.037        0.332
68   5.67     0.90      0.175       (  0.058)       0.017        0.157
69   5.75     0.60      0.116       (  0.058)       0.012        0.105
70   5.83     0.50      0.097       (  0.058)       0.010        0.087
71   5.92     0.30      0.058       (  0.058)       0.006        0.052
72   6.00     0.20      0.039       (  0.058)       0.004        0.035
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    17.6
      Flood volume = Effective rainfall      1.47(In)
       times area       8.4(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
      Total soil loss =      0.15(In)
      Total soil loss =     0.105(Ac.Ft)
      Total rainfall =      1.62(In)
      Flood volume =       44683.5 Cubic Feet
      Total soil loss =        4565.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.227(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       0.0034      0.50  VQ        |         |         |         |
  0+10       0.0092      0.84  V  Q      |         |         |         |
  0+15       0.0153      0.89  V  Q      |         |         |         |
  0+20       0.0214      0.89  V  Q      |         |         |         |
  0+25       0.0275      0.89  |V Q      |         |         |         |
  0+30       0.0343      0.99  |V Q      |         |         |         |
  0+35       0.0414      1.03  |V  Q     |         |         |         |
  0+40       0.0486      1.03  |V  Q     |         |         |         |
  0+45       0.0557      1.03  | V Q     |         |         |         |
  0+50       0.0628      1.03  | V Q     |         |         |         |
  0+55       0.0699      1.03  | V Q     |         |         |         |
  1+ 0       0.0777      1.13  |  VQ     |         |         |         |
```


1+ 5 0.0859 1.18
1+10 0.0940 1.18
1+15 0.1022 1.18
1+20 0.1103 1.18
1+25 0.1184 1.18
1+30 0.1266 1.18
1+35 0.1347 1.18
1+40 0.1429 1.18
1+45 0.1510 1.18
1+50 0.1591 1.18
1+55 0.1673 1.18
2+ 0 0.1761 1.28
2+ 5 0.1846 1.23
2+10 0.1934 1.28
2+15 0.2026 1.33
2+20 0.2117 1.33
2+25 0.2209 1.33
2+30 0.2300 1.33
2+35 0.2392 1.33
2+40 0.2484 1.33
2+45 0.2582 1.43
2+50 0.2684 1.48
2+55 0.2786 1.48
3+ 0 0.2887 1.48
3+ 5 0.2989 1.48
3+10 0.3098 1.58
3+15 0.3210 1.63
3+20 0.3322 1.63
3+25 0.3440 1.73
3+30 0.3569 1.87
3+35 0.3709 2.02
3+40 0.3851 2.07
3+45 0.4000 2.17
3+50 0.4153 2.22
3+55 0.4312 2.32
4+ 0 0.4475 2.36
4+ 5 0.4645 2.46
4+10 0.4825 2.61
4+15 0.5015 2.76
4+20 0.5215 2.91
4+25 0.5425 3.05
4+30 0.5639 3.10
4+35 0.5860 3.20
4+40 0.6090 3.35
4+45 0.6331 3.50
4+50 0.6576 3.55
4+55 0.6827 3.65
5+ 0 0.7088 3.79
5+ 5 0.7388 4.36
5+10 0.7743 5.16
5+15 0.8139 5.76
5+20 0.8570 6.25
5+25 0.9049 6.96
5+30 0.9616 8.23
5+35 0.9941 4.72
5+40 1.0065 1.81
5+45 1.0136 1.03
5+50 1.0191 0.79
5+55 1.0228 0.54
6+ 0 1.0251 0.34
6+ 5 1.0258 0.10

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 08/07/25 File: 4100PR10B2410.out

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

Program License Serial Number 6400

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

English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.46 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]
8.39	1.60	13.42

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	4.00	33.56

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

8.390 75.00 0.900
Total Area Entered = 8.39(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	438.606	67.570	5.713
2	0.167	877.212	32.430	2.742
			Sum = 100.000 Sum=	8.456

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	0.021	(0.102)	0.002	0.019
2	0.17	0.07	0.021	(0.102)	0.002	0.019
3	0.25	0.07	0.021	(0.101)	0.002	0.019
4	0.33	0.10	0.031	(0.101)	0.003	0.028
5	0.42	0.10	0.031	(0.100)	0.003	0.028
6	0.50	0.10	0.031	(0.100)	0.003	0.028
7	0.58	0.10	0.031	(0.100)	0.003	0.028
8	0.67	0.10	0.031	(0.099)	0.003	0.028
9	0.75	0.10	0.031	(0.099)	0.003	0.028
10	0.83	0.13	0.041	(0.099)	0.004	0.037
11	0.92	0.13	0.041	(0.098)	0.004	0.037
12	1.00	0.13	0.041	(0.098)	0.004	0.037
13	1.08	0.10	0.031	(0.097)	0.003	0.028
14	1.17	0.10	0.031	(0.097)	0.003	0.028
15	1.25	0.10	0.031	(0.097)	0.003	0.028
16	1.33	0.10	0.031	(0.096)	0.003	0.028
17	1.42	0.10	0.031	(0.096)	0.003	0.028
18	1.50	0.10	0.031	(0.095)	0.003	0.028
19	1.58	0.10	0.031	(0.095)	0.003	0.028
20	1.67	0.10	0.031	(0.095)	0.003	0.028
21	1.75	0.10	0.031	(0.094)	0.003	0.028
22	1.83	0.13	0.041	(0.094)	0.004	0.037
23	1.92	0.13	0.041	(0.094)	0.004	0.037
24	2.00	0.13	0.041	(0.093)	0.004	0.037
25	2.08	0.13	0.041	(0.093)	0.004	0.037
26	2.17	0.13	0.041	(0.092)	0.004	0.037
27	2.25	0.13	0.041	(0.092)	0.004	0.037
28	2.33	0.13	0.041	(0.092)	0.004	0.037
29	2.42	0.13	0.041	(0.091)	0.004	0.037
30	2.50	0.13	0.041	(0.091)	0.004	0.037
31	2.58	0.17	0.052	(0.091)	0.005	0.047
32	2.67	0.17	0.052	(0.090)	0.005	0.047
33	2.75	0.17	0.052	(0.090)	0.005	0.047
34	2.83	0.17	0.052	(0.089)	0.005	0.047
35	2.92	0.17	0.052	(0.089)	0.005	0.047
36	3.00	0.17	0.052	(0.089)	0.005	0.047

37	3.08	0.17	0.052	(0.088)	0.005	0.047
38	3.17	0.17	0.052	(0.088)	0.005	0.047
39	3.25	0.17	0.052	(0.088)	0.005	0.047
40	3.33	0.17	0.052	(0.087)	0.005	0.047
41	3.42	0.17	0.052	(0.087)	0.005	0.047
42	3.50	0.17	0.052	(0.087)	0.005	0.047
43	3.58	0.17	0.052	(0.086)	0.005	0.047
44	3.67	0.17	0.052	(0.086)	0.005	0.047
45	3.75	0.17	0.052	(0.085)	0.005	0.047
46	3.83	0.20	0.062	(0.085)	0.006	0.056
47	3.92	0.20	0.062	(0.085)	0.006	0.056
48	4.00	0.20	0.062	(0.084)	0.006	0.056
49	4.08	0.20	0.062	(0.084)	0.006	0.056
50	4.17	0.20	0.062	(0.084)	0.006	0.056
51	4.25	0.20	0.062	(0.083)	0.006	0.056
52	4.33	0.23	0.072	(0.083)	0.007	0.065
53	4.42	0.23	0.072	(0.083)	0.007	0.065
54	4.50	0.23	0.072	(0.082)	0.007	0.065
55	4.58	0.23	0.072	(0.082)	0.007	0.065
56	4.67	0.23	0.072	(0.082)	0.007	0.065
57	4.75	0.23	0.072	(0.081)	0.007	0.065
58	4.83	0.27	0.083	(0.081)	0.008	0.075
59	4.92	0.27	0.083	(0.080)	0.008	0.075
60	5.00	0.27	0.083	(0.080)	0.008	0.075
61	5.08	0.20	0.062	(0.080)	0.006	0.056
62	5.17	0.20	0.062	(0.079)	0.006	0.056
63	5.25	0.20	0.062	(0.079)	0.006	0.056
64	5.33	0.23	0.072	(0.079)	0.007	0.065
65	5.42	0.23	0.072	(0.078)	0.007	0.065
66	5.50	0.23	0.072	(0.078)	0.007	0.065
67	5.58	0.27	0.083	(0.078)	0.008	0.075
68	5.67	0.27	0.083	(0.077)	0.008	0.075
69	5.75	0.27	0.083	(0.077)	0.008	0.075
70	5.83	0.27	0.083	(0.077)	0.008	0.075
71	5.92	0.27	0.083	(0.076)	0.008	0.075
72	6.00	0.27	0.083	(0.076)	0.008	0.075
73	6.08	0.30	0.093	(0.076)	0.009	0.084
74	6.17	0.30	0.093	(0.075)	0.009	0.084
75	6.25	0.30	0.093	(0.075)	0.009	0.084
76	6.33	0.30	0.093	(0.075)	0.009	0.084
77	6.42	0.30	0.093	(0.074)	0.009	0.084
78	6.50	0.30	0.093	(0.074)	0.009	0.084
79	6.58	0.33	0.103	(0.074)	0.010	0.093
80	6.67	0.33	0.103	(0.073)	0.010	0.093
81	6.75	0.33	0.103	(0.073)	0.010	0.093
82	6.83	0.33	0.103	(0.073)	0.010	0.093
83	6.92	0.33	0.103	(0.072)	0.010	0.093
84	7.00	0.33	0.103	(0.072)	0.010	0.093
85	7.08	0.33	0.103	(0.072)	0.010	0.093
86	7.17	0.33	0.103	(0.071)	0.010	0.093
87	7.25	0.33	0.103	(0.071)	0.010	0.093
88	7.33	0.37	0.114	(0.071)	0.011	0.102
89	7.42	0.37	0.114	(0.070)	0.011	0.102
90	7.50	0.37	0.114	(0.070)	0.011	0.102
91	7.58	0.40	0.124	(0.070)	0.012	0.112
92	7.67	0.40	0.124	(0.069)	0.012	0.112
93	7.75	0.40	0.124	(0.069)	0.012	0.112
94	7.83	0.43	0.135	(0.069)	0.013	0.121
95	7.92	0.43	0.135	(0.068)	0.013	0.121
96	8.00	0.43	0.135	(0.068)	0.013	0.121
97	8.08	0.50	0.155	(0.068)	0.016	0.140
98	8.17	0.50	0.155	(0.067)	0.016	0.140
99	8.25	0.50	0.155	(0.067)	0.016	0.140
100	8.33	0.50	0.155	(0.067)	0.016	0.140
101	8.42	0.50	0.155	(0.067)	0.016	0.140
102	8.50	0.50	0.155	(0.066)	0.016	0.140
103	8.58	0.53	0.166	(0.066)	0.017	0.149
104	8.67	0.53	0.166	(0.066)	0.017	0.149
105	8.75	0.53	0.166	(0.065)	0.017	0.149

106	8.83	0.57	0.176	(0.065)	0.018	0.158
107	8.92	0.57	0.176	(0.065)	0.018	0.158
108	9.00	0.57	0.176	(0.064)	0.018	0.158
109	9.08	0.63	0.197	(0.064)	0.020	0.177
110	9.17	0.63	0.197	(0.064)	0.020	0.177
111	9.25	0.63	0.197	(0.063)	0.020	0.177
112	9.33	0.67	0.207	(0.063)	0.021	0.186
113	9.42	0.67	0.207	(0.063)	0.021	0.186
114	9.50	0.67	0.207	(0.063)	0.021	0.186
115	9.58	0.70	0.217	(0.062)	0.022	0.196
116	9.67	0.70	0.217	(0.062)	0.022	0.196
117	9.75	0.70	0.217	(0.062)	0.022	0.196
118	9.83	0.73	0.228	(0.061)	0.023	0.205
119	9.92	0.73	0.228	(0.061)	0.023	0.205
120	10.00	0.73	0.228	(0.061)	0.023	0.205
121	10.08	0.50	0.155	(0.060)	0.016	0.140
122	10.17	0.50	0.155	(0.060)	0.016	0.140
123	10.25	0.50	0.155	(0.060)	0.016	0.140
124	10.33	0.50	0.155	(0.060)	0.016	0.140
125	10.42	0.50	0.155	(0.059)	0.016	0.140
126	10.50	0.50	0.155	(0.059)	0.016	0.140
127	10.58	0.67	0.207	(0.059)	0.021	0.186
128	10.67	0.67	0.207	(0.058)	0.021	0.186
129	10.75	0.67	0.207	(0.058)	0.021	0.186
130	10.83	0.67	0.207	(0.058)	0.021	0.186
131	10.92	0.67	0.207	(0.058)	0.021	0.186
132	11.00	0.67	0.207	(0.057)	0.021	0.186
133	11.08	0.63	0.197	(0.057)	0.020	0.177
134	11.17	0.63	0.197	(0.057)	0.020	0.177
135	11.25	0.63	0.197	(0.056)	0.020	0.177
136	11.33	0.63	0.197	(0.056)	0.020	0.177
137	11.42	0.63	0.197	(0.056)	0.020	0.177
138	11.50	0.63	0.197	(0.056)	0.020	0.177
139	11.58	0.57	0.176	(0.055)	0.018	0.158
140	11.67	0.57	0.176	(0.055)	0.018	0.158
141	11.75	0.57	0.176	(0.055)	0.018	0.158
142	11.83	0.60	0.186	(0.055)	0.019	0.168
143	11.92	0.60	0.186	(0.054)	0.019	0.168
144	12.00	0.60	0.186	(0.054)	0.019	0.168
145	12.08	0.83	0.259	(0.054)	0.026	0.233
146	12.17	0.83	0.259	(0.053)	0.026	0.233
147	12.25	0.83	0.259	(0.053)	0.026	0.233
148	12.33	0.87	0.269	(0.053)	0.027	0.242
149	12.42	0.87	0.269	(0.053)	0.027	0.242
150	12.50	0.87	0.269	(0.052)	0.027	0.242
151	12.58	0.93	0.290	(0.052)	0.029	0.261
152	12.67	0.93	0.290	(0.052)	0.029	0.261
153	12.75	0.93	0.290	(0.052)	0.029	0.261
154	12.83	0.97	0.300	(0.051)	0.030	0.270
155	12.92	0.97	0.300	(0.051)	0.030	0.270
156	13.00	0.97	0.300	(0.051)	0.030	0.270
157	13.08	1.13	0.352	(0.051)	0.035	0.317
158	13.17	1.13	0.352	(0.050)	0.035	0.317
159	13.25	1.13	0.352	(0.050)	0.035	0.317
160	13.33	1.13	0.352	(0.050)	0.035	0.317
161	13.42	1.13	0.352	(0.050)	0.035	0.317
162	13.50	1.13	0.352	(0.049)	0.035	0.317
163	13.58	0.77	0.238	(0.049)	0.024	0.214
164	13.67	0.77	0.238	(0.049)	0.024	0.214
165	13.75	0.77	0.238	(0.049)	0.024	0.214
166	13.83	0.77	0.238	(0.048)	0.024	0.214
167	13.92	0.77	0.238	(0.048)	0.024	0.214
168	14.00	0.77	0.238	(0.048)	0.024	0.214
169	14.08	0.90	0.279	(0.048)	0.028	0.251
170	14.17	0.90	0.279	(0.047)	0.028	0.251
171	14.25	0.90	0.279	(0.047)	0.028	0.251
172	14.33	0.87	0.269	(0.047)	0.027	0.242
173	14.42	0.87	0.269	(0.047)	0.027	0.242
174	14.50	0.87	0.269	(0.046)	0.027	0.242

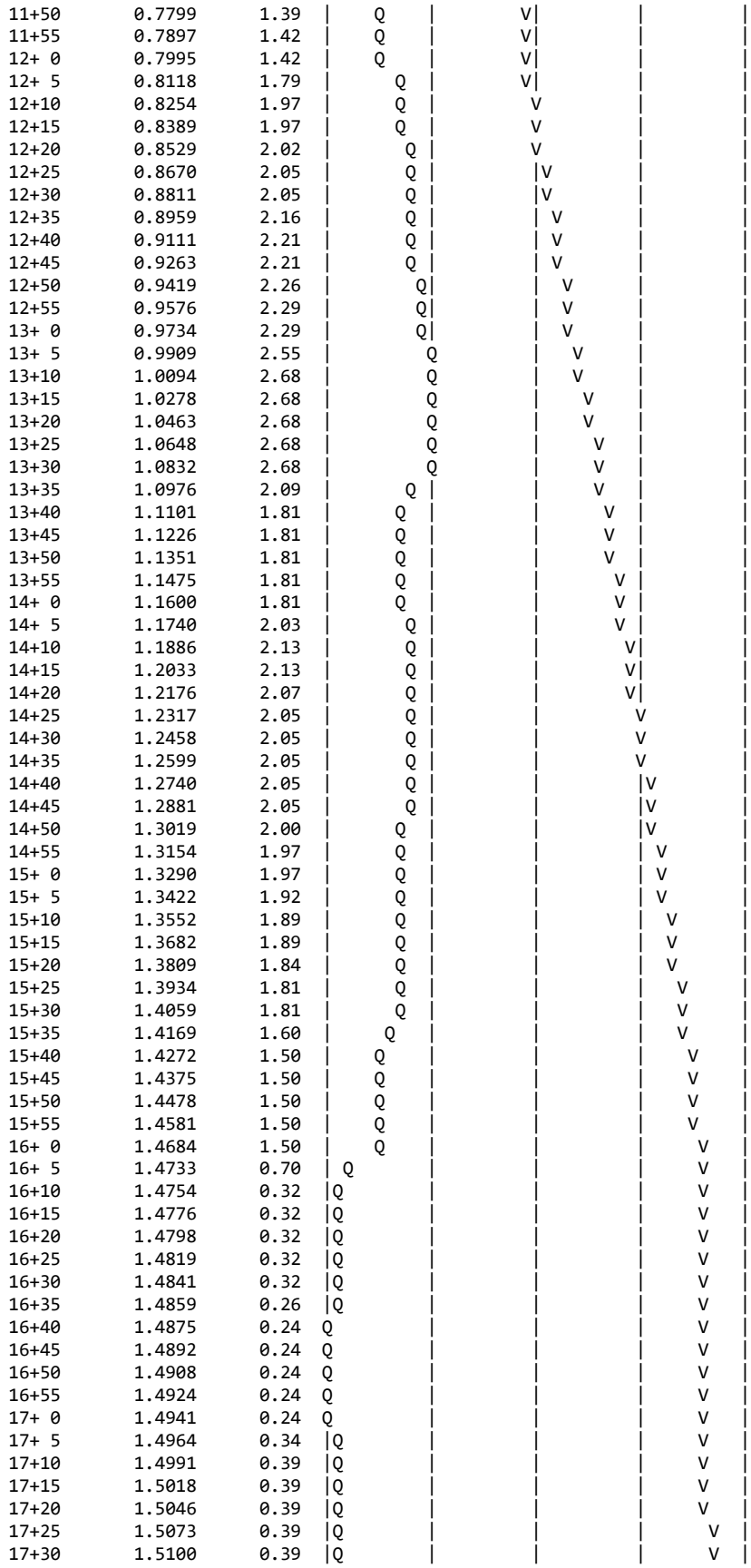
175	14.58	0.87	0.269	(0.046)	0.027	0.242
176	14.67	0.87	0.269	(0.046)	0.027	0.242
177	14.75	0.87	0.269	(0.046)	0.027	0.242
178	14.83	0.83	0.259	(0.045)	0.026	0.233
179	14.92	0.83	0.259	(0.045)	0.026	0.233
180	15.00	0.83	0.259	(0.045)	0.026	0.233
181	15.08	0.80	0.248	(0.045)	0.025	0.224
182	15.17	0.80	0.248	(0.045)	0.025	0.224
183	15.25	0.80	0.248	(0.044)	0.025	0.224
184	15.33	0.77	0.238	(0.044)	0.024	0.214
185	15.42	0.77	0.238	(0.044)	0.024	0.214
186	15.50	0.77	0.238	(0.044)	0.024	0.214
187	15.58	0.63	0.197	(0.043)	0.020	0.177
188	15.67	0.63	0.197	(0.043)	0.020	0.177
189	15.75	0.63	0.197	(0.043)	0.020	0.177
190	15.83	0.63	0.197	(0.043)	0.020	0.177
191	15.92	0.63	0.197	(0.042)	0.020	0.177
192	16.00	0.63	0.197	(0.042)	0.020	0.177
193	16.08	0.13	0.041	(0.042)	0.004	0.037
194	16.17	0.13	0.041	(0.042)	0.004	0.037
195	16.25	0.13	0.041	(0.042)	0.004	0.037
196	16.33	0.13	0.041	(0.041)	0.004	0.037
197	16.42	0.13	0.041	(0.041)	0.004	0.037
198	16.50	0.13	0.041	(0.041)	0.004	0.037
199	16.58	0.10	0.031	(0.041)	0.003	0.028
200	16.67	0.10	0.031	(0.041)	0.003	0.028
201	16.75	0.10	0.031	(0.040)	0.003	0.028
202	16.83	0.10	0.031	(0.040)	0.003	0.028
203	16.92	0.10	0.031	(0.040)	0.003	0.028
204	17.00	0.10	0.031	(0.040)	0.003	0.028
205	17.08	0.17	0.052	(0.040)	0.005	0.047
206	17.17	0.17	0.052	(0.039)	0.005	0.047
207	17.25	0.17	0.052	(0.039)	0.005	0.047
208	17.33	0.17	0.052	(0.039)	0.005	0.047
209	17.42	0.17	0.052	(0.039)	0.005	0.047
210	17.50	0.17	0.052	(0.039)	0.005	0.047
211	17.58	0.17	0.052	(0.038)	0.005	0.047
212	17.67	0.17	0.052	(0.038)	0.005	0.047
213	17.75	0.17	0.052	(0.038)	0.005	0.047
214	17.83	0.13	0.041	(0.038)	0.004	0.037
215	17.92	0.13	0.041	(0.038)	0.004	0.037
216	18.00	0.13	0.041	(0.037)	0.004	0.037
217	18.08	0.13	0.041	(0.037)	0.004	0.037
218	18.17	0.13	0.041	(0.037)	0.004	0.037
219	18.25	0.13	0.041	(0.037)	0.004	0.037
220	18.33	0.13	0.041	(0.037)	0.004	0.037
221	18.42	0.13	0.041	(0.037)	0.004	0.037
222	18.50	0.13	0.041	(0.036)	0.004	0.037
223	18.58	0.10	0.031	(0.036)	0.003	0.028
224	18.67	0.10	0.031	(0.036)	0.003	0.028
225	18.75	0.10	0.031	(0.036)	0.003	0.028
226	18.83	0.07	0.021	(0.036)	0.002	0.019
227	18.92	0.07	0.021	(0.035)	0.002	0.019
228	19.00	0.07	0.021	(0.035)	0.002	0.019
229	19.08	0.10	0.031	(0.035)	0.003	0.028
230	19.17	0.10	0.031	(0.035)	0.003	0.028
231	19.25	0.10	0.031	(0.035)	0.003	0.028
232	19.33	0.13	0.041	(0.035)	0.004	0.037
233	19.42	0.13	0.041	(0.035)	0.004	0.037
234	19.50	0.13	0.041	(0.034)	0.004	0.037
235	19.58	0.10	0.031	(0.034)	0.003	0.028
236	19.67	0.10	0.031	(0.034)	0.003	0.028
237	19.75	0.10	0.031	(0.034)	0.003	0.028
238	19.83	0.07	0.021	(0.034)	0.002	0.019
239	19.92	0.07	0.021	(0.034)	0.002	0.019
240	20.00	0.07	0.021	(0.033)	0.002	0.019
241	20.08	0.10	0.031	(0.033)	0.003	0.028
242	20.17	0.10	0.031	(0.033)	0.003	0.028
243	20.25	0.10	0.031	(0.033)	0.003	0.028

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244  20.33     0.10      0.031       (  0.033)       0.003        0.028
245  20.42     0.10      0.031       (  0.033)       0.003        0.028
246  20.50     0.10      0.031       (  0.033)       0.003        0.028
247  20.58     0.10      0.031       (  0.032)       0.003        0.028
248  20.67     0.10      0.031       (  0.032)       0.003        0.028
249  20.75     0.10      0.031       (  0.032)       0.003        0.028
250  20.83     0.07      0.021       (  0.032)       0.002        0.019
251  20.92     0.07      0.021       (  0.032)       0.002        0.019
252  21.00     0.07      0.021       (  0.032)       0.002        0.019
253  21.08     0.10      0.031       (  0.032)       0.003        0.028
254  21.17     0.10      0.031       (  0.032)       0.003        0.028
255  21.25     0.10      0.031       (  0.031)       0.003        0.028
256  21.33     0.07      0.021       (  0.031)       0.002        0.019
257  21.42     0.07      0.021       (  0.031)       0.002        0.019
258  21.50     0.07      0.021       (  0.031)       0.002        0.019
259  21.58     0.10      0.031       (  0.031)       0.003        0.028
260  21.67     0.10      0.031       (  0.031)       0.003        0.028
261  21.75     0.10      0.031       (  0.031)       0.003        0.028
262  21.83     0.07      0.021       (  0.031)       0.002        0.019
263  21.92     0.07      0.021       (  0.030)       0.002        0.019
264  22.00     0.07      0.021       (  0.030)       0.002        0.019
265  22.08     0.10      0.031       (  0.030)       0.003        0.028
266  22.17     0.10      0.031       (  0.030)       0.003        0.028
267  22.25     0.10      0.031       (  0.030)       0.003        0.028
268  22.33     0.07      0.021       (  0.030)       0.002        0.019
269  22.42     0.07      0.021       (  0.030)       0.002        0.019
270  22.50     0.07      0.021       (  0.030)       0.002        0.019
271  22.58     0.07      0.021       (  0.030)       0.002        0.019
272  22.67     0.07      0.021       (  0.030)       0.002        0.019
273  22.75     0.07      0.021       (  0.030)       0.002        0.019
274  22.83     0.07      0.021       (  0.029)       0.002        0.019
275  22.92     0.07      0.021       (  0.029)       0.002        0.019
276  23.00     0.07      0.021       (  0.029)       0.002        0.019
277  23.08     0.07      0.021       (  0.029)       0.002        0.019
278  23.17     0.07      0.021       (  0.029)       0.002        0.019
279  23.25     0.07      0.021       (  0.029)       0.002        0.019
280  23.33     0.07      0.021       (  0.029)       0.002        0.019
281  23.42     0.07      0.021       (  0.029)       0.002        0.019
282  23.50     0.07      0.021       (  0.029)       0.002        0.019
283  23.58     0.07      0.021       (  0.029)       0.002        0.019
284  23.67     0.07      0.021       (  0.029)       0.002        0.019
285  23.75     0.07      0.021       (  0.029)       0.002        0.019
286  23.83     0.07      0.021       (  0.029)       0.002        0.019
287  23.92     0.07      0.021       (  0.029)       0.002        0.019
288  24.00     0.07      0.021       (  0.029)       0.002        0.019
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    27.9
       Flood volume = Effective rainfall      2.33(In)
        times area       8.4(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
       Total soil loss =      0.26(In)
       Total soil loss =     0.181(Ac.Ft)
       Total rainfall =      2.59(In)
       Flood volume =       70919.2 Cubic Feet
       Total soil loss =        7879.9 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.679(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
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   0+ 5       0.0007      0.11  Q         |         |         |         |
   0+10       0.0018      0.16  Q         |         |         |         |
   0+15       0.0029      0.16  Q         |         |         |         |
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0+20       0.0044      0.21  Q        |         |         |         |
0+25       0.0060      0.24  Q        |         |         |         |
0+30       0.0076      0.24  Q        |         |         |         |
0+35       0.0092      0.24  Q        |         |         |         |
0+40       0.0109      0.24  Q        |         |         |         |
0+45       0.0125      0.24  Q        |         |         |         |
0+50       0.0145      0.29  VQ       |         |         |         |
0+55       0.0167      0.32  VQ       |         |         |         |
1+ 0       0.0188      0.32  VQ       |         |         |         |
1+ 5       0.0206      0.26  VQ       |         |         |         |
1+10       0.0223      0.24  Q        |         |         |         |
1+15       0.0239      0.24  Q        |         |         |         |
1+20       0.0255      0.24  Q        |         |         |         |
1+25       0.0271      0.24  Q        |         |         |         |
1+30       0.0288      0.24  Q        |         |         |         |
1+35       0.0304      0.24  Q        |         |         |         |
1+40       0.0320      0.24  Q        |         |         |         |
1+45       0.0337      0.24  Q        |         |         |         |
1+50       0.0357      0.29  VQ       |         |         |         |
1+55       0.0378      0.32  VQ       |         |         |         |
2+ 0       0.0400      0.32  VQ       |         |         |         |
2+ 5       0.0422      0.32  |Q       |         |         |         |
2+10       0.0443      0.32  |Q       |         |         |         |
2+15       0.0465      0.32  |Q       |         |         |         |
2+20       0.0487      0.32  |Q       |         |         |         |
2+25       0.0509      0.32  |Q       |         |         |         |
2+30       0.0530      0.32  |Q       |         |         |         |
2+35       0.0556      0.37  |Q       |         |         |         |
2+40       0.0583      0.39  |Q       |         |         |         |
2+45       0.0610      0.39  |Q       |         |         |         |
2+50       0.0637      0.39  |Q       |         |         |         |
2+55       0.0664      0.39  |Q       |         |         |         |
3+ 0       0.0691      0.39  |Q       |         |         |         |
3+ 5       0.0718      0.39  |Q       |         |         |         |
3+10       0.0746      0.39  |Q       |         |         |         |
3+15       0.0773      0.39  |Q       |         |         |         |
3+20       0.0800      0.39  |Q       |         |         |         |
3+25       0.0827      0.39  |QV      |         |         |         |
3+30       0.0854      0.39  |QV      |         |         |         |
3+35       0.0881      0.39  |QV      |         |         |         |
3+40       0.0908      0.39  |QV      |         |         |         |
3+45       0.0935      0.39  |QV      |         |         |         |
3+50       0.0966      0.45  |QV      |         |         |         |
3+55       0.0999      0.47  |QV      |         |         |         |
4+ 0       0.1031      0.47  |QV      |         |         |         |
4+ 5       0.1064      0.47  |QV      |         |         |         |
4+10       0.1097      0.47  |QV      |         |         |         |
4+15       0.1129      0.47  |QV      |         |         |         |
4+20       0.1165      0.53  | Q      |         |         |         |
4+25       0.1203      0.55  | Q      |         |         |         |
4+30       0.1241      0.55  | QV     |         |         |         |
4+35       0.1279      0.55  | QV     |         |         |         |
4+40       0.1317      0.55  | QV     |         |         |         |
4+45       0.1355      0.55  | QV     |         |         |         |
4+50       0.1397      0.60  | QV     |         |         |         |
4+55       0.1440      0.63  | QV     |         |         |         |
5+ 0       0.1484      0.63  | QV     |         |         |         |
5+ 5       0.1520      0.52  | QV     |         |         |         |
5+10       0.1552      0.47  |Q V     |         |         |         |
5+15       0.1585      0.47  |Q V     |         |         |         |
5+20       0.1621      0.53  | QV     |         |         |         |
5+25       0.1659      0.55  | Q V    |         |         |         |
5+30       0.1697      0.55  | Q V    |         |         |         |
5+35       0.1739      0.60  | Q V    |         |         |         |
5+40       0.1782      0.63  | Q V    |         |         |         |
5+45       0.1826      0.63  | Q V    |         |         |         |
5+50       0.1869      0.63  | Q V    |         |         |         |
5+55       0.1912      0.63  | Q V    |         |         |         |
6+ 0       0.1956      0.63  | Q V    |         |         |         |
```

