Drainage Report

For

Clean Energy Perris CNG Time-Fill Parking

CUP03370R02

19295 HARVILL AVE, PERRIS, CA
APN: 317-110-035, 317-110-034

Prepared By:

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Farman Shir, P.E.
10/11/23

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SECTION 1 - SUMMARY

A. INTRODUCTION

The purpose of this report is to document the hydrologic and hydraulic analyses performed in support of the Clean Energy Compressed Natural Gas Time-Fill parking areas located in the existing CNG facility in City of Perris, County of Riverside, California. The project site is located at 19295 Harvill Ave. South of Cajalco Expy. The project site is part of an 11.5-acre parcel, proposing to pave 2.08 acre area for time-fill at 133 parking spaces. The site has been entirely paved and developed except the location where the 2.08 Acre time-fill is located. Therefore, except for nuisance nature local runoff that may traverse portions of the property, the project is considered free from ordinary storm flood hazard. This report will summarize the hydrologic and hydraulic analyses that were conducted to determine the necessary drainage improvements required to provide flood protection for the proposed building and safely convey the runoff through the site.

B. SCOPE OF PROJECT

The scope of this report will include the following:

- Determine the peak 6-Hour and 24-Hour duration events for the 2-year, 5-year and 10-year flow rates for the developed condition using the Riverside County Hydrology Manual.
- Determine the required storm drain facilities, alignment, and sizes required to flood protect the project site.
- Preparation of a preliminary report summarizing the hydrology and hydraulic results.

C. DESCRIPTION OF WATERSHED

The project is located within Perris Valley Master Drainage Plan (MDP). Per the MDP plan, the site is tabled to drain to District maintained MDP Lateral E-8 which is a 48" Storm Drain. The site currently slopes down at approximately 1.7% grade to the Northeast, with the existing elevations across the site vary from 1524 at the north corner to 1514 at the Northeast (NAVD88 datum). The existing drainage pattern for the site and the general area is characterized by sheet flows that follow the slope to the North, which is collected by an existing curb inlet at the Driveway. The existing drainage area consists of approximately 2.08 Acres of unpaved (Pervious) cover.

A map of the existing drainage patterns and Master Drainage Plan is included in Appendix A of this report. A summary of hydrologic calculation results for the existing condition is included in Table 1 below.

Table 1 – Existing Condition: Hydrology Analysis Summary

Rain Event	DA (ac)	Q_{Predev} (cfs)
2-Year 6-Hour	2.80	0.950
2-Year 24-Hour	2.80	0.074
5-Year 6-Hour	2.80	1.631
5-Year 24-Hour	2.80	0.101
10-Year 6-Hour	2.80	2.147
10-Year 24-Hour	2.80	0.286

D. PROPOSED CONDITIONS

The proposed project will continue the storm water flow patterns and directions of the existing site. Two BMP facilities will be constructed near the proposed North side of the project. This includes an underground infiltration chamber as well as a Bioretention BMP. In

addition to meeting LID/BMP requirements, these two BMPs and their outflow structures have been designed to fully contain the post-construction and detain the increase in runoff due to increase in impervious cover. During high intensity runoff events, the overflow will initially drain to the existing inlet located at the Northeast area of the site at the driveway, and during very intense runoff events, the any overflow, if any, will drain onto Harvill Ave to the 48" & 54" MDP Lateral E-8. The underground chamber system is designed to contain the post development storm event to no more than the predevelopment condition. The projects new 2.08 acres worth of new pavement, the limit of work is expected to be 2.80 acres. A combination of with existing drive aisle pavement and surrounding landscape areas.

While the project site drains to an existing Master Plan storm drain system, and the project is within an HCOC exempt area, peak flow mitigation is required, since there are downstream areas without adequate storm drain facilities. Riverside County Planning comments state *"There is a general lack of drainage infrastructure downstream of the project site. The impervious area proposed with this development could generate an increase in peak flow rates and adversely impact water quality and affect the downstream property owners, therefore the mitigation will be required to offset such impacts."* And *"Storms to be studies will include the 6-hour and 24-hour duration events for the 2-year, 5-year and 10-year return frequencies.*

A map of the proposed drainage patterns is included in Appendix A of this report. A summary of hydrologic calculation results for the proposed condition is included in Table 2 below.

Table 2 – Proposed Condition: Hydrology Analysis Summary

Rain Event	DA (ac)	$Q_{Postdev}$(cfs)
2-Year 6-Hour	2.80	1.641
2-Year 24-Hour	2.80	0.557
5-Year 6-Hour	2.80	2.323
5-Year 24-Hour	2.80	0.757
10-Year 6-Hour	2.80	2.838
10-Year 24-Hour	2.80	0.908

E. METHODOLOGY

A. HYDROLOGY

Hydrologic calculations were performed in accordance with the Riverside County Hydrology Manual. Along with Civil Design Bonadiman software, Unit Hydrograph hydrology version 8.1 method for Riverside County.

The hydrological parameters, including rainfall values and soil types were derived from NOAA Atlas 14 data.

The data attained from Civil Design Bonadiman is extracted, then imported in "Hydraflow Hydrographs Extension for AutoCAD Civil 3D 2017". To calculate the capacity of the underground chamber system. Detailed results of the analysis are included in the appendix.

FIG. 1 VICINITY & AERIAL MAP

SECTION 2 - HYDROLOGY ANALYSIS

HYDROLOGY PARAMETERS

The Riverside County Hydrology Manual was used to determine several of the hydrological parameters. The rainfall depths were utilized in the hydrology analyses, were obtained from NOAA Atlas 14 data, which is included in Appendix A.

Based on preliminary Web Soil Survey & the County manual, the project site is classified as soil type “B” and “BC” and “C”. For conservative results, soil type “C” has been used in this report. The soils map is included in Appendix A.

The Curve Number (CN) is also determined based on the proposed land use and cover. The Commercial (imperious) cover type was used to represent the developed condition, which is a CN value of 94, and Open Land category with CN of 74 was used for the pre-developed condition.

DETENTION ANALYSIS

Despite the project being exempt from Hydromodification, and already being entitled to be developed with impervious cover through CUP, and draining to an existing Master Plan Drainage facility, we are providing additional stormwater detention measures in addition to the Water Quality Capture volume, which is addressed with the project specific WQMP. The SCS method was used to determine peak flow rates for both pre-developed and post developed conditions. Based on the peak runoff calculations presented in this report, the 24-hour duration event generates the largest peak runoff and therefore the stormwater Detention is designed to mitigate this storm event, as shown in the routing summary table below.

The Stormwater Detention system consists of the Bioretention BMP, which provides a storage capacity of 4,100 CF, with the remaining storage provided through an underground detention basin by Contech Chambers (36” CMP with holes) wrapped in gravel with 40% porosity. Focusing on the highest 10-year, 24-hour storm event. The predevelopment volume produced is 3,474 CF. The post development produces 23,979 CF of volume. The underground (UG) chambers system has a maximum storage volume of 21,436 CF. Which is greater than the difference of the post and predevelopment volume of 20,505 CF. Therefore, the project does not discharge the storms runoff volume to no more than the predevelopment conditions.

Table 3 – Routing Summary Table

Rain Event	Q_{Predev} (cfs)	UG Chambers Discharge (cfs)	Difference (cfs)
2-Year 24-Hour	0.074	0.000	-0.074
5-Year 24-Hour	0.101	0.000	-0.101
10-Year 24-Hour	0.286	0.240	-0.046

- The Pre-developments Q's can be found in Appendix A, Civil Design Bonidamin Unit Hydrology Calculations section.
- The UG Chambers Discharges can be found in Appendix A, Basin Routing Calculations section.

SECTION 3 - HYDRAULIC ANALYSIS

ON-SITE STORM DRAIN FACILITIES

The project will sheet flow from Southwest to Northeast portion of the site where the proposed stormwater mitigation systems are located. A brief summary of each system has been provided and the results of the hydraulic analyses are included at the end of the section.

Underground Chambers (Onsite)

The underground chambers will be 3-foot diameter perforated CMP pipe. The pipe and gravel volume will retain and runoff in addition to the Bioretention Facility, which is to address the water quality volume. In the event Bioretention is over the 6-inches of ponding, the proposed 24-inch Nyoplast catch basin will receive the overfall and convey the runoff to the underground chamber system. When the underground system meets its volume capacity, the underground system will have a 1-inch orifice within the diversion wall weir to meter the outflow. Any overflow runoff with be directed to the existing Curb Inlet, through the overflow Wier that is installed in the Diversion Manhole. The existing curb inlet is directly connected to the existing public storm drain main in Harvill Avenue.

Outlet Structure A

The 18” HDPE outlet pipe will convey the runoff (both metered & overflow) to the existing Curb Inlet that is located at the northeast portion of the site. This 18-inch pipe is capable of safely conveying the peak 100-year flow.

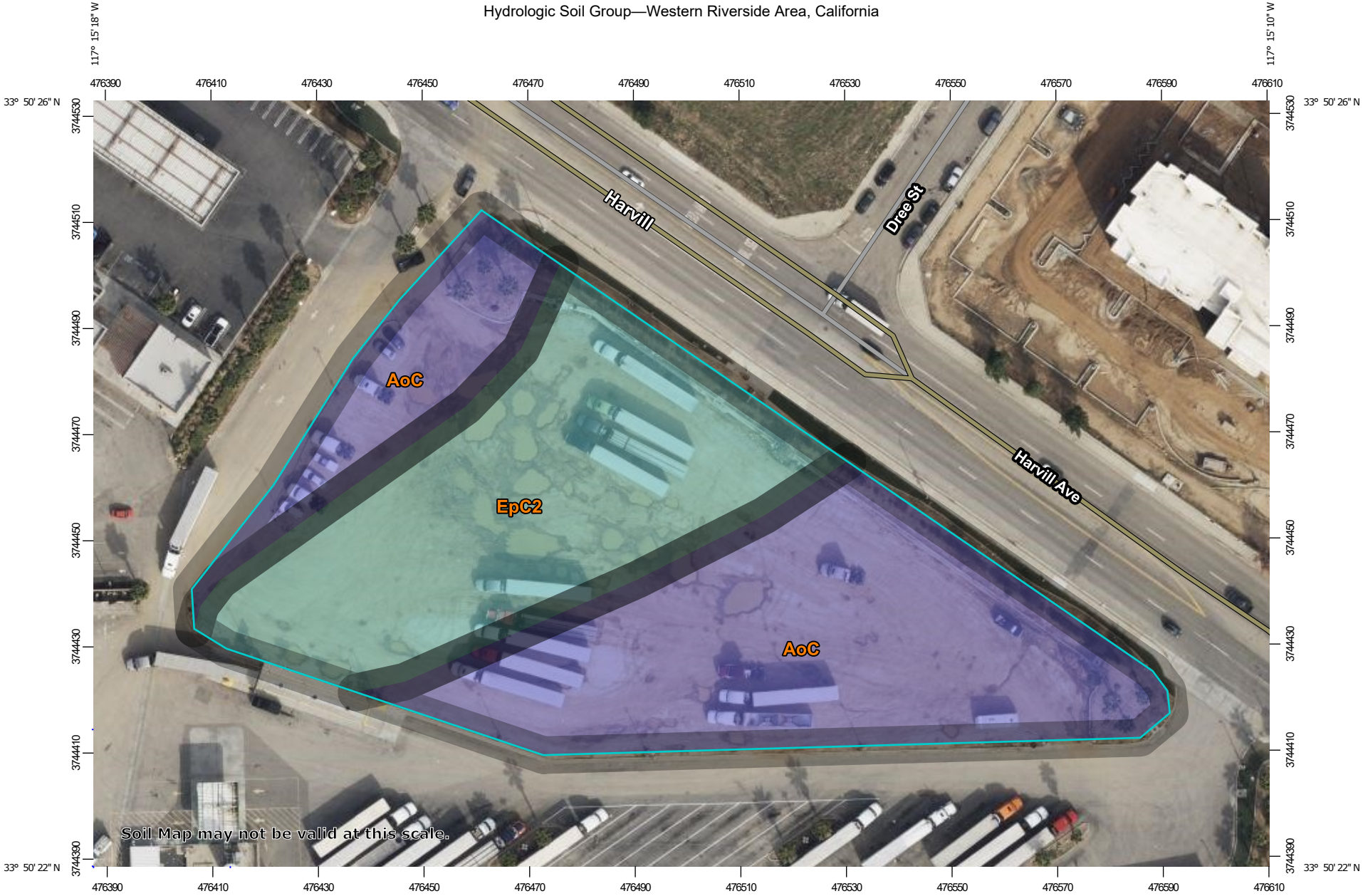
SECTION 4 - CONCLUSION

Based on the analyses and results of this report, the following conclusions were derived from the hydrology and hydraulic results:

- The proposed drainage improvements will adequately convey flows to the basin and provide flood protection for the required storm events.
- The proposed basins will provide adequate water quality treatment.
- The proposed project will not impact flooding condition to upstream or downstream properties.

APPENDIX A – HYDROLOGY

WEB SOIL SURVEY



Map Scale: 1:1,020 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 45 90 180 270

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

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

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

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

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 14, Sep 13, 2021

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

Date(s) aerial images were photographed: Nov 23, 2020—Feb 6, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AoC	Arlington fine sandy loam, deep, 2 to 8 percent slopes	B	1.5	57.3%
EpC2	Exeter sandy loam, deep, 2 to 8 percent slopes, eroded	C	1.1	42.7%
Totals for Area of Interest			**2.6**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

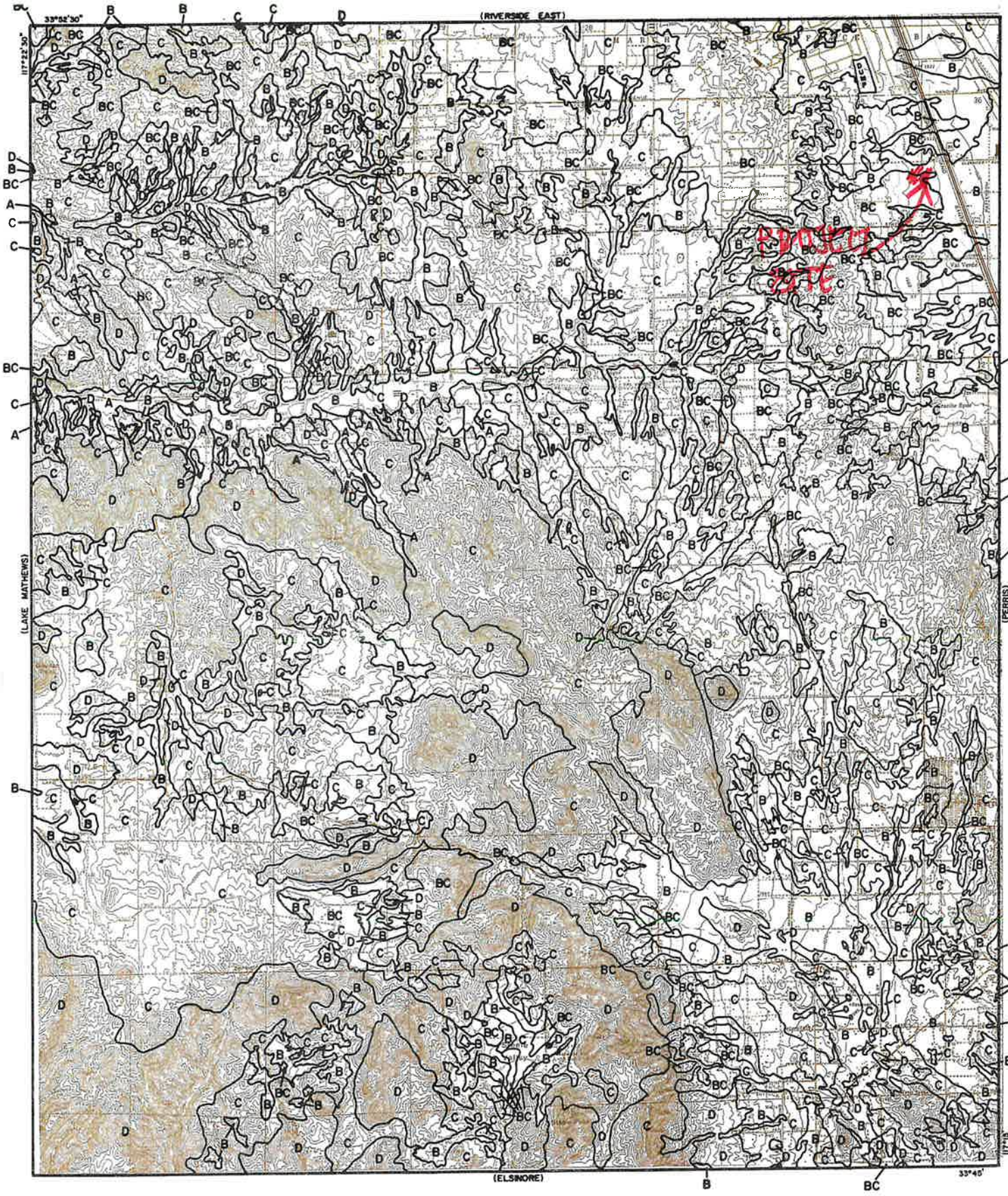
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

N

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR STEELE PEAK

PLATE C-I.29

NOAA ATLAS 14 DATA

NOAA Atlas 14, Volume 6, Version 2
Location name: Perris, California, USA*
Latitude: 33.8399°, Longitude: -117.2534°
Elevation: 1514.48 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.087** (0.073-0.105)	**0.121** (0.101-0.147)	**0.168** (0.140-0.204)	**0.208** (0.172-0.255)	**0.265** (0.211-0.336)	**0.311** (0.242-0.402)	**0.359** (0.273-0.477)	**0.411** (0.304-0.563)	**0.486** (0.343-0.694)	**0.547** (0.373-0.810)
10-min	**0.125** (0.105-0.151)	**0.174** (0.145-0.211)	**0.241** (0.201-0.293)	**0.298** (0.246-0.365)	**0.380** (0.303-0.481)	**0.445** (0.347-0.577)	**0.515** (0.391-0.684)	**0.590** (0.435-0.807)	**0.696** (0.492-0.995)	**0.784** (0.534-1.16)
15-min	**0.151** (0.126-0.183)	**0.211** (0.176-0.255)	**0.292** (0.243-0.354)	**0.361** (0.298-0.442)	**0.459** (0.366-0.582)	**0.538** (0.420-0.698)	**0.622** (0.473-0.827)	**0.713** (0.526-0.976)	**0.842** (0.595-1.20)	**0.948** (0.646-1.40)
30-min	**0.243** (0.203-0.294)	**0.339** (0.283-0.410)	**0.469** (0.391-0.570)	**0.580** (0.479-0.710)	**0.738** (0.588-0.936)	**0.866** (0.675-1.12)	**1.00** (0.761-1.33)	**1.15** (0.846-1.57)	**1.35** (0.957-1.94)	**1.52** (1.04-2.26)
60-min	**0.328** (0.274-0.397)	**0.457** (0.382-0.553)	**0.634** (0.527-0.769)	**0.783** (0.647-0.959)	**0.997** (0.794-1.26)	**1.17** (0.911-1.51)	**1.35** (1.03-1.80)	**1.55** (1.14-2.12)	**1.83** (1.29-2.61)	**2.06** (1.40-3.05)
2-hr	**0.493** (0.412-0.595)	**0.656** (0.548-0.794)	**0.876** (0.729-1.06)	**1.06** (0.875-1.30)	**1.32** (1.05-1.67)	**1.52** (1.18-1.97)	**1.73** (1.31-2.30)	**1.95** (1.44-2.67)	**2.26** (1.60-3.22)	**2.50** (1.71-3.71)
3-hr	**0.609** (0.509-0.735)	**0.799** (0.667-0.967)	**1.05** (0.876-1.28)	**1.26** (1.04-1.55)	**1.55** (1.24-1.97)	**1.78** (1.39-2.31)	**2.01** (1.53-2.68)	**2.26** (1.67-3.09)	**2.60** (1.84-3.71)	**2.86** (1.95-4.24)
6-hr	**0.857** (0.716-1.03)	**1.11** (0.929-1.35)	**1.45** (1.21-1.76)	**1.73** (1.43-2.11)	**2.11** (1.68-2.67)	**2.40** (1.87-3.11)	**2.70** (2.05-3.58)	**3.01** (2.22-4.11)	**3.43** (2.42-4.90)	**3.76** (2.56-5.57)
12-hr	**1.12** (0.937-1.36)	**1.47** (1.23-1.78)	**1.93** (1.61-2.34)	**2.30** (1.90-2.82)	**2.81** (2.24-3.56)	**3.20** (2.49-4.14)	**3.59** (2.73-4.78)	**4.00** (2.95-5.47)	**4.55** (3.22-6.51)	**4.98** (3.40-7.38)
24-hr	**1.45** (1.28-1.67)	**1.94** (1.71-2.24)	**2.58** (2.27-2.99)	**3.10** (2.71-3.62)	**3.81** (3.23-4.60)	**4.36** (3.62-5.36)	**4.91** (3.98-6.19)	**5.48** (4.32-7.09)	**6.25** (4.74-8.43)	**6.85** (5.02-9.55)
2-day	**1.67** (1.48-1.93)	**2.28** (2.01-2.63)	**3.08** (2.72-3.57)	**3.74** (3.27-4.36)	**4.64** (3.92-5.59)	**5.33** (4.42-6.56)	**6.04** (4.89-7.61)	**6.78** (5.34-8.77)	**7.78** (5.89-10.5)	**8.57** (6.27-11.9)
3-day	**1.78** (1.57-2.05)	**2.45** (2.16-2.83)	**3.34** (2.95-3.87)	**4.08** (3.57-4.76)	**5.09** (4.31-6.14)	**5.89** (4.88-7.24)	**6.70** (5.43-8.44)	**7.55** (5.95-9.77)	**8.72** (6.60-11.7)	**9.64** (7.06-13.4)
4-day	**1.91** (1.69-2.20)	**2.65** (2.34-3.06)	**3.65** (3.21-4.22)	**4.47** (3.91-5.22)	**5.61** (4.75-6.76)	**6.50** (5.39-7.99)	**7.42** (6.01-9.34)	**8.38** (6.61-10.8)	**9.71** (7.35-13.1)	**10.8** (7.88-15.0)
7-day	**2.07** (1.83-2.38)	**2.92** (2.58-3.37)	**4.06** (3.58-4.70)	**5.01** (4.38-5.84)	**6.33** (5.36-7.63)	**7.37** (6.11-9.06)	**8.44** (6.84-10.6)	**9.57** (7.55-12.4)	**11.1** (8.44-15.0)	**12.4** (9.07-17.3)
10-day	**2.12** (1.88-2.45)	**3.02** (2.67-3.49)	**4.24** (3.74-4.91)	**5.26** (4.60-6.14)	**6.69** (5.66-8.06)	**7.81** (6.48-9.61)	**8.98** (7.28-11.3)	**10.2** (8.06-13.2)	**11.9** (9.04-16.1)	**13.3** (9.74-18.5)
20-day	**2.43** (2.15-2.80)	**3.51** (3.10-4.05)	**5.00** (4.41-5.79)	**6.27** (5.48-7.32)	**8.08** (6.84-9.74)	**9.54** (7.91-11.7)	**11.1** (8.97-13.9)	**12.7** (10.0-16.5)	**15.0** (11.4-20.2)	**16.9** (12.4-23.5)
30-day	**2.75** (2.43-3.17)	**3.97** (3.51-4.59)	**5.69** (5.02-6.59)	**7.18** (6.28-8.38)	**9.33** (7.90-11.3)	**11.1** (9.20-13.6)	**13.0** (10.5-16.3)	**15.0** (11.8-19.4)	**17.9** (13.5-24.1)	**20.2** (14.8-28.2)
45-day	**3.18** (2.82-3.67)	**4.56** (4.03-5.27)	**6.53** (5.76-7.57)	**8.27** (7.23-9.65)	**10.8** (9.17-13.1)	**13.0** (10.8-15.9)	**15.3** (12.4-19.2)	**17.8** (14.0-23.0)	**21.5** (16.3-28.9)	**24.5** (18.0-34.2)
60-day	**3.59** (3.18-4.14)	**5.08** (4.48-5.86)	**7.24** (6.38-8.38)	**9.16** (8.01-10.7)	**12.0** (10.2-14.5)	**14.5** (12.0-17.8)	**17.2** (13.9-21.6)	**20.1** (15.9-26.1)	**24.5** (18.6-33.0)	**28.2** (20.7-39.3)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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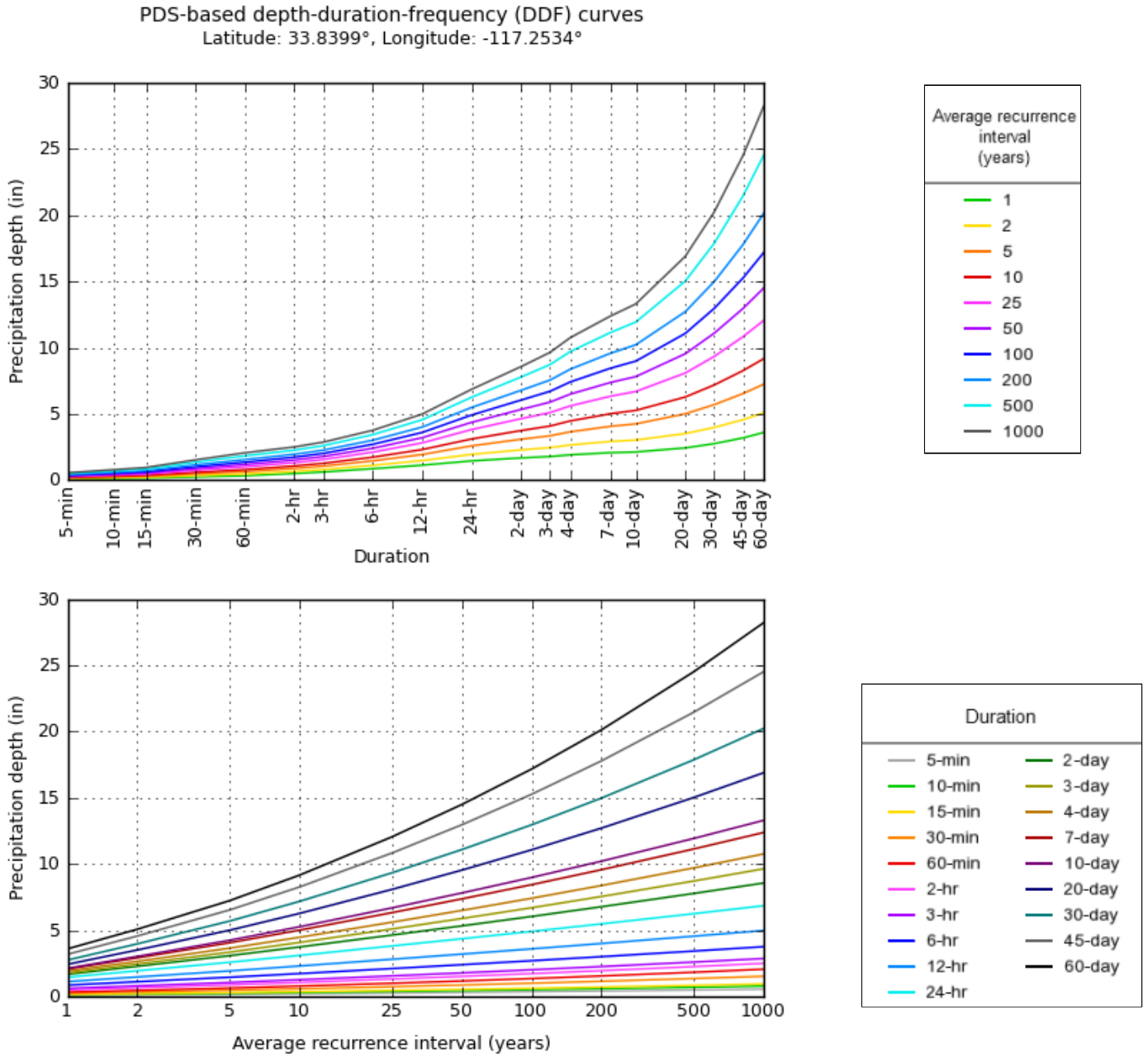
PF graphical