6+ 5	0.2003	0.68	Q V			
6+10	0.2052	0.71	Q V			
6+15	0.2101	0.71	Q V			
6+20	0.2150	0.71	Q V			
6+25	0.2198	0.71	Q V			
6+30	0.2247	0.71	Q V			
6+35	0.2300	0.76	Q V			
6+40	0.2354	0.79	Q V			
6+45	0.2408	0.79	Q V			
6+50	0.2463	0.79	Q V			
6+55	0.2517	0.79	Q V			
7+ 0	0.2571	0.79	Q V			
7+ 5	0.2625	0.79	Q V			
7+10	0.2680	0.79	Q V			
7+15	0.2734	0.79	Q V			
7+20	0.2792	0.84	Q V			
7+25	0.2851	0.87	Q V			
7+30	0.2911	0.87	Q V			
7+35	0.2975	0.92	Q V			
7+40	0.3040	0.95	Q V			
7+45	0.3105	0.95	Q V			
7+50	0.3174	1.00	Q V			
7+55	0.3244	1.02	Q V			
8+ 0	0.3315	1.02	Q V			
8+ 5	0.3393	1.13	Q V			
8+10	0.3474	1.18	Q V			
8+15	0.3555	1.18	Q V			
8+20	0.3637	1.18	Q V			
8+25	0.3718	1.18	Q V			
8+30	0.3800	1.18	Q V			
8+35	0.3885	1.24	Q V			
8+40	0.3971	1.26	Q V			
8+45	0.4058	1.26	Q V			
8+50	0.4149	1.31	Q V			
8+55	0.4241	1.34	Q V			
9+ 0	0.4333	1.34	Q V			
9+ 5	0.4433	1.45	Q V			
9+10	0.4536	1.50	Q V			
9+15	0.4639	1.50	Q V			
9+20	0.4746	1.55	Q V			
9+25	0.4854	1.58	Q V			
9+30	0.4963	1.58	Q V			
9+35	0.5075	1.63	Q V			
9+40	0.5189	1.65	Q V			
9+45	0.5303	1.65	Q V			
9+50	0.5421	1.71	Q V			
9+55	0.5540	1.73	Q V			
10+ 0	0.5660	1.73	Q V			
10+ 5	0.5753	1.36	Q V			
10+10	0.5835	1.18	Q V			
10+15	0.5916	1.18	Q V			
10+20	0.5998	1.18	Q V			
10+25	0.6079	1.18	Q V			
10+30	0.6160	1.18	Q V			
10+35	0.6260	1.45	Q V			
10+40	0.6369	1.58	Q V			
10+45	0.6477	1.58	Q V			
10+50	0.6586	1.58	Q V			
10+55	0.6694	1.58	Q V			
11+ 0	0.6803	1.58	Q V			
11+ 5	0.6908	1.52	Q V			
11+10	0.7011	1.50	Q V			
11+15	0.7114	1.50	Q V			
11+20	0.7217	1.50	Q V			
11+25	0.7320	1.50	Q V			
11+30	0.7423	1.50	Q V			
11+35	0.7519	1.39	Q V			
11+40	0.7611	1.34	Q V			
11+45	0.7703	1.34	Q V			



17+35	1.5127	0.39	|Q	|	|	|	V |
17+40	1.5154	0.39	|Q	|	|	|	V |
17+45	1.5181	0.39	|Q	|	|	|	V |
17+50	1.5205	0.34	|Q	|	|	|	V |
17+55	1.5226	0.32	|Q	|	|	|	V |
18+ 0	1.5248	0.32	|Q	|	|	|	V |
18+ 5	1.5270	0.32	|Q	|	|	|	V |
18+10	1.5292	0.32	|Q	|	|	|	V |
18+15	1.5313	0.32	|Q	|	|	|	V |
18+20	1.5335	0.32	|Q	|	|	|	V |
18+25	1.5357	0.32	|Q	|	|	|	V |
18+30	1.5378	0.32	|Q	|	|	|	V |
18+35	1.5396	0.26	|Q	|	|	|	V |
18+40	1.5413	0.24	Q	|	|	|	V |
18+45	1.5429	0.24	Q	|	|	|	V |
18+50	1.5442	0.18	Q	|	|	|	V |
18+55	1.5452	0.16	Q	|	|	|	V |
19+ 0	1.5463	0.16	Q	|	|	|	V |
19+ 5	1.5478	0.21	Q	|	|	|	V |
19+10	1.5494	0.24	Q	|	|	|	V |
19+15	1.5510	0.24	Q	|	|	|	V |
19+20	1.5530	0.29	|Q	|	|	|	V |
19+25	1.5552	0.32	|Q	|	|	|	V |
19+30	1.5574	0.32	|Q	|	|	|	V |
19+35	1.5592	0.26	|Q	|	|	|	V |
19+40	1.5608	0.24	Q	|	|	|	V |
19+45	1.5624	0.24	Q	|	|	|	V |
19+50	1.5637	0.18	Q	|	|	|	V |
19+55	1.5648	0.16	Q	|	|	|	V |
20+ 0	1.5659	0.16	Q	|	|	|	V |
20+ 5	1.5673	0.21	Q	|	|	|	V |
20+10	1.5689	0.24	Q	|	|	|	V |
20+15	1.5706	0.24	Q	|	|	|	V |
20+20	1.5722	0.24	Q	|	|	|	V |
20+25	1.5738	0.24	Q	|	|	|	V |
20+30	1.5755	0.24	Q	|	|	|	V |
20+35	1.5771	0.24	Q	|	|	|	V |
20+40	1.5787	0.24	Q	|	|	|	V |
20+45	1.5803	0.24	Q	|	|	|	V |
20+50	1.5816	0.18	Q	|	|	|	V |
20+55	1.5827	0.16	Q	|	|	|	V |
21+ 0	1.5838	0.16	Q	|	|	|	V |
21+ 5	1.5852	0.21	Q	|	|	|	V |
21+10	1.5869	0.24	Q	|	|	|	V |
21+15	1.5885	0.24	Q	|	|	|	V|
21+20	1.5897	0.18	Q	|	|	|	V|
21+25	1.5908	0.16	Q	|	|	|	V|
21+30	1.5919	0.16	Q	|	|	|	V|
21+35	1.5934	0.21	Q	|	|	|	V|
21+40	1.5950	0.24	Q	|	|	|	V|
21+45	1.5966	0.24	Q	|	|	|	V|
21+50	1.5979	0.18	Q	|	|	|	V|
21+55	1.5990	0.16	Q	|	|	|	V|
22+ 0	1.6001	0.16	Q	|	|	|	V|
22+ 5	1.6015	0.21	Q	|	|	|	V|
22+10	1.6031	0.24	Q	|	|	|	V|
22+15	1.6048	0.24	Q	|	|	|	V|
22+20	1.6060	0.18	Q	|	|	|	V|
22+25	1.6071	0.16	Q	|	|	|	V|
22+30	1.6082	0.16	Q	|	|	|	V|
22+35	1.6093	0.16	Q	|	|	|	V|
22+40	1.6104	0.16	Q	|	|	|	V|
22+45	1.6114	0.16	Q	|	|	|	V|
22+50	1.6125	0.16	Q	|	|	|	V|
22+55	1.6136	0.16	Q	|	|	|	V|
23+ 0	1.6147	0.16	Q	|	|	|	V|
23+ 5	1.6158	0.16	Q	|	|	|	V|
23+10	1.6169	0.16	Q	|	|	|	V|
23+15	1.6180	0.16	Q	|	|	|	V|

```
   23+20       1.6190      0.16  Q        |         |         |        V|
   23+25       1.6201      0.16  Q        |         |         |        V|
   23+30       1.6212      0.16  Q        |         |         |        V|
   23+35       1.6223      0.16  Q        |         |         |        V|
   23+40       1.6234      0.16  Q        |         |         |        V|
   23+45       1.6245      0.16  Q        |         |         |        V|
   23+50       1.6256      0.16  Q        |         |         |        V|
   23+55       1.6266      0.16  Q        |         |         |        V|
   24+ 0       1.6277      0.16  Q        |         |         |        V|
   24+ 5       1.6281      0.05  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 08/07/25 File: 4100EX10A110.out

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

Program License Serial Number 6400

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

 English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
WESTERLY PARKING AREA
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.063 Hr.
Lag time = 3.78 Min.
25% of lag time = 0.95 Min.
40% of lag time = 1.51 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]
8.81	0.45	3.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.20	10.57

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.450(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 0.759(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.758(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

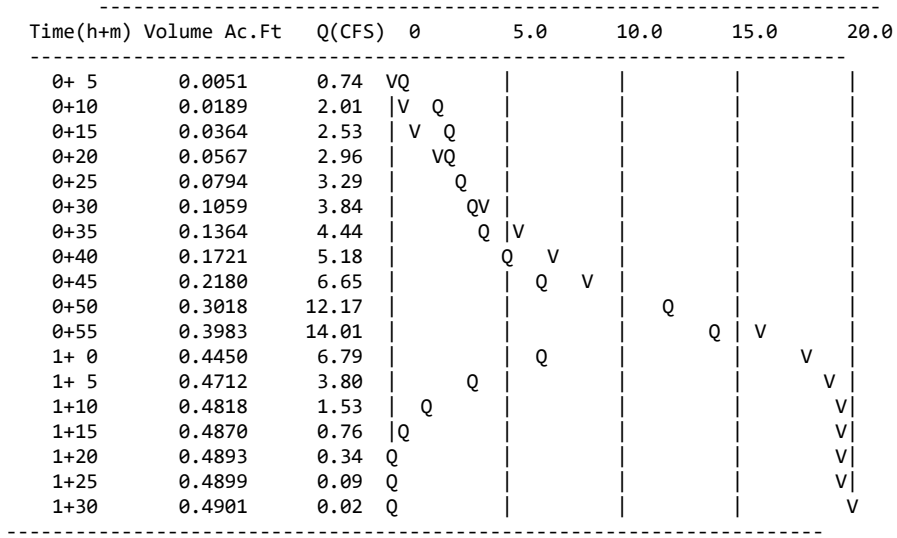
```
          8.810           93.00         0.000
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                  Sum (F) =   0.091
 Area averaged mean soil loss (F) (In/Hr) =  0.091
 Minimum soil loss rate ((In/Hr)) =  0.045
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.900
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5000
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------------
     1   0.083        132.225         28.626             2.542
     2   0.167        264.451         48.173             4.277
     3   0.250        396.676         12.339             1.096
     4   0.333        528.901          5.498             0.488
     5   0.417        661.127          3.009             0.267
     6   0.500        793.352          1.627             0.144
     7   0.583        925.578          0.728             0.065
                              Sum = 100.000   Sum=       8.879
-------------------------------------------------------------------------


 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.382          0.091    (  0.344)        0.291
   2   0.17     4.30      0.391          0.091    (  0.352)        0.300
   3   0.25     5.00      0.455          0.091    (  0.410)        0.364
   4   0.33     5.00      0.455          0.091    (  0.410)        0.364
   5   0.42     5.80      0.528          0.091    (  0.475)        0.437
   6   0.50     6.50      0.592          0.091    (  0.532)        0.501
   7   0.58     7.40      0.674          0.091    (  0.606)        0.583
   8   0.67     8.60      0.783          0.091    (  0.704)        0.692
   9   0.75    12.30      1.120          0.091    (  1.008)        1.029
  10   0.83    29.10      2.649          0.091    (  2.384)        2.558
  11   0.92     6.80      0.619          0.091    (  0.557)        0.528
  12   1.00     5.00      0.455          0.091    (  0.410)        0.364
                (Loss Rate Not Used)
     Sum =     100.0                                 Sum =     8.0
        Flood volume = Effective rainfall      0.67(In)
         times area       8.8(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
        Total soil loss =      0.09(In)
        Total soil loss =     0.067(Ac.Ft)
        Total rainfall =      0.76(In)
        Flood volume =       21346.7 Cubic Feet
        Total soil loss =        2910.2 Cubic Feet
        ------------------------------------------------------------------
         Peak flow rate of this hydrograph =     14.009(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 0.0051 0.74
0+10 0.0189 2.01
0+15 0.0364 2.53
0+20 0.0567 2.96
0+25 0.0794 3.29
0+30 0.1059 3.84
0+35 0.1364 4.44
0+40 0.1721 5.18
0+45 0.2180 6.65
0+50 0.3018 12.17
0+55 0.3983 14.01
1+ 0 0.4450 6.79
1+ 5 0.4712 3.80
1+10 0.4818 1.53
1+15 0.4870 0.76
1+20 0.4893 0.34
1+25 0.4899 0.09
1+30 0.4901 0.02

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 08/07/25 File: 4100EX10A310.out

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

Program License Serial Number 6400

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

 English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
WESTERLY PARKING AREA
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.063 Hr.
Lag time = 3.78 Min.
25% of lag time = 0.95 Min.
40% of lag time = 1.51 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]
8.81	0.80	7.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.80	15.86

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
        8.810           93.00         0.000
 Total Area Entered =      8.81(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        132.225         28.626              2.542
    2   0.167        264.451         48.173              4.277
    3   0.250        396.676         12.339              1.096
    4   0.333        528.901          5.498              0.488
    5   0.417        661.127          3.009              0.267
    6   0.500        793.352          1.627              0.144
    7   0.583        925.578          0.728              0.065
                              Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------