NOAA Atlas 14, Volume 6, Version 2

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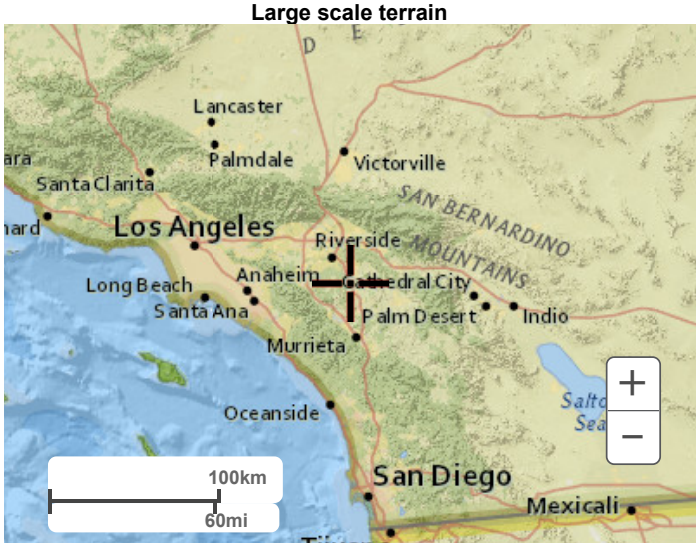
Maps & aerials

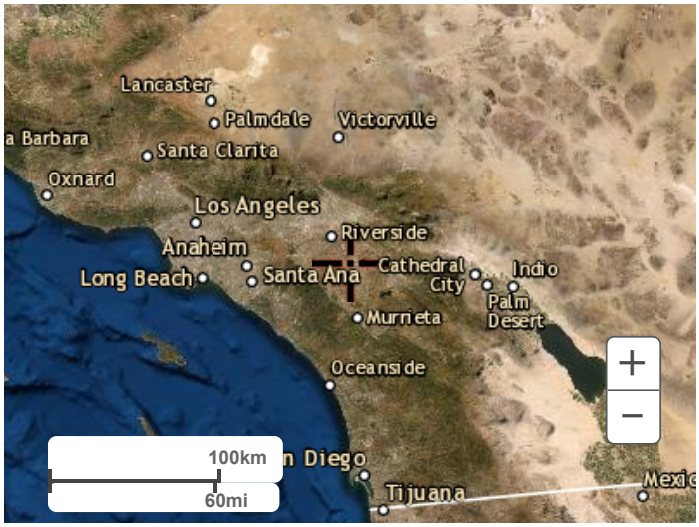
Small scale terrain

Large scale terrain



Large scale map

Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

CIVIL DESIGN BONADIMAN UNIT HYDROGRAPH CALCULATIONS FOR 2, 5 & 10-YEAR

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

Study date 04/04/22 File: PERRISPRE262.out

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
PREDEVELOPMENT CONDITION
2 YR 6 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.11                  3.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            2.70                  7.56

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.110(In)
Area Averaged 100-Year Rainfall =    2.700(In)

Point rain (area averaged) =    1.110(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.110(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           66.00         0.060
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
66.0  66.0      0.405     0.060        0.383       1.000      0.383
                                                 Sum (F) =   0.383
Area averaged mean soil loss (F) (In/Hr) =  0.383
Minimum soil loss rate ((In/Hr)) =  0.192
(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        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

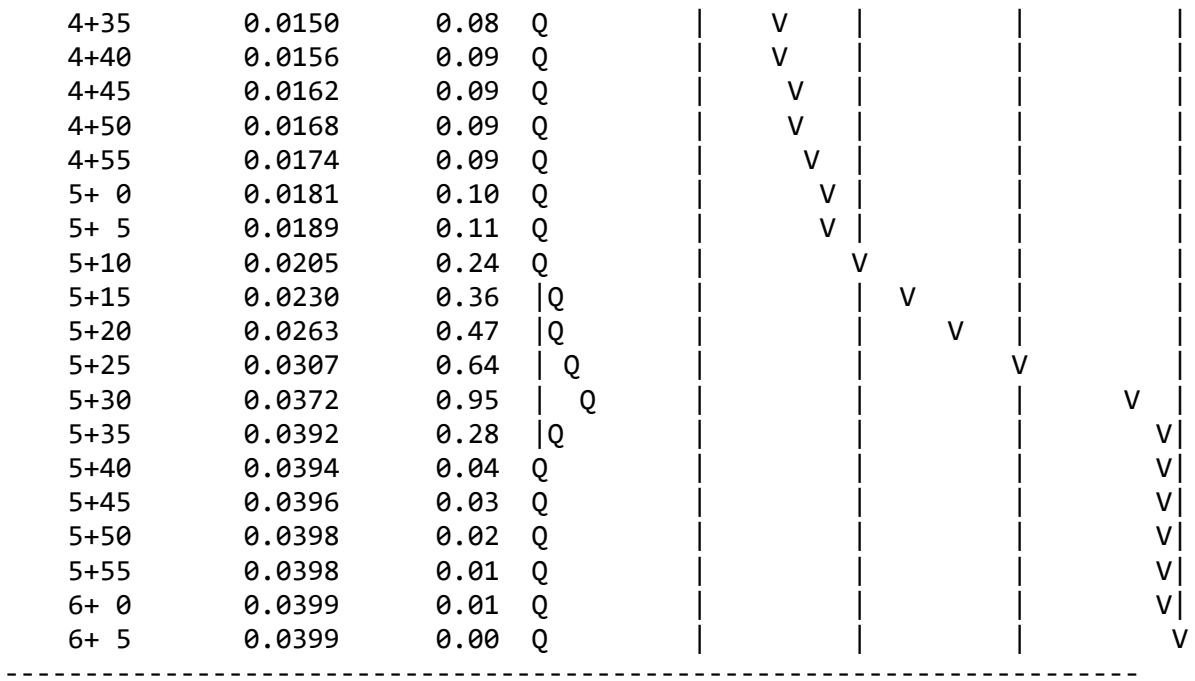
 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value
```

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.067	(0.383)	0.060	0.007
2	0.17	0.60	0.080	(0.383)	0.072	0.008
3	0.25	0.60	0.080	(0.383)	0.072	0.008
4	0.33	0.60	0.080	(0.383)	0.072	0.008
5	0.42	0.60	0.080	(0.383)	0.072	0.008
6	0.50	0.70	0.093	(0.383)	0.084	0.009
7	0.58	0.70	0.093	(0.383)	0.084	0.009
8	0.67	0.70	0.093	(0.383)	0.084	0.009
9	0.75	0.70	0.093	(0.383)	0.084	0.009
10	0.83	0.70	0.093	(0.383)	0.084	0.009
11	0.92	0.70	0.093	(0.383)	0.084	0.009
12	1.00	0.80	0.107	(0.383)	0.096	0.011
13	1.08	0.80	0.107	(0.383)	0.096	0.011
14	1.17	0.80	0.107	(0.383)	0.096	0.011
15	1.25	0.80	0.107	(0.383)	0.096	0.011
16	1.33	0.80	0.107	(0.383)	0.096	0.011
17	1.42	0.80	0.107	(0.383)	0.096	0.011
18	1.50	0.80	0.107	(0.383)	0.096	0.011
19	1.58	0.80	0.107	(0.383)	0.096	0.011
20	1.67	0.80	0.107	(0.383)	0.096	0.011
21	1.75	0.80	0.107	(0.383)	0.096	0.011
22	1.83	0.80	0.107	(0.383)	0.096	0.011
23	1.92	0.80	0.107	(0.383)	0.096	0.011
24	2.00	0.90	0.120	(0.383)	0.108	0.012
25	2.08	0.80	0.107	(0.383)	0.096	0.011
26	2.17	0.90	0.120	(0.383)	0.108	0.012
27	2.25	0.90	0.120	(0.383)	0.108	0.012
28	2.33	0.90	0.120	(0.383)	0.108	0.012
29	2.42	0.90	0.120	(0.383)	0.108	0.012
30	2.50	0.90	0.120	(0.383)	0.108	0.012
31	2.58	0.90	0.120	(0.383)	0.108	0.012
32	2.67	0.90	0.120	(0.383)	0.108	0.012
33	2.75	1.00	0.133	(0.383)	0.120	0.013
34	2.83	1.00	0.133	(0.383)	0.120	0.013
35	2.92	1.00	0.133	(0.383)	0.120	0.013
36	3.00	1.00	0.133	(0.383)	0.120	0.013
37	3.08	1.00	0.133	(0.383)	0.120	0.013
38	3.17	1.10	0.147	(0.383)	0.132	0.015
39	3.25	1.10	0.147	(0.383)	0.132	0.015
40	3.33	1.10	0.147	(0.383)	0.132	0.015
41	3.42	1.20	0.160	(0.383)	0.144	0.016
42	3.50	1.30	0.173	(0.383)	0.156	0.017
43	3.58	1.40	0.186	(0.383)	0.168	0.019
44	3.67	1.40	0.186	(0.383)	0.168	0.019
45	3.75	1.50	0.200	(0.383)	0.180	0.020
46	3.83	1.50	0.200	(0.383)	0.180	0.020
47	3.92	1.60	0.213	(0.383)	0.192	0.021

```
48   4.00     1.60      0.213       (  0.383)       0.192        0.021
49   4.08     1.70      0.226       (  0.383)       0.204        0.023
50   4.17     1.80      0.240       (  0.383)       0.216        0.024
51   4.25     1.90      0.253       (  0.383)       0.228        0.025
52   4.33     2.00      0.266       (  0.383)       0.240        0.027
53   4.42     2.10      0.280       (  0.383)       0.252        0.028
54   4.50     2.10      0.280       (  0.383)       0.252        0.028
55   4.58     2.20      0.293       (  0.383)       0.264        0.029
56   4.67     2.30      0.306       (  0.383)       0.276        0.031
57   4.75     2.40      0.320       (  0.383)       0.288        0.032
58   4.83     2.40      0.320       (  0.383)       0.288        0.032
59   4.92     2.50      0.333       (  0.383)       0.300        0.033
60   5.00     2.60      0.346       (  0.383)       0.312        0.035
61   5.08     3.10      0.413       (  0.383)       0.372        0.041
62   5.17     3.60      0.480          0.383    (  0.432)       0.096
63   5.25     3.90      0.519          0.383    (  0.468)       0.136
64   5.33     4.20      0.559          0.383    (  0.503)       0.176
65   5.42     4.70      0.626          0.383    (  0.563)       0.243
66   5.50     5.60      0.746          0.383    (  0.671)       0.363
67   5.58     1.90      0.253       (  0.383)       0.228        0.025
68   5.67     0.90      0.120       (  0.383)       0.108        0.012
69   5.75     0.60      0.080       (  0.383)       0.072        0.008
70   5.83     0.50      0.067       (  0.383)       0.060        0.007
71   5.92     0.30      0.040       (  0.383)       0.036        0.004
72   6.00     0.20      0.027       (  0.383)       0.024        0.003
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     2.1
      Flood volume = Effective rainfall      0.17(In)
       times area       2.8(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
      Total soil loss =      0.94(In)
      Total soil loss =     0.219(Ac.Ft)
      Total rainfall =      1.11(In)
      Flood volume =        1738.7 Cubic Feet
      Total soil loss =        9543.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      0.950(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       0.0001      0.01  Q         |         |         |         |
  0+10       0.0003      0.02  Q         |         |         |         |
  0+15       0.0004      0.02  Q         |         |         |         |
  0+20       0.0006      0.02  Q         |         |         |         |
```

```
0+25       0.0007      0.02  Q          |          |          |          |
0+30       0.0009      0.03  Q          |          |          |          |
0+35       0.0011      0.03  QV         |          |          |          |
0+40       0.0013      0.03  QV         |          |          |          |
0+45       0.0014      0.03  QV         |          |          |          |
0+50       0.0016      0.03  QV         |          |          |          |
0+55       0.0018      0.03  QV         |          |          |          |
1+ 0       0.0020      0.03  Q V        |          |          |          |
1+ 5       0.0022      0.03  Q V        |          |          |          |
1+10       0.0024      0.03  Q V        |          |          |          |
1+15       0.0026      0.03  Q V        |          |          |          |
1+20       0.0028      0.03  Q V        |          |          |          |
1+25       0.0030      0.03  Q  V       |          |          |          |
1+30       0.0032      0.03  Q  V       |          |          |          |
1+35       0.0035      0.03  Q  V       |          |          |          |
1+40       0.0037      0.03  Q  V       |          |          |          |
1+45       0.0039      0.03  Q  V       |          |          |          |
1+50       0.0041      0.03  Q   V      |          |          |          |
1+55       0.0043      0.03  Q   V      |          |          |          |
2+ 0       0.0045      0.03  Q   V      |          |          |          |
2+ 5       0.0047      0.03  Q   V      |          |          |          |
2+10       0.0049      0.03  Q   V      |          |          |          |
2+15       0.0052      0.03  Q    V     |          |          |          |
2+20       0.0054      0.03  Q    V     |          |          |          |
2+25       0.0056      0.03  Q    V     |          |          |          |
2+30       0.0059      0.03  Q    V     |          |          |          |
2+35       0.0061      0.03  Q     V    |          |          |          |
2+40       0.0063      0.03  Q     V    |          |          |          |
2+45       0.0066      0.04  Q     V    |          |          |          |
2+50       0.0069      0.04  Q     V    |          |          |          |
2+55       0.0071      0.04  Q      V   |          |          |          |
3+ 0       0.0074      0.04  Q      V   |          |          |          |
3+ 5       0.0076      0.04  Q      V   |          |          |          |
3+10       0.0079      0.04  Q      V   |          |          |          |
3+15       0.0082      0.04  Q       V  |          |          |          |
3+20       0.0085      0.04  Q       V  |          |          |          |
3+25       0.0088      0.04  Q       V  |          |          |          |
3+30       0.0091      0.05  Q        V |          |          |          |
3+35       0.0095      0.05  Q        V |          |          |          |
3+40       0.0098      0.05  Q        V |          |          |          |
3+45       0.0102      0.06  Q         V          |          |          |
3+50       0.0106      0.06  Q         V          |          |          |
3+55       0.0110      0.06  Q         |V         |          |          |
4+ 0       0.0114      0.06  Q         |V         |          |          |
4+ 5       0.0119      0.06  Q         |V         |          |          |
4+10       0.0123      0.07  Q         | V        |          |          |
4+15       0.0128      0.07  Q         | V        |          |          |
4+20       0.0133      0.07  Q         |  V       |          |          |
4+25       0.0139      0.08  Q         |  V       |          |          |
4+30       0.0144      0.08  Q         |   V      |          |          |
```


4+35 0.0150 0.08 Q
4+40 0.0156 0.09 Q
4+45 0.0162 0.09 Q
4+50 0.0168 0.09 Q
4+55 0.0174 0.09 Q
5+ 0 0.0181 0.10 Q
5+ 5 0.0189 0.11 Q
5+10 0.0205 0.24 Q
5+15 0.0230 0.36 Q
5+20 0.0263 0.47 Q
5+25 0.0307 0.64 Q
5+30 0.0372 0.95 Q
5+35 0.0392 0.28 Q
5+40 0.0394 0.04 Q
5+45 0.0396 0.03 Q
5+50 0.0398 0.02 Q
5+55 0.0398 0.01 Q
6+ 0 0.0399 0.01 Q
6+ 5 0.0399 0.00 Q

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

Study date 04/04/22 File: PERRISPOST62.out

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
POST DEVELOPMENT CONDITION
2 YR 6 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.11                  3.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            2.70                  7.56

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.110(In)
Area Averaged 100-Year Rainfall =    2.700(In)

Point rain (area averaged) =    1.110(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.110(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           56.00         0.810
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  56.0      0.511     0.810        0.138       1.000      0.138
                                                 Sum (F) =   0.138
Area averaged mean soil loss (F) (In/Hr) =  0.138
Minimum soil loss rate ((In/Hr)) =  0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.252
------------------------------------------------------------------------

                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        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

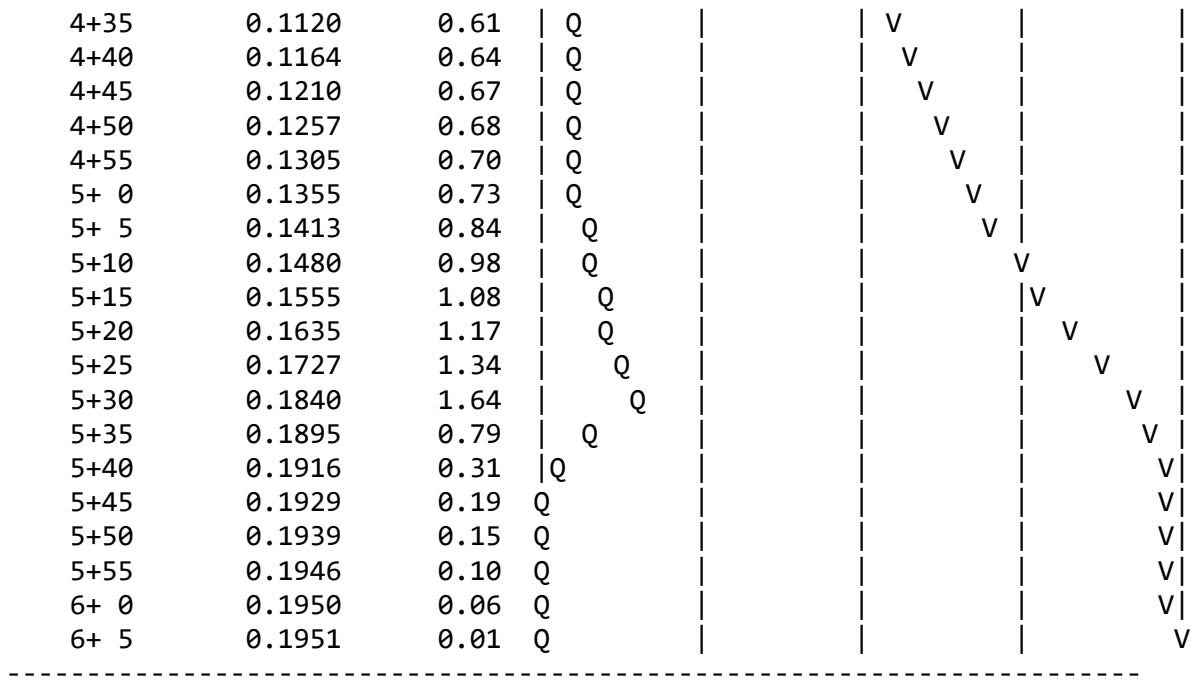
 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value
```