 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     1.30      0.189          0.091    (  0.170)        0.098
    2   0.17     1.30      0.189          0.091    (  0.170)        0.098
    3   0.25     1.10      0.160          0.091    (  0.144)        0.069
    4   0.33     1.50      0.218          0.091    (  0.196)        0.127
    5   0.42     1.50      0.218          0.091    (  0.196)        0.127
    6   0.50     1.80      0.262          0.091    (  0.235)        0.171
    7   0.58     1.50      0.218          0.091    (  0.196)        0.127
    8   0.67     1.80      0.262          0.091    (  0.235)        0.171
    9   0.75     1.80      0.262          0.091    (  0.235)        0.171
   10   0.83     1.50      0.218          0.091    (  0.196)        0.127
   11   0.92     1.60      0.233          0.091    (  0.209)        0.142
   12   1.00     1.80      0.262          0.091    (  0.235)        0.171
   13   1.08     2.20      0.320          0.091    (  0.288)        0.229
   14   1.17     2.20      0.320          0.091    (  0.288)        0.229
   15   1.25     2.20      0.320          0.091    (  0.288)        0.229
   16   1.33     2.00      0.291          0.091    (  0.262)        0.200
   17   1.42     2.60      0.378          0.091    (  0.340)        0.287
   18   1.50     2.70      0.392          0.091    (  0.353)        0.301
   19   1.58     2.40      0.349          0.091    (  0.314)        0.258
   20   1.67     2.70      0.392          0.091    (  0.353)        0.301
   21   1.75     3.30      0.480          0.091    (  0.432)        0.389
   22   1.83     3.10      0.451          0.091    (  0.406)        0.360
   23   1.92     2.90      0.422          0.091    (  0.379)        0.331
   24   2.00     3.00      0.436          0.091    (  0.392)        0.345
   25   2.08     3.10      0.451          0.091    (  0.406)        0.360
   26   2.17     4.20      0.611          0.091    (  0.549)        0.520
   27   2.25     5.00      0.727          0.091    (  0.654)        0.636
   28   2.33     3.50      0.509          0.091    (  0.458)        0.418
   29   2.42     6.80      0.988          0.091    (  0.890)        0.897
   30   2.50     7.30      1.061          0.091    (  0.955)        0.970
   31   2.58     8.20      1.192          0.091    (  1.073)        1.101
```

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 32   2.67     5.90      0.858          0.091    (  0.772)        0.767
 33   2.75     2.00      0.291          0.091    (  0.262)        0.200
 34   2.83     1.80      0.262          0.091    (  0.235)        0.171
 35   2.92     1.80      0.262          0.091    (  0.235)        0.171
 36   3.00     0.60      0.087       (  0.091)       0.078        0.009
               (Loss Rate Not Used)
    Sum =     100.0                                   Sum =    11.3
       Flood volume = Effective rainfall      0.94(In)
        times area       8.8(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
       Total soil loss =      0.27(In)
       Total soil loss =     0.200(Ac.Ft)
       Total rainfall =      1.21(In)
       Flood volume =       30042.4 Cubic Feet
       Total soil loss =        8697.3 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      8.408(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       0.0017      0.25  Q         |         |         |         |
   0+10       0.0063      0.67  V Q       |         |         |         |
   0+15       0.0112      0.70  V Q       |         |         |         |
   0+20       0.0165      0.77  V  Q      |         |         |         |
   0+25       0.0235      1.02  |V  Q     |         |         |         |
   0+30       0.0317      1.19  |V  Q     |         |         |         |
   0+35       0.0406      1.29  | V  Q    |         |         |         |
   0+40       0.0494      1.28  | V  Q    |         |         |         |
   0+45       0.0593      1.44  |  V Q    |         |         |         |
   0+50       0.0688      1.37  |  V Q    |         |         |         |
   0+55       0.0773      1.24  |   Q     |         |         |         |
   1+ 0       0.0866      1.34  |    Q    |         |         |         |
   1+ 5       0.0976      1.61  |    VQ   |         |         |         |
   1+10       0.1106      1.89  |     VQ  |         |         |         |
   1+15       0.1241      1.96  |      Q  |         |         |         |
   1+20       0.1374      1.92  |      Q  |         |         |         |
   1+25       0.1514      2.04  |       Q |         |         |         |
   1+30       0.1682      2.43  |        Q|         |         |         |
   1+35       0.1852      2.47  |        QV         |         |         |
   1+40       0.2020      2.44  |        Q|V        |         |         |
   1+45       0.2215      2.83  |         |QV       |         |         |
   1+50       0.2433      3.17  |         | Q V     |         |         |
   1+55       0.2645      3.08  |         | Q  V    |         |         |
   2+ 0       0.2853      3.01  |         | Q   V   |         |         |
   2+ 5       0.3066      3.09  |         | Q    V  |         |         |
   2+10       0.3312      3.57  |         |   Q    V|         |         |
   2+15       0.3627      4.57  |         |       Q |V        |         |
   2+20       0.3950      4.69  |         |       Q | V       |         |
   2+25       0.4307      5.19  |         |         Q   V     |         |
   2+30       0.4809      7.29  |         |         |      V Q|         |
   2+35       0.5388      8.41  |         |         |         |V Q      |
   2+40       0.5967      8.40  |         |         |         |  QV     |
   2+45       0.6367      5.81  |         |         |  Q      |     V   |
   2+50       0.6579      3.08  |         | Q       |         |       V |
   2+55       0.6734      2.25  |        Q|         |         |        V|
   3+ 0       0.6835      1.46  |    Q    |         |         |        V|
   3+ 5       0.6872      0.54  | Q       |         |         |        V|
   3+10       0.6887      0.22  Q         |         |         |        V|
   3+15       0.6893      0.09  Q         |         |         |        V|
   3+20       0.6896      0.04  Q         |         |         |        V|
   3+25       0.6897      0.01  Q         |         |         |        V|
   3+30       0.6897      0.00  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 08/07/25 File: 4100EX10A610.out

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

Program License Serial Number 6400

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

English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
WESTERLY PARKING AREA
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.063 Hr.
Lag time = 3.78 Min.
25% of lag time = 0.95 Min.
40% of lag time = 1.51 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]
8.81	1.00	8.81

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	2.50	22.03

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
        8.810           93.00         0.000
 Total Area Entered =      8.81(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        132.225         28.626              2.542
    2   0.167        264.451         48.173              4.277
    3   0.250        396.676         12.339              1.096
    4   0.333        528.901          5.498              0.488
    5   0.417        661.127          3.009              0.267
    6   0.500        793.352          1.627              0.144
    7   0.583        925.578          0.728              0.065
                              Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------

 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     0.50      0.097       (  0.091)       0.087       0.010
   2   0.17     0.60      0.116          0.091    (  0.105)       0.025
   3   0.25     0.60      0.116          0.091    (  0.105)       0.025
   4   0.33     0.60      0.116          0.091    (  0.105)       0.025
   5   0.42     0.60      0.116          0.091    (  0.105)       0.025
   6   0.50     0.70      0.136          0.091    (  0.122)       0.045
   7   0.58     0.70      0.136          0.091    (  0.122)       0.045
   8   0.67     0.70      0.136          0.091    (  0.122)       0.045
   9   0.75     0.70      0.136          0.091    (  0.122)       0.045
  10   0.83     0.70      0.136          0.091    (  0.122)       0.045
  11   0.92     0.70      0.136          0.091    (  0.122)       0.045
  12   1.00     0.80      0.155          0.091    (  0.140)       0.064
  13   1.08     0.80      0.155          0.091    (  0.140)       0.064
  14   1.17     0.80      0.155          0.091    (  0.140)       0.064
  15   1.25     0.80      0.155          0.091    (  0.140)       0.064
  16   1.33     0.80      0.155          0.091    (  0.140)       0.064
  17   1.42     0.80      0.155          0.091    (  0.140)       0.064
  18   1.50     0.80      0.155          0.091    (  0.140)       0.064
  19   1.58     0.80      0.155          0.091    (  0.140)       0.064
  20   1.67     0.80      0.155          0.091    (  0.140)       0.064
  21   1.75     0.80      0.155          0.091    (  0.140)       0.064
  22   1.83     0.80      0.155          0.091    (  0.140)       0.064
  23   1.92     0.80      0.155          0.091    (  0.140)       0.064
  24   2.00     0.90      0.175          0.091    (  0.157)       0.084
  25   2.08     0.80      0.155          0.091    (  0.140)       0.064
  26   2.17     0.90      0.175          0.091    (  0.157)       0.084
  27   2.25     0.90      0.175          0.091    (  0.157)       0.084
  28   2.33     0.90      0.175          0.091    (  0.157)       0.084
  29   2.42     0.90      0.175          0.091    (  0.157)       0.084
  30   2.50     0.90      0.175          0.091    (  0.157)       0.084
  31   2.58     0.90      0.175          0.091    (  0.157)       0.084
```

```
32   2.67     0.90      0.175          0.091    (  0.157)        0.084
33   2.75     1.00      0.194          0.091    (  0.175)        0.103
34   2.83     1.00      0.194          0.091    (  0.175)        0.103
35   2.92     1.00      0.194          0.091    (  0.175)        0.103
36   3.00     1.00      0.194          0.091    (  0.175)        0.103
37   3.08     1.00      0.194          0.091    (  0.175)        0.103
38   3.17     1.10      0.213          0.091    (  0.192)        0.122
39   3.25     1.10      0.213          0.091    (  0.192)        0.122
40   3.33     1.10      0.213          0.091    (  0.192)        0.122
41   3.42     1.20      0.233          0.091    (  0.210)        0.142
42   3.50     1.30      0.252          0.091    (  0.227)        0.161
43   3.58     1.40      0.272          0.091    (  0.244)        0.181
44   3.67     1.40      0.272          0.091    (  0.244)        0.181
45   3.75     1.50      0.291          0.091    (  0.262)        0.200
46   3.83     1.50      0.291          0.091    (  0.262)        0.200
47   3.92     1.60      0.310          0.091    (  0.279)        0.219
48   4.00     1.60      0.310          0.091    (  0.279)        0.219
49   4.08     1.70      0.330          0.091    (  0.297)        0.239
50   4.17     1.80      0.349          0.091    (  0.314)        0.258
51   4.25     1.90      0.369          0.091    (  0.332)        0.278
52   4.33     2.00      0.388          0.091    (  0.349)        0.297
53   4.42     2.10      0.407          0.091    (  0.367)        0.316
54   4.50     2.10      0.407          0.091    (  0.367)        0.316
55   4.58     2.20      0.427          0.091    (  0.384)        0.336
56   4.67     2.30      0.446          0.091    (  0.402)        0.355
57   4.75     2.40      0.466          0.091    (  0.419)        0.375
58   4.83     2.40      0.466          0.091    (  0.419)        0.375
59   4.92     2.50      0.485          0.091    (  0.437)        0.394
60   5.00     2.60      0.505          0.091    (  0.454)        0.414
61   5.08     3.10      0.602          0.091    (  0.541)        0.511
62   5.17     3.60      0.699          0.091    (  0.629)        0.608
63   5.25     3.90      0.757          0.091    (  0.681)        0.666
64   5.33     4.20      0.815          0.091    (  0.733)        0.724
65   5.42     4.70      0.912          0.091    (  0.821)        0.821
66   5.50     5.60      1.087          0.091    (  0.978)        0.996
67   5.58     1.90      0.369          0.091    (  0.332)        0.278
68   5.67     0.90      0.175          0.091    (  0.157)        0.084
69   5.75     0.60      0.116          0.091    (  0.105)        0.025
70   5.83     0.50      0.097       (  0.091)       0.087        0.010
71   5.92     0.30      0.058       (  0.091)       0.052        0.006
72   6.00     0.20      0.039       (  0.091)       0.035        0.004
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    13.0
      Flood volume = Effective rainfall      1.08(In)
       times area       8.8(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.54(In)
      Total soil loss =     0.395(Ac.Ft)
      Total rainfall =      1.62(In)
      Flood volume =       34524.8 Cubic Feet
      Total soil loss =       17189.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.427(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       0.0002      0.02  Q         |         |         |         |
  0+10       0.0009      0.11  Q         |         |         |         |
  0+15       0.0022      0.18  Q         |         |         |         |
  0+20       0.0036      0.21  Q         |         |         |         |
  0+25       0.0051      0.22  Q         |         |         |         |
  0+30       0.0069      0.27  VQ        |         |         |         |
  0+35       0.0094      0.36  VQ        |         |         |         |
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0+40       0.0120      0.38  VQ        |         |         |         |
0+45       0.0147      0.39  VQ        |         |         |         |
0+50       0.0174      0.39  VQ        |         |         |         |
0+55       0.0202      0.40  |Q        |         |         |         |
1+ 0       0.0232      0.45  |Q        |         |         |         |
1+ 5       0.0269      0.53  |VQ       |         |         |         |
1+10       0.0307      0.55  |VQ       |         |         |         |
1+15       0.0346      0.56  |VQ       |         |         |         |
1+20       0.0385      0.57  |VQ       |         |         |         |
1+25       0.0424      0.57  | Q       |         |         |         |
1+30       0.0463      0.57  | Q       |         |         |         |
1+35       0.0502      0.57  | Q       |         |         |         |
1+40       0.0542      0.57  | Q       |         |         |         |
1+45       0.0581      0.57  | Q       |         |         |         |
1+50       0.0620      0.57  | QV      |         |         |         |
1+55       0.0660      0.57  | QV      |         |         |         |
2+ 0       0.0702      0.62  | QV      |         |         |         |
2+ 5       0.0747      0.65  | QV      |         |         |         |
2+10       0.0791      0.64  | QV      |         |         |         |
2+15       0.0841      0.71  | Q V     |         |         |         |
2+20       0.0891      0.73  | Q V     |         |         |         |
2+25       0.0942      0.74  | Q V     |         |         |         |
2+30       0.0993      0.74  | Q  V    |         |         |         |
2+35       0.1044      0.74  | Q  V    |         |         |         |
2+40       0.1095      0.74  | Q  V    |         |         |         |
2+45       0.1149      0.79  |  Q V    |         |         |         |
2+50       0.1210      0.88  |  Q  V   |         |         |         |
2+55       0.1271      0.90  |  Q  V   |         |         |         |
3+ 0       0.1334      0.91  |  Q  V   |         |         |         |
3+ 5       0.1397      0.91  |  Q   V  |         |         |         |
3+10       0.1463      0.96  |  Q   V  |         |         |         |
3+15       0.1535      1.05  |   Q  V  |         |         |         |
3+20       0.1609      1.07  |   Q   V |         |         |         |
3+25       0.1686      1.13  |   Q   V |         |         |         |
3+30       0.1774      1.27  |    Q  V |         |         |         |
3+35       0.1871      1.42  |    Q   V|         |         |         |
3+40       0.1977      1.54  |     Q  V|         |         |         |
3+45       0.2089      1.62  |     Q   V         |         |         |
3+50       0.2208      1.72  |     Q   |V        |         |         |
3+55       0.2332      1.80  |      Q  |V        |         |         |
4+ 0       0.2463      1.90  |      Q  | V       |         |         |
4+ 5       0.2599      1.98  |      Q  |  V      |         |         |
4+10       0.2745      2.12  |       Q |  V      |         |         |
4+15       0.2902      2.28  |        Q|   V     |         |         |
4+20       0.3070      2.45  |        Q|    V    |         |         |
4+25       0.3251      2.62  |         Q     V   |         |         |
4+30       0.3439      2.74  |         Q      V  |         |         |
4+35       0.3634      2.83  |         |Q      V |         |         |
4+40       0.3839      2.98  |         |Q       V|         |         |
4+45       0.4055      3.14  |         | Q       V         |         |
4+50       0.4280      3.26  |         |  Q      |V        |         |
4+55       0.4510      3.35  |         |  Q      | V       |         |
5+ 0       0.4751      3.50  |         |  Q      |  V      |         |
5+ 5       0.5017      3.86  |         |    Q    |    V    |         |
5+10       0.5330      4.55  |         |       Q |     V   |         |
5+15       0.5691      5.24  |         |         Q       V |         |
5+20       0.6090      5.80  |         |         |  Q      V         |
5+25       0.6534      6.43  |         |         |    Q    | V       |
5+30       0.7045      7.43  |         |         |       Q|    V    |
5+35       0.7494      6.52  |         |         |     Q   |      V  |
5+40       0.7716      3.22  |         | Q       |         |       V |
5+45       0.7825      1.58  |     Q   |         |         |        V|
5+50       0.7879      0.79  |  Q      |         |         |        V|
5+55       0.7907      0.40  |Q        |         |         |        V|
6+ 0       0.7919      0.18  Q         |         |         |        V|
6+ 5       0.7924      0.06  Q         |         |         |        V|
6+10       0.7925      0.02  Q         |         |         |        V|
6+15       0.7926      0.01  Q         |         |         |        V|
6+20       0.7926      0.00  Q         |         |         |        V|
```

```
    6+25       0.7926      0.00  Q        |        |        |       V|
    6+30       0.7926      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 08/07/25 File: 4100EX10A2410.out

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

Program License Serial Number 6400

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

 English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
WESTERLY PARKING AREA
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.063 Hr.
Lag time = 3.78 Min.
25% of lag time = 0.95 Min.
40% of lag time = 1.51 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]
8.81	1.60	14.10

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	4.00	35.24

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
        8.810           93.00         0.000
 Total Area Entered =      8.81(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        132.225         28.626              2.542
    2   0.167        264.451         48.173              4.277
    3   0.250        396.676         12.339              1.096
    4   0.333        528.901          5.498              0.488
    5   0.417        661.127          3.009              0.267
    6   0.500        793.352          1.627              0.144
    7   0.583        925.578          0.728              0.065
                              Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------
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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	0.021	(0.161)	0.019	0.002
2	0.17	0.07	0.021	(0.161)	0.019	0.002
3	0.25	0.07	0.021	(0.160)	0.019	0.002
4	0.33	0.10	0.031	(0.159)	0.028	0.003
5	0.42	0.10	0.031	(0.159)	0.028	0.003
6	0.50	0.10	0.031	(0.158)	0.028	0.003
7	0.58	0.10	0.031	(0.158)	0.028	0.003
8	0.67	0.10	0.031	(0.157)	0.028	0.003
9	0.75	0.10	0.031	(0.156)	0.028	0.003
10	0.83	0.13	0.041	(0.156)	0.037	0.004
11	0.92	0.13	0.041	(0.155)	0.037	0.004
12	1.00	0.13	0.041	(0.155)	0.037	0.004
13	1.08	0.10	0.031	(0.154)	0.028	0.003
14	1.17	0.10	0.031	(0.153)	0.028	0.003
15	1.25	0.10	0.031	(0.153)	0.028	0.003
16	1.33	0.10	0.031	(0.152)	0.028	0.003
17	1.42	0.10	0.031	(0.151)	0.028	0.003
18	1.50	0.10	0.031	(0.151)	0.028	0.003
19	1.58	0.10	0.031	(0.150)	0.028	0.003
20	1.67	0.10	0.031	(0.150)	0.028	0.003
21	1.75	0.10	0.031	(0.149)	0.028	0.003
22	1.83	0.13	0.041	(0.148)	0.037	0.004
23	1.92	0.13	0.041	(0.148)	0.037	0.004
24	2.00	0.13	0.041	(0.147)	0.037	0.004
25	2.08	0.13	0.041	(0.147)	0.037	0.004
26	2.17	0.13	0.041	(0.146)	0.037	0.004
27	2.25	0.13	0.041	(0.145)	0.037	0.004
28	2.33	0.13	0.041	(0.145)	0.037	0.004
29	2.42	0.13	0.041	(0.144)	0.037	0.004
30	2.50	0.13	0.041	(0.144)	0.037	0.004
31	2.58	0.17	0.052	(0.143)	0.047	0.005

32	2.67	0.17	0.052	(	0.143)	0.047		0.005
33	2.75	0.17	0.052	(	0.142)	0.047		0.005
34	2.83	0.17	0.052	(	0.141)	0.047		0.005
35	2.92	0.17	0.052	(	0.141)	0.047		0.005
36	3.00	0.17	0.052	(	0.140)	0.047		0.005
37	3.08	0.17	0.052	(	0.140)	0.047		0.005
38	3.17	0.17	0.052	(	0.139)	0.047		0.005
39	3.25	0.17	0.052	(	0.138)	0.047		0.005
40	3.33	0.17	0.052	(	0.138)	0.047		0.005
41	3.42	0.17	0.052	(	0.137)	0.047		0.005
42	3.50	0.17	0.052	(	0.137)	0.047		0.005
43	3.58	0.17	0.052	(	0.136)	0.047		0.005
44	3.67	0.17	0.052	(	0.136)	0.047		0.005
45	3.75	0.17	0.052	(	0.135)	0.047		0.005
46	3.83	0.20	0.062	(	0.134)	0.056		0.006
47	3.92	0.20	0.062	(	0.134)	0.056		0.006
48	4.00	0.20	0.062	(	0.133)	0.056		0.006
49	4.08	0.20	0.062	(	0.133)	0.056		0.006
50	4.17	0.20	0.062	(	0.132)	0.056		0.006
51	4.25	0.20	0.062	(	0.132)	0.056		0.006
52	4.33	0.23	0.072	(	0.131)	0.065		0.007
53	4.42	0.23	0.072	(	0.131)	0.065		0.007
54	4.50	0.23	0.072	(	0.130)	0.065		0.007
55	4.58	0.23	0.072	(	0.129)	0.065		0.007
56	4.67	0.23	0.072	(	0.129)	0.065		0.007
57	4.75	0.23	0.072	(	0.128)	0.065		0.007
58	4.83	0.27	0.083	(	0.128)	0.075		0.008
59	4.92	0.27	0.083	(	0.127)	0.075		0.008
60	5.00	0.27	0.083	(	0.127)	0.075		0.008
61	5.08	0.20	0.062	(	0.126)	0.056		0.006
62	5.17	0.20	0.062	(	0.126)	0.056		0.006
63	5.25	0.20	0.062	(	0.125)	0.056		0.006
64	5.33	0.23	0.072	(	0.124)	0.065		0.007
65	5.42	0.23	0.072	(	0.124)	0.065		0.007
66	5.50	0.23	0.072	(	0.123)	0.065		0.007
67	5.58	0.27	0.083	(	0.123)	0.075		0.008
68	5.67	0.27	0.083	(	0.122)	0.075		0.008
69	5.75	0.27	0.083	(	0.122)	0.075		0.008
70	5.83	0.27	0.083	(	0.121)	0.075		0.008
71	5.92	0.27	0.083	(	0.121)	0.075		0.008
72	6.00	0.27	0.083	(	0.120)	0.075		0.008
73	6.08	0.30	0.093	(	0.120)	0.084		0.009
74	6.17	0.30	0.093	(	0.119)	0.084		0.009
75	6.25	0.30	0.093	(	0.119)	0.084		0.009
76	6.33	0.30	0.093	(	0.118)	0.084		0.009
77	6.42	0.30	0.093	(	0.117)	0.084		0.009
78	6.50	0.30	0.093	(	0.117)	0.084		0.009
79	6.58	0.33	0.103	(	0.116)	0.093		0.010
80	6.67	0.33	0.103	(	0.116)	0.093		0.010
81	6.75	0.33	0.103	(	0.115)	0.093		0.010
82	6.83	0.33	0.103	(	0.115)	0.093		0.010
83	6.92	0.33	0.103	(	0.114)	0.093		0.010
84	7.00	0.33	0.103	(	0.114)	0.093		0.010
85	7.08	0.33	0.103	(	0.113)	0.093		0.010
86	7.17	0.33	0.103	(	0.113)	0.093		0.010
87	7.25	0.33	0.103	(	0.112)	0.093		0.010
88	7.33	0.37	0.114	(	0.112)	0.102		0.011
89	7.42	0.37	0.114	(	0.111)	0.102		0.011
90	7.50	0.37	0.114	(	0.111)	0.102		0.011
91	7.58	0.40	0.124		0.110	(	0.112)	0.014
92	7.67	0.40	0.124		0.110	(	0.112)	0.014
93	7.75	0.40	0.124		0.109	(	0.112)	0.015
94	7.83	0.43	0.135		0.109	(	0.121)	0.026
95	7.92	0.43	0.135		0.108	(	0.121)	0.026
96	8.00	0.43	0.135		0.108	(	0.121)	0.027
97	8.08	0.50	0.155		0.107	(	0.140)	0.048
98	8.17	0.50	0.155		0.107	(	0.140)	0.049
99	8.25	0.50	0.155		0.106	(	0.140)	0.049
100	8.33	0.50	0.155		0.106	(	0.140)	0.050

101	8.42	0.50	0.155	0.105	(	0.140)	0.050
102	8.50	0.50	0.155	0.105	(	0.140)	0.051
103	8.58	0.53	0.166	0.104	(	0.149)	0.061
104	8.67	0.53	0.166	0.104	(	0.149)	0.062
105	8.75	0.53	0.166	0.103	(	0.149)	0.062
106	8.83	0.57	0.176	0.103	(	0.158)	0.073
107	8.92	0.57	0.176	0.102	(	0.158)	0.074
108	9.00	0.57	0.176	0.102	(	0.158)	0.074
109	9.08	0.63	0.197	0.101	(	0.177)	0.095
110	9.17	0.63	0.197	0.101	(	0.177)	0.096
111	9.25	0.63	0.197	0.100	(	0.177)	0.096
112	9.33	0.67	0.207	0.100	(	0.186)	0.107
113	9.42	0.67	0.207	0.099	(	0.186)	0.108
114	9.50	0.67	0.207	0.099	(	0.186)	0.108
115	9.58	0.70	0.217	0.098	(	0.196)	0.119
116	9.67	0.70	0.217	0.098	(	0.196)	0.119
117	9.75	0.70	0.217	0.097	(	0.196)	0.120
118	9.83	0.73	0.228	0.097	(	0.205)	0.131
119	9.92	0.73	0.228	0.097	(	0.205)	0.131
120	10.00	0.73	0.228	0.096	(	0.205)	0.132
121	10.08	0.50	0.155	0.096	(	0.140)	0.060
122	10.17	0.50	0.155	0.095	(	0.140)	0.060
123	10.25	0.50	0.155	0.095	(	0.140)	0.061
124	10.33	0.50	0.155	0.094	(	0.140)	0.061
125	10.42	0.50	0.155	0.094	(	0.140)	0.061
126	10.50	0.50	0.155	0.093	(	0.140)	0.062
127	10.58	0.67	0.207	0.093	(	0.186)	0.114
128	10.67	0.67	0.207	0.092	(	0.186)	0.115
129	10.75	0.67	0.207	0.092	(	0.186)	0.115
130	10.83	0.67	0.207	0.092	(	0.186)	0.115
131	10.92	0.67	0.207	0.091	(	0.186)	0.116
132	11.00	0.67	0.207	0.091	(	0.186)	0.116
133	11.08	0.63	0.197	0.090	(	0.177)	0.106
134	11.17	0.63	0.197	0.090	(	0.177)	0.107
135	11.25	0.63	0.197	0.089	(	0.177)	0.107
136	11.33	0.63	0.197	0.089	(	0.177)	0.108
137	11.42	0.63	0.197	0.088	(	0.177)	0.108
138	11.50	0.63	0.197	0.088	(	0.177)	0.109
139	11.58	0.57	0.176	0.088	(	0.158)	0.088
140	11.67	0.57	0.176	0.087	(	0.158)	0.089
141	11.75	0.57	0.176	0.087	(	0.158)	0.089
142	11.83	0.60	0.186	0.086	(	0.168)	0.100
143	11.92	0.60	0.186	0.086	(	0.168)	0.100
144	12.00	0.60	0.186	0.085	(	0.168)	0.101
145	12.08	0.83	0.259	0.085	(	0.233)	0.174
146	12.17	0.83	0.259	0.085	(	0.233)	0.174
147	12.25	0.83	0.259	0.084	(	0.233)	0.175
148	12.33	0.87	0.269	0.084	(	0.242)	0.185
149	12.42	0.87	0.269	0.083	(	0.242)	0.186
150	12.50	0.87	0.269	0.083	(	0.242)	0.186
151	12.58	0.93	0.290	0.082	(	0.261)	0.207
152	12.67	0.93	0.290	0.082	(	0.261)	0.208
153	12.75	0.93	0.290	0.082	(	0.261)	0.208
154	12.83	0.97	0.300	0.081	(	0.270)	0.219
155	12.92	0.97	0.300	0.081	(	0.270)	0.219
156	13.00	0.97	0.300	0.080	(	0.270)	0.220
157	13.08	1.13	0.352	0.080	(	0.317)	0.272
158	13.17	1.13	0.352	0.080	(	0.317)	0.272
159	13.25	1.13	0.352	0.079	(	0.317)	0.273
160	13.33	1.13	0.352	0.079	(	0.317)	0.273
161	13.42	1.13	0.352	0.078	(	0.317)	0.274
162	13.50	1.13	0.352	0.078	(	0.317)	0.274
163	13.58	0.77	0.238	0.078	(	0.214)	0.160
164	13.67	0.77	0.238	0.077	(	0.214)	0.161
165	13.75	0.77	0.238	0.077	(	0.214)	0.161
166	13.83	0.77	0.238	0.076	(	0.214)	0.162
167	13.92	0.77	0.238	0.076	(	0.214)	0.162
168	14.00	0.77	0.238	0.076	(	0.214)	0.162
169	14.08	0.90	0.279	0.075	(	0.251)	0.204

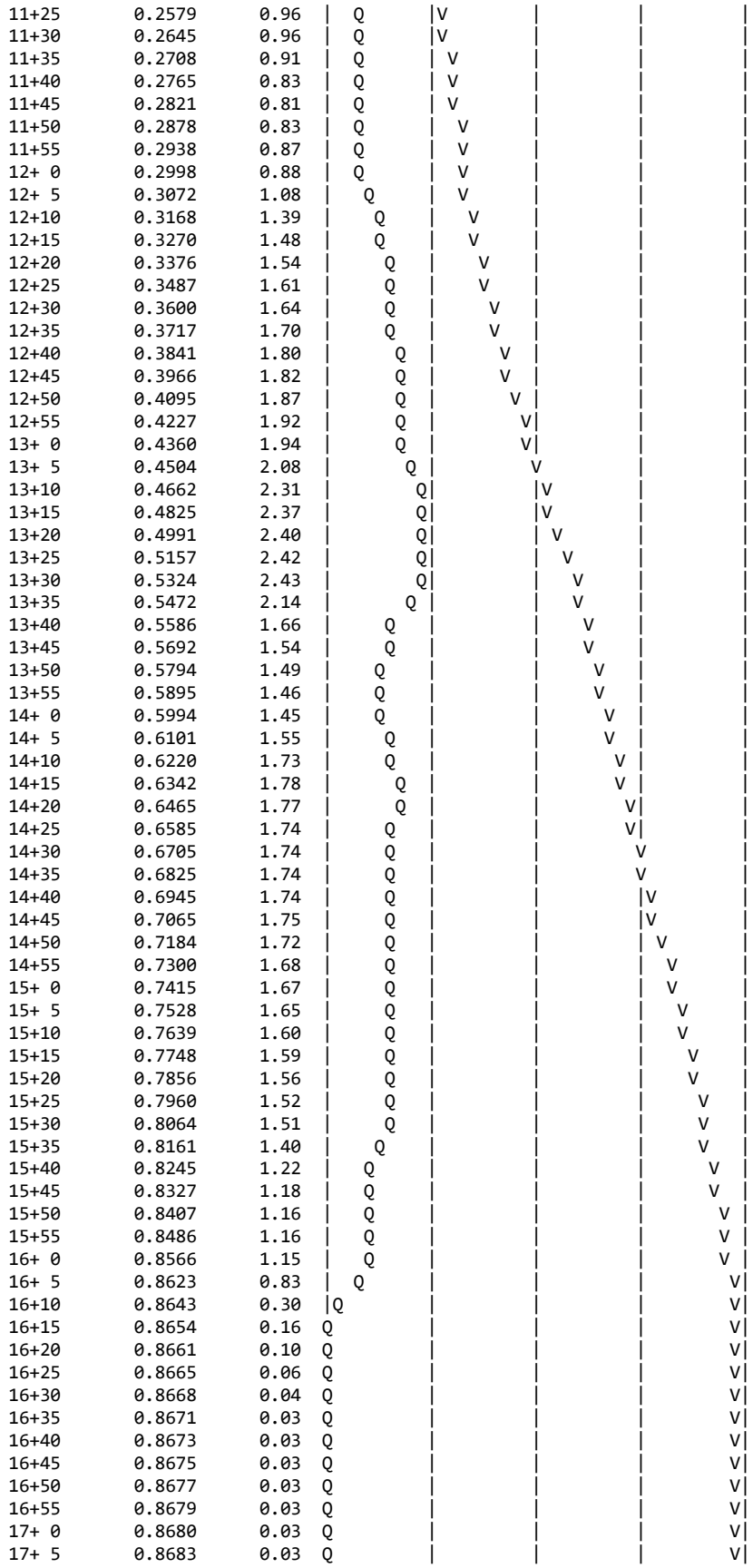
170	14.17	0.90	0.279		0.075	(0.251)		0.205
171	14.25	0.90	0.279		0.074	(0.251)		0.205
172	14.33	0.87	0.269		0.074	(0.242)		0.195
173	14.42	0.87	0.269		0.074	(0.242)		0.195
174	14.50	0.87	0.269		0.073	(0.242)		0.196
175	14.58	0.87	0.269		0.073	(0.242)		0.196
176	14.67	0.87	0.269		0.073	(0.242)		0.197
177	14.75	0.87	0.269		0.072	(0.242)		0.197
178	14.83	0.83	0.259		0.072	(0.233)		0.187
179	14.92	0.83	0.259		0.071	(0.233)		0.187
180	15.00	0.83	0.259		0.071	(0.233)		0.188
181	15.08	0.80	0.248		0.071	(0.224)		0.178
182	15.17	0.80	0.248		0.070	(0.224)		0.178
183	15.25	0.80	0.248		0.070	(0.224)		0.178
184	15.33	0.77	0.238		0.070	(0.214)		0.168
185	15.42	0.77	0.238		0.069	(0.214)		0.169
186	15.50	0.77	0.238		0.069	(0.214)		0.169
187	15.58	0.63	0.197		0.069	(0.177)		0.128
188	15.67	0.63	0.197		0.068	(0.177)		0.128
189	15.75	0.63	0.197		0.068	(0.177)		0.129
190	15.83	0.63	0.197		0.068	(0.177)		0.129
191	15.92	0.63	0.197		0.067	(0.177)		0.129
192	16.00	0.63	0.197		0.067	(0.177)		0.130
193	16.08	0.13	0.041	(0.066)		0.037		0.004
194	16.17	0.13	0.041	(0.066)		0.037		0.004
195	16.25	0.13	0.041	(0.066)		0.037		0.004
196	16.33	0.13	0.041	(0.065)		0.037		0.004
197	16.42	0.13	0.041	(0.065)		0.037		0.004
198	16.50	0.13	0.041	(0.065)		0.037		0.004
199	16.58	0.10	0.031	(0.064)		0.028		0.003
200	16.67	0.10	0.031	(0.064)		0.028		0.003
201	16.75	0.10	0.031	(0.064)		0.028		0.003
202	16.83	0.10	0.031	(0.063)		0.028		0.003
203	16.92	0.10	0.031	(0.063)		0.028		0.003
204	17.00	0.10	0.031	(0.063)		0.028		0.003
205	17.08	0.17	0.052	(0.063)		0.047		0.005
206	17.17	0.17	0.052	(0.062)		0.047		0.005
207	17.25	0.17	0.052	(0.062)		0.047		0.005
208	17.33	0.17	0.052	(0.062)		0.047		0.005
209	17.42	0.17	0.052	(0.061)		0.047		0.005
210	17.50	0.17	0.052	(0.061)		0.047		0.005
211	17.58	0.17	0.052	(0.061)		0.047		0.005
212	17.67	0.17	0.052	(0.060)		0.047		0.005
213	17.75	0.17	0.052	(0.060)		0.047		0.005
214	17.83	0.13	0.041	(0.060)		0.037		0.004
215	17.92	0.13	0.041	(0.059)		0.037		0.004
216	18.00	0.13	0.041	(0.059)		0.037		0.004
217	18.08	0.13	0.041	(0.059)		0.037		0.004
218	18.17	0.13	0.041	(0.059)		0.037		0.004
219	18.25	0.13	0.041	(0.058)		0.037		0.004
220	18.33	0.13	0.041	(0.058)		0.037		0.004
221	18.42	0.13	0.041	(0.058)		0.037		0.004
222	18.50	0.13	0.041	(0.057)		0.037		0.004
223	18.58	0.10	0.031	(0.057)		0.028		0.003
224	18.67	0.10	0.031	(0.057)		0.028		0.003
225	18.75	0.10	0.031	(0.057)		0.028		0.003
226	18.83	0.07	0.021	(0.056)		0.019		0.002
227	18.92	0.07	0.021	(0.056)		0.019		0.002
228	19.00	0.07	0.021	(0.056)		0.019		0.002
229	19.08	0.10	0.031	(0.056)		0.028		0.003
230	19.17	0.10	0.031	(0.055)		0.028		0.003
231	19.25	0.10	0.031	(0.055)		0.028		0.003
232	19.33	0.13	0.041	(0.055)		0.037		0.004
233	19.42	0.13	0.041	(0.055)		0.037		0.004
234	19.50	0.13	0.041	(0.054)		0.037		0.004
235	19.58	0.10	0.031	(0.054)		0.028		0.003
236	19.67	0.10	0.031	(0.054)		0.028		0.003
237	19.75	0.10	0.031	(0.054)		0.028		0.003
238	19.83	0.07	0.021	(0.053)		0.019		0.002

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239  19.92     0.07      0.021       (  0.053)       0.019        0.002
240  20.00     0.07      0.021       (  0.053)       0.019        0.002
241  20.08     0.10      0.031       (  0.053)       0.028        0.003
242  20.17     0.10      0.031       (  0.052)       0.028        0.003
243  20.25     0.10      0.031       (  0.052)       0.028        0.003
244  20.33     0.10      0.031       (  0.052)       0.028        0.003
245  20.42     0.10      0.031       (  0.052)       0.028        0.003
246  20.50     0.10      0.031       (  0.051)       0.028        0.003
247  20.58     0.10      0.031       (  0.051)       0.028        0.003
248  20.67     0.10      0.031       (  0.051)       0.028        0.003
249  20.75     0.10      0.031       (  0.051)       0.028        0.003
250  20.83     0.07      0.021       (  0.051)       0.019        0.002
251  20.92     0.07      0.021       (  0.050)       0.019        0.002
252  21.00     0.07      0.021       (  0.050)       0.019        0.002
253  21.08     0.10      0.031       (  0.050)       0.028        0.003
254  21.17     0.10      0.031       (  0.050)       0.028        0.003
255  21.25     0.10      0.031       (  0.050)       0.028        0.003
256  21.33     0.07      0.021       (  0.049)       0.019        0.002
257  21.42     0.07      0.021       (  0.049)       0.019        0.002
258  21.50     0.07      0.021       (  0.049)       0.019        0.002
259  21.58     0.10      0.031       (  0.049)       0.028        0.003
260  21.67     0.10      0.031       (  0.049)       0.028        0.003
261  21.75     0.10      0.031       (  0.049)       0.028        0.003
262  21.83     0.07      0.021       (  0.048)       0.019        0.002
263  21.92     0.07      0.021       (  0.048)       0.019        0.002
264  22.00     0.07      0.021       (  0.048)       0.019        0.002
265  22.08     0.10      0.031       (  0.048)       0.028        0.003
266  22.17     0.10      0.031       (  0.048)       0.028        0.003
267  22.25     0.10      0.031       (  0.048)       0.028        0.003
268  22.33     0.07      0.021       (  0.047)       0.019        0.002
269  22.42     0.07      0.021       (  0.047)       0.019        0.002
270  22.50     0.07      0.021       (  0.047)       0.019        0.002
271  22.58     0.07      0.021       (  0.047)       0.019        0.002
272  22.67     0.07      0.021       (  0.047)       0.019        0.002
273  22.75     0.07      0.021       (  0.047)       0.019        0.002
274  22.83     0.07      0.021       (  0.047)       0.019        0.002
275  22.92     0.07      0.021       (  0.047)       0.019        0.002
276  23.00     0.07      0.021       (  0.046)       0.019        0.002
277  23.08     0.07      0.021       (  0.046)       0.019        0.002
278  23.17     0.07      0.021       (  0.046)       0.019        0.002
279  23.25     0.07      0.021       (  0.046)       0.019        0.002
280  23.33     0.07      0.021       (  0.046)       0.019        0.002
281  23.42     0.07      0.021       (  0.046)       0.019        0.002
282  23.50     0.07      0.021       (  0.046)       0.019        0.002
283  23.58     0.07      0.021       (  0.046)       0.019        0.002
284  23.67     0.07      0.021       (  0.046)       0.019        0.002
285  23.75     0.07      0.021       (  0.046)       0.019        0.002
286  23.83     0.07      0.021       (  0.046)       0.019        0.002
287  23.92     0.07      0.021       (  0.046)       0.019        0.002
288  24.00     0.07      0.021       (  0.046)       0.019        0.002
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    14.4
       Flood volume = Effective rainfall      1.20(In)
        times area       8.8(Ac.)/[(In)/(Ft.)] =       0.9(Ac.Ft)
       Total soil loss =      1.38(In)
       Total soil loss =     1.016(Ac.Ft)
       Total rainfall =      2.59(In)
       Flood volume =       38499.8 Cubic Feet
       Total soil loss =       44243.9 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.426(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	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.02	Q				
0+20	0.0004	0.02	Q				
0+25	0.0006	0.03	Q				
0+30	0.0007	0.03	Q				
0+35	0.0009	0.03	Q				
0+40	0.0011	0.03	Q				
0+45	0.0013	0.03	Q				
0+50	0.0015	0.03	Q				
0+55	0.0017	0.03	Q				
1+ 0	0.0020	0.04	Q				
1+ 5	0.0022	0.03	Q				
1+10	0.0024	0.03	Q				
1+15	0.0026	0.03	Q				
1+20	0.0028	0.03	Q				
1+25	0.0030	0.03	Q				
1+30	0.0032	0.03	Q				
1+35	0.0034	0.03	Q				
1+40	0.0036	0.03	Q				
1+45	0.0038	0.03	Q				
1+50	0.0040	0.03	Q				
1+55	0.0042	0.03	Q				
2+ 0	0.0045	0.04	Q				
2+ 5	0.0047	0.04	Q				
2+10	0.0050	0.04	Q				
2+15	0.0052	0.04	Q				
2+20	0.0055	0.04	Q				
2+25	0.0057	0.04	Q				
2+30	0.0060	0.04	Q				
2+35	0.0063	0.04	Q				
2+40	0.0066	0.04	Q				
2+45	0.0069	0.04	Q				
2+50	0.0072	0.05	Q				
2+55	0.0075	0.05	Q				
3+ 0	0.0078	0.05	Q				
3+ 5	0.0081	0.05	Q				
3+10	0.0084	0.05	Q				
3+15	0.0088	0.05	Q				
3+20	0.0091	0.05	Q				
3+25	0.0094	0.05	Q				
3+30	0.0097	0.05	Q				
3+35	0.0100	0.05	Q				
3+40	0.0103	0.05	Q				
3+45	0.0107	0.05	Q				
3+50	0.0110	0.05	Q				
3+55	0.0114	0.05	Q				
4+ 0	0.0117	0.05	Q				
4+ 5	0.0121	0.05	Q				
4+10	0.0125	0.05	Q				
4+15	0.0129	0.06	Q				
4+20	0.0133	0.06	Q				
4+25	0.0137	0.06	Q				
4+30	0.0141	0.06	Q				
4+35	0.0146	0.06	Q				
4+40	0.0150	0.06	Q				
4+45	0.0155	0.06	Q				
4+50	0.0159	0.07	Q				
4+55	0.0164	0.07	Q				
5+ 0	0.0169	0.07	Q				
5+ 5	0.0174	0.07	Q				
5+10	0.0178	0.06	Q				
5+15	0.0182	0.06	Q				
5+20	0.0186	0.06	Q				
5+25	0.0190	0.06	Q				
5+30	0.0194	0.06	Q				
5+35	0.0199	0.07	Q				