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.067	(0.138)	0.017	0.050
2	0.17	0.60	0.080	(0.138)	0.020	0.060
3	0.25	0.60	0.080	(0.138)	0.020	0.060
4	0.33	0.60	0.080	(0.138)	0.020	0.060
5	0.42	0.60	0.080	(0.138)	0.020	0.060
6	0.50	0.70	0.093	(0.138)	0.023	0.070
7	0.58	0.70	0.093	(0.138)	0.023	0.070
8	0.67	0.70	0.093	(0.138)	0.023	0.070
9	0.75	0.70	0.093	(0.138)	0.023	0.070
10	0.83	0.70	0.093	(0.138)	0.023	0.070
11	0.92	0.70	0.093	(0.138)	0.023	0.070
12	1.00	0.80	0.107	(0.138)	0.027	0.080
13	1.08	0.80	0.107	(0.138)	0.027	0.080
14	1.17	0.80	0.107	(0.138)	0.027	0.080
15	1.25	0.80	0.107	(0.138)	0.027	0.080
16	1.33	0.80	0.107	(0.138)	0.027	0.080
17	1.42	0.80	0.107	(0.138)	0.027	0.080
18	1.50	0.80	0.107	(0.138)	0.027	0.080
19	1.58	0.80	0.107	(0.138)	0.027	0.080
20	1.67	0.80	0.107	(0.138)	0.027	0.080
21	1.75	0.80	0.107	(0.138)	0.027	0.080
22	1.83	0.80	0.107	(0.138)	0.027	0.080
23	1.92	0.80	0.107	(0.138)	0.027	0.080
24	2.00	0.90	0.120	(0.138)	0.030	0.090
25	2.08	0.80	0.107	(0.138)	0.027	0.080
26	2.17	0.90	0.120	(0.138)	0.030	0.090
27	2.25	0.90	0.120	(0.138)	0.030	0.090
28	2.33	0.90	0.120	(0.138)	0.030	0.090
29	2.42	0.90	0.120	(0.138)	0.030	0.090
30	2.50	0.90	0.120	(0.138)	0.030	0.090
31	2.58	0.90	0.120	(0.138)	0.030	0.090
32	2.67	0.90	0.120	(0.138)	0.030	0.090
33	2.75	1.00	0.133	(0.138)	0.034	0.100
34	2.83	1.00	0.133	(0.138)	0.034	0.100
35	2.92	1.00	0.133	(0.138)	0.034	0.100
36	3.00	1.00	0.133	(0.138)	0.034	0.100
37	3.08	1.00	0.133	(0.138)	0.034	0.100
38	3.17	1.10	0.147	(0.138)	0.037	0.110
39	3.25	1.10	0.147	(0.138)	0.037	0.110
40	3.33	1.10	0.147	(0.138)	0.037	0.110
41	3.42	1.20	0.160	(0.138)	0.040	0.120
42	3.50	1.30	0.173	(0.138)	0.044	0.130
43	3.58	1.40	0.186	(0.138)	0.047	0.139
44	3.67	1.40	0.186	(0.138)	0.047	0.139
45	3.75	1.50	0.200	(0.138)	0.050	0.149
46	3.83	1.50	0.200	(0.138)	0.050	0.149
47	3.92	1.60	0.213	(0.138)	0.054	0.159

```
48   4.00     1.60      0.213       (  0.138)       0.054        0.159
49   4.08     1.70      0.226       (  0.138)       0.057        0.169
50   4.17     1.80      0.240       (  0.138)       0.060        0.179
51   4.25     1.90      0.253       (  0.138)       0.064        0.189
52   4.33     2.00      0.266       (  0.138)       0.067        0.199
53   4.42     2.10      0.280       (  0.138)       0.070        0.209
54   4.50     2.10      0.280       (  0.138)       0.070        0.209
55   4.58     2.20      0.293       (  0.138)       0.074        0.219
56   4.67     2.30      0.306       (  0.138)       0.077        0.229
57   4.75     2.40      0.320       (  0.138)       0.081        0.239
58   4.83     2.40      0.320       (  0.138)       0.081        0.239
59   4.92     2.50      0.333       (  0.138)       0.084        0.249
60   5.00     2.60      0.346       (  0.138)       0.087        0.259
61   5.08     3.10      0.413       (  0.138)       0.104        0.309
62   5.17     3.60      0.480       (  0.138)       0.121        0.359
63   5.25     3.90      0.519       (  0.138)       0.131        0.389
64   5.33     4.20      0.559          0.138    (  0.141)       0.421
65   5.42     4.70      0.626          0.138    (  0.158)       0.488
66   5.50     5.60      0.746          0.138    (  0.188)       0.607
67   5.58     1.90      0.253       (  0.138)       0.064        0.189
68   5.67     0.90      0.120       (  0.138)       0.030        0.090
69   5.75     0.60      0.080       (  0.138)       0.020        0.060
70   5.83     0.50      0.067       (  0.138)       0.017        0.050
71   5.92     0.30      0.040       (  0.138)       0.010        0.030
72   6.00     0.20      0.027       (  0.138)       0.007        0.020
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    10.0
      Flood volume = Effective rainfall      0.84(In)
       times area       2.8(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
      Total soil loss =      0.27(In)
      Total soil loss =     0.064(Ac.Ft)
      Total rainfall =      1.11(In)
      Flood volume =        8499.4 Cubic Feet
      Total soil loss =        2782.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.641(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       0.0008      0.11  Q         |         |         |         |
  0+10       0.0019      0.16  Q         |         |         |         |
  0+15       0.0030      0.17  Q         |         |         |         |
  0+20       0.0042      0.17  Q         |         |         |         |
```

```
0+25       0.0054      0.17  QV        |         |         |         |
0+30       0.0067      0.19  QV        |         |         |         |
0+35       0.0080      0.20  QV        |         |         |         |
0+40       0.0094      0.20  QV        |         |         |         |
0+45       0.0107      0.20  Q V       |         |         |         |
0+50       0.0121      0.20  Q V       |         |         |         |
0+55       0.0135      0.20  Q V       |         |         |         |
1+ 0       0.0150      0.22  Q  V      |         |         |         |
1+ 5       0.0165      0.23  Q  V      |         |         |         |
1+10       0.0181      0.23  Q  V      |         |         |         |
1+15       0.0196      0.23  Q   V     |         |         |         |
1+20       0.0212      0.23  Q   V     |         |         |         |
1+25       0.0227      0.23  Q   V     |         |         |         |
1+30       0.0243      0.23  Q   V     |         |         |         |
1+35       0.0258      0.23  Q    V    |         |         |         |
1+40       0.0274      0.23  Q    V    |         |         |         |
1+45       0.0289      0.23  Q    V    |         |         |         |
1+50       0.0305      0.23  Q     V   |         |         |         |
1+55       0.0320      0.23  Q     V   |         |         |         |
2+ 0       0.0337      0.25  Q     V   |         |         |         |
2+ 5       0.0353      0.23  Q      V  |         |         |         |
2+10       0.0370      0.25  Q      V  |         |         |         |
2+15       0.0388      0.25  |Q     V  |         |         |         |
2+20       0.0405      0.25  |Q      V |         |         |         |
2+25       0.0422      0.25  |Q      V |         |         |         |
2+30       0.0440      0.25  |Q       V|         |         |         |
2+35       0.0457      0.25  |Q       V|         |         |         |
2+40       0.0475      0.25  |Q       V|         |         |         |
2+45       0.0494      0.28  |Q        V         |         |         |
2+50       0.0513      0.28  |Q        V         |         |         |
2+55       0.0532      0.28  |Q        V         |         |         |
3+ 0       0.0552      0.28  |Q        |V        |         |         |
3+ 5       0.0571      0.28  |Q        |V        |         |         |
3+10       0.0592      0.30  |Q        | V       |         |         |
3+15       0.0613      0.31  |Q        | V       |         |         |
3+20       0.0635      0.31  |Q        |  V      |         |         |
3+25       0.0657      0.33  |Q        |  V      |         |         |
3+30       0.0682      0.36  |Q        |  V      |         |         |
3+35       0.0709      0.39  |Q        |   V     |         |         |
3+40       0.0736      0.39  |Q        |    V    |         |         |
3+45       0.0765      0.42  |Q        |    V    |         |         |
3+50       0.0794      0.42  |Q        |     V   |         |         |
3+55       0.0824      0.44  |Q        |     V   |         |         |
4+ 0       0.0855      0.45  |Q        |      V  |         |         |
4+ 5       0.0888      0.47  |Q        |       V |         |         |
4+10       0.0922      0.50  | Q       |       V |         |         |
4+15       0.0959      0.53  | Q       |        V|         |         |
4+20       0.0997      0.56  | Q       |         V         |         |
4+25       0.1037      0.58  | Q       |         |V        |         |
4+30       0.1078      0.59  | Q       |         | V       |         |
```


4+35 0.1120 0.61
4+40 0.1164 0.64
4+45 0.1210 0.67
4+50 0.1257 0.68
4+55 0.1305 0.70
5+ 0 0.1355 0.73
5+ 5 0.1413 0.84
5+10 0.1480 0.98
5+15 0.1555 1.08
5+20 0.1635 1.17
5+25 0.1727 1.34
5+30 0.1840 1.64
5+35 0.1895 0.79
5+40 0.1916 0.31
5+45 0.1929 0.19
5+50 0.1939 0.15
5+55 0.1946 0.10
6+ 0 0.1950 0.06
6+ 5 0.1951 0.01

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

Study date 04/04/22 File: PERRISPRE2242.out

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
PREDEVELOPMENT CONDITION
2 YEAR 24 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.94                   5.43

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            4.91                  13.75

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.940(In)
Area Averaged 100-Year Rainfall =    4.910(In)

Point rain (area averaged) =    1.940(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.940(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           66.00         0.060
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
66.0  66.0      0.405     0.060        0.383       1.000      0.383
                                                 Sum (F) =   0.383
Area averaged mean soil loss (F) (In/Hr) =  0.383
Minimum soil loss rate ((In/Hr)) =  0.192
(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        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

 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	0.016	(0.680)	0.014	0.002
2	0.17	0.07	0.016	(0.677)	0.014	0.002
3	0.25	0.07	0.016	(0.674)	0.014	0.002
4	0.33	0.10	0.023	(0.672)	0.021	0.002
5	0.42	0.10	0.023	(0.669)	0.021	0.002
6	0.50	0.10	0.023	(0.666)	0.021	0.002
7	0.58	0.10	0.023	(0.664)	0.021	0.002
8	0.67	0.10	0.023	(0.661)	0.021	0.002
9	0.75	0.10	0.023	(0.659)	0.021	0.002
10	0.83	0.13	0.031	(0.656)	0.028	0.003
11	0.92	0.13	0.031	(0.653)	0.028	0.003
12	1.00	0.13	0.031	(0.651)	0.028	0.003
13	1.08	0.10	0.023	(0.648)	0.021	0.002
14	1.17	0.10	0.023	(0.646)	0.021	0.002
15	1.25	0.10	0.023	(0.643)	0.021	0.002
16	1.33	0.10	0.023	(0.641)	0.021	0.002
17	1.42	0.10	0.023	(0.638)	0.021	0.002
18	1.50	0.10	0.023	(0.636)	0.021	0.002
19	1.58	0.10	0.023	(0.633)	0.021	0.002
20	1.67	0.10	0.023	(0.630)	0.021	0.002
21	1.75	0.10	0.023	(0.628)	0.021	0.002
22	1.83	0.13	0.031	(0.625)	0.028	0.003
23	1.92	0.13	0.031	(0.623)	0.028	0.003
24	2.00	0.13	0.031	(0.620)	0.028	0.003
25	2.08	0.13	0.031	(0.618)	0.028	0.003
26	2.17	0.13	0.031	(0.615)	0.028	0.003
27	2.25	0.13	0.031	(0.613)	0.028	0.003
28	2.33	0.13	0.031	(0.610)	0.028	0.003
29	2.42	0.13	0.031	(0.608)	0.028	0.003
30	2.50	0.13	0.031	(0.605)	0.028	0.003
31	2.58	0.17	0.039	(0.603)	0.035	0.004
32	2.67	0.17	0.039	(0.600)	0.035	0.004
33	2.75	0.17	0.039	(0.598)	0.035	0.004
34	2.83	0.17	0.039	(0.596)	0.035	0.004
35	2.92	0.17	0.039	(0.593)	0.035	0.004
36	3.00	0.17	0.039	(0.591)	0.035	0.004
37	3.08	0.17	0.039	(0.588)	0.035	0.004
38	3.17	0.17	0.039	(0.586)	0.035	0.004
39	3.25	0.17	0.039	(0.583)	0.035	0.004
40	3.33	0.17	0.039	(0.581)	0.035	0.004
41	3.42	0.17	0.039	(0.578)	0.035	0.004
42	3.50	0.17	0.039	(0.576)	0.035	0.004
43	3.58	0.17	0.039	(0.574)	0.035	0.004
44	3.67	0.17	0.039	(0.571)	0.035	0.004
45	3.75	0.17	0.039	(0.569)	0.035	0.004
46	3.83	0.20	0.047	(0.566)	0.042	0.005
47	3.92	0.20	0.047	(0.564)	0.042	0.005

48	4.00	0.20	0.047	(0.562)	0.042	0.005
49	4.08	0.20	0.047	(0.559)	0.042	0.005
50	4.17	0.20	0.047	(0.557)	0.042	0.005
51	4.25	0.20	0.047	(0.554)	0.042	0.005
52	4.33	0.23	0.054	(0.552)	0.049	0.005
53	4.42	0.23	0.054	(0.550)	0.049	0.005
54	4.50	0.23	0.054	(0.547)	0.049	0.005
55	4.58	0.23	0.054	(0.545)	0.049	0.005
56	4.67	0.23	0.054	(0.543)	0.049	0.005
57	4.75	0.23	0.054	(0.540)	0.049	0.005
58	4.83	0.27	0.062	(0.538)	0.056	0.006
59	4.92	0.27	0.062	(0.536)	0.056	0.006
60	5.00	0.27	0.062	(0.533)	0.056	0.006
61	5.08	0.20	0.047	(0.531)	0.042	0.005
62	5.17	0.20	0.047	(0.529)	0.042	0.005
63	5.25	0.20	0.047	(0.526)	0.042	0.005
64	5.33	0.23	0.054	(0.524)	0.049	0.005
65	5.42	0.23	0.054	(0.522)	0.049	0.005
66	5.50	0.23	0.054	(0.520)	0.049	0.005
67	5.58	0.27	0.062	(0.517)	0.056	0.006
68	5.67	0.27	0.062	(0.515)	0.056	0.006
69	5.75	0.27	0.062	(0.513)	0.056	0.006
70	5.83	0.27	0.062	(0.510)	0.056	0.006
71	5.92	0.27	0.062	(0.508)	0.056	0.006
72	6.00	0.27	0.062	(0.506)	0.056	0.006
73	6.08	0.30	0.070	(0.504)	0.063	0.007
74	6.17	0.30	0.070	(0.501)	0.063	0.007
75	6.25	0.30	0.070	(0.499)	0.063	0.007
76	6.33	0.30	0.070	(0.497)	0.063	0.007
77	6.42	0.30	0.070	(0.495)	0.063	0.007
78	6.50	0.30	0.070	(0.493)	0.063	0.007
79	6.58	0.33	0.078	(0.490)	0.070	0.008
80	6.67	0.33	0.078	(0.488)	0.070	0.008
81	6.75	0.33	0.078	(0.486)	0.070	0.008
82	6.83	0.33	0.078	(0.484)	0.070	0.008
83	6.92	0.33	0.078	(0.482)	0.070	0.008
84	7.00	0.33	0.078	(0.479)	0.070	0.008
85	7.08	0.33	0.078	(0.477)	0.070	0.008
86	7.17	0.33	0.078	(0.475)	0.070	0.008
87	7.25	0.33	0.078	(0.473)	0.070	0.008
88	7.33	0.37	0.085	(0.471)	0.077	0.009
89	7.42	0.37	0.085	(0.469)	0.077	0.009
90	7.50	0.37	0.085	(0.466)	0.077	0.009
91	7.58	0.40	0.093	(0.464)	0.084	0.009
92	7.67	0.40	0.093	(0.462)	0.084	0.009
93	7.75	0.40	0.093	(0.460)	0.084	0.009
94	7.83	0.43	0.101	(0.458)	0.091	0.010
95	7.92	0.43	0.101	(0.456)	0.091	0.010
96	8.00	0.43	0.101	(0.454)	0.091	0.010
97	8.08	0.50	0.116	(0.452)	0.105	0.012

98	8.17	0.50	0.116	(0.449)	0.105	0.012
99	8.25	0.50	0.116	(0.447)	0.105	0.012
100	8.33	0.50	0.116	(0.445)	0.105	0.012
101	8.42	0.50	0.116	(0.443)	0.105	0.012
102	8.50	0.50	0.116	(0.441)	0.105	0.012
103	8.58	0.53	0.124	(0.439)	0.112	0.012
104	8.67	0.53	0.124	(0.437)	0.112	0.012
105	8.75	0.53	0.124	(0.435)	0.112	0.012
106	8.83	0.57	0.132	(0.433)	0.119	0.013
107	8.92	0.57	0.132	(0.431)	0.119	0.013
108	9.00	0.57	0.132	(0.429)	0.119	0.013
109	9.08	0.63	0.147	(0.427)	0.133	0.015
110	9.17	0.63	0.147	(0.425)	0.133	0.015
111	9.25	0.63	0.147	(0.423)	0.133	0.015
112	9.33	0.67	0.155	(0.421)	0.140	0.016
113	9.42	0.67	0.155	(0.419)	0.140	0.016
114	9.50	0.67	0.155	(0.417)	0.140	0.016
115	9.58	0.70	0.163	(0.415)	0.147	0.016
116	9.67	0.70	0.163	(0.413)	0.147	0.016
117	9.75	0.70	0.163	(0.411)	0.147	0.016
118	9.83	0.73	0.171	(0.409)	0.154	0.017
119	9.92	0.73	0.171	(0.407)	0.154	0.017
120	10.00	0.73	0.171	(0.405)	0.154	0.017
121	10.08	0.50	0.116	(0.403)	0.105	0.012
122	10.17	0.50	0.116	(0.401)	0.105	0.012
123	10.25	0.50	0.116	(0.399)	0.105	0.012
124	10.33	0.50	0.116	(0.397)	0.105	0.012
125	10.42	0.50	0.116	(0.395)	0.105	0.012
126	10.50	0.50	0.116	(0.393)	0.105	0.012
127	10.58	0.67	0.155	(0.391)	0.140	0.016
128	10.67	0.67	0.155	(0.389)	0.140	0.016
129	10.75	0.67	0.155	(0.387)	0.140	0.016
130	10.83	0.67	0.155	(0.386)	0.140	0.016
131	10.92	0.67	0.155	(0.384)	0.140	0.016
132	11.00	0.67	0.155	(0.382)	0.140	0.016
133	11.08	0.63	0.147	(0.380)	0.133	0.015
134	11.17	0.63	0.147	(0.378)	0.133	0.015
135	11.25	0.63	0.147	(0.376)	0.133	0.015
136	11.33	0.63	0.147	(0.374)	0.133	0.015
137	11.42	0.63	0.147	(0.372)	0.133	0.015
138	11.50	0.63	0.147	(0.371)	0.133	0.015
139	11.58	0.57	0.132	(0.369)	0.119	0.013
140	11.67	0.57	0.132	(0.367)	0.119	0.013
141	11.75	0.57	0.132	(0.365)	0.119	0.013
142	11.83	0.60	0.140	(0.363)	0.126	0.014
143	11.92	0.60	0.140	(0.361)	0.126	0.014
144	12.00	0.60	0.140	(0.360)	0.126	0.014
145	12.08	0.83	0.194	(0.358)	0.175	0.019
146	12.17	0.83	0.194	(0.356)	0.175	0.019
147	12.25	0.83	0.194	(0.354)	0.175	0.019