```
 5+40       0.0204      0.07  Q         |         |         |         |
 5+45       0.0209      0.07  Q         |         |         |         |
 5+50       0.0214      0.07  Q         |         |         |         |
 5+55       0.0219      0.07  Q         |         |         |         |
 6+ 0       0.0224      0.07  QV        |         |         |         |
 6+ 5       0.0229      0.08  QV        |         |         |         |
 6+10       0.0235      0.08  QV        |         |         |         |
 6+15       0.0241      0.08  QV        |         |         |         |
 6+20       0.0246      0.08  QV        |         |         |         |
 6+25       0.0252      0.08  QV        |         |         |         |
 6+30       0.0258      0.08  QV        |         |         |         |
 6+35       0.0263      0.09  QV        |         |         |         |
 6+40       0.0270      0.09  QV        |         |         |         |
 6+45       0.0276      0.09  QV        |         |         |         |
 6+50       0.0282      0.09  QV        |         |         |         |
 6+55       0.0288      0.09  QV        |         |         |         |
 7+ 0       0.0295      0.09  QV        |         |         |         |
 7+ 5       0.0301      0.09  QV        |         |         |         |
 7+10       0.0307      0.09  QV        |         |         |         |
 7+15       0.0314      0.09  QV        |         |         |         |
 7+20       0.0320      0.09  QV        |         |         |         |
 7+25       0.0327      0.10  QV        |         |         |         |
 7+30       0.0334      0.10  QV        |         |         |         |
 7+35       0.0341      0.11  QV        |         |         |         |
 7+40       0.0350      0.12  QV        |         |         |         |
 7+45       0.0358      0.13  QV        |         |         |         |
 7+50       0.0369      0.16  QV        |         |         |         |
 7+55       0.0384      0.21  QV        |         |         |         |
 8+ 0       0.0399      0.22  QV        |         |         |         |
 8+ 5       0.0419      0.29  |Q        |         |         |         |
 8+10       0.0445      0.38  |QV       |         |         |         |
 8+15       0.0473      0.41  |QV       |         |         |         |
 8+20       0.0502      0.43  |QV       |         |         |         |
 8+25       0.0532      0.44  |QV       |         |         |         |
 8+30       0.0563      0.44  |QV       |         |         |         |
 8+35       0.0595      0.47  |QV       |         |         |         |
 8+40       0.0632      0.52  | Q       |         |         |         |
 8+45       0.0669      0.54  | QV      |         |         |         |
 8+50       0.0708      0.57  | QV      |         |         |         |
 8+55       0.0751      0.63  | QV      |         |         |         |
 9+ 0       0.0796      0.64  | QV      |         |         |         |
 9+ 5       0.0844      0.71  | QV      |         |         |         |
 9+10       0.0899      0.80  |  QV     |         |         |         |
 9+15       0.0957      0.83  |  QV     |         |         |         |
 9+20       0.1017      0.87  |  QV     |         |         |         |
 9+25       0.1080      0.93  |  QV     |         |         |         |
 9+30       0.1145      0.94  |  Q V    |         |         |         |
 9+35       0.1213      0.98  |  Q V    |         |         |         |
 9+40       0.1284      1.03  |   QV    |         |         |         |
 9+45       0.1356      1.05  |   Q V   |         |         |         |
 9+50       0.1431      1.09  |   Q V   |         |         |         |
 9+55       0.1509      1.14  |   Q V   |         |         |         |
10+ 0       0.1589      1.15  |   Q  V  |         |         |         |
10+ 5       0.1656      0.98  |  Q   V  |         |         |         |
10+10       0.1703      0.68  | Q    V  |         |         |         |
10+15       0.1744      0.60  | Q    V  |         |         |         |
10+20       0.1784      0.57  | Q     V |         |         |         |
10+25       0.1822      0.56  | Q     V |         |         |         |
10+30       0.1860      0.55  | Q     V |         |         |         |
10+35       0.1907      0.68  | Q     V |         |         |         |
10+40       0.1969      0.91  |  Q    V |         |         |         |
10+45       0.2036      0.97  |  Q     V|         |         |         |
10+50       0.2104      1.00  |  Q     V|         |         |         |
10+55       0.2174      1.01  |   Q    V|         |         |         |
11+ 0       0.2245      1.03  |   Q     V         |         |         |
11+ 5       0.2314      1.01  |   Q     V         |         |         |
11+10       0.2381      0.97  |  Q      V         |         |         |
11+15       0.2447      0.96  |  Q      |V        |         |         |
11+20       0.2513      0.96  |  Q      |V        |         |         |
```



17+10	0.8686	0.04	Q	|	|	|	V|
17+15	0.8689	0.04	Q	|	|	|	V|
17+20	0.8692	0.04	Q	|	|	|	V|
17+25	0.8695	0.05	Q	|	|	|	V|
17+30	0.8698	0.05	Q	|	|	|	V|
17+35	0.8701	0.05	Q	|	|	|	V|
17+40	0.8704	0.05	Q	|	|	|	V|
17+45	0.8707	0.05	Q	|	|	|	V|
17+50	0.8710	0.04	Q	|	|	|	V|
17+55	0.8713	0.04	Q	|	|	|	V|
18+ 0	0.8716	0.04	Q	|	|	|	V|
18+ 5	0.8718	0.04	Q	|	|	|	V|
18+10	0.8721	0.04	Q	|	|	|	V|
18+15	0.8723	0.04	Q	|	|	|	V|
18+20	0.8726	0.04	Q	|	|	|	V|
18+25	0.8728	0.04	Q	|	|	|	V|
18+30	0.8731	0.04	Q	|	|	|	V|
18+35	0.8733	0.03	Q	|	|	|	V|
18+40	0.8735	0.03	Q	|	|	|	V|
18+45	0.8737	0.03	Q	|	|	|	V|
18+50	0.8739	0.03	Q	|	|	|	V|
18+55	0.8741	0.02	Q	|	|	|	V|
19+ 0	0.8742	0.02	Q	|	|	|	V|
19+ 5	0.8743	0.02	Q	|	|	|	V|
19+10	0.8745	0.03	Q	|	|	|	V|
19+15	0.8747	0.03	Q	|	|	|	V|
19+20	0.8749	0.03	Q	|	|	|	V|
19+25	0.8751	0.03	Q	|	|	|	V|
19+30	0.8754	0.04	Q	|	|	|	V|
19+35	0.8756	0.03	Q	|	|	|	V|
19+40	0.8758	0.03	Q	|	|	|	V|
19+45	0.8760	0.03	Q	|	|	|	V|
19+50	0.8762	0.03	Q	|	|	|	V|
19+55	0.8763	0.02	Q	|	|	|	V|
20+ 0	0.8765	0.02	Q	|	|	|	V|
20+ 5	0.8766	0.02	Q	|	|	|	V|
20+10	0.8768	0.03	Q	|	|	|	V|
20+15	0.8770	0.03	Q	|	|	|	V|
20+20	0.8772	0.03	Q	|	|	|	V|
20+25	0.8773	0.03	Q	|	|	|	V|
20+30	0.8775	0.03	Q	|	|	|	V|
20+35	0.8777	0.03	Q	|	|	|	V|
20+40	0.8779	0.03	Q	|	|	|	V|
20+45	0.8781	0.03	Q	|	|	|	V|
20+50	0.8783	0.02	Q	|	|	|	V|
20+55	0.8784	0.02	Q	|	|	|	V|
21+ 0	0.8786	0.02	Q	|	|	|	V|
21+ 5	0.8787	0.02	Q	|	|	|	V|
21+10	0.8789	0.03	Q	|	|	|	V|
21+15	0.8791	0.03	Q	|	|	|	V|
21+20	0.8792	0.02	Q	|	|	|	V|
21+25	0.8794	0.02	Q	|	|	|	V|
21+30	0.8795	0.02	Q	|	|	|	V|
21+35	0.8797	0.02	Q	|	|	|	V|
21+40	0.8798	0.03	Q	|	|	|	V|
21+45	0.8800	0.03	Q	|	|	|	V|
21+50	0.8802	0.02	Q	|	|	|	V|
21+55	0.8803	0.02	Q	|	|	|	V|
22+ 0	0.8805	0.02	Q	|	|	|	V|
22+ 5	0.8806	0.02	Q	|	|	|	V|
22+10	0.8808	0.03	Q	|	|	|	V|
22+15	0.8810	0.03	Q	|	|	|	V|
22+20	0.8811	0.02	Q	|	|	|	V|
22+25	0.8813	0.02	Q	|	|	|	V|
22+30	0.8814	0.02	Q	|	|	|	V|
22+35	0.8815	0.02	Q	|	|	|	V|
22+40	0.8817	0.02	Q	|	|	|	V|
22+45	0.8818	0.02	Q	|	|	|	V|
22+50	0.8819	0.02	Q	|	|	|	V|