148	12.33	0.87	0.202	(0.352)	0.182	0.020
149	12.42	0.87	0.202	(0.351)	0.182	0.020
150	12.50	0.87	0.202	(0.349)	0.182	0.020
151	12.58	0.93	0.217	(0.347)	0.196	0.022
152	12.67	0.93	0.217	(0.345)	0.196	0.022
153	12.75	0.93	0.217	(0.344)	0.196	0.022
154	12.83	0.97	0.225	(0.342)	0.203	0.023
155	12.92	0.97	0.225	(0.340)	0.203	0.023
156	13.00	0.97	0.225	(0.338)	0.203	0.023
157	13.08	1.13	0.264	(0.337)	0.237	0.026
158	13.17	1.13	0.264	(0.335)	0.237	0.026
159	13.25	1.13	0.264	(0.333)	0.237	0.026
160	13.33	1.13	0.264	(0.332)	0.237	0.026
161	13.42	1.13	0.264	(0.330)	0.237	0.026
162	13.50	1.13	0.264	(0.328)	0.237	0.026
163	13.58	0.77	0.178	(0.327)	0.161	0.018
164	13.67	0.77	0.178	(0.325)	0.161	0.018
165	13.75	0.77	0.178	(0.323)	0.161	0.018
166	13.83	0.77	0.178	(0.322)	0.161	0.018
167	13.92	0.77	0.178	(0.320)	0.161	0.018
168	14.00	0.77	0.178	(0.318)	0.161	0.018
169	14.08	0.90	0.210	(0.317)	0.189	0.021
170	14.17	0.90	0.210	(0.315)	0.189	0.021
171	14.25	0.90	0.210	(0.314)	0.189	0.021
172	14.33	0.87	0.202	(0.312)	0.182	0.020
173	14.42	0.87	0.202	(0.310)	0.182	0.020
174	14.50	0.87	0.202	(0.309)	0.182	0.020
175	14.58	0.87	0.202	(0.307)	0.182	0.020
176	14.67	0.87	0.202	(0.306)	0.182	0.020
177	14.75	0.87	0.202	(0.304)	0.182	0.020
178	14.83	0.83	0.194	(0.302)	0.175	0.019
179	14.92	0.83	0.194	(0.301)	0.175	0.019
180	15.00	0.83	0.194	(0.299)	0.175	0.019
181	15.08	0.80	0.186	(0.298)	0.168	0.019
182	15.17	0.80	0.186	(0.296)	0.168	0.019
183	15.25	0.80	0.186	(0.295)	0.168	0.019
184	15.33	0.77	0.178	(0.293)	0.161	0.018
185	15.42	0.77	0.178	(0.292)	0.161	0.018
186	15.50	0.77	0.178	(0.290)	0.161	0.018
187	15.58	0.63	0.147	(0.289)	0.133	0.015
188	15.67	0.63	0.147	(0.287)	0.133	0.015
189	15.75	0.63	0.147	(0.286)	0.133	0.015
190	15.83	0.63	0.147	(0.284)	0.133	0.015
191	15.92	0.63	0.147	(0.283)	0.133	0.015
192	16.00	0.63	0.147	(0.281)	0.133	0.015
193	16.08	0.13	0.031	(0.280)	0.028	0.003
194	16.17	0.13	0.031	(0.279)	0.028	0.003
195	16.25	0.13	0.031	(0.277)	0.028	0.003
196	16.33	0.13	0.031	(0.276)	0.028	0.003
197	16.42	0.13	0.031	(0.274)	0.028	0.003

198	16.50	0.13	0.031	(0.273)	0.028	0.003
199	16.58	0.10	0.023	(0.272)	0.021	0.002
200	16.67	0.10	0.023	(0.270)	0.021	0.002
201	16.75	0.10	0.023	(0.269)	0.021	0.002
202	16.83	0.10	0.023	(0.267)	0.021	0.002
203	16.92	0.10	0.023	(0.266)	0.021	0.002
204	17.00	0.10	0.023	(0.265)	0.021	0.002
205	17.08	0.17	0.039	(0.263)	0.035	0.004
206	17.17	0.17	0.039	(0.262)	0.035	0.004
207	17.25	0.17	0.039	(0.261)	0.035	0.004
208	17.33	0.17	0.039	(0.259)	0.035	0.004
209	17.42	0.17	0.039	(0.258)	0.035	0.004
210	17.50	0.17	0.039	(0.257)	0.035	0.004
211	17.58	0.17	0.039	(0.256)	0.035	0.004
212	17.67	0.17	0.039	(0.254)	0.035	0.004
213	17.75	0.17	0.039	(0.253)	0.035	0.004
214	17.83	0.13	0.031	(0.252)	0.028	0.003
215	17.92	0.13	0.031	(0.251)	0.028	0.003
216	18.00	0.13	0.031	(0.249)	0.028	0.003
217	18.08	0.13	0.031	(0.248)	0.028	0.003
218	18.17	0.13	0.031	(0.247)	0.028	0.003
219	18.25	0.13	0.031	(0.246)	0.028	0.003
220	18.33	0.13	0.031	(0.244)	0.028	0.003
221	18.42	0.13	0.031	(0.243)	0.028	0.003
222	18.50	0.13	0.031	(0.242)	0.028	0.003
223	18.58	0.10	0.023	(0.241)	0.021	0.002
224	18.67	0.10	0.023	(0.240)	0.021	0.002
225	18.75	0.10	0.023	(0.239)	0.021	0.002
226	18.83	0.07	0.016	(0.237)	0.014	0.002
227	18.92	0.07	0.016	(0.236)	0.014	0.002
228	19.00	0.07	0.016	(0.235)	0.014	0.002
229	19.08	0.10	0.023	(0.234)	0.021	0.002
230	19.17	0.10	0.023	(0.233)	0.021	0.002
231	19.25	0.10	0.023	(0.232)	0.021	0.002
232	19.33	0.13	0.031	(0.231)	0.028	0.003
233	19.42	0.13	0.031	(0.230)	0.028	0.003
234	19.50	0.13	0.031	(0.229)	0.028	0.003
235	19.58	0.10	0.023	(0.228)	0.021	0.002
236	19.67	0.10	0.023	(0.227)	0.021	0.002
237	19.75	0.10	0.023	(0.226)	0.021	0.002
238	19.83	0.07	0.016	(0.225)	0.014	0.002
239	19.92	0.07	0.016	(0.224)	0.014	0.002
240	20.00	0.07	0.016	(0.223)	0.014	0.002
241	20.08	0.10	0.023	(0.222)	0.021	0.002
242	20.17	0.10	0.023	(0.221)	0.021	0.002
243	20.25	0.10	0.023	(0.220)	0.021	0.002
244	20.33	0.10	0.023	(0.219)	0.021	0.002
245	20.42	0.10	0.023	(0.218)	0.021	0.002
246	20.50	0.10	0.023	(0.217)	0.021	0.002
247	20.58	0.10	0.023	(0.216)	0.021	0.002

248	20.67	0.10	0.023	(0.215)	0.021	0.002
249	20.75	0.10	0.023	(0.214)	0.021	0.002
250	20.83	0.07	0.016	(0.213)	0.014	0.002
251	20.92	0.07	0.016	(0.212)	0.014	0.002
252	21.00	0.07	0.016	(0.212)	0.014	0.002
253	21.08	0.10	0.023	(0.211)	0.021	0.002
254	21.17	0.10	0.023	(0.210)	0.021	0.002
255	21.25	0.10	0.023	(0.209)	0.021	0.002
256	21.33	0.07	0.016	(0.208)	0.014	0.002
257	21.42	0.07	0.016	(0.208)	0.014	0.002
258	21.50	0.07	0.016	(0.207)	0.014	0.002
259	21.58	0.10	0.023	(0.206)	0.021	0.002
260	21.67	0.10	0.023	(0.205)	0.021	0.002
261	21.75	0.10	0.023	(0.204)	0.021	0.002
262	21.83	0.07	0.016	(0.204)	0.014	0.002
263	21.92	0.07	0.016	(0.203)	0.014	0.002
264	22.00	0.07	0.016	(0.202)	0.014	0.002
265	22.08	0.10	0.023	(0.202)	0.021	0.002
266	22.17	0.10	0.023	(0.201)	0.021	0.002
267	22.25	0.10	0.023	(0.200)	0.021	0.002
268	22.33	0.07	0.016	(0.200)	0.014	0.002
269	22.42	0.07	0.016	(0.199)	0.014	0.002
270	22.50	0.07	0.016	(0.199)	0.014	0.002
271	22.58	0.07	0.016	(0.198)	0.014	0.002
272	22.67	0.07	0.016	(0.197)	0.014	0.002
273	22.75	0.07	0.016	(0.197)	0.014	0.002
274	22.83	0.07	0.016	(0.196)	0.014	0.002
275	22.92	0.07	0.016	(0.196)	0.014	0.002
276	23.00	0.07	0.016	(0.195)	0.014	0.002
277	23.08	0.07	0.016	(0.195)	0.014	0.002
278	23.17	0.07	0.016	(0.195)	0.014	0.002
279	23.25	0.07	0.016	(0.194)	0.014	0.002
280	23.33	0.07	0.016	(0.194)	0.014	0.002
281	23.42	0.07	0.016	(0.193)	0.014	0.002
282	23.50	0.07	0.016	(0.193)	0.014	0.002
283	23.58	0.07	0.016	(0.193)	0.014	0.002
284	23.67	0.07	0.016	(0.192)	0.014	0.002
285	23.75	0.07	0.016	(0.192)	0.014	0.002
286	23.83	0.07	0.016	(0.192)	0.014	0.002
287	23.92	0.07	0.016	(0.192)	0.014	0.002
288	24.00	0.07	0.016	(0.192)	0.014	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.3

Flood volume = Effective rainfall 0.19(In)
times area 2.8(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.75(In)
Total soil loss = 0.407(Ac.Ft)
Total rainfall = 1.94(In)
Flood volume = 1971.8 Cubic Feet
Total soil loss = 17746.2 Cubic Feet

Peak flow rate of this hydrograph = 0.074(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	0.00	Q				
0+10	0.0001	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0003	0.01	Q				
0+45	0.0004	0.01	Q				
0+50	0.0004	0.01	Q				
0+55	0.0005	0.01	Q				
1+ 0	0.0005	0.01	Q				
1+ 5	0.0006	0.01	Q				
1+10	0.0006	0.01	Q				
1+15	0.0007	0.01	Q				
1+20	0.0007	0.01	Q				
1+25	0.0008	0.01	Q				
1+30	0.0008	0.01	Q				
1+35	0.0009	0.01	Q				
1+40	0.0009	0.01	Q				
1+45	0.0009	0.01	Q				
1+50	0.0010	0.01	Q				
1+55	0.0011	0.01	Q				
2+ 0	0.0011	0.01	Q				
2+ 5	0.0012	0.01	QV				
2+10	0.0012	0.01	QV				
2+15	0.0013	0.01	QV				
2+20	0.0014	0.01	QV				
2+25	0.0014	0.01	QV				
2+30	0.0015	0.01	QV				
2+35	0.0016	0.01	QV				
2+40	0.0016	0.01	QV				
2+45	0.0017	0.01	QV				
2+50	0.0018	0.01	QV				
2+55	0.0019	0.01	QV				
3+ 0	0.0019	0.01	QV				
3+ 5	0.0020	0.01	QV				
3+10	0.0021	0.01	QV				

3+15	0.0022	0.01	QV	|	|	|	|
3+20	0.0022	0.01	QV	|	|	|	|
3+25	0.0023	0.01	Q V	|	|	|	|
3+30	0.0024	0.01	Q V	|	|	|	|
3+35	0.0025	0.01	Q V	|	|	|	|
3+40	0.0025	0.01	Q V	|	|	|	|
3+45	0.0026	0.01	Q V	|	|	|	|
3+50	0.0027	0.01	Q V	|	|	|	|
3+55	0.0028	0.01	Q V	|	|	|	|
4+ 0	0.0029	0.01	Q V	|	|	|	|
4+ 5	0.0030	0.01	Q V	|	|	|	|
4+10	0.0031	0.01	Q V	|	|	|	|
4+15	0.0031	0.01	Q V	|	|	|	|
4+20	0.0033	0.01	Q V	|	|	|	|
4+25	0.0034	0.02	Q V	|	|	|	|
4+30	0.0035	0.02	Q V	|	|	|	|
4+35	0.0036	0.02	Q V	|	|	|	|
4+40	0.0037	0.02	Q V	|	|	|	|
4+45	0.0038	0.02	Q V	|	|	|	|
4+50	0.0039	0.02	Q V	|	|	|	|
4+55	0.0040	0.02	Q V	|	|	|	|
5+ 0	0.0041	0.02	Q V	|	|	|	|
5+ 5	0.0042	0.01	Q V	|	|	|	|
5+10	0.0043	0.01	Q V	|	|	|	|
5+15	0.0044	0.01	Q V	|	|	|	|
5+20	0.0045	0.01	Q V	|	|	|	|
5+25	0.0046	0.02	Q V	|	|	|	|
5+30	0.0047	0.02	Q V	|	|	|	|
5+35	0.0048	0.02	Q V	|	|	|	|
5+40	0.0050	0.02	Q V	|	|	|	|
5+45	0.0051	0.02	Q V	|	|	|	|
5+50	0.0052	0.02	Q V	|	|	|	|
5+55	0.0053	0.02	Q V	|	|	|	|
6+ 0	0.0055	0.02	Q V	|	|	|	|
6+ 5	0.0056	0.02	Q V	|	|	|	|
6+10	0.0057	0.02	Q V	|	|	|	|
6+15	0.0059	0.02	Q V	|	|	|	|
6+20	0.0060	0.02	Q V	|	|	|	|
6+25	0.0061	0.02	Q V	|	|	|	|
6+30	0.0063	0.02	Q V	|	|	|	|
6+35	0.0064	0.02	Q V	|	|	|	|
6+40	0.0066	0.02	Q V	|	|	|	|
6+45	0.0067	0.02	Q V	|	|	|	|
6+50	0.0069	0.02	Q V	|	|	|	|
6+55	0.0070	0.02	Q V	|	|	|	|
7+ 0	0.0072	0.02	Q V	|	|	|	|
7+ 5	0.0073	0.02	Q V	|	|	|	|
7+10	0.0075	0.02	Q V	|	|	|	|
7+15	0.0076	0.02	Q V	|	|	|	|
7+20	0.0078	0.02	Q V	|	|	|	|

7+25	0.0079	0.02	Q	V	|	|	|	|
7+30	0.0081	0.02	Q	V	|	|	|	|
7+35	0.0083	0.03	Q	V	|	|	|	|
7+40	0.0085	0.03	Q	V	|	|	|	|
7+45	0.0087	0.03	Q	V	|	|	|	|
7+50	0.0088	0.03	Q	V	|	|	|	|
7+55	0.0090	0.03	Q	V	|	|	|	|
8+ 0	0.0092	0.03	Q	V	|	|	|	|
8+ 5	0.0095	0.03	Q	V	|	|	|	|
8+10	0.0097	0.03	Q	V	|	|	|	|
8+15	0.0099	0.03	Q	V	|	|	|	|
8+20	0.0101	0.03	Q	V	|	|	|	|
8+25	0.0104	0.03	Q	V	|	|	|	|
8+30	0.0106	0.03	Q	V	|	|	|	|
8+35	0.0108	0.03	Q	V	|	|	|	|
8+40	0.0111	0.04	Q	V	|	|	|	|
8+45	0.0113	0.04	Q	V	|	|	|	|
8+50	0.0116	0.04	Q	V	|	|	|	|
8+55	0.0118	0.04	Q	V	|	|	|	|
9+ 0	0.0121	0.04	Q	V	|	|	|	|
9+ 5	0.0124	0.04	Q	V	|	|	|	|
9+10	0.0126	0.04	Q	|	V	|	|	|
9+15	0.0129	0.04	Q	|	V	|	|	|
9+20	0.0132	0.04	Q	|	V	|	|	|
9+25	0.0135	0.04	Q	|	V	|	|	|
9+30	0.0138	0.04	Q	|	|	V	|	|
9+35	0.0141	0.05	Q	|	|	V	|	|
9+40	0.0145	0.05	Q	|	|	V	|	|
9+45	0.0148	0.05	Q	|	|	|	V	|
9+50	0.0151	0.05	Q	|	|	|	V	|
9+55	0.0154	0.05	Q	|	|	|	V	|
10+ 0	0.0158	0.05	Q	|	|	|	V	|
10+ 5	0.0160	0.04	Q	|	|	|	|	V
10+10	0.0162	0.03	Q	|	|	|	|	V
10+15	0.0165	0.03	Q	|	|	|	|	V
10+20	0.0167	0.03	Q	|	|	|	|	V
10+25	0.0169	0.03	Q	|	|	|	|	V
10+30	0.0172	0.03	Q	|	|	|	|	V
10+35	0.0174	0.04	Q	|	|	|	|	V
10+40	0.0177	0.04	Q	|	|	|	|	V
10+45	0.0180	0.04	Q	|	|	|	|	V
10+50	0.0183	0.04	Q	|	|	|	|	V
10+55	0.0186	0.04	Q	|	|	|	|	V
11+ 0	0.0189	0.04	Q	|	|	|	|	V
11+ 5	0.0192	0.04	Q	|	|	|	|	V
11+10	0.0195	0.04	Q	|	|	|	|	V
11+15	0.0198	0.04	Q	|	|	|	|	V
11+20	0.0201	0.04	Q	|	|	|	|	V
11+25	0.0204	0.04	Q	|	|	|	|	V
11+30	0.0207	0.04	Q	|	|	|	|	V