```
   22+55       0.8820      0.02  Q        |         |         |        V|
   23+ 0       0.8822      0.02  Q        |         |         |        V|
   23+ 5       0.8823      0.02  Q        |         |         |        V|
   23+10       0.8824      0.02  Q        |         |         |        V|
   23+15       0.8826      0.02  Q        |         |         |        V|
   23+20       0.8827      0.02  Q        |         |         |        V|
   23+25       0.8828      0.02  Q        |         |         |        V|
   23+30       0.8829      0.02  Q        |         |         |        V|
   23+35       0.8831      0.02  Q        |         |         |        V|
   23+40       0.8832      0.02  Q        |         |         |        V|
   23+45       0.8833      0.02  Q        |         |         |        V|
   23+50       0.8834      0.02  Q        |         |         |        V|
   23+55       0.8836      0.02  Q        |         |         |        V|
   24+ 0       0.8837      0.02  Q        |         |         |        V|
   24+ 5       0.8838      0.01  Q        |         |         |        V|
   24+10       0.8838      0.00  Q        |         |         |        V|
   24+15       0.8838      0.00  Q        |         |         |        V|
   24+20       0.8838      0.00  Q        |         |         |        V|
   24+25       0.8838      0.00  Q        |         |         |        V|
   24+30       0.8838      0.00  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 08/07/25 File: 4100PR10A110.out

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

Program License Serial Number 6400

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

 English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
WESTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 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]
8.81	0.45	3.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.20	10.57

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.450(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 0.759(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.758(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          8.810           75.00         0.900
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5000
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        352.601         61.513              5.462
     2   0.167        705.202         34.395              3.054
     3   0.250       1057.803          4.092              0.363
                                 Sum = 100.000   Sum=       8.879
-------------------------------------------------------------------------


 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.382       (  0.058)       0.038        0.344
   2   0.17     4.30      0.391       (  0.058)       0.039        0.352
   3   0.25     5.00      0.455       (  0.058)       0.046        0.410
   4   0.33     5.00      0.455       (  0.058)       0.046        0.410
   5   0.42     5.80      0.528       (  0.058)       0.053        0.475
   6   0.50     6.50      0.592          0.058    (  0.059)        0.534
   7   0.58     7.40      0.674          0.058    (  0.067)        0.616
   8   0.67     8.60      0.783          0.058    (  0.078)        0.725
   9   0.75    12.30      1.120          0.058    (  0.112)        1.062
  10   0.83    29.10      2.649          0.058    (  0.265)        2.591
  11   0.92     6.80      0.619          0.058    (  0.062)        0.561
  12   1.00     5.00      0.455       (  0.058)       0.046        0.410
              (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     8.5
        Flood volume = Effective rainfall      0.71(In)
         times area       8.8(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
        Total soil loss =      0.05(In)
        Total soil loss =     0.037(Ac.Ft)
        Total rainfall =      0.76(In)
        Flood volume =       22625.6 Cubic Feet
        Total soil loss =        1631.3 Cubic Feet
        ---------------------------------------------------------------------
         Peak flow rate of this hydrograph =     17.667(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       0.0129      1.88  V  Q      |         |         |         |
    0+10       0.0334      2.98  | V  Q    |         |         |         |
    0+15       0.0571      3.44  |   V Q   |         |         |         |
    0+20       0.0820      3.62  |     VQ  |         |         |         |
    0+25       0.1096      4.00  |      QV |         |         |         |
    0+30       0.1407      4.52  |        QV         |         |         |
    0+35       0.1763      5.17  |         Q  V      |         |         |
    0+40       0.2179      6.04  |         | Q   V   |         |         |
    0+45       0.2747      8.24  |         |     Q   |V        |         |
    0+50       0.3963     17.67  |         |         |         V    Q    |
    0+55       0.4746     11.37  |         |         | Q       |     V   |
    1+ 0       0.5084      4.90  |        Q|         |         |        V|
    1+ 5       0.5184      1.46  | Q       |         |         |        V|
    1+10       0.5194      0.15  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 08/07/25 File: 4100PR10A310.out

++

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

Program License Serial Number 6400

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

English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
WESTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 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]
8.81	0.80	7.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.80	15.86

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
          8.810           75.00         0.900
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        352.601         61.513              5.462
     2   0.167        705.202         34.395              3.054
     3   0.250       1057.803          4.092              0.363
                                 Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------


 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     1.30      0.189       (  0.058)       0.019        0.170
   2   0.17     1.30      0.189       (  0.058)       0.019        0.170
   3   0.25     1.10      0.160       (  0.058)       0.016        0.144
   4   0.33     1.50      0.218       (  0.058)       0.022        0.196
   5   0.42     1.50      0.218       (  0.058)       0.022        0.196
   6   0.50     1.80      0.262       (  0.058)       0.026        0.235
   7   0.58     1.50      0.218       (  0.058)       0.022        0.196
   8   0.67     1.80      0.262       (  0.058)       0.026        0.235
   9   0.75     1.80      0.262       (  0.058)       0.026        0.235
  10   0.83     1.50      0.218       (  0.058)       0.022        0.196
  11   0.92     1.60      0.233       (  0.058)       0.023        0.209
  12   1.00     1.80      0.262       (  0.058)       0.026        0.235
  13   1.08     2.20      0.320       (  0.058)       0.032        0.288
  14   1.17     2.20      0.320       (  0.058)       0.032        0.288
  15   1.25     2.20      0.320       (  0.058)       0.032        0.288
  16   1.33     2.00      0.291       (  0.058)       0.029        0.262
  17   1.42     2.60      0.378       (  0.058)       0.038        0.340
  18   1.50     2.70      0.392       (  0.058)       0.039        0.353
  19   1.58     2.40      0.349       (  0.058)       0.035        0.314
  20   1.67     2.70      0.392       (  0.058)       0.039        0.353
  21   1.75     3.30      0.480       (  0.058)       0.048        0.432
  22   1.83     3.10      0.451       (  0.058)       0.045        0.406
  23   1.92     2.90      0.422       (  0.058)       0.042        0.379
  24   2.00     3.00      0.436       (  0.058)       0.044        0.392
  25   2.08     3.10      0.451       (  0.058)       0.045        0.406
  26   2.17     4.20      0.611          0.058    (  0.061)        0.553
  27   2.25     5.00      0.727          0.058    (  0.073)        0.669
  28   2.33     3.50      0.509       (  0.058)       0.051        0.458
  29   2.42     6.80      0.988          0.058    (  0.099)        0.931
  30   2.50     7.30      1.061          0.058    (  0.106)        1.004
  31   2.58     8.20      1.192          0.058    (  0.119)        1.134
  32   2.67     5.90      0.858          0.058    (  0.086)        0.800
  33   2.75     2.00      0.291       (  0.058)       0.029        0.262
  34   2.83     1.80      0.262       (  0.058)       0.026        0.235
  35   2.92     1.80      0.262       (  0.058)       0.026        0.235
```

```
36   3.00     0.60      0.087       (  0.058)       0.009        0.078
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    13.3
      Flood volume = Effective rainfall      1.11(In)
       times area       8.8(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.10(In)
      Total soil loss =     0.077(Ac.Ft)
      Total rainfall =      1.21(In)
      Flood volume =       35394.0 Cubic Feet
      Total soil loss =        3345.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      9.604(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       0.0064      0.93  V  Q      |         |         |         |
  0+10       0.0164      1.45  V    Q    |         |         |         |
  0+15       0.0258      1.37  |V   Q    |         |         |         |
  0+20       0.0366      1.57  |V    Q   |         |         |         |
  0+25       0.0485      1.72  | V   Q   |         |         |         |
  0+30       0.0620      1.96  |  V   Q  |         |         |         |
  0+35       0.0748      1.86  |  V   Q  |         |         |         |
  0+40       0.0884      1.97  |   V  Q  |         |         |         |
  0+45       0.1027      2.08  |    V  Q |         |         |         |
  0+50       0.1157      1.88  |    V Q  |         |         |         |
  0+55       0.1282      1.83  |     VQ  |         |         |         |
  1+ 0       0.1420      2.00  |     VQ  |         |         |         |
  1+ 5       0.1583      2.37  |      V Q|         |         |         |
  1+10       0.1758      2.54  |       V Q         |         |         |
  1+15       0.1934      2.56  |        VQ         |         |         |
  1+20       0.2100      2.41  |        QV         |         |         |
  1+25       0.2291      2.76  |         |Q        |         |         |
  1+30       0.2502      3.06  |         | Q       |         |         |
  1+35       0.2703      2.92  |         |Q V      |         |         |
  1+40       0.2910      3.02  |         | Q V     |         |         |
  1+45       0.3155      3.55  |         |   QV    |         |         |
  1+50       0.3407      3.66  |         |   Q V   |         |         |
  1+55       0.3646      3.47  |         |  Q   V  |         |         |
  2+ 0       0.3884      3.45  |         |  Q     V|         |         |
  2+ 5       0.4129      3.55  |         |   Q     V         |         |
  2+10       0.4432      4.40  |         |      Q  |V        |         |
  2+15       0.4810      5.49  |         |         |Q V      |         |
  2+20       0.5137      4.75  |         |       Q |    V    |         |
  2+25       0.5601      6.73  |         |         |     QV  |         |
  2+30       0.6186      8.49  |         |         |        V  Q       |
  2+35       0.6847      9.60  |         |         |         |  V    Q |
  2+40       0.7412      8.20  |         |         |         | Q   V   |
  2+45       0.7708      4.29  |         |      Q  |         |      V  |
  2+50       0.7871      2.38  |        Q|         |         |       V |
  2+55       0.8016      2.10  |       Q |         |         |        V|
  3+ 0       0.8101      1.23  |   Q     |         |         |        V|
  3+ 5       0.8123      0.33  |Q        |         |         |        V|
  3+10       0.8125      0.03  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 08/07/25 File: 4100PR10A610.out

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

Program License Serial Number 6400

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

 English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
WESTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 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]
8.81	1.00	8.81

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	2.50	22.03

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:
Area(Ac.)	Runoff Index	Impervious %

```
          8.810           75.00         0.900
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------

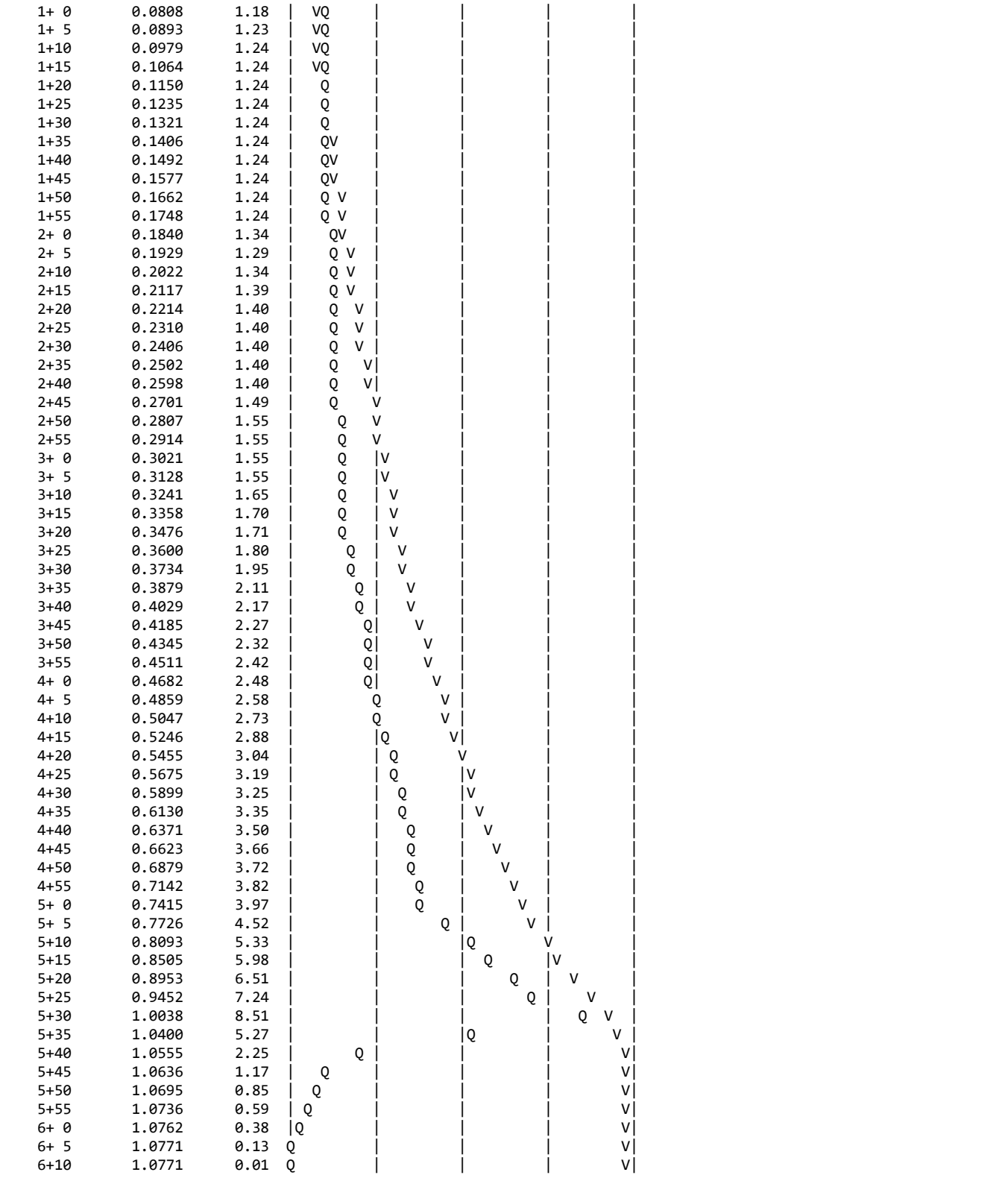
                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        352.601         61.513              5.462
     2   0.167        705.202         34.395              3.054
     3   0.250       1057.803          4.092              0.363
                                 Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------


 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     0.50      0.097       (  0.058)       0.010        0.087
   2   0.17     0.60      0.116       (  0.058)       0.012        0.105
   3   0.25     0.60      0.116       (  0.058)       0.012        0.105
   4   0.33     0.60      0.116       (  0.058)       0.012        0.105
   5   0.42     0.60      0.116       (  0.058)       0.012        0.105
   6   0.50     0.70      0.136       (  0.058)       0.014        0.122
   7   0.58     0.70      0.136       (  0.058)       0.014        0.122
   8   0.67     0.70      0.136       (  0.058)       0.014        0.122
   9   0.75     0.70      0.136       (  0.058)       0.014        0.122
  10   0.83     0.70      0.136       (  0.058)       0.014        0.122
  11   0.92     0.70      0.136       (  0.058)       0.014        0.122
  12   1.00     0.80      0.155       (  0.058)       0.016        0.140
  13   1.08     0.80      0.155       (  0.058)       0.016        0.140
  14   1.17     0.80      0.155       (  0.058)       0.016        0.140
  15   1.25     0.80      0.155       (  0.058)       0.016        0.140
  16   1.33     0.80      0.155       (  0.058)       0.016        0.140
  17   1.42     0.80      0.155       (  0.058)       0.016        0.140
  18   1.50     0.80      0.155       (  0.058)       0.016        0.140
  19   1.58     0.80      0.155       (  0.058)       0.016        0.140
  20   1.67     0.80      0.155       (  0.058)       0.016        0.140
  21   1.75     0.80      0.155       (  0.058)       0.016        0.140
  22   1.83     0.80      0.155       (  0.058)       0.016        0.140
  23   1.92     0.80      0.155       (  0.058)       0.016        0.140
  24   2.00     0.90      0.175       (  0.058)       0.017        0.157
  25   2.08     0.80      0.155       (  0.058)       0.016        0.140
  26   2.17     0.90      0.175       (  0.058)       0.017        0.157
  27   2.25     0.90      0.175       (  0.058)       0.017        0.157
  28   2.33     0.90      0.175       (  0.058)       0.017        0.157
  29   2.42     0.90      0.175       (  0.058)       0.017        0.157
  30   2.50     0.90      0.175       (  0.058)       0.017        0.157
  31   2.58     0.90      0.175       (  0.058)       0.017        0.157
  32   2.67     0.90      0.175       (  0.058)       0.017        0.157
  33   2.75     1.00      0.194       (  0.058)       0.019        0.175
  34   2.83     1.00      0.194       (  0.058)       0.019        0.175
  35   2.92     1.00      0.194       (  0.058)       0.019        0.175
```

```
36   3.00     1.00      0.194       (  0.058)       0.019        0.175
37   3.08     1.00      0.194       (  0.058)       0.019        0.175
38   3.17     1.10      0.213       (  0.058)       0.021        0.192
39   3.25     1.10      0.213       (  0.058)       0.021        0.192
40   3.33     1.10      0.213       (  0.058)       0.021        0.192
41   3.42     1.20      0.233       (  0.058)       0.023        0.210
42   3.50     1.30      0.252       (  0.058)       0.025        0.227
43   3.58     1.40      0.272       (  0.058)       0.027        0.244
44   3.67     1.40      0.272       (  0.058)       0.027        0.244
45   3.75     1.50      0.291       (  0.058)       0.029        0.262
46   3.83     1.50      0.291       (  0.058)       0.029        0.262
47   3.92     1.60      0.310       (  0.058)       0.031        0.279
48   4.00     1.60      0.310       (  0.058)       0.031        0.279
49   4.08     1.70      0.330       (  0.058)       0.033        0.297
50   4.17     1.80      0.349       (  0.058)       0.035        0.314
51   4.25     1.90      0.369       (  0.058)       0.037        0.332
52   4.33     2.00      0.388       (  0.058)       0.039        0.349
53   4.42     2.10      0.407       (  0.058)       0.041        0.367
54   4.50     2.10      0.407       (  0.058)       0.041        0.367
55   4.58     2.20      0.427       (  0.058)       0.043        0.384
56   4.67     2.30      0.446       (  0.058)       0.045        0.402
57   4.75     2.40      0.466       (  0.058)       0.047        0.419
58   4.83     2.40      0.466       (  0.058)       0.047        0.419
59   4.92     2.50      0.485       (  0.058)       0.049        0.437
60   5.00     2.60      0.505       (  0.058)       0.050        0.454
61   5.08     3.10      0.602          0.058    (  0.060)       0.544
62   5.17     3.60      0.699          0.058    (  0.070)       0.641
63   5.25     3.90      0.757          0.058    (  0.076)       0.699
64   5.33     4.20      0.815          0.058    (  0.081)       0.757
65   5.42     4.70      0.912          0.058    (  0.091)       0.854
66   5.50     5.60      1.087          0.058    (  0.109)       1.029
67   5.58     1.90      0.369       (  0.058)       0.037        0.332
68   5.67     0.90      0.175       (  0.058)       0.017        0.157
69   5.75     0.60      0.116       (  0.058)       0.012        0.105
70   5.83     0.50      0.097       (  0.058)       0.010        0.087
71   5.92     0.30      0.058       (  0.058)       0.006        0.052
72   6.00     0.20      0.039       (  0.058)       0.004        0.035
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    17.6
      Flood volume = Effective rainfall      1.47(In)
       times area       8.8(Ac.)/[(In)/(Ft.)] =       1.1(Ac.Ft)
      Total soil loss =      0.15(In)
      Total soil loss =     0.110(Ac.Ft)
      Total rainfall =      1.62(In)
      Flood volume =       46920.2 Cubic Feet
      Total soil loss =        4793.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.510(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       0.0033      0.48  VQ        |         |         |         |
  0+10       0.0091      0.84  V  Q      |         |         |         |
  0+15       0.0154      0.92  V  Q      |         |         |         |
  0+20       0.0218      0.93  V  Q      |         |         |         |
  0+25       0.0283      0.93  |V Q      |         |         |         |
  0+30       0.0353      1.03  |V  Q     |         |         |         |
  0+35       0.0428      1.08  |V  Q     |         |         |         |
  0+40       0.0502      1.09  |V  Q     |         |         |         |
  0+45       0.0577      1.09  | V Q     |         |         |         |
  0+50       0.0652      1.09  | V Q     |         |         |         |
  0+55       0.0727      1.09  | V Q     |         |         |         |
```