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11+35       0.0209      0.04  Q         |       V |         |         |
11+40       0.0212      0.04  Q         |       V |         |         |
11+45       0.0214      0.04  Q         |       V |         |         |
11+50       0.0217      0.04  Q         |        V|         |         |
11+55       0.0220      0.04  Q         |        V|         |         |
12+ 0       0.0223      0.04  Q         |        V|         |         |
12+ 5       0.0226      0.05  Q         |        V|         |         |
12+10       0.0230      0.05  Q         |         V         |         |
12+15       0.0234      0.05  Q         |         V         |         |
12+20       0.0238      0.06  Q         |         V         |         |
12+25       0.0241      0.06  Q         |          V        |         |
12+30       0.0245      0.06  Q         |          V        |         |
12+35       0.0250      0.06  Q         |          V        |         |
12+40       0.0254      0.06  Q         |          V        |         |
12+45       0.0258      0.06  Q         |          V        |         |
12+50       0.0262      0.06  Q         |           V       |         |
12+55       0.0267      0.06  Q         |           V       |         |
13+ 0       0.0271      0.06  Q         |           V       |         |
13+ 5       0.0276      0.07  Q         |            V      |         |
13+10       0.0281      0.07  Q         |            V      |         |
13+15       0.0286      0.07  Q         |             V     |         |
13+20       0.0291      0.07  Q         |             V     |         |
13+25       0.0297      0.07  Q         |              V    |         |
13+30       0.0302      0.07  Q         |              V    |         |
13+35       0.0306      0.06  Q         |              V    |         |
13+40       0.0309      0.05  Q         |               V   |         |
13+45       0.0312      0.05  Q         |               V   |         |
13+50       0.0316      0.05  Q         |               V   |         |
13+55       0.0319      0.05  Q         |                V  |         |
14+ 0       0.0323      0.05  Q         |                V  |         |
14+ 5       0.0327      0.06  Q         |                V  |         |
14+10       0.0331      0.06  Q         |                 V|         |
14+15       0.0335      0.06  Q         |                 V|         |
14+20       0.0339      0.06  Q         |                 V|         |
14+25       0.0343      0.06  Q         |                  V         |
14+30       0.0347      0.06  Q         |                  V         |
14+35       0.0351      0.06  Q         |                  V         |
14+40       0.0355      0.06  Q         |                  |V        |
14+45       0.0359      0.06  Q         |                  |V        |
14+50       0.0362      0.06  Q         |                  | V       |
14+55       0.0366      0.05  Q         |                  | V       |
15+ 0       0.0370      0.05  Q         |                  | V       |
15+ 5       0.0374      0.05  Q         |                  |  V      |
15+10       0.0377      0.05  Q         |                  |  V      |
15+15       0.0381      0.05  Q         |                  |  V      |
15+20       0.0384      0.05  Q         |                  |  V      |
15+25       0.0388      0.05  Q         |                  |   V     |
15+30       0.0391      0.05  Q         |                  |   V     |
15+35       0.0394      0.04  Q         |                  |   V     |
15+40       0.0397      0.04  Q         |                  |    V    |
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15+45       0.0400      0.04  Q         |          |          |    V     |
15+50       0.0403      0.04  Q         |          |          |    V     |
15+55       0.0406      0.04  Q         |          |          |    V     |
16+ 0       0.0409      0.04  Q         |          |          |     V    |
16+ 5       0.0410      0.02  Q         |          |          |     V    |
16+10       0.0410      0.01  Q         |          |          |     V    |
16+15       0.0411      0.01  Q         |          |          |     V    |
16+20       0.0411      0.01  Q         |          |          |     V    |
16+25       0.0412      0.01  Q         |          |          |     V    |
16+30       0.0413      0.01  Q         |          |          |     V    |
16+35       0.0413      0.01  Q         |          |          |     V    |
16+40       0.0414      0.01  Q         |          |          |     V    |
16+45       0.0414      0.01  Q         |          |          |     V    |
16+50       0.0415      0.01  Q         |          |          |     V    |
16+55       0.0415      0.01  Q         |          |          |     V    |
17+ 0       0.0415      0.01  Q         |          |          |     V    |
17+ 5       0.0416      0.01  Q         |          |          |     V    |
17+10       0.0417      0.01  Q         |          |          |     V    |
17+15       0.0418      0.01  Q         |          |          |     V    |
17+20       0.0418      0.01  Q         |          |          |     V    |
17+25       0.0419      0.01  Q         |          |          |      V   |
17+30       0.0420      0.01  Q         |          |          |      V   |
17+35       0.0421      0.01  Q         |          |          |      V   |
17+40       0.0421      0.01  Q         |          |          |      V   |
17+45       0.0422      0.01  Q         |          |          |      V   |
17+50       0.0423      0.01  Q         |          |          |      V   |
17+55       0.0423      0.01  Q         |          |          |      V   |
18+ 0       0.0424      0.01  Q         |          |          |      V   |
18+ 5       0.0425      0.01  Q         |          |          |      V   |
18+10       0.0425      0.01  Q         |          |          |      V   |
18+15       0.0426      0.01  Q         |          |          |      V   |
18+20       0.0426      0.01  Q         |          |          |      V   |
18+25       0.0427      0.01  Q         |          |          |      V   |
18+30       0.0428      0.01  Q         |          |          |      V   |
18+35       0.0428      0.01  Q         |          |          |      V   |
18+40       0.0429      0.01  Q         |          |          |      V   |
18+45       0.0429      0.01  Q         |          |          |      V   |
18+50       0.0429      0.00  Q         |          |          |      V   |
18+55       0.0430      0.00  Q         |          |          |      V   |
19+ 0       0.0430      0.00  Q         |          |          |      V   |
19+ 5       0.0430      0.01  Q         |          |          |       V  |
19+10       0.0431      0.01  Q         |          |          |       V  |
19+15       0.0431      0.01  Q         |          |          |       V  |
19+20       0.0432      0.01  Q         |          |          |       V  |
19+25       0.0432      0.01  Q         |          |          |       V  |
19+30       0.0433      0.01  Q         |          |          |       V  |
19+35       0.0434      0.01  Q         |          |          |       V  |
19+40       0.0434      0.01  Q         |          |          |       V  |
19+45       0.0434      0.01  Q         |          |          |       V  |
19+50       0.0435      0.00  Q         |          |          |       V  |
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19+55	0.0435	0.00	Q	|	|	|	V |
20+ 0	0.0435	0.00	Q	|	|	|	V |
20+ 5	0.0436	0.01	Q	|	|	|	V |
20+10	0.0436	0.01	Q	|	|	|	V |
20+15	0.0437	0.01	Q	|	|	|	V |
20+20	0.0437	0.01	Q	|	|	|	V |
20+25	0.0438	0.01	Q	|	|	|	V |
20+30	0.0438	0.01	Q	|	|	|	V |
20+35	0.0439	0.01	Q	|	|	|	V |
20+40	0.0439	0.01	Q	|	|	|	V |
20+45	0.0439	0.01	Q	|	|	|	V |
20+50	0.0440	0.00	Q	|	|	|	V |
20+55	0.0440	0.00	Q	|	|	|	V |
21+ 0	0.0440	0.00	Q	|	|	|	V |
21+ 5	0.0441	0.01	Q	|	|	|	V |
21+10	0.0441	0.01	Q	|	|	|	V |
21+15	0.0442	0.01	Q	|	|	|	V|
21+20	0.0442	0.00	Q	|	|	|	V|
21+25	0.0442	0.00	Q	|	|	|	V|
21+30	0.0443	0.00	Q	|	|	|	V|
21+35	0.0443	0.01	Q	|	|	|	V|
21+40	0.0444	0.01	Q	|	|	|	V|
21+45	0.0444	0.01	Q	|	|	|	V|
21+50	0.0444	0.00	Q	|	|	|	V|
21+55	0.0445	0.00	Q	|	|	|	V|
22+ 0	0.0445	0.00	Q	|	|	|	V|
22+ 5	0.0445	0.01	Q	|	|	|	V|
22+10	0.0446	0.01	Q	|	|	|	V|
22+15	0.0446	0.01	Q	|	|	|	V|
22+20	0.0447	0.00	Q	|	|	|	V|
22+25	0.0447	0.00	Q	|	|	|	V|
22+30	0.0447	0.00	Q	|	|	|	V|
22+35	0.0447	0.00	Q	|	|	|	V|
22+40	0.0448	0.00	Q	|	|	|	V|
22+45	0.0448	0.00	Q	|	|	|	V|
22+50	0.0448	0.00	Q	|	|	|	V|
22+55	0.0449	0.00	Q	|	|	|	V|
23+ 0	0.0449	0.00	Q	|	|	|	V|
23+ 5	0.0449	0.00	Q	|	|	|	V|
23+10	0.0450	0.00	Q	|	|	|	V|
23+15	0.0450	0.00	Q	|	|	|	V|
23+20	0.0450	0.00	Q	|	|	|	V|
23+25	0.0450	0.00	Q	|	|	|	V|
23+30	0.0451	0.00	Q	|	|	|	V|
23+35	0.0451	0.00	Q	|	|	|	V|
23+40	0.0451	0.00	Q	|	|	|	V|
23+45	0.0452	0.00	Q	|	|	|	V|
23+50	0.0452	0.00	Q	|	|	|	V|
23+55	0.0452	0.00	Q	|	|	|	V|
24+ 0	0.0453	0.00	Q	|	|	|	V|

```
   24+ 5       0.0453      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

Study date 04/04/22 File: PERRISPOST242.out

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
POST DEVELOPMENT CONDITION
2 YEAR 24 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.94                   5.43

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            4.91                  13.75

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.940(In)
Area Averaged 100-Year Rainfall =    4.910(In)

Point rain (area averaged) =    1.940(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.940(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           56.00         0.810
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  56.0      0.511     0.810        0.138       1.000      0.138
                                                 Sum (F) =   0.138
Area averaged mean soil loss (F) (In/Hr) =  0.138
Minimum soil loss rate ((In/Hr)) =  0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.252
------------------------------------------------------------------------

               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        683.770         78.076             2.203
    2   0.167       1367.541         21.924             0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

 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	0.016	(0.245)	0.004	0.012
2	0.17	0.07	0.016	(0.244)	0.004	0.012
3	0.25	0.07	0.016	(0.243)	0.004	0.012
4	0.33	0.10	0.023	(0.243)	0.006	0.017
5	0.42	0.10	0.023	(0.242)	0.006	0.017
6	0.50	0.10	0.023	(0.241)	0.006	0.017
7	0.58	0.10	0.023	(0.240)	0.006	0.017
8	0.67	0.10	0.023	(0.239)	0.006	0.017
9	0.75	0.10	0.023	(0.238)	0.006	0.017
10	0.83	0.13	0.031	(0.237)	0.008	0.023
11	0.92	0.13	0.031	(0.236)	0.008	0.023
12	1.00	0.13	0.031	(0.235)	0.008	0.023
13	1.08	0.10	0.023	(0.234)	0.006	0.017
14	1.17	0.10	0.023	(0.233)	0.006	0.017
15	1.25	0.10	0.023	(0.232)	0.006	0.017
16	1.33	0.10	0.023	(0.231)	0.006	0.017
17	1.42	0.10	0.023	(0.230)	0.006	0.017
18	1.50	0.10	0.023	(0.230)	0.006	0.017
19	1.58	0.10	0.023	(0.229)	0.006	0.017
20	1.67	0.10	0.023	(0.228)	0.006	0.017
21	1.75	0.10	0.023	(0.227)	0.006	0.017
22	1.83	0.13	0.031	(0.226)	0.008	0.023
23	1.92	0.13	0.031	(0.225)	0.008	0.023
24	2.00	0.13	0.031	(0.224)	0.008	0.023
25	2.08	0.13	0.031	(0.223)	0.008	0.023
26	2.17	0.13	0.031	(0.222)	0.008	0.023
27	2.25	0.13	0.031	(0.221)	0.008	0.023
28	2.33	0.13	0.031	(0.220)	0.008	0.023
29	2.42	0.13	0.031	(0.220)	0.008	0.023
30	2.50	0.13	0.031	(0.219)	0.008	0.023
31	2.58	0.17	0.039	(0.218)	0.010	0.029
32	2.67	0.17	0.039	(0.217)	0.010	0.029
33	2.75	0.17	0.039	(0.216)	0.010	0.029
34	2.83	0.17	0.039	(0.215)	0.010	0.029
35	2.92	0.17	0.039	(0.214)	0.010	0.029
36	3.00	0.17	0.039	(0.213)	0.010	0.029
37	3.08	0.17	0.039	(0.212)	0.010	0.029
38	3.17	0.17	0.039	(0.212)	0.010	0.029
39	3.25	0.17	0.039	(0.211)	0.010	0.029
40	3.33	0.17	0.039	(0.210)	0.010	0.029
41	3.42	0.17	0.039	(0.209)	0.010	0.029
42	3.50	0.17	0.039	(0.208)	0.010	0.029
43	3.58	0.17	0.039	(0.207)	0.010	0.029
44	3.67	0.17	0.039	(0.206)	0.010	0.029
45	3.75	0.17	0.039	(0.205)	0.010	0.029
46	3.83	0.20	0.047	(0.205)	0.012	0.035
47	3.92	0.20	0.047	(0.204)	0.012	0.035

48	4.00	0.20	0.047	(0.203)	0.012	0.035
49	4.08	0.20	0.047	(0.202)	0.012	0.035
50	4.17	0.20	0.047	(0.201)	0.012	0.035
51	4.25	0.20	0.047	(0.200)	0.012	0.035
52	4.33	0.23	0.054	(0.199)	0.014	0.041
53	4.42	0.23	0.054	(0.199)	0.014	0.041
54	4.50	0.23	0.054	(0.198)	0.014	0.041
55	4.58	0.23	0.054	(0.197)	0.014	0.041
56	4.67	0.23	0.054	(0.196)	0.014	0.041
57	4.75	0.23	0.054	(0.195)	0.014	0.041
58	4.83	0.27	0.062	(0.194)	0.016	0.046
59	4.92	0.27	0.062	(0.193)	0.016	0.046
60	5.00	0.27	0.062	(0.193)	0.016	0.046
61	5.08	0.20	0.047	(0.192)	0.012	0.035
62	5.17	0.20	0.047	(0.191)	0.012	0.035
63	5.25	0.20	0.047	(0.190)	0.012	0.035
64	5.33	0.23	0.054	(0.189)	0.014	0.041
65	5.42	0.23	0.054	(0.188)	0.014	0.041
66	5.50	0.23	0.054	(0.188)	0.014	0.041
67	5.58	0.27	0.062	(0.187)	0.016	0.046
68	5.67	0.27	0.062	(0.186)	0.016	0.046
69	5.75	0.27	0.062	(0.185)	0.016	0.046
70	5.83	0.27	0.062	(0.184)	0.016	0.046
71	5.92	0.27	0.062	(0.184)	0.016	0.046
72	6.00	0.27	0.062	(0.183)	0.016	0.046
73	6.08	0.30	0.070	(0.182)	0.018	0.052
74	6.17	0.30	0.070	(0.181)	0.018	0.052
75	6.25	0.30	0.070	(0.180)	0.018	0.052
76	6.33	0.30	0.070	(0.179)	0.018	0.052
77	6.42	0.30	0.070	(0.179)	0.018	0.052
78	6.50	0.30	0.070	(0.178)	0.018	0.052
79	6.58	0.33	0.078	(0.177)	0.020	0.058
80	6.67	0.33	0.078	(0.176)	0.020	0.058
81	6.75	0.33	0.078	(0.175)	0.020	0.058
82	6.83	0.33	0.078	(0.175)	0.020	0.058
83	6.92	0.33	0.078	(0.174)	0.020	0.058
84	7.00	0.33	0.078	(0.173)	0.020	0.058
85	7.08	0.33	0.078	(0.172)	0.020	0.058
86	7.17	0.33	0.078	(0.172)	0.020	0.058
87	7.25	0.33	0.078	(0.171)	0.020	0.058
88	7.33	0.37	0.085	(0.170)	0.022	0.064
89	7.42	0.37	0.085	(0.169)	0.022	0.064
90	7.50	0.37	0.085	(0.168)	0.022	0.064
91	7.58	0.40	0.093	(0.168)	0.023	0.070
92	7.67	0.40	0.093	(0.167)	0.023	0.070
93	7.75	0.40	0.093	(0.166)	0.023	0.070
94	7.83	0.43	0.101	(0.165)	0.025	0.075
95	7.92	0.43	0.101	(0.165)	0.025	0.075
96	8.00	0.43	0.101	(0.164)	0.025	0.075
97	8.08	0.50	0.116	(0.163)	0.029	0.087

98	8.17	0.50	0.116	(0.162)	0.029	0.087
99	8.25	0.50	0.116	(0.162)	0.029	0.087
100	8.33	0.50	0.116	(0.161)	0.029	0.087
101	8.42	0.50	0.116	(0.160)	0.029	0.087
102	8.50	0.50	0.116	(0.159)	0.029	0.087
103	8.58	0.53	0.124	(0.159)	0.031	0.093
104	8.67	0.53	0.124	(0.158)	0.031	0.093
105	8.75	0.53	0.124	(0.157)	0.031	0.093
106	8.83	0.57	0.132	(0.156)	0.033	0.099
107	8.92	0.57	0.132	(0.156)	0.033	0.099
108	9.00	0.57	0.132	(0.155)	0.033	0.099
109	9.08	0.63	0.147	(0.154)	0.037	0.110
110	9.17	0.63	0.147	(0.153)	0.037	0.110
111	9.25	0.63	0.147	(0.153)	0.037	0.110
112	9.33	0.67	0.155	(0.152)	0.039	0.116
113	9.42	0.67	0.155	(0.151)	0.039	0.116
114	9.50	0.67	0.155	(0.150)	0.039	0.116
115	9.58	0.70	0.163	(0.150)	0.041	0.122
116	9.67	0.70	0.163	(0.149)	0.041	0.122
117	9.75	0.70	0.163	(0.148)	0.041	0.122
118	9.83	0.73	0.171	(0.148)	0.043	0.128
119	9.92	0.73	0.171	(0.147)	0.043	0.128
120	10.00	0.73	0.171	(0.146)	0.043	0.128
121	10.08	0.50	0.116	(0.145)	0.029	0.087
122	10.17	0.50	0.116	(0.145)	0.029	0.087
123	10.25	0.50	0.116	(0.144)	0.029	0.087
124	10.33	0.50	0.116	(0.143)	0.029	0.087
125	10.42	0.50	0.116	(0.143)	0.029	0.087
126	10.50	0.50	0.116	(0.142)	0.029	0.087
127	10.58	0.67	0.155	(0.141)	0.039	0.116
128	10.67	0.67	0.155	(0.141)	0.039	0.116
129	10.75	0.67	0.155	(0.140)	0.039	0.116
130	10.83	0.67	0.155	(0.139)	0.039	0.116
131	10.92	0.67	0.155	(0.139)	0.039	0.116
132	11.00	0.67	0.155	(0.138)	0.039	0.116
133	11.08	0.63	0.147	(0.137)	0.037	0.110
134	11.17	0.63	0.147	(0.136)	0.037	0.110
135	11.25	0.63	0.147	(0.136)	0.037	0.110
136	11.33	0.63	0.147	(0.135)	0.037	0.110
137	11.42	0.63	0.147	(0.134)	0.037	0.110
138	11.50	0.63	0.147	(0.134)	0.037	0.110
139	11.58	0.57	0.132	(0.133)	0.033	0.099
140	11.67	0.57	0.132	(0.132)	0.033	0.099
141	11.75	0.57	0.132	(0.132)	0.033	0.099
142	11.83	0.60	0.140	(0.131)	0.035	0.104
143	11.92	0.60	0.140	(0.131)	0.035	0.104
144	12.00	0.60	0.140	(0.130)	0.035	0.104
145	12.08	0.83	0.194	(0.129)	0.049	0.145
146	12.17	0.83	0.194	(0.129)	0.049	0.145
147	12.25	0.83	0.194	(0.128)	0.049	0.145

148	12.33	0.87	0.202	(0.127)	0.051	0.151
149	12.42	0.87	0.202	(0.127)	0.051	0.151
150	12.50	0.87	0.202	(0.126)	0.051	0.151
151	12.58	0.93	0.217	(0.125)	0.055	0.163
152	12.67	0.93	0.217	(0.125)	0.055	0.163
153	12.75	0.93	0.217	(0.124)	0.055	0.163
154	12.83	0.97	0.225	(0.123)	0.057	0.168
155	12.92	0.97	0.225	(0.123)	0.057	0.168
156	13.00	0.97	0.225	(0.122)	0.057	0.168
157	13.08	1.13	0.264	(0.122)	0.066	0.197
158	13.17	1.13	0.264	(0.121)	0.066	0.197
159	13.25	1.13	0.264	(0.120)	0.066	0.197
160	13.33	1.13	0.264	(0.120)	0.066	0.197
161	13.42	1.13	0.264	(0.119)	0.066	0.197
162	13.50	1.13	0.264	(0.119)	0.066	0.197
163	13.58	0.77	0.178	(0.118)	0.045	0.134
164	13.67	0.77	0.178	(0.117)	0.045	0.134
165	13.75	0.77	0.178	(0.117)	0.045	0.134
166	13.83	0.77	0.178	(0.116)	0.045	0.134
167	13.92	0.77	0.178	(0.116)	0.045	0.134
168	14.00	0.77	0.178	(0.115)	0.045	0.134
169	14.08	0.90	0.210	(0.114)	0.053	0.157
170	14.17	0.90	0.210	(0.114)	0.053	0.157
171	14.25	0.90	0.210	(0.113)	0.053	0.157
172	14.33	0.87	0.202	(0.113)	0.051	0.151
173	14.42	0.87	0.202	(0.112)	0.051	0.151
174	14.50	0.87	0.202	(0.112)	0.051	0.151
175	14.58	0.87	0.202	(0.111)	0.051	0.151
176	14.67	0.87	0.202	(0.110)	0.051	0.151
177	14.75	0.87	0.202	(0.110)	0.051	0.151
178	14.83	0.83	0.194	(0.109)	0.049	0.145
179	14.92	0.83	0.194	(0.109)	0.049	0.145
180	15.00	0.83	0.194	(0.108)	0.049	0.145
181	15.08	0.80	0.186	(0.108)	0.047	0.139
182	15.17	0.80	0.186	(0.107)	0.047	0.139
183	15.25	0.80	0.186	(0.106)	0.047	0.139
184	15.33	0.77	0.178	(0.106)	0.045	0.134
185	15.42	0.77	0.178	(0.105)	0.045	0.134
186	15.50	0.77	0.178	(0.105)	0.045	0.134
187	15.58	0.63	0.147	(0.104)	0.037	0.110
188	15.67	0.63	0.147	(0.104)	0.037	0.110
189	15.75	0.63	0.147	(0.103)	0.037	0.110
190	15.83	0.63	0.147	(0.103)	0.037	0.110
191	15.92	0.63	0.147	(0.102)	0.037	0.110
192	16.00	0.63	0.147	(0.102)	0.037	0.110
193	16.08	0.13	0.031	(0.101)	0.008	0.023
194	16.17	0.13	0.031	(0.101)	0.008	0.023
195	16.25	0.13	0.031	(0.100)	0.008	0.023
196	16.33	0.13	0.031	(0.100)	0.008	0.023
197	16.42	0.13	0.031	(0.099)	0.008	0.023

198	16.50	0.13	0.031	(0.099)	0.008	0.023
199	16.58	0.10	0.023	(0.098)	0.006	0.017
200	16.67	0.10	0.023	(0.098)	0.006	0.017
201	16.75	0.10	0.023	(0.097)	0.006	0.017
202	16.83	0.10	0.023	(0.097)	0.006	0.017
203	16.92	0.10	0.023	(0.096)	0.006	0.017
204	17.00	0.10	0.023	(0.096)	0.006	0.017
205	17.08	0.17	0.039	(0.095)	0.010	0.029
206	17.17	0.17	0.039	(0.095)	0.010	0.029
207	17.25	0.17	0.039	(0.094)	0.010	0.029
208	17.33	0.17	0.039	(0.094)	0.010	0.029
209	17.42	0.17	0.039	(0.093)	0.010	0.029
210	17.50	0.17	0.039	(0.093)	0.010	0.029
211	17.58	0.17	0.039	(0.092)	0.010	0.029
212	17.67	0.17	0.039	(0.092)	0.010	0.029
213	17.75	0.17	0.039	(0.091)	0.010	0.029
214	17.83	0.13	0.031	(0.091)	0.008	0.023
215	17.92	0.13	0.031	(0.090)	0.008	0.023
216	18.00	0.13	0.031	(0.090)	0.008	0.023
217	18.08	0.13	0.031	(0.090)	0.008	0.023
218	18.17	0.13	0.031	(0.089)	0.008	0.023
219	18.25	0.13	0.031	(0.089)	0.008	0.023
220	18.33	0.13	0.031	(0.088)	0.008	0.023
221	18.42	0.13	0.031	(0.088)	0.008	0.023
222	18.50	0.13	0.031	(0.087)	0.008	0.023
223	18.58	0.10	0.023	(0.087)	0.006	0.017
224	18.67	0.10	0.023	(0.087)	0.006	0.017
225	18.75	0.10	0.023	(0.086)	0.006	0.017
226	18.83	0.07	0.016	(0.086)	0.004	0.012
227	18.92	0.07	0.016	(0.085)	0.004	0.012
228	19.00	0.07	0.016	(0.085)	0.004	0.012
229	19.08	0.10	0.023	(0.085)	0.006	0.017
230	19.17	0.10	0.023	(0.084)	0.006	0.017
231	19.25	0.10	0.023	(0.084)	0.006	0.017
232	19.33	0.13	0.031	(0.083)	0.008	0.023
233	19.42	0.13	0.031	(0.083)	0.008	0.023
234	19.50	0.13	0.031	(0.083)	0.008	0.023
235	19.58	0.10	0.023	(0.082)	0.006	0.017
236	19.67	0.10	0.023	(0.082)	0.006	0.017
237	19.75	0.10	0.023	(0.081)	0.006	0.017
238	19.83	0.07	0.016	(0.081)	0.004	0.012
239	19.92	0.07	0.016	(0.081)	0.004	0.012
240	20.00	0.07	0.016	(0.080)	0.004	0.012
241	20.08	0.10	0.023	(0.080)	0.006	0.017
242	20.17	0.10	0.023	(0.080)	0.006	0.017
243	20.25	0.10	0.023	(0.079)	0.006	0.017
244	20.33	0.10	0.023	(0.079)	0.006	0.017
245	20.42	0.10	0.023	(0.079)	0.006	0.017
246	20.50	0.10	0.023	(0.078)	0.006	0.017
247	20.58	0.10	0.023	(0.078)	0.006	0.017

248	20.67	0.10	0.023	(0.078)	0.006	0.017
249	20.75	0.10	0.023	(0.077)	0.006	0.017
250	20.83	0.07	0.016	(0.077)	0.004	0.012
251	20.92	0.07	0.016	(0.077)	0.004	0.012
252	21.00	0.07	0.016	(0.076)	0.004	0.012
253	21.08	0.10	0.023	(0.076)	0.006	0.017
254	21.17	0.10	0.023	(0.076)	0.006	0.017
255	21.25	0.10	0.023	(0.076)	0.006	0.017
256	21.33	0.07	0.016	(0.075)	0.004	0.012
257	21.42	0.07	0.016	(0.075)	0.004	0.012
258	21.50	0.07	0.016	(0.075)	0.004	0.012
259	21.58	0.10	0.023	(0.074)	0.006	0.017
260	21.67	0.10	0.023	(0.074)	0.006	0.017
261	21.75	0.10	0.023	(0.074)	0.006	0.017
262	21.83	0.07	0.016	(0.074)	0.004	0.012
263	21.92	0.07	0.016	(0.073)	0.004	0.012
264	22.00	0.07	0.016	(0.073)	0.004	0.012
265	22.08	0.10	0.023	(0.073)	0.006	0.017
266	22.17	0.10	0.023	(0.073)	0.006	0.017
267	22.25	0.10	0.023	(0.072)	0.006	0.017
268	22.33	0.07	0.016	(0.072)	0.004	0.012
269	22.42	0.07	0.016	(0.072)	0.004	0.012
270	22.50	0.07	0.016	(0.072)	0.004	0.012
271	22.58	0.07	0.016	(0.072)	0.004	0.012
272	22.67	0.07	0.016	(0.071)	0.004	0.012
273	22.75	0.07	0.016	(0.071)	0.004	0.012
274	22.83	0.07	0.016	(0.071)	0.004	0.012
275	22.92	0.07	0.016	(0.071)	0.004	0.012
276	23.00	0.07	0.016	(0.071)	0.004	0.012
277	23.08	0.07	0.016	(0.070)	0.004	0.012
278	23.17	0.07	0.016	(0.070)	0.004	0.012
279	23.25	0.07	0.016	(0.070)	0.004	0.012
280	23.33	0.07	0.016	(0.070)	0.004	0.012
281	23.42	0.07	0.016	(0.070)	0.004	0.012
282	23.50	0.07	0.016	(0.070)	0.004	0.012
283	23.58	0.07	0.016	(0.070)	0.004	0.012
284	23.67	0.07	0.016	(0.069)	0.004	0.012
285	23.75	0.07	0.016	(0.069)	0.004	0.012
286	23.83	0.07	0.016	(0.069)	0.004	0.012
287	23.92	0.07	0.016	(0.069)	0.004	0.012
288	24.00	0.07	0.016	(0.069)	0.004	0.012

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.4

Flood volume = Effective rainfall 1.45(In)
times area 2.8(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.49(In)
Total soil loss = 0.114(Ac.Ft)
Total rainfall = 1.94(In)
Flood volume = 14749.1 Cubic Feet
Total soil loss = 4968.9 Cubic Feet

Peak flow rate of this hydrograph = 0.557(CFS)

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24 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0004	0.03	Q				
0+15	0.0006	0.03	Q				
0+20	0.0009	0.05	Q				
0+25	0.0013	0.05	Q				
0+30	0.0016	0.05	Q				
0+35	0.0020	0.05	Q				
0+40	0.0023	0.05	Q				
0+45	0.0026	0.05	Q				
0+50	0.0031	0.06	Q				
0+55	0.0035	0.07	Q				
1+ 0	0.0040	0.07	Q				
1+ 5	0.0043	0.05	Q				
1+10	0.0047	0.05	Q				
1+15	0.0050	0.05	Q				
1+20	0.0053	0.05	Q				
1+25	0.0057	0.05	Q				
1+30	0.0060	0.05	Q				
1+35	0.0064	0.05	Q				
1+40	0.0067	0.05	Q				
1+45	0.0070	0.05	Q				
1+50	0.0075	0.06	Q				
1+55	0.0079	0.07	Q				
2+ 0	0.0084	0.07	Q				
2+ 5	0.0088	0.07	QV				
2+10	0.0093	0.07	QV				
2+15	0.0097	0.07	QV				
2+20	0.0102	0.07	QV				
2+25	0.0106	0.07	QV				
2+30	0.0111	0.07	QV				
2+35	0.0116	0.08	QV				
2+40	0.0122	0.08	QV				
2+45	0.0127	0.08	QV				
2+50	0.0133	0.08	QV				
2+55	0.0139	0.08	QV				
3+ 0	0.0144	0.08	QV				
3+ 5	0.0150	0.08	QV				
3+10	0.0156	0.08	QV				

3+15	0.0161	0.08	QV	|	|	|	|
3+20	0.0167	0.08	QV	|	|	|	|
3+25	0.0173	0.08	Q V	|	|	|	|
3+30	0.0178	0.08	Q V	|	|	|	|
3+35	0.0184	0.08	Q V	|	|	|	|
3+40	0.0190	0.08	Q V	|	|	|	|
3+45	0.0195	0.08	Q V	|	|	|	|
3+50	0.0202	0.09	Q V	|	|	|	|
3+55	0.0208	0.10	Q V	|	|	|	|
4+ 0	0.0215	0.10	Q V	|	|	|	|
4+ 5	0.0222	0.10	Q V	|	|	|	|
4+10	0.0229	0.10	Q V	|	|	|	|
4+15	0.0236	0.10	Q V	|	|	|	|
4+20	0.0243	0.11	Q V	|	|	|	|
4+25	0.0251	0.11	Q V	|	|	|	|
4+30	0.0259	0.11	Q V	|	|	|	|
4+35	0.0267	0.11	Q V	|	|	|	|
4+40	0.0275	0.11	Q V	|	|	|	|
4+45	0.0283	0.11	Q V	|	|	|	|
4+50	0.0291	0.13	Q V	|	|	|	|
4+55	0.0300	0.13	Q V	|	|	|	|
5+ 0	0.0310	0.13	Q V	|	|	|	|
5+ 5	0.0317	0.11	Q V	|	|	|	|
5+10	0.0324	0.10	Q V	|	|	|	|
5+15	0.0330	0.10	Q V	|	|	|	|
5+20	0.0338	0.11	Q V	|	|	|	|
5+25	0.0346	0.11	Q V	|	|	|	|
5+30	0.0354	0.11	Q V	|	|	|	|
5+35	0.0363	0.13	Q V	|	|	|	|
5+40	0.0372	0.13	Q V	|	|	|	|
5+45	0.0381	0.13	Q V	|	|	|	|
5+50	0.0390	0.13	Q V	|	|	|	|
5+55	0.0399	0.13	Q V	|	|	|	|
6+ 0	0.0408	0.13	Q V	|	|	|	|
6+ 5	0.0418	0.14	Q V	|	|	|	|
6+10	0.0428	0.15	Q V	|	|	|	|
6+15	0.0438	0.15	Q V	|	|	|	|
6+20	0.0448	0.15	Q V	|	|	|	|
6+25	0.0458	0.15	Q V	|	|	|	|
6+30	0.0468	0.15	Q V	|	|	|	|
6+35	0.0479	0.16	Q V	|	|	|	|
6+40	0.0491	0.16	Q V	|	|	|	|
6+45	0.0502	0.16	Q V	|	|	|	|
6+50	0.0513	0.16	Q V	|	|	|	|
6+55	0.0525	0.16	Q V	|	|	|	|
7+ 0	0.0536	0.16	Q V	|	|	|	|
7+ 5	0.0547	0.16	Q V	|	|	|	|
7+10	0.0558	0.16	Q V	|	|	|	|
7+15	0.0570	0.16	Q V	|	|	|	|
7+20	0.0582	0.18	Q V	|	|	|	|

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 7+25       0.0594      0.18  Q      V  |          |          |          |
 7+30       0.0607      0.18  Q      V  |          |          |          |
 7+35       0.0620      0.19  Q      V  |          |          |          |
 7+40       0.0634      0.20  Q      V  |          |          |          |
 7+45       0.0647      0.20  Q      V  |          |          |          |
 7+50       0.0662      0.21  Q      V  |          |          |          |
 7+55       0.0676      0.21  Q      V  |          |          |          |
 8+ 0       0.0691      0.21  Q       V |          |          |          |
 8+ 5       0.0707      0.24  Q       V |          |          |          |
 8+10       0.0724      0.25  Q       V |          |          |          |
 8+15       0.0741      0.25  Q       V |          |          |          |
 8+20       0.0758      0.25  Q       V |          |          |          |
 8+25       0.0775      0.25  Q        V|          |          |          |
 8+30       0.0792      0.25  Q        V|          |          |          |
 8+35       0.0810      0.26  |Q       V|          |          |          |
 8+40       0.0828      0.26  |Q       V|          |          |          |
 8+45       0.0846      0.26  |Q       V|          |          |          |
 8+50       0.0865      0.28  |Q        V          |          |          |
 8+55       0.0884      0.28  |Q        V          |          |          |
 9+ 0       0.0903      0.28  |Q        V          |          |          |
 9+ 5       0.0924      0.30  |Q        V          |          |          |
 9+10       0.0946      0.31  |Q        |V         |          |          |
 9+15       0.0967      0.31  |Q        |V         |          |          |
 9+20       0.0989      0.32  |Q        |V         |          |          |
 9+25       0.1012      0.33  |Q        |V         |          |          |
 9+30       0.1035      0.33  |Q        | V        |          |          |
 9+35       0.1058      0.34  |Q        | V        |          |          |
 9+40       0.1082      0.34  |Q        | V        |          |          |
 9+45       0.1105      0.34  |Q        |  V       |          |          |
 9+50       0.1130      0.36  |Q        |  V       |          |          |
 9+55       0.1155      0.36  |Q        |  V       |          |          |
10+ 0       0.1180      0.36  |Q        |  V       |          |          |
10+ 5       0.1198      0.27  |Q        |   V      |          |          |
10+10       0.1215      0.25  Q         |   V      |          |          |
10+15       0.1232      0.25  Q         |   V      |          |          |
10+20       0.1249      0.25  Q         |   V      |          |          |
10+25       0.1266      0.25  Q         |   V      |          |          |
10+30       0.1283      0.25  Q         |    V     |          |          |
10+35       0.1304      0.31  |Q        |    V     |          |          |
10+40       0.1327      0.33  |Q        |    V     |          |          |
10+45       0.1349      0.33  |Q        |    V     |          |          |
10+50       0.1372      0.33  |Q        |     V    |          |          |
10+55       0.1395      0.33  |Q        |     V    |          |          |
11+ 0       0.1417      0.33  |Q        |     V    |          |          |
11+ 5       0.1439      0.31  |Q        |     V    |          |          |
11+10       0.1460      0.31  |Q        |      V   |          |          |
11+15       0.1482      0.31  |Q        |      V   |          |          |
11+20       0.1503      0.31  |Q        |      V   |          |          |
11+25       0.1525      0.31  |Q        |       V  |          |          |
11+30       0.1546      0.31  |Q        |       V  |          |          |
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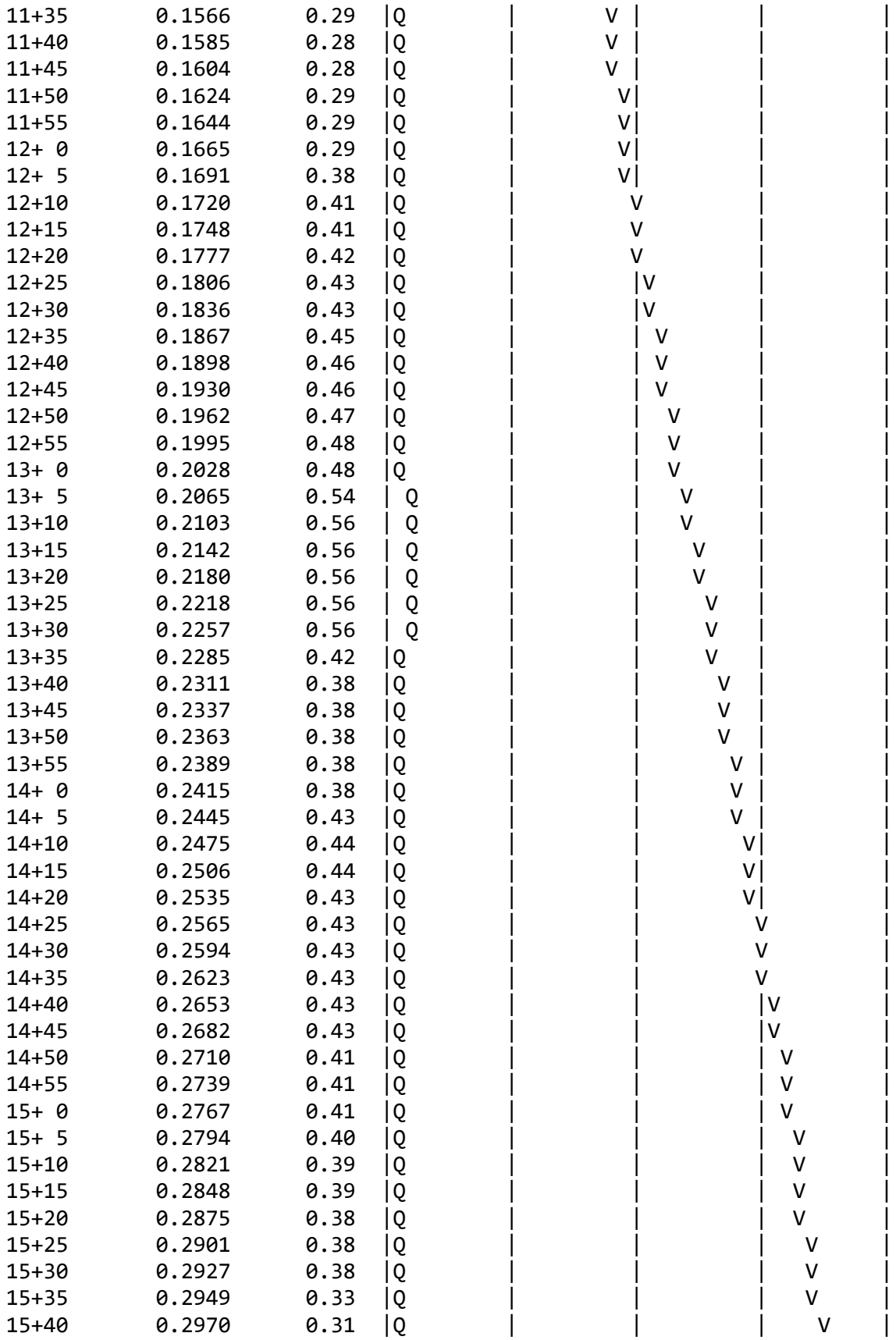

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15+45       0.2992      0.31  |Q        |         |         |    V    |
15+50       0.3013      0.31  |Q        |         |         |    V    |
15+55       0.3035      0.31  |Q        |         |         |    V    |
16+ 0       0.3056      0.31  |Q        |         |         |     V   |
16+ 5       0.3064      0.12  Q         |         |         |     V   |
16+10       0.3069      0.07  Q         |         |         |     V   |
16+15       0.3073      0.07  Q         |         |         |     V   |
16+20       0.3078      0.07  Q         |         |         |     V   |
16+25       0.3082      0.07  Q         |         |         |     V   |
16+30       0.3087      0.07  Q         |         |         |     V   |
16+35       0.3091      0.05  Q         |         |         |     V   |
16+40       0.3094      0.05  Q         |         |         |     V   |
16+45       0.3097      0.05  Q         |         |         |     V   |
16+50       0.3101      0.05  Q         |         |         |     V   |
16+55       0.3104      0.05  Q         |         |         |     V   |
17+ 0       0.3108      0.05  Q         |         |         |     V   |
17+ 5       0.3113      0.07  Q         |         |         |     V   |
17+10       0.3118      0.08  Q         |         |         |     V   |
17+15       0.3124      0.08  Q         |         |         |     V   |
17+20       0.3130      0.08  Q         |         |         |     V   |
17+25       0.3135      0.08  Q         |         |         |      V  |
17+30       0.3141      0.08  Q         |         |         |      V  |
17+35       0.3147      0.08  Q         |         |         |      V  |
17+40       0.3152      0.08  Q         |         |         |      V  |
17+45       0.3158      0.08  Q         |         |         |      V  |
17+50       0.3163      0.07  Q         |         |         |      V  |
17+55       0.3167      0.07  Q         |         |         |      V  |
18+ 0       0.3172      0.07  Q         |         |         |      V  |
18+ 5       0.3176      0.07  Q         |         |         |      V  |
18+10       0.3181      0.07  Q         |         |         |      V  |
18+15       0.3185      0.07  Q         |         |         |      V  |
18+20       0.3190      0.07  Q         |         |         |      V  |
18+25       0.3194      0.07  Q         |         |         |      V  |
18+30       0.3199      0.07  Q         |         |         |      V  |
18+35       0.3202      0.05  Q         |         |         |      V  |
18+40       0.3206      0.05  Q         |         |         |      V  |
18+45       0.3209      0.05  Q         |         |         |      V  |
18+50       0.3212      0.04  Q         |         |         |      V  |
18+55       0.3214      0.03  Q         |         |         |      V  |
19+ 0       0.3216      0.03  Q         |         |         |      V  |
19+ 5       0.3219      0.05  Q         |         |         |       V |
19+10       0.3223      0.05  Q         |         |         |       V |
19+15       0.3226      0.05  Q         |         |         |       V |
19+20       0.3230      0.06  Q         |         |         |       V |
19+25       0.3235      0.07  Q         |         |         |       V |
19+30       0.3239      0.07  Q         |         |         |       V |
19+35       0.3243      0.05  Q         |         |         |       V |
19+40       0.3246      0.05  Q         |         |         |       V |
19+45       0.3250      0.05  Q         |         |         |       V |
19+50       0.3252      0.04  Q         |         |         |       V |
```