1+ 0 0.0808 1.18
1+ 5 0.0893 1.23
1+10 0.0979 1.24
1+15 0.1064 1.24
1+20 0.1150 1.24
1+25 0.1235 1.24
1+30 0.1321 1.24
1+35 0.1406 1.24
1+40 0.1492 1.24
1+45 0.1577 1.24
1+50 0.1662 1.24
1+55 0.1748 1.24
2+ 0 0.1840 1.34
2+ 5 0.1929 1.29
2+10 0.2022 1.34
2+15 0.2117 1.39
2+20 0.2214 1.40
2+25 0.2310 1.40
2+30 0.2406 1.40
2+35 0.2502 1.40
2+40 0.2598 1.40
2+45 0.2701 1.49
2+50 0.2807 1.55
2+55 0.2914 1.55
3+ 0 0.3021 1.55
3+ 5 0.3128 1.55
3+10 0.3241 1.65
3+15 0.3358 1.70
3+20 0.3476 1.71
3+25 0.3600 1.80
3+30 0.3734 1.95
3+35 0.3879 2.11
3+40 0.4029 2.17
3+45 0.4185 2.27
3+50 0.4345 2.32
3+55 0.4511 2.42
4+ 0 0.4682 2.48
4+ 5 0.4859 2.58
4+10 0.5047 2.73
4+15 0.5246 2.88
4+20 0.5455 3.04
4+25 0.5675 3.19
4+30 0.5899 3.25
4+35 0.6130 3.35
4+40 0.6371 3.50
4+45 0.6623 3.66
4+50 0.6879 3.72
4+55 0.7142 3.82
5+ 0 0.7415 3.97
5+ 5 0.7726 4.52
5+10 0.8093 5.33
5+15 0.8505 5.98
5+20 0.8953 6.51
5+25 0.9452 7.24
5+30 1.0038 8.51
5+35 1.0400 5.27
5+40 1.0555 2.25
5+45 1.0636 1.17
5+50 1.0695 0.85
5+55 1.0736 0.59
6+ 0 1.0762 0.38
6+ 5 1.0771 0.13
6+10 1.0771 0.01

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 08/07/25 File: 4100PR10A2410.out

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

Program License Serial Number 6400

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

 English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
WESTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 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]
8.81	1.60	14.10

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	4.00	35.24

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          8.810           75.00         0.900
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        352.601         61.513              5.462
     2   0.167        705.202         34.395              3.054
     3   0.250       1057.803          4.092              0.363
                                 Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------


 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   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     0.07      0.021       (  0.102)       0.002        0.019
   2   0.17     0.07      0.021       (  0.102)       0.002        0.019
   3   0.25     0.07      0.021       (  0.101)       0.002        0.019
   4   0.33     0.10      0.031       (  0.101)       0.003        0.028
   5   0.42     0.10      0.031       (  0.100)       0.003        0.028
   6   0.50     0.10      0.031       (  0.100)       0.003        0.028
   7   0.58     0.10      0.031       (  0.100)       0.003        0.028
   8   0.67     0.10      0.031       (  0.099)       0.003        0.028
   9   0.75     0.10      0.031       (  0.099)       0.003        0.028
  10   0.83     0.13      0.041       (  0.099)       0.004        0.037
  11   0.92     0.13      0.041       (  0.098)       0.004        0.037
  12   1.00     0.13      0.041       (  0.098)       0.004        0.037
  13   1.08     0.10      0.031       (  0.097)       0.003        0.028
  14   1.17     0.10      0.031       (  0.097)       0.003        0.028
  15   1.25     0.10      0.031       (  0.097)       0.003        0.028
  16   1.33     0.10      0.031       (  0.096)       0.003        0.028
  17   1.42     0.10      0.031       (  0.096)       0.003        0.028
  18   1.50     0.10      0.031       (  0.095)       0.003        0.028
  19   1.58     0.10      0.031       (  0.095)       0.003        0.028
  20   1.67     0.10      0.031       (  0.095)       0.003        0.028
  21   1.75     0.10      0.031       (  0.094)       0.003        0.028
  22   1.83     0.13      0.041       (  0.094)       0.004        0.037
  23   1.92     0.13      0.041       (  0.094)       0.004        0.037
  24   2.00     0.13      0.041       (  0.093)       0.004        0.037
  25   2.08     0.13      0.041       (  0.093)       0.004        0.037
  26   2.17     0.13      0.041       (  0.092)       0.004        0.037
  27   2.25     0.13      0.041       (  0.092)       0.004        0.037
  28   2.33     0.13      0.041       (  0.092)       0.004        0.037
  29   2.42     0.13      0.041       (  0.091)       0.004        0.037
  30   2.50     0.13      0.041       (  0.091)       0.004        0.037
  31   2.58     0.17      0.052       (  0.091)       0.005        0.047
  32   2.67     0.17      0.052       (  0.090)       0.005        0.047
  33   2.75     0.17      0.052       (  0.090)       0.005        0.047
  34   2.83     0.17      0.052       (  0.089)       0.005        0.047
  35   2.92     0.17      0.052       (  0.089)       0.005        0.047
```

36	3.00	0.17	0.052	(0.089)	0.005	0.047
37	3.08	0.17	0.052	(0.088)	0.005	0.047
38	3.17	0.17	0.052	(0.088)	0.005	0.047
39	3.25	0.17	0.052	(0.088)	0.005	0.047
40	3.33	0.17	0.052	(0.087)	0.005	0.047
41	3.42	0.17	0.052	(0.087)	0.005	0.047
42	3.50	0.17	0.052	(0.087)	0.005	0.047
43	3.58	0.17	0.052	(0.086)	0.005	0.047
44	3.67	0.17	0.052	(0.086)	0.005	0.047
45	3.75	0.17	0.052	(0.085)	0.005	0.047
46	3.83	0.20	0.062	(0.085)	0.006	0.056
47	3.92	0.20	0.062	(0.085)	0.006	0.056
48	4.00	0.20	0.062	(0.084)	0.006	0.056
49	4.08	0.20	0.062	(0.084)	0.006	0.056
50	4.17	0.20	0.062	(0.084)	0.006	0.056
51	4.25	0.20	0.062	(0.083)	0.006	0.056
52	4.33	0.23	0.072	(0.083)	0.007	0.065
53	4.42	0.23	0.072	(0.083)	0.007	0.065
54	4.50	0.23	0.072	(0.082)	0.007	0.065
55	4.58	0.23	0.072	(0.082)	0.007	0.065
56	4.67	0.23	0.072	(0.082)	0.007	0.065
57	4.75	0.23	0.072	(0.081)	0.007	0.065
58	4.83	0.27	0.083	(0.081)	0.008	0.075
59	4.92	0.27	0.083	(0.080)	0.008	0.075
60	5.00	0.27	0.083	(0.080)	0.008	0.075
61	5.08	0.20	0.062	(0.080)	0.006	0.056
62	5.17	0.20	0.062	(0.079)	0.006	0.056
63	5.25	0.20	0.062	(0.079)	0.006	0.056
64	5.33	0.23	0.072	(0.079)	0.007	0.065
65	5.42	0.23	0.072	(0.078)	0.007	0.065
66	5.50	0.23	0.072	(0.078)	0.007	0.065
67	5.58	0.27	0.083	(0.078)	0.008	0.075
68	5.67	0.27	0.083	(0.077)	0.008	0.075
69	5.75	0.27	0.083	(0.077)	0.008	0.075
70	5.83	0.27	0.083	(0.077)	0.008	0.075
71	5.92	0.27	0.083	(0.076)	0.008	0.075
72	6.00	0.27	0.083	(0.076)	0.008	0.075
73	6.08	0.30	0.093	(0.076)	0.009	0.084
74	6.17	0.30	0.093	(0.075)	0.009	0.084
75	6.25	0.30	0.093	(0.075)	0.009	0.084
76	6.33	0.30	0.093	(0.075)	0.009	0.084
77	6.42	0.30	0.093	(0.074)	0.009	0.084
78	6.50	0.30	0.093	(0.074)	0.009	0.084
79	6.58	0.33	0.103	(0.074)	0.010	0.093
80	6.67	0.33	0.103	(0.073)	0.010	0.093
81	6.75	0.33	0.103	(0.073)	0.010	0.093
82	6.83	0.33	0.103	(0.073)	0.010	0.093
83	6.92	0.33	0.103	(0.072)	0.010	0.093
84	7.00	0.33	0.103	(0.072)	0.010	0.093
85	7.08	0.33	0.103	(0.072)	0.010	0.093
86	7.17	0.33	0.103	(0.071)	0.010	0.093
87	7.25	0.33	0.103	(0.071)	0.010	0.093
88	7.33	0.37	0.114	(0.071)	0.011	0.102
89	7.42	0.37	0.114	(0.070)	0.011	0.102
90	7.50	0.37	0.114	(0.070)	0.011	0.102
91	7.58	0.40	0.124	(0.070)	0.012	0.112
92	7.67	0.40	0.124	(0.069)	0.012	0.112
93	7.75	0.40	0.124	(0.069)	0.012	0.112
94	7.83	0.43	0.135	(0.069)	0.013	0.121
95	7.92	0.43	0.135	(0.068)	0.013	0.121
96	8.00	0.43	0.135	(0.068)	0.013	0.121
97	8.08	0.50	0.155	(0.068)	0.016	0.140
98	8.17	0.50	0.155	(0.067)	0.016	0.140
99	8.25	0.50	0.155	(0.067)	0.016	0.140
100	8.33	0.50	0.155	(0.067)	0.016	0.140
101	8.42	0.50	0.155	(0.067)	0.016	0.140
102	8.50	0.50	0.155	(0.066)	0.016	0.140
103	8.58	0.53	0.166	(0.066)	0.017	0.149
104	8.67	0.53	0.166	(0.066)	0.017	0.149

105	8.75	0.53	0.166	(0.065)	0.017	0.149
106	8.83	0.57	0.176	(0.065)	0.018	0.158
107	8.92	0.57	0.176	(0.065)	0.018	0.158
108	9.00	0.57	0.176	(0.064)	0.018	0.158
109	9.08	0.63	0.197	(0.064)	0.020	0.177
110	9.17	0.63	0.197	(0.064)	0.020	0.177
111	9.25	0.63	0.197	(0.063)	0.020	0.177
112	9.33	0.67	0.207	(0.063)	0.021	0.186
113	9.42	0.67	0.207	(0.063)	0.021	0.186
114	9.50	0.67	0.207	(0.063)	0.021	0.186
115	9.58	0.70	0.217	(0.062)	0.022	0.196
116	9.67	0.70	0.217	(0.062)	0.022	0.196
117	9.75	0.70	0.217	(0.062)	0.022	0.196
118	9.83	0.73	0.228	(0.061)	0.023	0.205
119	9.92	0.73	0.228	(0.061)	0.023	0.205
120	10.00	0.73	0.228	(0.061)	0.023	0.205
121	10.08	0.50	0.155	(0.060)	0.016	0.140
122	10.17	0.50	0.155	(0.060)	0.016	0.140
123	10.25	0.50	0.155	(0.060)	0.016	0.140
124	10.33	0.50	0.155	(0.060)	0.016	0.140
125	10.42	0.50	0.155	(0.059)	0.016	0.140
126	10.50	0.50	0.155	(0.059)	0.016	0.140
127	10.58	0.67	0.207	(0.059)	0.021	0.186
128	10.67	0.67	0.207	(0.058)	0.021	0.186
129	10.75	0.67	0.207	(0.058)	0.021	0.186
130	10.83	0.67	0.207	(0.058)	0.021	0.186
131	10.92	0.67	0.207	(0.058)	0.021	0.186
132	11.00	0.67	0.207	(0.057)	0.021	0.186
133	11.08	0.63	0.197	(0.057)	0.020	0.177
134	11.17	0.63	0.197	(0.057)	0.020	0.177
135	11.25	0.63	0.197	(0.056)	0.020	0.177
136	11.33	0.63	0.197	(0.056)	0.020	0.177
137	11.42	0.63	0.197	(0.056)	0.020	0.177
138	11.50	0.63	0.197	(0.056)	0.020	0.177
139	11.58	0.57	0.176	(0.055)	0.018	0.158
140	11.67	0.57	0.176	(0.055)	0.018	0.158
141	11.75	0.57	0.176	(0.055)	0.018	0.158
142	11.83	0.60	0.186	(0.055)	0.019	0.168
143	11.92	0.60	0.186	(0.054)	0.019	0.168
144	12.00	0.60	0.186	(0.054)	0.019	0.168
145	12.08	0.83	0.259	(0.054)	0.026	0.233
146	12.17	0.83	0.259	(0.053)	0.026	0.233
147	12.25	0.83	0.259	(0.053)	0.026	0.233
148	12.33	0.87	0.269	(0.053)	0.027	0.242
149	12.42	0.87	0.269	(0.053)	0.027	0.242
150	12.50	0.87	0.269	(0.052)	0.027	0.242
151	12.58	0.93	0.290	(0.052)	0.029	0.261
152	12.67	0.93	0.290	(0.052)	0.029	0.261
153	12.75	0.93	0.290	(0.052)	0.029	0.261
154	12.83	0.97	0.300	(0.051)	0.030	0.270
155	12.92	0.97	0.300	(0.051)	0.030	0.270
156	13.00	0.97	0.300	(0.051)	0.030	0.270
157	13.08	1.13	0.352	(0.051)	0.035	0.317
158	13.17	1.13	0.352	(0.050)	0.035	0.317
159	13.25	1.13	0.352	(0.050)	0.035	0.317
160	13.33	1.13	0.352	(0.050)	0.035	0.317
161	13.42	1.13	0.352	(0.050)	0.035	0.317
162	13.50	1.13	0.352	(0.049)	0.035	0.317
163	13.58	0.77	0.238	(0.049)	0.024	0.214
164	13.67	0.77	0.238	(0.049)	0.024	0.214
165	13.75	0.77	0.238	(0.049)	0.024	0.214
166	13.83	0.77	0.238	(0.048)	0.024	0.214
167	13.92	0.77	0.238	(0.048)	0.024	0.214
168	14.00	0.77	0.238	(0.048)	0.024	0.214
169	14.08	0.90	0.279	(0.048)	0.028	0.251
170	14.17	0.90	0.279	(0.047)	0.028	0.251
171	14.25	0.90	0.279	(0.047)	0.028	0.251
172	14.33	0.87	0.269	(0.047)	0.027	0.242
173	14.42	0.87	0.269	(0.047)	0.027	0.242

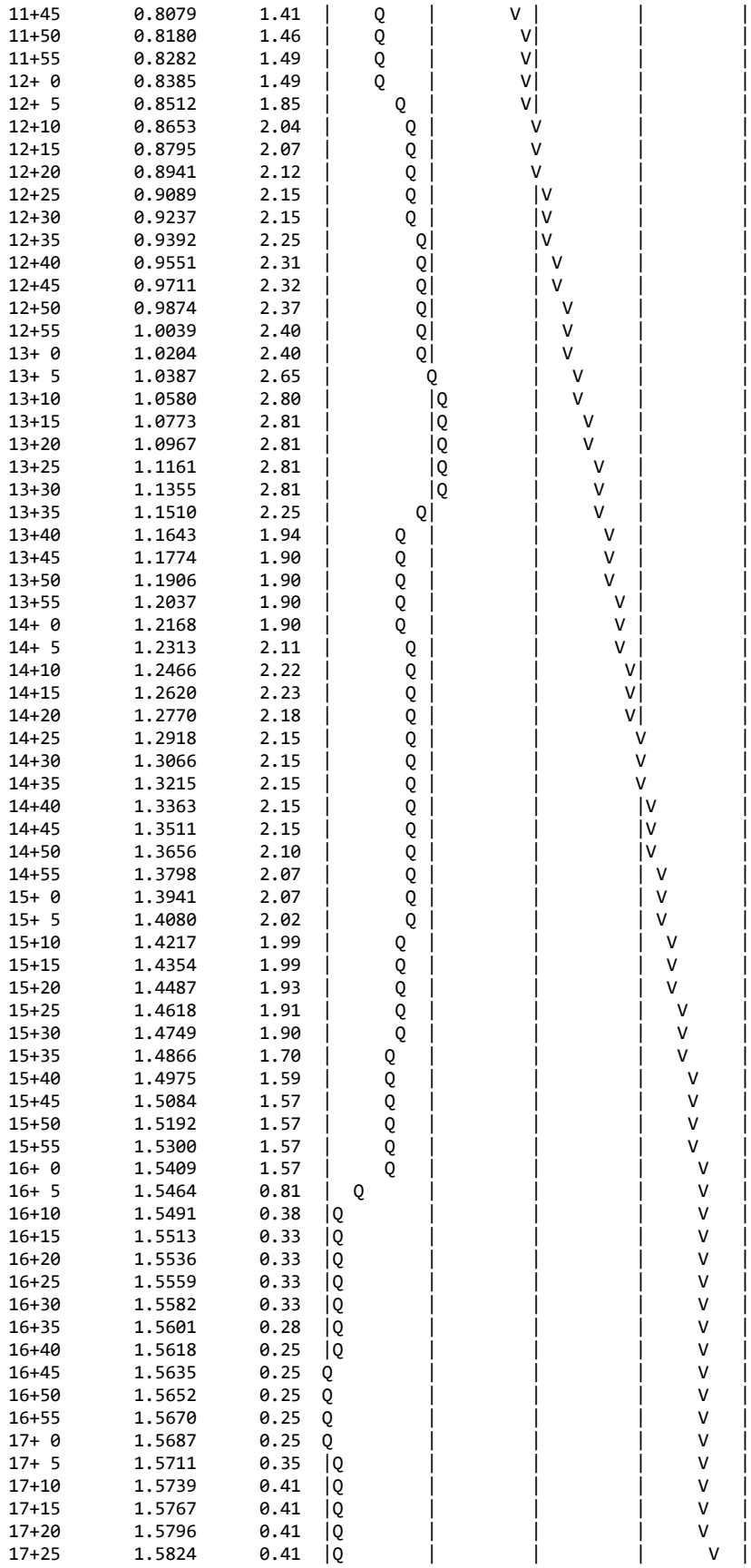
174	14.50	0.87	0.269	(0.046)	0.027	0.242
175	14.58	0.87	0.269	(0.046)	0.027	0.242
176	14.67	0.87	0.269	(0.046)	0.027	0.242
177	14.75	0.87	0.269	(0.046)	0.027	0.242
178	14.83	0.83	0.259	(0.045)	0.026	0.233
179	14.92	0.83	0.259	(0.045)	0.026	0.233
180	15.00	0.83	0.259	(0.045)	0.026	0.233
181	15.08	0.80	0.248	(0.045)	0.025	0.224
182	15.17	0.80	0.248	(0.045)	0.025	0.224
183	15.25	0.80	0.248	(0.044)	0.025	0.224
184	15.33	0.77	0.238	(0.044)	0.024	0.214
185	15.42	0.77	0.238	(0.044)	0.024	0.214
186	15.50	0.77	0.238	(0.044)	0.024	0.214
187	15.58	0.63	0.197	(0.043)	0.020	0.177
188	15.67	0.63	0.197	(0.043)	0.020	0.177
189	15.75	0.63	0.197	(0.043)	0.020	0.177
190	15.83	0.63	0.197	(0.043)	0.020	0.177
191	15.92	0.63	0.197	(0.042)	0.020	0.177
192	16.00	0.63	0.197	(0.042)	0.020	0.177
193	16.08	0.13	0.041	(0.042)	0.004	0.037
194	16.17	0.13	0.041	(0.042)	0.004	0.037
195	16.25	0.13	0.041	(0.042)	0.004	0.037
196	16.33	0.13	0.041	(0.041)	0.004	0.037
197	16.42	0.13	0.041	(0.041)	0.004	0.037
198	16.50	0.13	0.041	(0.041)	0.004	0.037
199	16.58	0.10	0.031	(0.041)	0.003	0.028
200	16.67	0.10	0.031	(0.041)	0.003	0.028
201	16.75	0.10	0.031	(0.040)	0.003	0.028
202	16.83	0.10	0.031	(0.040)	0.003	0.028
203	16.92	0.10	0.031	(0.040)	0.003	0.028
204	17.00	0.10	0.031	(0.040)	0.003	0.028
205	17.08	0.17	0.052	(0.040)	0.005	0.047
206	17.17	0.17	0.052	(0.039)	0.005	0.047
207	17.25	0.17	0.052	(0.039)	0.005	0.047
208	17.33	0.17	0.052	(0.039)	0.005	0.047
209	17.42	0.17	0.052	(0.039)	0.005	0.047
210	17.50	0.17	0.052	(0.039)	0.005	0.047
211	17.58	0.17	0.052	(0.038)	0.005	0.047
212	17.67	0.17	0.052	(0.038)	0.005	0.047
213	17.75	0.17	0.052	(0.038)	0.005	0.047
214	17.83	0.13	0.041	(0.038)	0.004	0.037
215	17.92	0.13	0.041	(0.038)	0.004	0.037
216	18.00	0.13	0.041	(0.037)	0.004	0.037
217	18.08	0.13	0.041	(0.037)	0.004	0.037
218	18.17	0.13	0.041	(0.037)	0.004	0.037
219	18.25	0.13	0.041	(0.037)	0.004	0.037
220	18.33	0.13	0.041	(0.037)	0.004	0.037
221	18.42	0.13	0.041	(0.037)	0.004	0.037
222	18.50	0.13	0.041	(0.036)	0.004	0.037
223	18.58	0.10	0.031	(0.036)	0.003	0.028
224	18.67	0.10	0.031	(0.036)	0.003	0.028
225	18.75	0.10	0.031	(0.036)	0.003	0.028
226	18.83	0.07	0.021	(0.036)	0.002	0.019
227	18.92	0.07	0.021	(0.035)	0.002	0.019
228	19.00	0.07	0.021	(0.035)	0.002	0.019
229	19.08	0.10	0.031	(0.035)	0.003	0.028
230	19.17	0.10	0.031	(0.035)	0.003	0.028
231	19.25	0.10	0.031	(0.035)	0.003	0.028
232	19.33	0.13	0.041	(0.035)	0.004	0.037
233	19.42	0.13	0.041	(0.035)	0.004	0.037
234	19.50	0.13	0.041	(0.034)	0.004	0.037
235	19.58	0.10	0.031	(0.034)	0.003	0.028
236	19.67	0.10	0.031	(0.034)	0.003	0.028
237	19.75	0.10	0.031	(0.034)	0.003	0.028
238	19.83	0.07	0.021	(0.034)	0.002	0.019
239	19.92	0.07	0.021	(0.034)	0.002	0.019
240	20.00	0.07	0.021	(0.033)	0.002	0.019
241	20.08	0.10	0.031	(0.033)	0.003	0.028
242	20.17	0.10	0.031	(0.033)	0.003	0.028