19+55	0.3255	0.03	Q	|	|	|	V |
20+ 0	0.3257	0.03	Q	|	|	|	V |
20+ 5	0.3260	0.05	Q	|	|	|	V |
20+10	0.3263	0.05	Q	|	|	|	V |
20+15	0.3267	0.05	Q	|	|	|	V |
20+20	0.3270	0.05	Q	|	|	|	V |
20+25	0.3273	0.05	Q	|	|	|	V |
20+30	0.3277	0.05	Q	|	|	|	V |
20+35	0.3280	0.05	Q	|	|	|	V |
20+40	0.3284	0.05	Q	|	|	|	V |
20+45	0.3287	0.05	Q	|	|	|	V |
20+50	0.3289	0.04	Q	|	|	|	V |
20+55	0.3292	0.03	Q	|	|	|	V |
21+ 0	0.3294	0.03	Q	|	|	|	V |
21+ 5	0.3297	0.05	Q	|	|	|	V |
21+10	0.3301	0.05	Q	|	|	|	V |
21+15	0.3304	0.05	Q	|	|	|	V|
21+20	0.3306	0.04	Q	|	|	|	V|
21+25	0.3309	0.03	Q	|	|	|	V|
21+30	0.3311	0.03	Q	|	|	|	V|
21+35	0.3314	0.05	Q	|	|	|	V|
21+40	0.3317	0.05	Q	|	|	|	V|
21+45	0.3321	0.05	Q	|	|	|	V|
21+50	0.3323	0.04	Q	|	|	|	V|
21+55	0.3326	0.03	Q	|	|	|	V|
22+ 0	0.3328	0.03	Q	|	|	|	V|
22+ 5	0.3331	0.05	Q	|	|	|	V|
22+10	0.3334	0.05	Q	|	|	|	V|
22+15	0.3338	0.05	Q	|	|	|	V|
22+20	0.3340	0.04	Q	|	|	|	V|
22+25	0.3343	0.03	Q	|	|	|	V|
22+30	0.3345	0.03	Q	|	|	|	V|
22+35	0.3347	0.03	Q	|	|	|	V|
22+40	0.3349	0.03	Q	|	|	|	V|
22+45	0.3352	0.03	Q	|	|	|	V|
22+50	0.3354	0.03	Q	|	|	|	V|
22+55	0.3356	0.03	Q	|	|	|	V|
23+ 0	0.3358	0.03	Q	|	|	|	V|
23+ 5	0.3361	0.03	Q	|	|	|	V|
23+10	0.3363	0.03	Q	|	|	|	V|
23+15	0.3365	0.03	Q	|	|	|	V|
23+20	0.3367	0.03	Q	|	|	|	V|
23+25	0.3370	0.03	Q	|	|	|	V|
23+30	0.3372	0.03	Q	|	|	|	V|
23+35	0.3374	0.03	Q	|	|	|	V|
23+40	0.3376	0.03	Q	|	|	|	V|
23+45	0.3379	0.03	Q	|	|	|	V|
23+50	0.3381	0.03	Q	|	|	|	V|
23+55	0.3383	0.03	Q	|	|	|	V|
24+ 0	0.3385	0.03	Q	|	|	|	V|

```
   24+ 5       0.3386      0.01  Q         |         |         |        V|
-------------------------------------------------------------------------
```

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

Study date 04/04/22 File: PERRISPRE565.out

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
PREDEVELOPMENT CONDITION
5 YR 6HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.11                  3.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            2.70                  7.56

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.110(In)
Area Averaged 100-Year Rainfall =    2.700(In)

Point rain (area averaged) =    1.482(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.482(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           66.00         0.060
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
66.0  66.0      0.405     0.060        0.383       1.000      0.383
                                                 Sum (F) =   0.383
Area averaged mean soil loss (F) (In/Hr) =  0.383
Minimum soil loss rate ((In/Hr)) =  0.192
(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        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