```
243  20.25     0.10      0.031       (  0.033)       0.003        0.028
244  20.33     0.10      0.031       (  0.033)       0.003        0.028
245  20.42     0.10      0.031       (  0.033)       0.003        0.028
246  20.50     0.10      0.031       (  0.033)       0.003        0.028
247  20.58     0.10      0.031       (  0.032)       0.003        0.028
248  20.67     0.10      0.031       (  0.032)       0.003        0.028
249  20.75     0.10      0.031       (  0.032)       0.003        0.028
250  20.83     0.07      0.021       (  0.032)       0.002        0.019
251  20.92     0.07      0.021       (  0.032)       0.002        0.019
252  21.00     0.07      0.021       (  0.032)       0.002        0.019
253  21.08     0.10      0.031       (  0.032)       0.003        0.028
254  21.17     0.10      0.031       (  0.032)       0.003        0.028
255  21.25     0.10      0.031       (  0.031)       0.003        0.028
256  21.33     0.07      0.021       (  0.031)       0.002        0.019
257  21.42     0.07      0.021       (  0.031)       0.002        0.019
258  21.50     0.07      0.021       (  0.031)       0.002        0.019
259  21.58     0.10      0.031       (  0.031)       0.003        0.028
260  21.67     0.10      0.031       (  0.031)       0.003        0.028
261  21.75     0.10      0.031       (  0.031)       0.003        0.028
262  21.83     0.07      0.021       (  0.031)       0.002        0.019
263  21.92     0.07      0.021       (  0.030)       0.002        0.019
264  22.00     0.07      0.021       (  0.030)       0.002        0.019
265  22.08     0.10      0.031       (  0.030)       0.003        0.028
266  22.17     0.10      0.031       (  0.030)       0.003        0.028
267  22.25     0.10      0.031       (  0.030)       0.003        0.028
268  22.33     0.07      0.021       (  0.030)       0.002        0.019
269  22.42     0.07      0.021       (  0.030)       0.002        0.019
270  22.50     0.07      0.021       (  0.030)       0.002        0.019
271  22.58     0.07      0.021       (  0.030)       0.002        0.019
272  22.67     0.07      0.021       (  0.030)       0.002        0.019
273  22.75     0.07      0.021       (  0.030)       0.002        0.019
274  22.83     0.07      0.021       (  0.029)       0.002        0.019
275  22.92     0.07      0.021       (  0.029)       0.002        0.019
276  23.00     0.07      0.021       (  0.029)       0.002        0.019
277  23.08     0.07      0.021       (  0.029)       0.002        0.019
278  23.17     0.07      0.021       (  0.029)       0.002        0.019
279  23.25     0.07      0.021       (  0.029)       0.002        0.019
280  23.33     0.07      0.021       (  0.029)       0.002        0.019
281  23.42     0.07      0.021       (  0.029)       0.002        0.019
282  23.50     0.07      0.021       (  0.029)       0.002        0.019
283  23.58     0.07      0.021       (  0.029)       0.002        0.019
284  23.67     0.07      0.021       (  0.029)       0.002        0.019
285  23.75     0.07      0.021       (  0.029)       0.002        0.019
286  23.83     0.07      0.021       (  0.029)       0.002        0.019
287  23.92     0.07      0.021       (  0.029)       0.002        0.019
288  24.00     0.07      0.021       (  0.029)       0.002        0.019
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    27.9
       Flood volume = Effective rainfall      2.33(In)
        times area       8.8(Ac.)/[(In)/(Ft.)] =       1.7(Ac.Ft)
       Total soil loss =      0.26(In)
       Total soil loss =     0.190(Ac.Ft)
       Total rainfall =      2.59(In)
       Flood volume =       74469.4 Cubic Feet
       Total soil loss =        8274.4 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.813(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       0.0007      0.10  Q         |         |         |         |
   0+10       0.0018      0.16  Q         |         |         |         |
```

0+15	0.0029	0.17	Q	|	|	|	|
0+20	0.0044	0.22	Q	|	|	|	|
0+25	0.0061	0.24	Q	|	|	|	|
0+30	0.0078	0.25	Q	|	|	|	|
0+35	0.0095	0.25	Q	|	|	|	|
0+40	0.0112	0.25	Q	|	|	|	|
0+45	0.0129	0.25	Q	|	|	|	|
0+50	0.0150	0.30	VQ	|	|	|	|
0+55	0.0173	0.33	VQ	|	|	|	|
1+ 0	0.0195	0.33	VQ	|	|	|	|
1+ 5	0.0215	0.28	VQ	|	|	|	|
1+10	0.0232	0.25	VQ	|	|	|	|
1+15	0.0249	0.25	Q	|	|	|	|
1+20	0.0266	0.25	Q	|	|	|	|
1+25	0.0283	0.25	Q	|	|	|	|
1+30	0.0300	0.25	Q	|	|	|	|
1+35	0.0318	0.25	Q	|	|	|	|
1+40	0.0335	0.25	Q	|	|	|	|
1+45	0.0352	0.25	Q	|	|	|	|
1+50	0.0372	0.30	VQ	|	|	|	|
1+55	0.0395	0.33	VQ	|	|	|	|
2+ 0	0.0418	0.33	VQ	|	|	|	|
2+ 5	0.0440	0.33	|Q	|	|	|	|
2+10	0.0463	0.33	|Q	|	|	|	|
2+15	0.0486	0.33	|Q	|	|	|	|
2+20	0.0509	0.33	|Q	|	|	|	|
2+25	0.0532	0.33	|Q	|	|	|	|
2+30	0.0554	0.33	|Q	|	|	|	|
2+35	0.0581	0.38	|Q	|	|	|	|
2+40	0.0609	0.41	|Q	|	|	|	|
2+45	0.0638	0.41	|Q	|	|	|	|
2+50	0.0666	0.41	|Q	|	|	|	|
2+55	0.0694	0.41	|Q	|	|	|	|
3+ 0	0.0723	0.41	|Q	|	|	|	|
3+ 5	0.0751	0.41	|Q	|	|	|	|
3+10	0.0780	0.41	|Q	|	|	|	|
3+15	0.0808	0.41	|Q	|	|	|	|
3+20	0.0837	0.41	|Q	|	|	|	|
3+25	0.0865	0.41	|QV	|	|	|	|
3+30	0.0894	0.41	|QV	|	|	|	|
3+35	0.0922	0.41	|QV	|	|	|	|
3+40	0.0951	0.41	|QV	|	|	|	|
3+45	0.0979	0.41	|QV	|	|	|	|
3+50	0.1011	0.46	|QV	|	|	|	|
3+55	0.1045	0.49	|QV	|	|	|	|
4+ 0	0.1080	0.50	|QV	|	|	|	|
4+ 5	0.1114	0.50	|QV	|	|	|	|
4+10	0.1148	0.50	|QV	|	|	|	|
4+15	0.1182	0.50	|QV	|	|	|	|
4+20	0.1220	0.55	| Q	|	|	|	|
4+25	0.1260	0.58	| Q	|	|	|	|
4+30	0.1299	0.58	| QV	|	|	|	|
4+35	0.1339	0.58	| QV	|	|	|	|
4+40	0.1379	0.58	| QV	|	|	|	|
4+45	0.1419	0.58	| QV	|	|	|	|
4+50	0.1462	0.63	| QV	|	|	|	|
4+55	0.1508	0.66	| QV	|	|	|	|
5+ 0	0.1553	0.66	| QV	|	|	|	|
5+ 5	0.1592	0.56	| QV	|	|	|	|
5+10	0.1627	0.50	| QV	|	|	|	|
5+15	0.1661	0.50	|Q V	|	|	|	|
5+20	0.1699	0.55	| QV	|	|	|	|
5+25	0.1738	0.58	| Q V	|	|	|	|
5+30	0.1778	0.58	| Q V	|	|	|	|
5+35	0.1821	0.63	| Q V	|	|	|	|
5+40	0.1867	0.66	| Q V	|	|	|	|
5+45	0.1912	0.66	| Q V	|	|	|	|
5+50	0.1958	0.66	| Q V	|	|	|	|
5+55	0.2004	0.66	| Q V	|	|	|	|

6+ 0	0.2049	0.66	Q V			
6+ 5	0.2098	0.71	Q V			
6+10	0.2149	0.74	Q V			
6+15	0.2201	0.74	Q V			
6+20	0.2252	0.74	Q V			
6+25	0.2303	0.74	Q V			
6+30	0.2354	0.74	Q V			
6+35	0.2409	0.80	Q V			
6+40	0.2466	0.82	Q V			
6+45	0.2523	0.83	Q V			
6+50	0.2580	0.83	Q V			
6+55	0.2637	0.83	Q V			
7+ 0	0.2694	0.83	Q V			
7+ 5	0.2751	0.83	Q V			
7+10	0.2808	0.83	Q V			
7+15	0.2865	0.83	Q V			
7+20	0.2925	0.88	Q V			
7+25	0.2988	0.91	Q V			
7+30	0.3051	0.91	Q V			
7+35	0.3117	0.96	Q V			
7+40	0.3185	0.99	Q V			
7+45	0.3253	0.99	Q V			
7+50	0.3325	1.04	Q V			
7+55	0.3399	1.07	Q V			
8+ 0	0.3473	1.08	Q V			
8+ 5	0.3554	1.18	Q V			
8+10	0.3639	1.23	Q V			
8+15	0.3725	1.24	Q V			
8+20	0.3810	1.24	Q V			
8+25	0.3896	1.24	Q V			
8+30	0.3981	1.24	Q V			
8+35	0.4070	1.29	Q V			
8+40	0.4161	1.32	Q V			
8+45	0.4252	1.32	Q V			
8+50	0.4347	1.37	Q V			
8+55	0.4444	1.40	Q V			
9+ 0	0.4540	1.41	Q V			
9+ 5	0.4644	1.51	Q V			
9+10	0.4752	1.57	Q V			
9+15	0.4860	1.57	Q V			
9+20	0.4972	1.62	Q V			
9+25	0.5086	1.65	Q V			
9+30	0.5200	1.65	Q V			
9+35	0.5317	1.71	Q V			
9+40	0.5437	1.73	Q V			
9+45	0.5556	1.74	Q V			
9+50	0.5680	1.79	Q V			
9+55	0.5805	1.82	Q V			
10+ 0	0.5930	1.82	Q V			
10+ 5	0.6031	1.46	Q V			
10+10	0.6118	1.26	Q V			
10+15	0.6204	1.24	Q V			
10+20	0.6289	1.24	Q V			
10+25	0.6375	1.24	Q V			
10+30	0.6460	1.24	Q V			
10+35	0.6563	1.50	Q V			
10+40	0.6676	1.64	Q V			
10+45	0.6790	1.65	Q V			
10+50	0.6904	1.65	Q V			
10+55	0.7018	1.65	Q V			
11+ 0	0.7132	1.65	Q V			
11+ 5	0.7242	1.60	Q V			
11+10	0.7351	1.58	Q V			
11+15	0.7459	1.57	Q V			
11+20	0.7567	1.57	Q V			
11+25	0.7676	1.57	Q V			
11+30	0.7784	1.57	Q V			
11+35	0.7885	1.47	Q V			
11+40	0.7982	1.41	Q V			

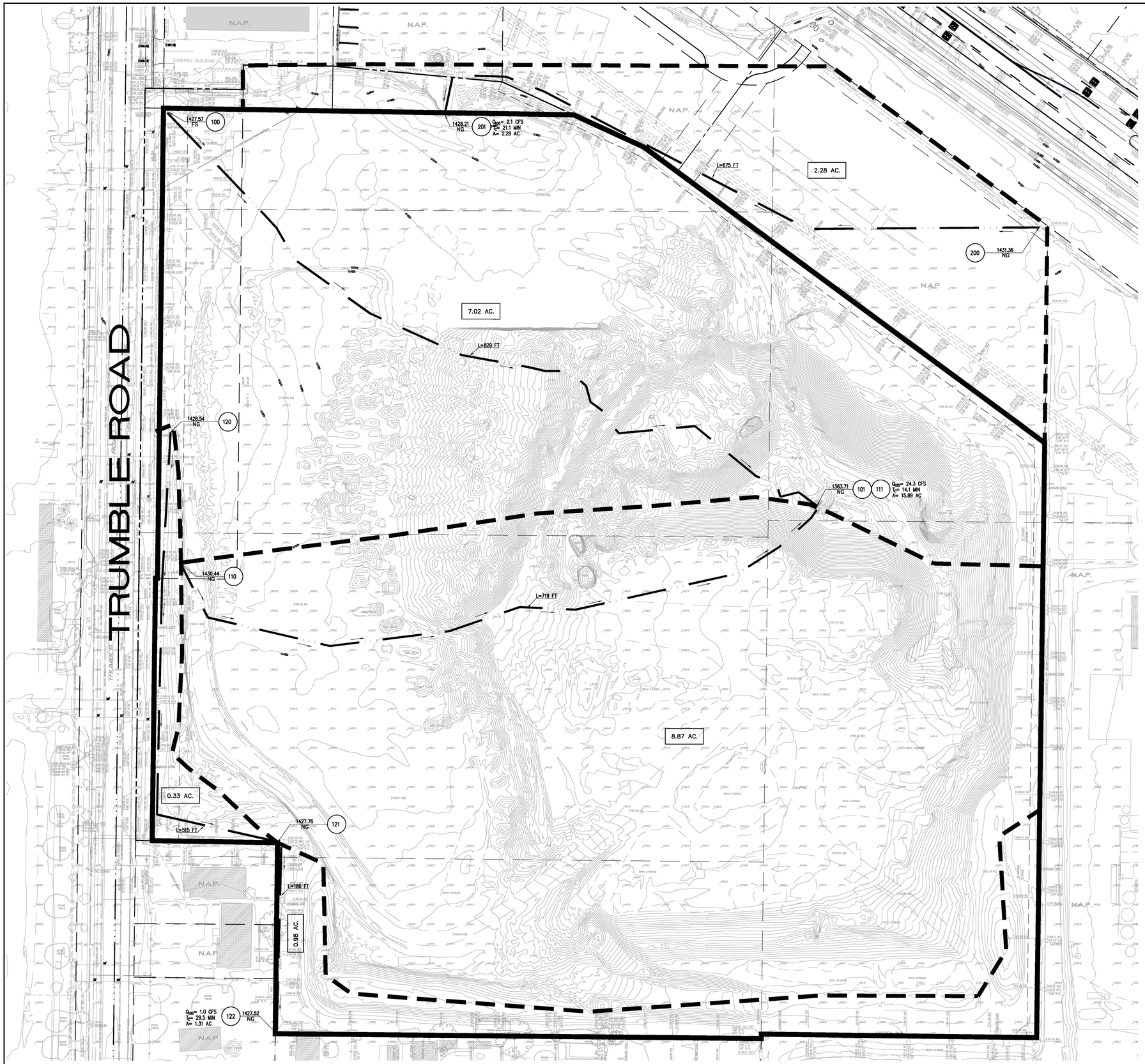


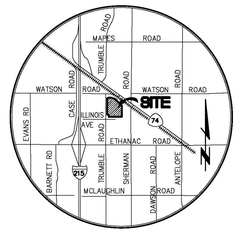
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17+35	1.5881	0.41	|Q	|	|	|	V |
17+40	1.5910	0.41	|Q	|	|	|	V |
17+45	1.5938	0.41	|Q	|	|	|	V |
17+50	1.5963	0.36	|Q	|	|	|	V |
17+55	1.5986	0.33	|Q	|	|	|	V |
18+ 0	1.6009	0.33	|Q	|	|	|	V |
18+ 5	1.6032	0.33	|Q	|	|	|	V |
18+10	1.6055	0.33	|Q	|	|	|	V |
18+15	1.6077	0.33	|Q	|	|	|	V |
18+20	1.6100	0.33	|Q	|	|	|	V |
18+25	1.6123	0.33	|Q	|	|	|	V |
18+30	1.6146	0.33	|Q	|	|	|	V |
18+35	1.6165	0.28	|Q	|	|	|	V |
18+40	1.6182	0.25	|Q	|	|	|	V |
18+45	1.6200	0.25	Q	|	|	|	V |
18+50	1.6213	0.20	Q	|	|	|	V |
18+55	1.6225	0.17	Q	|	|	|	V |
19+ 0	1.6236	0.17	Q	|	|	|	V |
19+ 5	1.6251	0.22	Q	|	|	|	V |
19+10	1.6268	0.24	Q	|	|	|	V |
19+15	1.6285	0.25	Q	|	|	|	V |
19+20	1.6306	0.30	|Q	|	|	|	V |
19+25	1.6328	0.33	|Q	|	|	|	V |
19+30	1.6351	0.33	|Q	|	|	|	V |
19+35	1.6370	0.28	|Q	|	|	|	V |
19+40	1.6388	0.25	|Q	|	|	|	V |
19+45	1.6405	0.25	Q	|	|	|	V |
19+50	1.6418	0.20	Q	|	|	|	V |
19+55	1.6430	0.17	Q	|	|	|	V |
20+ 0	1.6441	0.17	Q	|	|	|	V |
20+ 5	1.6456	0.22	Q	|	|	|	V |
20+10	1.6473	0.24	Q	|	|	|	V |
20+15	1.6490	0.25	Q	|	|	|	V |
20+20	1.6507	0.25	Q	|	|	|	V |
20+25	1.6524	0.25	Q	|	|	|	V |
20+30	1.6541	0.25	Q	|	|	|	V |
20+35	1.6559	0.25	Q	|	|	|	V |
20+40	1.6576	0.25	Q	|	|	|	V |
20+45	1.6593	0.25	Q	|	|	|	V |
20+50	1.6606	0.20	Q	|	|	|	V |
20+55	1.6618	0.17	Q	|	|	|	V |
21+ 0	1.6629	0.17	Q	|	|	|	V |
21+ 5	1.6644	0.22	Q	|	|	|	V |
21+10	1.6661	0.24	Q	|	|	|	V |
21+15	1.6678	0.25	Q	|	|	|	V|
21+20	1.6692	0.20	Q	|	|	|	V|
21+25	1.6703	0.17	Q	|	|	|	V|
21+30	1.6715	0.17	Q	|	|	|	V|
21+35	1.6730	0.22	Q	|	|	|	V|
21+40	1.6747	0.24	Q	|	|	|	V|
21+45	1.6764	0.25	Q	|	|	|	V|
21+50	1.6777	0.20	Q	|	|	|	V|
21+55	1.6789	0.17	Q	|	|	|	V|
22+ 0	1.6800	0.17	Q	|	|	|	V|
22+ 5	1.6815	0.22	Q	|	|	|	V|
22+10	1.6832	0.24	Q	|	|	|	V|
22+15	1.6849	0.25	Q	|	|	|	V|
22+20	1.6863	0.20	Q	|	|	|	V|
22+25	1.6874	0.17	Q	|	|	|	V|
22+30	1.6886	0.17	Q	|	|	|	V|
22+35	1.6897	0.17	Q	|	|	|	V|
22+40	1.6909	0.17	Q	|	|	|	V|
22+45	1.6920	0.17	Q	|	|	|	V|
22+50	1.6931	0.17	Q	|	|	|	V|
22+55	1.6943	0.17	Q	|	|	|	V|
23+ 0	1.6954	0.17	Q	|	|	|	V|
23+ 5	1.6966	0.17	Q	|	|	|	V|
23+10	1.6977	0.17	Q	|	|	|	V|