 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	0.089	(0.383)	0.080	0.009
2	0.17	0.60	0.107	(0.383)	0.096	0.011
3	0.25	0.60	0.107	(0.383)	0.096	0.011
4	0.33	0.60	0.107	(0.383)	0.096	0.011
5	0.42	0.60	0.107	(0.383)	0.096	0.011
6	0.50	0.70	0.125	(0.383)	0.112	0.012
7	0.58	0.70	0.125	(0.383)	0.112	0.012
8	0.67	0.70	0.125	(0.383)	0.112	0.012
9	0.75	0.70	0.125	(0.383)	0.112	0.012
10	0.83	0.70	0.125	(0.383)	0.112	0.012
11	0.92	0.70	0.125	(0.383)	0.112	0.012
12	1.00	0.80	0.142	(0.383)	0.128	0.014
13	1.08	0.80	0.142	(0.383)	0.128	0.014
14	1.17	0.80	0.142	(0.383)	0.128	0.014
15	1.25	0.80	0.142	(0.383)	0.128	0.014
16	1.33	0.80	0.142	(0.383)	0.128	0.014
17	1.42	0.80	0.142	(0.383)	0.128	0.014
18	1.50	0.80	0.142	(0.383)	0.128	0.014
19	1.58	0.80	0.142	(0.383)	0.128	0.014
20	1.67	0.80	0.142	(0.383)	0.128	0.014
21	1.75	0.80	0.142	(0.383)	0.128	0.014
22	1.83	0.80	0.142	(0.383)	0.128	0.014
23	1.92	0.80	0.142	(0.383)	0.128	0.014
24	2.00	0.90	0.160	(0.383)	0.144	0.016
25	2.08	0.80	0.142	(0.383)	0.128	0.014
26	2.17	0.90	0.160	(0.383)	0.144	0.016
27	2.25	0.90	0.160	(0.383)	0.144	0.016
28	2.33	0.90	0.160	(0.383)	0.144	0.016
29	2.42	0.90	0.160	(0.383)	0.144	0.016
30	2.50	0.90	0.160	(0.383)	0.144	0.016
31	2.58	0.90	0.160	(0.383)	0.144	0.016
32	2.67	0.90	0.160	(0.383)	0.144	0.016
33	2.75	1.00	0.178	(0.383)	0.160	0.018
34	2.83	1.00	0.178	(0.383)	0.160	0.018
35	2.92	1.00	0.178	(0.383)	0.160	0.018
36	3.00	1.00	0.178	(0.383)	0.160	0.018
37	3.08	1.00	0.178	(0.383)	0.160	0.018
38	3.17	1.10	0.196	(0.383)	0.176	0.020
39	3.25	1.10	0.196	(0.383)	0.176	0.020
40	3.33	1.10	0.196	(0.383)	0.176	0.020
41	3.42	1.20	0.213	(0.383)	0.192	0.021
42	3.50	1.30	0.231	(0.383)	0.208	0.023
43	3.58	1.40	0.249	(0.383)	0.224	0.025
44	3.67	1.40	0.249	(0.383)	0.224	0.025
45	3.75	1.50	0.267	(0.383)	0.240	0.027
46	3.83	1.50	0.267	(0.383)	0.240	0.027
47	3.92	1.60	0.285	(0.383)	0.256	0.028

```
48   4.00     1.60      0.285       (  0.383)       0.256        0.028
49   4.08     1.70      0.302       (  0.383)       0.272        0.030
50   4.17     1.80      0.320       (  0.383)       0.288        0.032
51   4.25     1.90      0.338       (  0.383)       0.304        0.034
52   4.33     2.00      0.356       (  0.383)       0.320        0.036
53   4.42     2.10      0.374       (  0.383)       0.336        0.037
54   4.50     2.10      0.374       (  0.383)       0.336        0.037
55   4.58     2.20      0.391       (  0.383)       0.352        0.039
56   4.67     2.30      0.409       (  0.383)       0.368        0.041
57   4.75     2.40      0.427          0.383    (  0.384)        0.044
58   4.83     2.40      0.427          0.383    (  0.384)        0.044
59   4.92     2.50      0.445          0.383    (  0.400)        0.061
60   5.00     2.60      0.463          0.383    (  0.416)        0.079
61   5.08     3.10      0.551          0.383    (  0.496)        0.168
62   5.17     3.60      0.640          0.383    (  0.576)        0.257
63   5.25     3.90      0.694          0.383    (  0.624)        0.310
64   5.33     4.20      0.747          0.383    (  0.672)        0.364
65   5.42     4.70      0.836          0.383    (  0.752)        0.453
66   5.50     5.60      0.996          0.383    (  0.897)        0.613
67   5.58     1.90      0.338       (  0.383)       0.304        0.034
68   5.67     0.90      0.160       (  0.383)       0.144        0.016
69   5.75     0.60      0.107       (  0.383)       0.096        0.011
70   5.83     0.50      0.089       (  0.383)       0.080        0.009
71   5.92     0.30      0.053       (  0.383)       0.048        0.005
72   6.00     0.20      0.036       (  0.383)       0.032        0.004
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =      3.5
      Flood volume = Effective rainfall      0.30(In)
       times area       2.8(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
      Total soil loss =      1.19(In)
      Total soil loss =     0.277(Ac.Ft)
      Total rainfall =      1.48(In)
      Flood volume =        3006.1 Cubic Feet
      Total soil loss =       12061.0 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.631(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       0.0001      0.02  Q         |         |         |         |
  0+10       0.0003      0.03  Q         |         |         |         |
  0+15       0.0005      0.03  Q         |         |         |         |
  0+20       0.0008      0.03  Q         |         |         |         |
```

```
0+25       0.0010      0.03  Q          |          |          |          |
0+30       0.0012      0.03  Q          |          |          |          |
0+35       0.0014      0.04  Q          |          |          |          |
0+40       0.0017      0.04  Q          |          |          |          |
0+45       0.0019      0.04  QV         |          |          |          |
0+50       0.0022      0.04  QV         |          |          |          |
0+55       0.0024      0.04  QV         |          |          |          |
1+ 0       0.0027      0.04  QV         |          |          |          |
1+ 5       0.0029      0.04  QV         |          |          |          |
1+10       0.0032      0.04  QV         |          |          |          |
1+15       0.0035      0.04  Q V        |          |          |          |
1+20       0.0038      0.04  Q V        |          |          |          |
1+25       0.0041      0.04  Q V        |          |          |          |
1+30       0.0043      0.04  Q V        |          |          |          |
1+35       0.0046      0.04  Q V        |          |          |          |
1+40       0.0049      0.04  Q V        |          |          |          |
1+45       0.0052      0.04  Q V        |          |          |          |
1+50       0.0054      0.04  Q  V       |          |          |          |
1+55       0.0057      0.04  Q  V       |          |          |          |
2+ 0       0.0060      0.04  Q  V       |          |          |          |
2+ 5       0.0063      0.04  Q  V       |          |          |          |
2+10       0.0066      0.04  Q  V       |          |          |          |
2+15       0.0069      0.05  Q   V      |          |          |          |
2+20       0.0072      0.05  Q   V      |          |          |          |
2+25       0.0075      0.05  Q   V      |          |          |          |
2+30       0.0079      0.05  Q   V      |          |          |          |
2+35       0.0082      0.05  Q   V      |          |          |          |
2+40       0.0085      0.05  Q   V      |          |          |          |
2+45       0.0088      0.05  Q    V     |          |          |          |
2+50       0.0092      0.05  Q    V     |          |          |          |
2+55       0.0095      0.05  Q    V     |          |          |          |
3+ 0       0.0099      0.05  Q    V     |          |          |          |
3+ 5       0.0102      0.05  Q    V     |          |          |          |
3+10       0.0106      0.05  Q     V    |          |          |          |
3+15       0.0110      0.06  Q     V    |          |          |          |
3+20       0.0113      0.06  Q     V    |          |          |          |
3+25       0.0117      0.06  Q     V    |          |          |          |
3+30       0.0122      0.06  Q      V   |          |          |          |
3+35       0.0127      0.07  Q      V   |          |          |          |
3+40       0.0131      0.07  Q      V   |          |          |          |
3+45       0.0137      0.07  Q      V   |          |          |          |
3+50       0.0142      0.08  Q       V  |          |          |          |
3+55       0.0147      0.08  Q       V  |          |          |          |
4+ 0       0.0153      0.08  Q       V  |          |          |          |
4+ 5       0.0159      0.08  Q        V|          |          |          |
4+10       0.0165      0.09  Q        V|          |          |          |
4+15       0.0171      0.09  Q        V|          |          |          |
4+20       0.0178      0.10  Q         V         |          |          |
4+25       0.0185      0.10  Q         V         |          |          |
4+30       0.0192      0.11  Q         |V        |          |          |
```

```
   4+35       0.0200      0.11  Q         |V        |         |         |
   4+40       0.0208      0.11  Q         | V       |         |         |
   4+45       0.0216      0.12  Q         | V       |         |         |
   4+50       0.0225      0.12  Q         |  V      |         |         |
   4+55       0.0236      0.16  Q         |  V      |         |         |
   5+ 0       0.0251      0.21  Q         |   V     |         |         |
   5+ 5       0.0279      0.42  |Q        |     V   |         |         |
   5+10       0.0326      0.67  | Q       |       V |         |         |
   5+15       0.0384      0.84  |  Q      |         | V       |         |
   5+20       0.0452      0.99  |  Q      |         |     V   |         |
   5+25       0.0536      1.22  |   Q     |         |         |V        |
   5+30       0.0649      1.63  |     Q   |         |         |      V  |
   5+35       0.0680      0.45  |Q        |         |         |        V|
   5+40       0.0684      0.06  Q         |         |         |        V|
   5+45       0.0686      0.03  Q         |         |         |        V|
   5+50       0.0688      0.03  Q         |         |         |        V|
   5+55       0.0689      0.02  Q         |         |         |        V|
   6+ 0       0.0690      0.01  Q         |         |         |        V|
   6+ 5       0.0690      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

Study date 04/04/22 File: PERRISPOST65.out

++

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
POST DEVELOPMENT CONDITION
5 YR 6 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.11                  3.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            2.70                  7.56

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.110(In)
Area Averaged 100-Year Rainfall =    2.700(In)

Point rain (area averaged) =    1.482(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.482(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           56.00         0.810
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  56.0      0.511     0.810        0.138       1.000      0.138
                                                 Sum (F) =   0.138
Area averaged mean soil loss (F) (In/Hr) =  0.138
Minimum soil loss rate ((In/Hr)) =  0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.252
------------------------------------------------------------------------

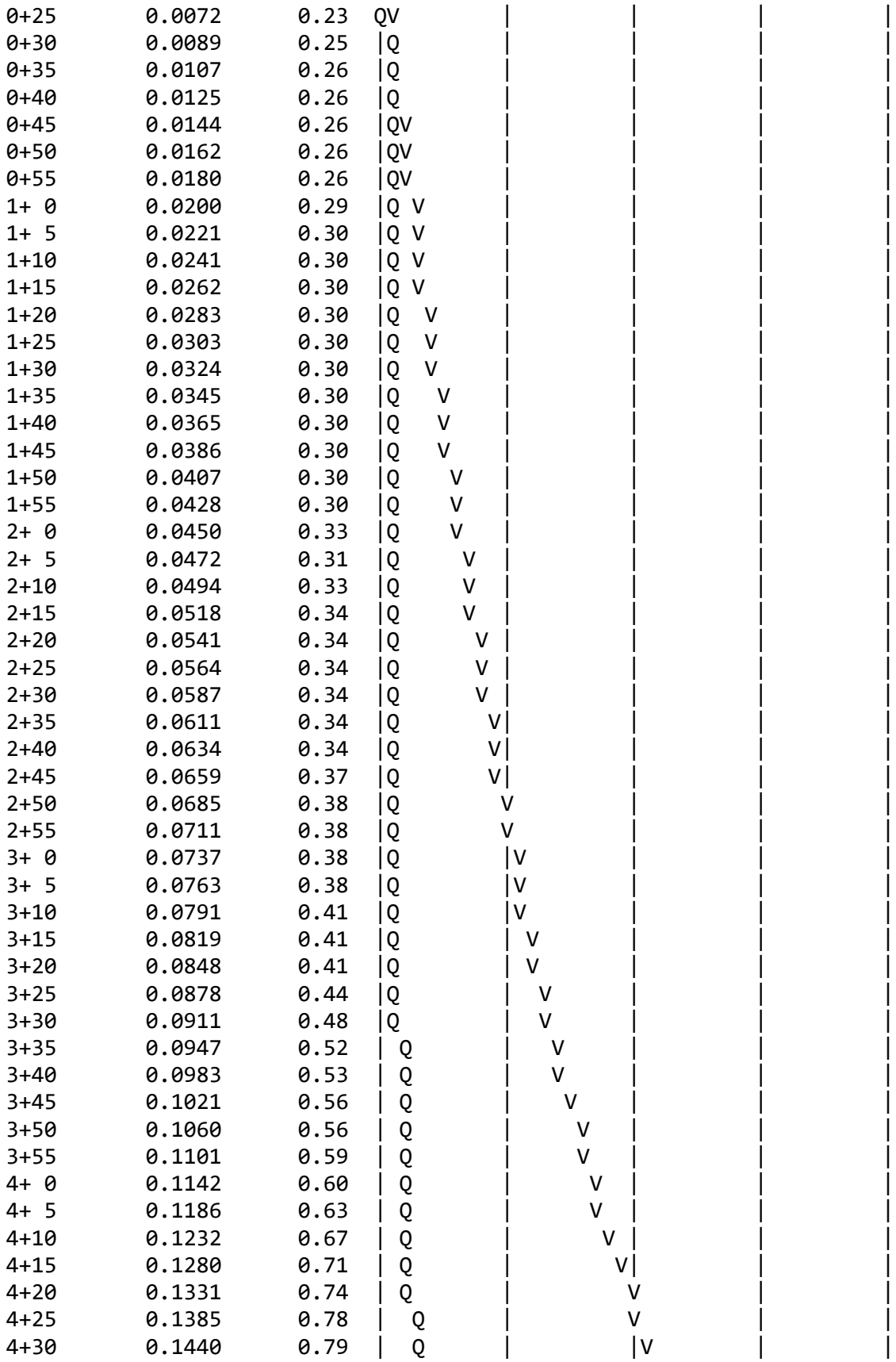
                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                           Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

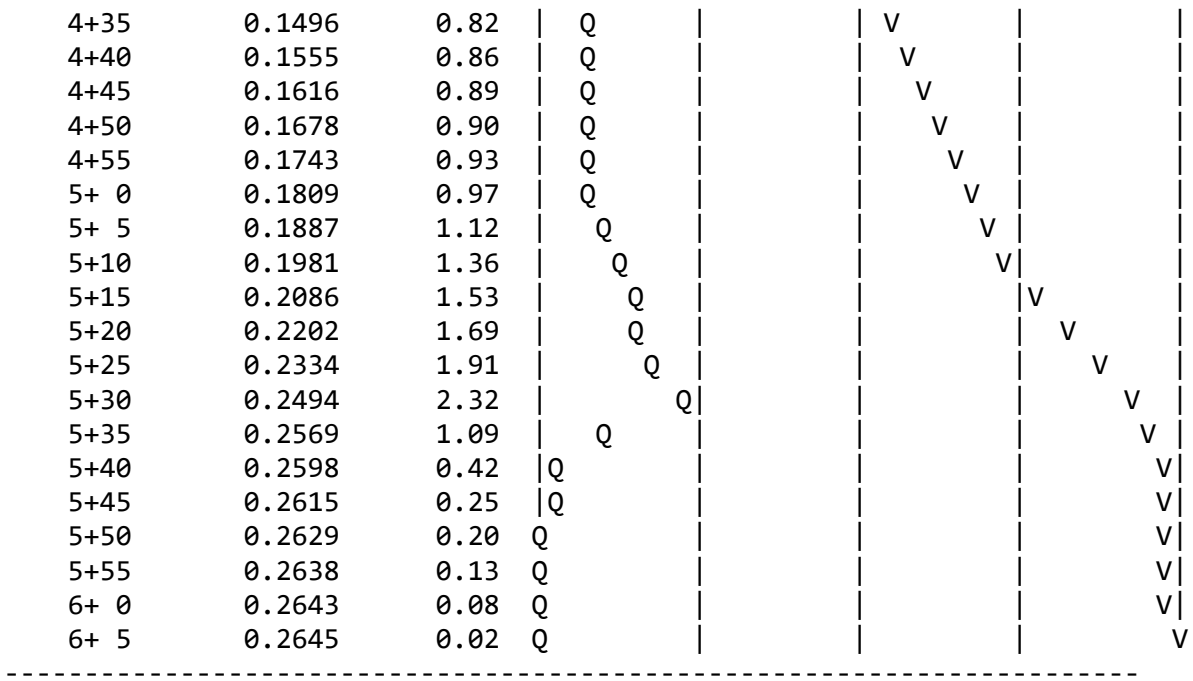
 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value
```

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.138)	0.022	0.067
2	0.17	0.60	0.107	(0.138)	0.027	0.080
3	0.25	0.60	0.107	(0.138)	0.027	0.080
4	0.33	0.60	0.107	(0.138)	0.027	0.080
5	0.42	0.60	0.107	(0.138)	0.027	0.080
6	0.50	0.70	0.125	(0.138)	0.031	0.093
7	0.58	0.70	0.125	(0.138)	0.031	0.093
8	0.67	0.70	0.125	(0.138)	0.031	0.093
9	0.75	0.70	0.125	(0.138)	0.031	0.093
10	0.83	0.70	0.125	(0.138)	0.031	0.093
11	0.92	0.70	0.125	(0.138)	0.031	0.093
12	1.00	0.80	0.142	(0.138)	0.036	0.106
13	1.08	0.80	0.142	(0.138)	0.036	0.106
14	1.17	0.80	0.142	(0.138)	0.036	0.106
15	1.25	0.80	0.142	(0.138)	0.036	0.106
16	1.33	0.80	0.142	(0.138)	0.036	0.106
17	1.42	0.80	0.142	(0.138)	0.036	0.106
18	1.50	0.80	0.142	(0.138)	0.036	0.106
19	1.58	0.80	0.142	(0.138)	0.036	0.106
20	1.67	0.80	0.142	(0.138)	0.036	0.106
21	1.75	0.80	0.142	(0.138)	0.036	0.106
22	1.83	0.80	0.142	(0.138)	0.036	0.106
23	1.92	0.80	0.142	(0.138)	0.036	0.106
24	2.00	0.90	0.160	(0.138)	0.040	0.120
25	2.08	0.80	0.142	(0.138)	0.036	0.106
26	2.17	0.90	0.160	(0.138)	0.040	0.120
27	2.25	0.90	0.160	(0.138)	0.040	0.120
28	2.33	0.90	0.160	(0.138)	0.040	0.120
29	2.42	0.90	0.160	(0.138)	0.040	0.120
30	2.50	0.90	0.160	(0.138)	0.040	0.120
31	2.58	0.90	0.160	(0.138)	0.040	0.120
32	2.67	0.90	0.160	(0.138)	0.040	0.120
33	2.75	1.00	0.178	(0.138)	0.045	0.133
34	2.83	1.00	0.178	(0.138)	0.045	0.133
35	2.92	1.00	0.178	(0.138)	0.045	0.133
36	3.00	1.00	0.178	(0.138)	0.045	0.133
37	3.08	1.00	0.178	(0.138)	0.045	0.133
38	3.17	1.10	0.196	(0.138)	0.049	0.146
39	3.25	1.10	0.196	(0.138)	0.049	0.146
40	3.33	1.10	0.196	(0.138)	0.049	0.146
41	3.42	1.20	0.213	(0.138)	0.054	0.160
42	3.50	1.30	0.231	(0.138)	0.058	0.173
43	3.58	1.40	0.249	(0.138)	0.063	0.186
44	3.67	1.40	0.249	(0.138)	0.063	0.186
45	3.75	1.50	0.267	(0.138)	0.067	0.200
46	3.83	1.50	0.267	(0.138)	0.067	0.200
47	3.92	1.60	0.285	(0.138)	0.072	0.213

```
48   4.00     1.60      0.285       (  0.138)       0.072        0.213
49   4.08     1.70      0.302       (  0.138)       0.076        0.226
50   4.17     1.80      0.320       (  0.138)       0.081        0.240
51   4.25     1.90      0.338       (  0.138)       0.085        0.253
52   4.33     2.00      0.356       (  0.138)       0.090        0.266
53   4.42     2.10      0.374       (  0.138)       0.094        0.279
54   4.50     2.10      0.374       (  0.138)       0.094        0.279
55   4.58     2.20      0.391       (  0.138)       0.099        0.293
56   4.67     2.30      0.409       (  0.138)       0.103        0.306
57   4.75     2.40      0.427       (  0.138)       0.108        0.319
58   4.83     2.40      0.427       (  0.138)       0.108        0.319
59   4.92     2.50      0.445       (  0.138)       0.112        0.333
60   5.00     2.60      0.463       (  0.138)       0.117        0.346
61   5.08     3.10      0.551          0.138    (  0.139)       0.413
62   5.17     3.60      0.640          0.138    (  0.161)       0.502
63   5.25     3.90      0.694          0.138    (  0.175)       0.555
64   5.33     4.20      0.747          0.138    (  0.188)       0.609
65   5.42     4.70      0.836          0.138    (  0.211)       0.698
66   5.50     5.60      0.996          0.138    (  0.251)       0.858
67   5.58     1.90      0.338       (  0.138)       0.085        0.253
68   5.67     0.90      0.160       (  0.138)       0.040        0.120
69   5.75     0.60      0.107       (  0.138)       0.027        0.080
70   5.83     0.50      0.089       (  0.138)       0.022        0.067
71   5.92     0.30      0.053       (  0.138)       0.013        0.040
72   6.00     0.20      0.036       (  0.138)       0.009        0.027
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    13.6
      Flood volume = Effective rainfall      1.13(In)
       times area       2.8(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
      Total soil loss =      0.35(In)
      Total soil loss =     0.081(Ac.Ft)
      Total rainfall =      1.48(In)
      Flood volume =       11519.8 Cubic Feet
      Total soil loss =        3547.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.323(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       0.0010      0.15  Q         |         |         |         |
  0+10       0.0025      0.22  Q         |         |         |         |
  0+15       0.0041      0.23  Q         |         |         |         |
  0+20       0.0056      0.23  Q         |         |         |         |
```


0+25 0.0072 0.23
0+30 0.0089 0.25
0+35 0.0107 0.26
0+40 0.0125 0.26
0+45 0.0144 0.26
0+50 0.0162 0.26
0+55 0.0180 0.26
1+ 0 0.0200 0.29
1+ 5 0.0221 0.30
1+10 0.0241 0.30
1+15 0.0262 0.30
1+20 0.0283 0.30
1+25 0.0303 0.30
1+30 0.0324 0.30
1+35 0.0345 0.30
1+40 0.0365 0.30
1+45 0.0386 0.30
1+50 0.0407 0.30
1+55 0.0428 0.30
2+ 0 0.0450 0.33
2+ 5 0.0472 0.31
2+10 0.0494 0.33
2+15 0.0518 0.34
2+20 0.0541 0.34
2+25 0.0564 0.34
2+30 0.0587 0.34
2+35 0.0611 0.34
2+40 0.0634 0.34
2+45 0.0659 0.37
2+50 0.0685 0.38
2+55 0.0711 0.38
3+ 0 0.0737 0.38
3+ 5 0.0763 0.38
3+10 0.0791 0.41
3+15 0.0819 0.41
3+20 0.0848 0.41
3+25 0.0878 0.44
3+30 0.0911 0.48
3+35 0.0947 0.52
3+40 0.0983 0.53
3+45 0.1021 0.56
3+50 0.1060 0.56
3+55 0.1101 0.59
4+ 0 0.1142 0.60
4+ 5 0.1186 0.63
4+10 0.1232 0.67
4+15 0.1280 0.71
4+20 0.1331 0.74
4+25 0.1385 0.78
4+30 0.1440 0.79


4+35 0.1496 0.82
4+40 0.1555 0.86
4+45 0.1616 0.89
4+50 0.1678 0.90
4+55 0.1743 0.93
5+ 0 0.1809 0.97
5+ 5 0.1887 1.12
5+10 0.1981 1.36
5+15 0.2086 1.53
5+20 0.2202 1.69
5+25 0.2334 1.91
5+30 0.2494 2.32
5+35 0.2569 1.09
5+40 0.2598 0.42
5+45 0.2615 0.25
5+50 0.2629 0.20
5+55 0.2638 0.13
6+ 0 0.2643 0.08
6+ 5 0.2645 0.02

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

Study date 04/04/22 File: PERRISPRE5245.out

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
PREDEVELOPMENT CONDITION
5 YEAR 24 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.94                   5.43

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            4.91                  13.75

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.940(In)
Area Averaged 100-Year Rainfall =    4.910(In)

Point rain (area averaged) =    2.636(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.636(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           66.00         0.060
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
66.0  66.0      0.405     0.060        0.383       1.000      0.383
                                                 Sum (F) =   0.383
Area averaged mean soil loss (F) (In/Hr) =  0.383
Minimum soil loss rate ((In/Hr)) =  0.192
(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        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