```
   23+15       1.6988      0.17  Q        |         |         |        V|
   23+20       1.7000      0.17  Q        |         |         |        V|
   23+25       1.7011      0.17  Q        |         |         |        V|
   23+30       1.7023      0.17  Q        |         |         |        V|
   23+35       1.7034      0.17  Q        |         |         |        V|
   23+40       1.7045      0.17  Q        |         |         |        V|
   23+45       1.7057      0.17  Q        |         |         |        V|
   23+50       1.7068      0.17  Q        |         |         |        V|
   23+55       1.7080      0.17  Q        |         |         |        V|
   24+ 0       1.7091      0.17  Q        |         |         |        V|
   24+ 5       1.7095      0.06  Q        |         |         |        V|
   24+10       1.7096      0.01  Q        |         |         |         V
-------------------------------------------------------------------------
```

APPENDIX D

HYDROLOGY MAPS





VICINITY MAP
N.T.S.

LEGEND	
	PROJECT BOUNDARY
	SUBAREA BOUNDARY
	FLOW PATH
4.10 AC.	SUBAREA AREA
100	NODE NUMBER
	FLOW DIRECTION

0 20 40 80 120
SCALE: 1"=40'

Last Updated: 5/1/24
G:\4100-4199\4100\4100HYD-EX.dwg

CITY OF MENIFEE
PUBLIC WORKS DEPARTMENT

PREPARED FOR:
CROSLAND BARNES GROUP/UKIAH PARTNERS, LLC
6 CALENDAR COURT SUITE 3
COLUMBIA, SC 29206
PHONE: (723) 580-9053

EXISTING CONDITION HYDROLOGY MAP
LOVETT 215
TRUMBLE ROAD

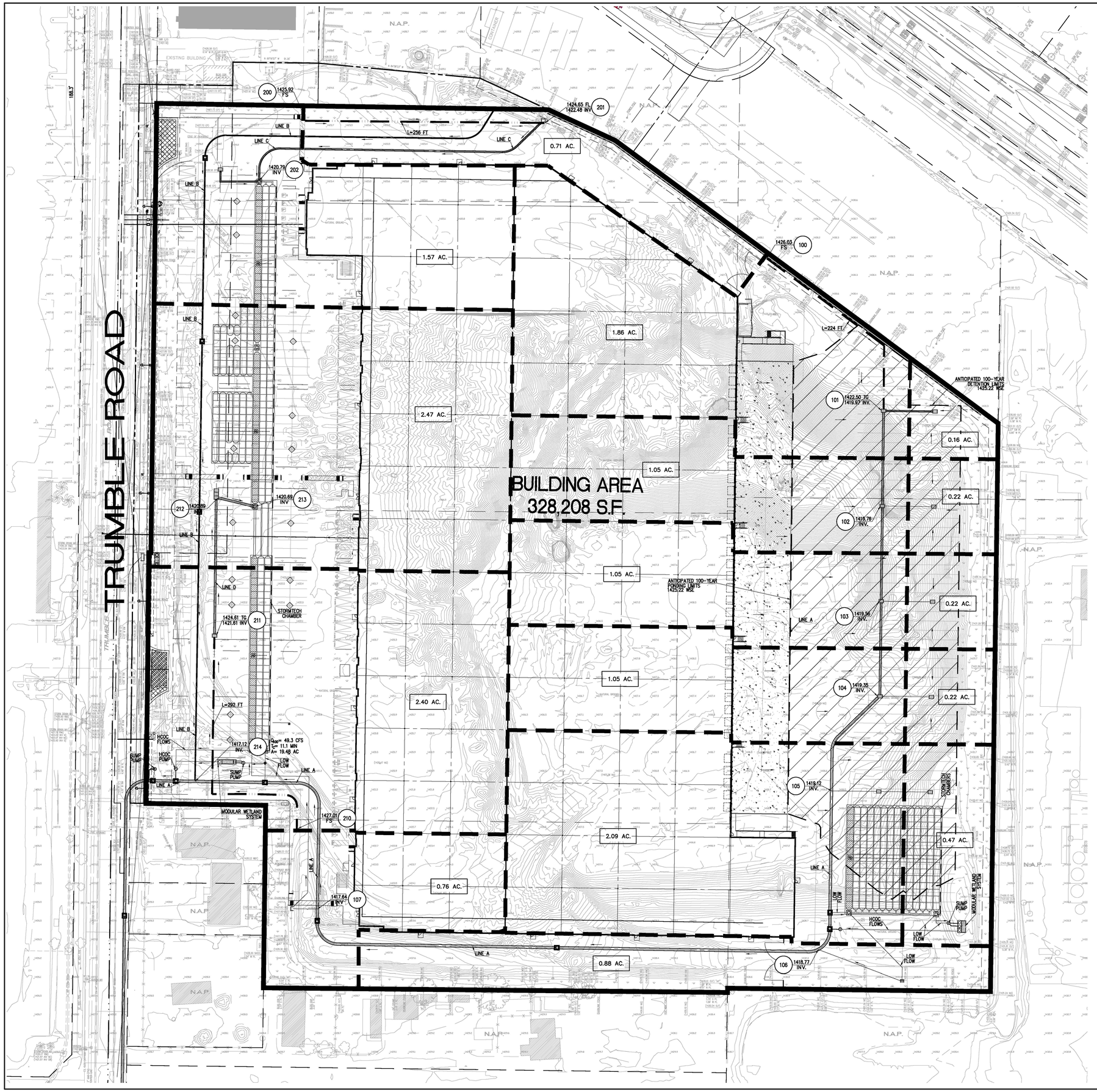
Thienes Engineering, Inc.
CIVIL ENGINEERING · LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH:(714)521-4811 FAX(714)521-4173

Designed by _____ Date _____
Checked by _____ Date _____
Designed by _____ Date _____
Checked by _____ Date _____

Approved by _____ Date _____
Public Works Director _____ R.C.E. XXXXX

Sheet 1 of 1 Sheets

4100/1 OF 1 SHEETS



LEGEND

- PROJECT BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- 4.10 AC. — SUBAREA AREA
- 100 — NODE NUMBER
- PONDING LIMITS

0 20 40 80 120

SCALE: 1"=40'

Last Update: 8/7/25
O:\4100-4199\4100\4100HYD-PRELIM.dwg

CITY OF MENIFEE
PUBLIC WORKS DEPARTMENT

PREPARED FOR:
CROSLAND BARNES GROUP/UKIAH PARTNERS, LLC
6 CALENDAR COURT SUITE 3
COLUMBIA, SC 29206
PHONE: (723) 580-9053

PROPOSED CONDITION HYDROLOGY MAP
LOVETT 215
TRUMBLE ROAD

Thienes Engineering, Inc.
CIVIL ENGINEERING · LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH:(714)521-4811 FAX:(714)521-4173

Designed by _____ Date _____
Checked by _____ Date _____
Approved by _____ Date _____
Designed by _____ Date _____
Checked by _____ Date _____
Public Works Director _____ R.C.E. XXXXX

Sheet 1 of 1 Sheets

4100/1 OF 1 SHEETS

APPENDIX E

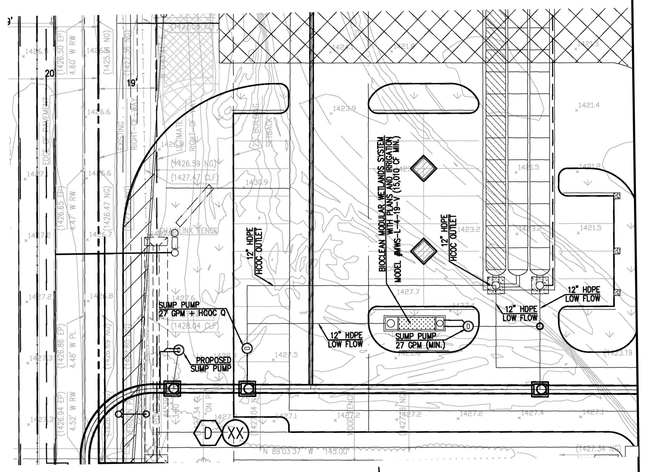
CONCEPTUAL STORM DRAIN PLANS

TRUMBLE ROAD

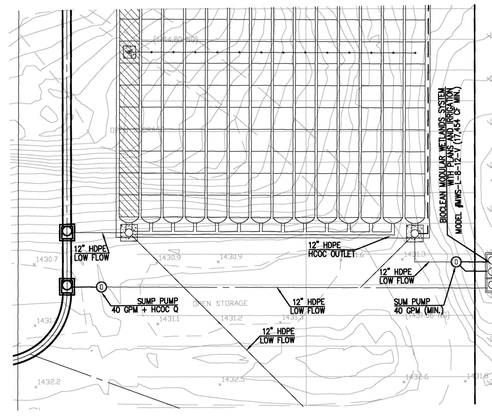
BUILDING AREA
328,208 S.F.

PROPOSED RIDGE LINE

DETAIL "A"



DETAIL "B"



SCALE: 1"=20'

SCALE: 1"=40'

PLOT DATE: 8/7/2025
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CITY OF MENIFEE
PUBLIC WORKS DEPARTMENT

CONCEPTUAL STORM DRAIN PLAN

MENIFEE TRUMBLE ROAD
TRUMBLE ROAD

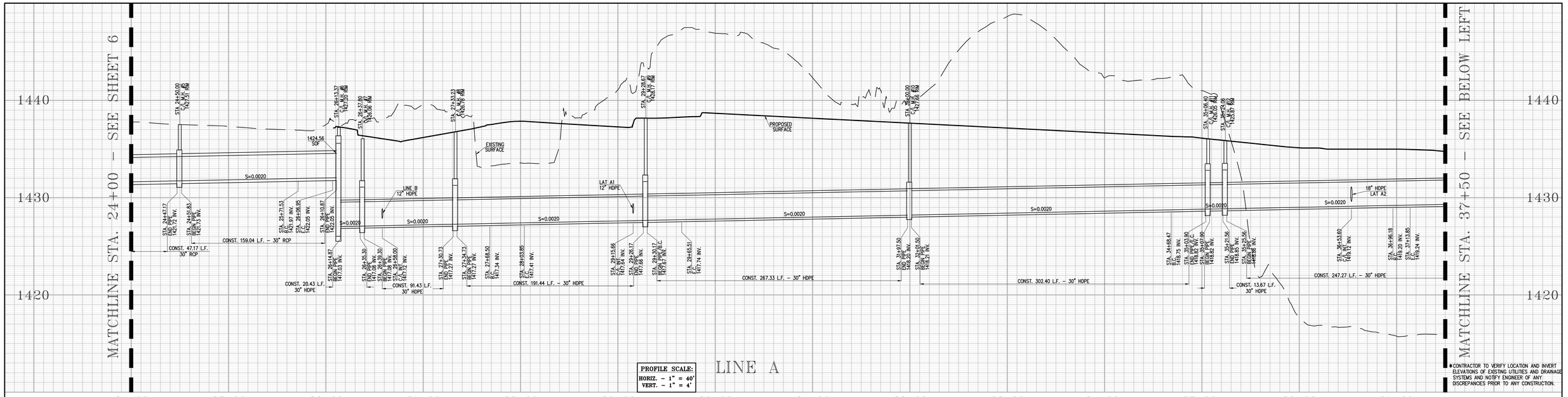
PREPARED FOR:
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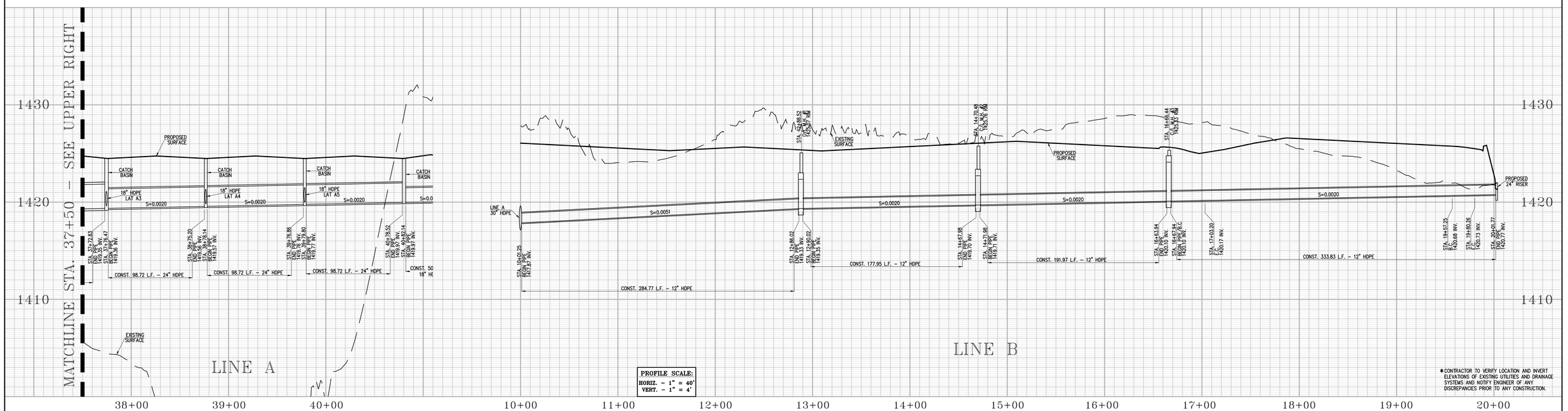
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Sheet 4 of 7 Sheets

4100/4 OF 7 SHEETS





PLOT DATE: 8/7/2025
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CITY OF MENIFEE
PUBLIC WORKS DEPARTMENT

PREPARED FOR:
CROSLAND BARNES GROUP / UKIAH PARTNERS, LLC
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COLUMBIA, SC 29206
PHONE: (732) 580-9053

CONCEPTUAL STORM DRAIN PROFILE
MENIFEE TRUMBLE ROAD
TRUMBLE ROAD

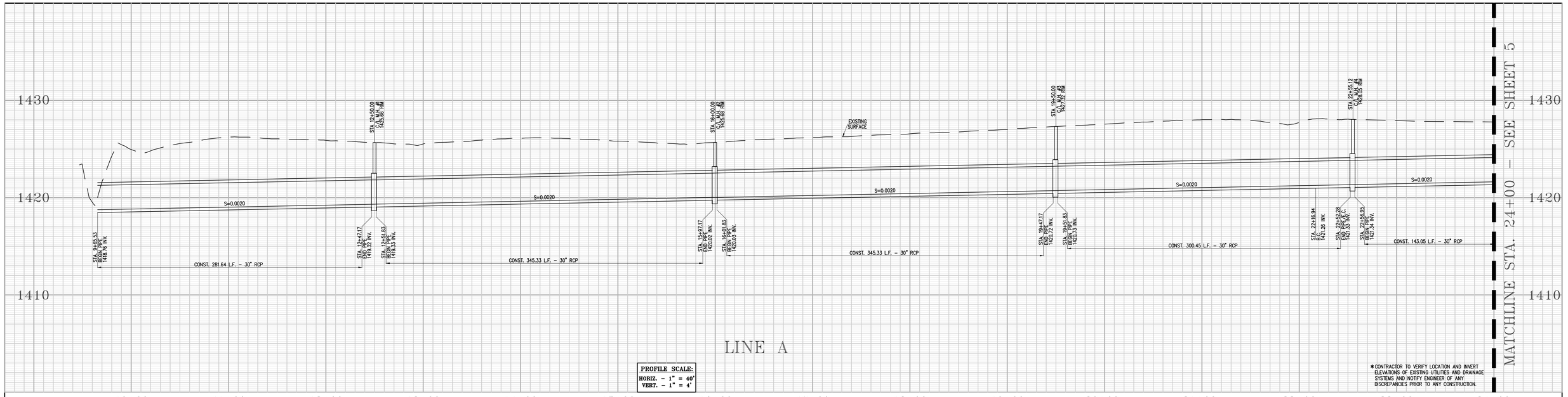
Thienes Engineering, Inc.
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Checked by _____ Date _____

Approved by _____ Date _____
Public Works Director _____ R.C.E. XXXXX

Sheet 5 of 7 Sheets

4100/5 OF 7 SHEETS



LINE A

PROFILE SCALE:
HORIZ. - 1" = 40'
VERT. - 1" = 4'

★CONTRACTOR TO VERIFY LOCATION AND INVERT ELEVATIONS OF EXISTING UTILITIES AND DRAINAGE SYSTEMS AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO ANY CONSTRUCTION.



PLOT DATE: 8/7/2025
O:\4100-4199\4100\4100CGP-06-SD-PUB.dwg

CITY OF MENIFEE
PUBLIC WORKS DEPARTMENT

PREPARED FOR:

CROSLAND BARNES GROUP / UKIAH PARTNERS, LLC
6 CALENDAR COURT SUITE 3
COLUMBIA, SC 29206
PHONE: (732) 580-9053

CONCEPTUAL PUBLIC STORM DRAIN PLAN AND PROFILE

MENIFEE TRUMBLE ROAD
TRUMBLE ROAD

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
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Designed by _____ Date _____
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Checked by _____ Date _____

Approved by _____ Date _____

Public Works Director R.C.E. XXXXX

Sheet 6 of 7 Sheets

4100/6 OF 7 SHEETS

APPENDIX F

CITY OF MENIFEE DETENTION MEMO

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING

September 13, 2024

Mr. Haile Ford
City of Menifee
Senior Engineer, Public Works
29844 Haun Road
Menifee, CA 92586
hford@cityofmenifee.us

Subject: **PL22-0190**
Response to 7/1 Meeting and City Letter Regarding Truck Yard Ponding

Mr. Ford:

See below for responses to your email dated 7/1 regarding the meeting held between City of Menifee and Thienes Engineering.

"As a policy, the City does not allow surface water ponding. Some reasons why we have this policy are as follows:

- Ponding water can become a safety hazard for pedestrians and motorists, as well as site operations"
  RESPONSE: The temporarily detained stormwater will only occur in the 100-year storm event and will be in the easterly truck yard. This area is secured and fenced off from the general public. Only authorized/trained employees will be permitted in the truck yard area. Drivers will dock their trailers and move out while warehouse employees will unload directly from the dock doors. Therefore, the temporarily detained stormwater will not affect site operations. The site/property owner and tenants are made aware that this is an intentional design and they have accepted these conditions as the benefits outweigh the temporary inconvenience.
- "Ponding water on pavement can accelerate the deterioration of the pavement surface."
  RESPONSE: The paved surface is currently estimated as 6.5" thick concrete pavement over a 12" 95% compacted subgrade, which will withstand deterioration from the temporary surface detention that will occur *only* during the 100-year storm event. Concrete will withstand deterioration much better than traditional asphalt.
- "Ponding water can attract vectors."
  RESPONSE: Ponded stormwater is only a vector concern if it is stagnant for 72 hours. The temporary surface detention in the truck yard will be for a maximum of 3 hours, and the truck yard is still sloped down to the catch basins, so stormwater will never become stagnant. It will be constantly flowing to the outlets. This is unlike a traditional detention basin, which has been stated to be allowed within the City, where stormwater will stagnate until it either infiltrates or ponds high enough to discharge out of a riser.

"In consideration of what is stated above, please provide a letter or memo that explains the surface water ponding strategy that you're proposing for the Trumble and Watson Warehouse project. Additionally, update the exhibits to better illustrate this strategy."

REPSONSE: See below detention explanation and attached exhibit for further explanation on surface detention scheme.

"One last thing: Also in our meeting earlier today, you mentioned that flows that exceed a certain threshold would bypass the underground detention system and drain directly to the storm drain. We cannot allow that. All flows up to the 100-year storm must be treated before entering the storm drain / MS4."

RESPONSE: The MS4 Permit (Order No. R8-2010-0033) that Menifee is subjected to requires stormwater treatment of the 85th-percentile, 24-hour storm event – which is closer to the 2-year storm event rather than the 100-year. The 85th-percentile will capture what's commonly known as the "first flush" which is what conveys most of the pollutants that require treatment; that will then be taken to the proposed underground detention system. From here, it is routed through the biofiltration unit for treatment prior to discharging offsite. Storm events exceeding the first flush tend to be "cleaner" and therefore do not require treatment per the MS4 Permit. The site will also adhere to the latest State Waterboard Trash Provisions that require all sites to be designed with full capture devices sized for the 1-year, 1-hour storm event. The 100-year storm event is not subject to treatment under the MS4 Permit; it is only required to be mitigated to preserve the downstream capacities of the connecting storm drain.

Onsite Truck Yard Detention:

The general concept of truck yard surface detention is like a traditional above-ground dirt basin (save for the erosion potential and transfer of sediment associated with a dirt basin). In a dirt basin, discharge from the basin is controlled by the elevation and size of the outlet structure (i.e. riser) and downstream storm drain facility. Truck yard surface detention works the same: stormwater ponds on top of the truck yard catch basins due to the restricted size of the basins and downstream storm drain pipe. The system is designed such that water will only rise to the design elevation in the 100-year storm event. Smaller storm events will flow directly to the catch basins and discharge from the project site without surface ponding. Therefore, the occurrence of temporary surface detention will be a relatively rare scenario.

For preliminary detention design in the County of Riverside, basin sizing may be based on the largest difference in runoff hydrograph volume between the "developed" condition and the "pre-developed" conditions. This occurs during the 10-year 24-hour storm event. A site is considered to have sufficient detention capabilities if this volume can be provided onsite.

For the project site, the easterly truck yard has sufficient surface volume in the truck yard to mitigate the 10-year 24-hour volumes. Therefore, the surface of the truck yard will serve as the temporary detention area for the easterly portion of the project site. The detained volume will be approximately 0.875 ac-ft at a depth of 0.78'. This is compliant with City of Menifee Design Guidelines (adopted February 2020 and amended March 2, 2022) under Appendix A Item 9, which states that above-ground facilities should be designed such that the depth does not exceed 18". The proposed underground chambers in the westerly truck yard are for the 85th percentile storm (per the MS4 Permit) and mitigated HCOC volume.

In the case of the easterly truck yard, storm water is detained on a larger paved/concrete surface area which minimizes the ponding depth when compared to a traditional basin. A traditional basin will pond much deeper, which presents a potential safety hazard. The cross-section of the easterly truck yard (section A-A) shows the detention limits and depth, as well as the top of grate elevation and finished floor elevation. The maximum detention depth of 0.78' (approximately 9", 1425.40 WSE) occurs directly over the top of the catch basins and reduces to 6" within 25' of the easterly catch basins. There will be minimal detention against the building at a depth of approximately 0.18' (approximately 2", 1424.80 WSE). This water surface elevation is significantly lower than finished floor elevation of the proposed building (elevation 1429.26). Therefore, proposed detention does not create a flooding risk for the proposed building. Furthermore, these depths are not safety hazards, but more of a temporary inconvenience that has been accepted by the property owner. Furthermore, this depth does not affect the movements of the large semitrucks, nor the employees working to unload the trucks. Therefore, site operations will not be impacted by this surface detention. The increased number of basins allow the truck yard to drain quickly once the 100-year storm event passes, in less than three hours.

Furthermore, detained water in the truck yard can be compared to stormwater flowing in a public street. Per the Riverside County Flood Control and Water Conservation District Hydraulic Design Manual (March 2024), the 10-year flood level must be contained within the top of curb and the 100-year elevation contained within the street right of way limits. For a general street section with 6' from curb to right of way, this is approximately 0.8' of ponding in the 100-year storm event. This is what is occurring in the easterly truck yard, with stormwater detained at approximately 0.78' of depth. However, stormwater in the street is flowing at a high velocity in a public area, where it poses a safety hazard to pedestrians and the public. Detained water in the truckyard is flowing into the catch basins at a much lower velocity in a secured truck yard area. This poses no danger to the general public.

The westerly portion of the project site is tributary to a vehicle parking area. It is Thienes Engineering policy to limit the depth of the surface detention to approximately 0.5' in vehicle parking areas. Therefore, there is very little surface volume available for storage, and the detained volume was designed to be stored underground along with the design capture volume (per the MS4 Permit) and mitigated HCOC volume.

If you have any questions or require additional information, please contact me at (714) 521-4811 or morgan@thieneseng.com.

Respectfully Submitted,
THIENES ENGINEERING, INC.

Morgan Holve
Design Engineer

ec. Haile Ford, City of Menifee
Christopher Heron, City of Menifee
Brian Thienes, Thienes Engineering
Joshua Lichtman, Urban Hatchery

Enc: Hydrology Detention Exhibit dated 9/13/2024