 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	(0.680)	0.019	0.002
2	0.17	0.07	0.021	(0.677)	0.019	0.002
3	0.25	0.07	0.021	(0.674)	0.019	0.002
4	0.33	0.10	0.032	(0.672)	0.028	0.003
5	0.42	0.10	0.032	(0.669)	0.028	0.003
6	0.50	0.10	0.032	(0.666)	0.028	0.003
7	0.58	0.10	0.032	(0.664)	0.028	0.003
8	0.67	0.10	0.032	(0.661)	0.028	0.003
9	0.75	0.10	0.032	(0.659)	0.028	0.003
10	0.83	0.13	0.042	(0.656)	0.038	0.004
11	0.92	0.13	0.042	(0.653)	0.038	0.004
12	1.00	0.13	0.042	(0.651)	0.038	0.004
13	1.08	0.10	0.032	(0.648)	0.028	0.003
14	1.17	0.10	0.032	(0.646)	0.028	0.003
15	1.25	0.10	0.032	(0.643)	0.028	0.003
16	1.33	0.10	0.032	(0.641)	0.028	0.003
17	1.42	0.10	0.032	(0.638)	0.028	0.003
18	1.50	0.10	0.032	(0.636)	0.028	0.003
19	1.58	0.10	0.032	(0.633)	0.028	0.003
20	1.67	0.10	0.032	(0.630)	0.028	0.003
21	1.75	0.10	0.032	(0.628)	0.028	0.003
22	1.83	0.13	0.042	(0.625)	0.038	0.004
23	1.92	0.13	0.042	(0.623)	0.038	0.004
24	2.00	0.13	0.042	(0.620)	0.038	0.004
25	2.08	0.13	0.042	(0.618)	0.038	0.004
26	2.17	0.13	0.042	(0.615)	0.038	0.004
27	2.25	0.13	0.042	(0.613)	0.038	0.004
28	2.33	0.13	0.042	(0.610)	0.038	0.004
29	2.42	0.13	0.042	(0.608)	0.038	0.004
30	2.50	0.13	0.042	(0.605)	0.038	0.004
31	2.58	0.17	0.053	(0.603)	0.047	0.005
32	2.67	0.17	0.053	(0.600)	0.047	0.005
33	2.75	0.17	0.053	(0.598)	0.047	0.005
34	2.83	0.17	0.053	(0.596)	0.047	0.005
35	2.92	0.17	0.053	(0.593)	0.047	0.005
36	3.00	0.17	0.053	(0.591)	0.047	0.005
37	3.08	0.17	0.053	(0.588)	0.047	0.005
38	3.17	0.17	0.053	(0.586)	0.047	0.005
39	3.25	0.17	0.053	(0.583)	0.047	0.005
40	3.33	0.17	0.053	(0.581)	0.047	0.005
41	3.42	0.17	0.053	(0.578)	0.047	0.005
42	3.50	0.17	0.053	(0.576)	0.047	0.005
43	3.58	0.17	0.053	(0.574)	0.047	0.005
44	3.67	0.17	0.053	(0.571)	0.047	0.005
45	3.75	0.17	0.053	(0.569)	0.047	0.005
46	3.83	0.20	0.063	(0.566)	0.057	0.006
47	3.92	0.20	0.063	(0.564)	0.057	0.006

48	4.00	0.20	0.063	(0.562)	0.057	0.006
49	4.08	0.20	0.063	(0.559)	0.057	0.006
50	4.17	0.20	0.063	(0.557)	0.057	0.006
51	4.25	0.20	0.063	(0.554)	0.057	0.006
52	4.33	0.23	0.074	(0.552)	0.066	0.007
53	4.42	0.23	0.074	(0.550)	0.066	0.007
54	4.50	0.23	0.074	(0.547)	0.066	0.007
55	4.58	0.23	0.074	(0.545)	0.066	0.007
56	4.67	0.23	0.074	(0.543)	0.066	0.007
57	4.75	0.23	0.074	(0.540)	0.066	0.007
58	4.83	0.27	0.084	(0.538)	0.076	0.008
59	4.92	0.27	0.084	(0.536)	0.076	0.008
60	5.00	0.27	0.084	(0.533)	0.076	0.008
61	5.08	0.20	0.063	(0.531)	0.057	0.006
62	5.17	0.20	0.063	(0.529)	0.057	0.006
63	5.25	0.20	0.063	(0.526)	0.057	0.006
64	5.33	0.23	0.074	(0.524)	0.066	0.007
65	5.42	0.23	0.074	(0.522)	0.066	0.007
66	5.50	0.23	0.074	(0.520)	0.066	0.007
67	5.58	0.27	0.084	(0.517)	0.076	0.008
68	5.67	0.27	0.084	(0.515)	0.076	0.008
69	5.75	0.27	0.084	(0.513)	0.076	0.008
70	5.83	0.27	0.084	(0.510)	0.076	0.008
71	5.92	0.27	0.084	(0.508)	0.076	0.008
72	6.00	0.27	0.084	(0.506)	0.076	0.008
73	6.08	0.30	0.095	(0.504)	0.085	0.009
74	6.17	0.30	0.095	(0.501)	0.085	0.009
75	6.25	0.30	0.095	(0.499)	0.085	0.009
76	6.33	0.30	0.095	(0.497)	0.085	0.009
77	6.42	0.30	0.095	(0.495)	0.085	0.009
78	6.50	0.30	0.095	(0.493)	0.085	0.009
79	6.58	0.33	0.105	(0.490)	0.095	0.011
80	6.67	0.33	0.105	(0.488)	0.095	0.011
81	6.75	0.33	0.105	(0.486)	0.095	0.011
82	6.83	0.33	0.105	(0.484)	0.095	0.011
83	6.92	0.33	0.105	(0.482)	0.095	0.011
84	7.00	0.33	0.105	(0.479)	0.095	0.011
85	7.08	0.33	0.105	(0.477)	0.095	0.011
86	7.17	0.33	0.105	(0.475)	0.095	0.011
87	7.25	0.33	0.105	(0.473)	0.095	0.011
88	7.33	0.37	0.116	(0.471)	0.104	0.012
89	7.42	0.37	0.116	(0.469)	0.104	0.012
90	7.50	0.37	0.116	(0.466)	0.104	0.012
91	7.58	0.40	0.127	(0.464)	0.114	0.013
92	7.67	0.40	0.127	(0.462)	0.114	0.013
93	7.75	0.40	0.127	(0.460)	0.114	0.013
94	7.83	0.43	0.137	(0.458)	0.123	0.014
95	7.92	0.43	0.137	(0.456)	0.123	0.014
96	8.00	0.43	0.137	(0.454)	0.123	0.014
97	8.08	0.50	0.158	(0.452)	0.142	0.016

98	8.17	0.50	0.158	(0.449)	0.142	0.016
99	8.25	0.50	0.158	(0.447)	0.142	0.016
100	8.33	0.50	0.158	(0.445)	0.142	0.016
101	8.42	0.50	0.158	(0.443)	0.142	0.016
102	8.50	0.50	0.158	(0.441)	0.142	0.016
103	8.58	0.53	0.169	(0.439)	0.152	0.017
104	8.67	0.53	0.169	(0.437)	0.152	0.017
105	8.75	0.53	0.169	(0.435)	0.152	0.017
106	8.83	0.57	0.179	(0.433)	0.161	0.018
107	8.92	0.57	0.179	(0.431)	0.161	0.018
108	9.00	0.57	0.179	(0.429)	0.161	0.018
109	9.08	0.63	0.200	(0.427)	0.180	0.020
110	9.17	0.63	0.200	(0.425)	0.180	0.020
111	9.25	0.63	0.200	(0.423)	0.180	0.020
112	9.33	0.67	0.211	(0.421)	0.190	0.021
113	9.42	0.67	0.211	(0.419)	0.190	0.021
114	9.50	0.67	0.211	(0.417)	0.190	0.021
115	9.58	0.70	0.221	(0.415)	0.199	0.022
116	9.67	0.70	0.221	(0.413)	0.199	0.022
117	9.75	0.70	0.221	(0.411)	0.199	0.022
118	9.83	0.73	0.232	(0.409)	0.209	0.023
119	9.92	0.73	0.232	(0.407)	0.209	0.023
120	10.00	0.73	0.232	(0.405)	0.209	0.023
121	10.08	0.50	0.158	(0.403)	0.142	0.016
122	10.17	0.50	0.158	(0.401)	0.142	0.016
123	10.25	0.50	0.158	(0.399)	0.142	0.016
124	10.33	0.50	0.158	(0.397)	0.142	0.016
125	10.42	0.50	0.158	(0.395)	0.142	0.016
126	10.50	0.50	0.158	(0.393)	0.142	0.016
127	10.58	0.67	0.211	(0.391)	0.190	0.021
128	10.67	0.67	0.211	(0.389)	0.190	0.021
129	10.75	0.67	0.211	(0.387)	0.190	0.021
130	10.83	0.67	0.211	(0.386)	0.190	0.021
131	10.92	0.67	0.211	(0.384)	0.190	0.021
132	11.00	0.67	0.211	(0.382)	0.190	0.021
133	11.08	0.63	0.200	(0.380)	0.180	0.020
134	11.17	0.63	0.200	(0.378)	0.180	0.020
135	11.25	0.63	0.200	(0.376)	0.180	0.020
136	11.33	0.63	0.200	(0.374)	0.180	0.020
137	11.42	0.63	0.200	(0.372)	0.180	0.020
138	11.50	0.63	0.200	(0.371)	0.180	0.020
139	11.58	0.57	0.179	(0.369)	0.161	0.018
140	11.67	0.57	0.179	(0.367)	0.161	0.018
141	11.75	0.57	0.179	(0.365)	0.161	0.018
142	11.83	0.60	0.190	(0.363)	0.171	0.019
143	11.92	0.60	0.190	(0.361)	0.171	0.019
144	12.00	0.60	0.190	(0.360)	0.171	0.019
145	12.08	0.83	0.264	(0.358)	0.237	0.026
146	12.17	0.83	0.264	(0.356)	0.237	0.026
147	12.25	0.83	0.264	(0.354)	0.237	0.026

148	12.33	0.87	0.274	(0.352)	0.247	0.027
149	12.42	0.87	0.274	(0.351)	0.247	0.027
150	12.50	0.87	0.274	(0.349)	0.247	0.027
151	12.58	0.93	0.295	(0.347)	0.266	0.030
152	12.67	0.93	0.295	(0.345)	0.266	0.030
153	12.75	0.93	0.295	(0.344)	0.266	0.030
154	12.83	0.97	0.306	(0.342)	0.275	0.031
155	12.92	0.97	0.306	(0.340)	0.275	0.031
156	13.00	0.97	0.306	(0.338)	0.275	0.031
157	13.08	1.13	0.358	(0.337)	0.323	0.036
158	13.17	1.13	0.358	(0.335)	0.323	0.036
159	13.25	1.13	0.358	(0.333)	0.323	0.036
160	13.33	1.13	0.358	(0.332)	0.323	0.036
161	13.42	1.13	0.358	(0.330)	0.323	0.036
162	13.50	1.13	0.358	(0.328)	0.323	0.036
163	13.58	0.77	0.242	(0.327)	0.218	0.024
164	13.67	0.77	0.242	(0.325)	0.218	0.024
165	13.75	0.77	0.242	(0.323)	0.218	0.024
166	13.83	0.77	0.242	(0.322)	0.218	0.024
167	13.92	0.77	0.242	(0.320)	0.218	0.024
168	14.00	0.77	0.242	(0.318)	0.218	0.024
169	14.08	0.90	0.285	(0.317)	0.256	0.028
170	14.17	0.90	0.285	(0.315)	0.256	0.028
171	14.25	0.90	0.285	(0.314)	0.256	0.028
172	14.33	0.87	0.274	(0.312)	0.247	0.027
173	14.42	0.87	0.274	(0.310)	0.247	0.027
174	14.50	0.87	0.274	(0.309)	0.247	0.027
175	14.58	0.87	0.274	(0.307)	0.247	0.027
176	14.67	0.87	0.274	(0.306)	0.247	0.027
177	14.75	0.87	0.274	(0.304)	0.247	0.027
178	14.83	0.83	0.264	(0.302)	0.237	0.026
179	14.92	0.83	0.264	(0.301)	0.237	0.026
180	15.00	0.83	0.264	(0.299)	0.237	0.026
181	15.08	0.80	0.253	(0.298)	0.228	0.025
182	15.17	0.80	0.253	(0.296)	0.228	0.025
183	15.25	0.80	0.253	(0.295)	0.228	0.025
184	15.33	0.77	0.242	(0.293)	0.218	0.024
185	15.42	0.77	0.242	(0.292)	0.218	0.024
186	15.50	0.77	0.242	(0.290)	0.218	0.024
187	15.58	0.63	0.200	(0.289)	0.180	0.020
188	15.67	0.63	0.200	(0.287)	0.180	0.020
189	15.75	0.63	0.200	(0.286)	0.180	0.020
190	15.83	0.63	0.200	(0.284)	0.180	0.020
191	15.92	0.63	0.200	(0.283)	0.180	0.020
192	16.00	0.63	0.200	(0.281)	0.180	0.020
193	16.08	0.13	0.042	(0.280)	0.038	0.004
194	16.17	0.13	0.042	(0.279)	0.038	0.004
195	16.25	0.13	0.042	(0.277)	0.038	0.004
196	16.33	0.13	0.042	(0.276)	0.038	0.004
197	16.42	0.13	0.042	(0.274)	0.038	0.004

198	16.50	0.13	0.042	(0.273)	0.038	0.004
199	16.58	0.10	0.032	(0.272)	0.028	0.003
200	16.67	0.10	0.032	(0.270)	0.028	0.003
201	16.75	0.10	0.032	(0.269)	0.028	0.003
202	16.83	0.10	0.032	(0.267)	0.028	0.003
203	16.92	0.10	0.032	(0.266)	0.028	0.003
204	17.00	0.10	0.032	(0.265)	0.028	0.003
205	17.08	0.17	0.053	(0.263)	0.047	0.005
206	17.17	0.17	0.053	(0.262)	0.047	0.005
207	17.25	0.17	0.053	(0.261)	0.047	0.005
208	17.33	0.17	0.053	(0.259)	0.047	0.005
209	17.42	0.17	0.053	(0.258)	0.047	0.005
210	17.50	0.17	0.053	(0.257)	0.047	0.005
211	17.58	0.17	0.053	(0.256)	0.047	0.005
212	17.67	0.17	0.053	(0.254)	0.047	0.005
213	17.75	0.17	0.053	(0.253)	0.047	0.005
214	17.83	0.13	0.042	(0.252)	0.038	0.004
215	17.92	0.13	0.042	(0.251)	0.038	0.004
216	18.00	0.13	0.042	(0.249)	0.038	0.004
217	18.08	0.13	0.042	(0.248)	0.038	0.004
218	18.17	0.13	0.042	(0.247)	0.038	0.004
219	18.25	0.13	0.042	(0.246)	0.038	0.004
220	18.33	0.13	0.042	(0.244)	0.038	0.004
221	18.42	0.13	0.042	(0.243)	0.038	0.004
222	18.50	0.13	0.042	(0.242)	0.038	0.004
223	18.58	0.10	0.032	(0.241)	0.028	0.003
224	18.67	0.10	0.032	(0.240)	0.028	0.003
225	18.75	0.10	0.032	(0.239)	0.028	0.003
226	18.83	0.07	0.021	(0.237)	0.019	0.002
227	18.92	0.07	0.021	(0.236)	0.019	0.002
228	19.00	0.07	0.021	(0.235)	0.019	0.002
229	19.08	0.10	0.032	(0.234)	0.028	0.003
230	19.17	0.10	0.032	(0.233)	0.028	0.003
231	19.25	0.10	0.032	(0.232)	0.028	0.003
232	19.33	0.13	0.042	(0.231)	0.038	0.004
233	19.42	0.13	0.042	(0.230)	0.038	0.004
234	19.50	0.13	0.042	(0.229)	0.038	0.004
235	19.58	0.10	0.032	(0.228)	0.028	0.003
236	19.67	0.10	0.032	(0.227)	0.028	0.003
237	19.75	0.10	0.032	(0.226)	0.028	0.003
238	19.83	0.07	0.021	(0.225)	0.019	0.002
239	19.92	0.07	0.021	(0.224)	0.019	0.002
240	20.00	0.07	0.021	(0.223)	0.019	0.002
241	20.08	0.10	0.032	(0.222)	0.028	0.003
242	20.17	0.10	0.032	(0.221)	0.028	0.003
243	20.25	0.10	0.032	(0.220)	0.028	0.003
244	20.33	0.10	0.032	(0.219)	0.028	0.003
245	20.42	0.10	0.032	(0.218)	0.028	0.003
246	20.50	0.10	0.032	(0.217)	0.028	0.003
247	20.58	0.10	0.032	(0.216)	0.028	0.003

248	20.67	0.10	0.032	(0.215)	0.028	0.003
249	20.75	0.10	0.032	(0.214)	0.028	0.003
250	20.83	0.07	0.021	(0.213)	0.019	0.002
251	20.92	0.07	0.021	(0.212)	0.019	0.002
252	21.00	0.07	0.021	(0.212)	0.019	0.002
253	21.08	0.10	0.032	(0.211)	0.028	0.003
254	21.17	0.10	0.032	(0.210)	0.028	0.003
255	21.25	0.10	0.032	(0.209)	0.028	0.003
256	21.33	0.07	0.021	(0.208)	0.019	0.002
257	21.42	0.07	0.021	(0.208)	0.019	0.002
258	21.50	0.07	0.021	(0.207)	0.019	0.002
259	21.58	0.10	0.032	(0.206)	0.028	0.003
260	21.67	0.10	0.032	(0.205)	0.028	0.003
261	21.75	0.10	0.032	(0.204)	0.028	0.003
262	21.83	0.07	0.021	(0.204)	0.019	0.002
263	21.92	0.07	0.021	(0.203)	0.019	0.002
264	22.00	0.07	0.021	(0.202)	0.019	0.002
265	22.08	0.10	0.032	(0.202)	0.028	0.003
266	22.17	0.10	0.032	(0.201)	0.028	0.003
267	22.25	0.10	0.032	(0.200)	0.028	0.003
268	22.33	0.07	0.021	(0.200)	0.019	0.002
269	22.42	0.07	0.021	(0.199)	0.019	0.002
270	22.50	0.07	0.021	(0.199)	0.019	0.002
271	22.58	0.07	0.021	(0.198)	0.019	0.002
272	22.67	0.07	0.021	(0.197)	0.019	0.002
273	22.75	0.07	0.021	(0.197)	0.019	0.002
274	22.83	0.07	0.021	(0.196)	0.019	0.002
275	22.92	0.07	0.021	(0.196)	0.019	0.002
276	23.00	0.07	0.021	(0.195)	0.019	0.002
277	23.08	0.07	0.021	(0.195)	0.019	0.002
278	23.17	0.07	0.021	(0.195)	0.019	0.002
279	23.25	0.07	0.021	(0.194)	0.019	0.002
280	23.33	0.07	0.021	(0.194)	0.019	0.002
281	23.42	0.07	0.021	(0.193)	0.019	0.002
282	23.50	0.07	0.021	(0.193)	0.019	0.002
283	23.58	0.07	0.021	(0.193)	0.019	0.002
284	23.67	0.07	0.021	(0.192)	0.019	0.002
285	23.75	0.07	0.021	(0.192)	0.019	0.002
286	23.83	0.07	0.021	(0.192)	0.019	0.002
287	23.92	0.07	0.021	(0.192)	0.019	0.002
288	24.00	0.07	0.021	(0.192)	0.019	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.2

Flood volume = Effective rainfall 0.26(In)
times area 2.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 2.37(In)
Total soil loss = 0.553(Ac.Ft)
Total rainfall = 2.64(In)
Flood volume = 2678.9 Cubic Feet
Total soil loss = 24109.7 Cubic Feet

Peak flow rate of this hydrograph = 0.101(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	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0004	0.01	Q				
0+40	0.0004	0.01	Q				
0+45	0.0005	0.01	Q				
0+50	0.0006	0.01	Q				
0+55	0.0006	0.01	Q				
1+ 0	0.0007	0.01	Q				
1+ 5	0.0008	0.01	Q				
1+10	0.0008	0.01	Q				
1+15	0.0009	0.01	Q				
1+20	0.0010	0.01	Q				
1+25	0.0010	0.01	Q				
1+30	0.0011	0.01	Q				
1+35	0.0012	0.01	Q				
1+40	0.0012	0.01	Q				
1+45	0.0013	0.01	Q				
1+50	0.0014	0.01	Q				
1+55	0.0014	0.01	Q				
2+ 0	0.0015	0.01	Q				
2+ 5	0.0016	0.01	QV				
2+10	0.0017	0.01	QV				
2+15	0.0018	0.01	QV				
2+20	0.0018	0.01	QV				
2+25	0.0019	0.01	QV				
2+30	0.0020	0.01	QV				
2+35	0.0021	0.01	QV				
2+40	0.0022	0.01	QV				
2+45	0.0023	0.01	QV				
2+50	0.0024	0.01	QV				
2+55	0.0025	0.01	QV				
3+ 0	0.0026	0.01	QV				
3+ 5	0.0027	0.01	QV				
3+10	0.0028	0.01	QV				

3+15	0.0029	0.01	QV	|	|	|	|
3+20	0.0030	0.01	QV	|	|	|	|
3+25	0.0031	0.01	Q V	|	|	|	|
3+30	0.0032	0.01	Q V	|	|	|	|
3+35	0.0033	0.01	Q V	|	|	|	|
3+40	0.0034	0.01	Q V	|	|	|	|
3+45	0.0035	0.01	Q V	|	|	|	|
3+50	0.0037	0.02	Q V	|	|	|	|
3+55	0.0038	0.02	Q V	|	|	|	|
4+ 0	0.0039	0.02	Q V	|	|	|	|
4+ 5	0.0040	0.02	Q V	|	|	|	|
4+10	0.0042	0.02	Q V	|	|	|	|
4+15	0.0043	0.02	Q V	|	|	|	|
4+20	0.0044	0.02	Q V	|	|	|	|
4+25	0.0046	0.02	Q V	|	|	|	|
4+30	0.0047	0.02	Q V	|	|	|	|
4+35	0.0048	0.02	Q V	|	|	|	|
4+40	0.0050	0.02	Q V	|	|	|	|
4+45	0.0051	0.02	Q V	|	|	|	|
4+50	0.0053	0.02	Q V	|	|	|	|
4+55	0.0055	0.02	Q V	|	|	|	|
5+ 0	0.0056	0.02	Q V	|	|	|	|
5+ 5	0.0058	0.02	Q V	|	|	|	|
5+10	0.0059	0.02	Q V	|	|	|	|
5+15	0.0060	0.02	Q V	|	|	|	|
5+20	0.0061	0.02	Q V	|	|	|	|
5+25	0.0063	0.02	Q V	|	|	|	|
5+30	0.0064	0.02	Q V	|	|	|	|
5+35	0.0066	0.02	Q V	|	|	|	|
5+40	0.0067	0.02	Q V	|	|	|	|
5+45	0.0069	0.02	Q V	|	|	|	|
5+50	0.0071	0.02	Q V	|	|	|	|
5+55	0.0072	0.02	Q V	|	|	|	|
6+ 0	0.0074	0.02	Q V	|	|	|	|
6+ 5	0.0076	0.03	Q V	|	|	|	|
6+10	0.0078	0.03	Q V	|	|	|	|
6+15	0.0080	0.03	Q V	|	|	|	|
6+20	0.0081	0.03	Q V	|	|	|	|
6+25	0.0083	0.03	Q V	|	|	|	|
6+30	0.0085	0.03	Q V	|	|	|	|
6+35	0.0087	0.03	Q V	|	|	|	|
6+40	0.0089	0.03	Q V	|	|	|	|
6+45	0.0091	0.03	Q V	|	|	|	|
6+50	0.0093	0.03	Q V	|	|	|	|
6+55	0.0095	0.03	Q V	|	|	|	|
7+ 0	0.0097	0.03	Q V	|	|	|	|
7+ 5	0.0099	0.03	Q V	|	|	|	|
7+10	0.0101	0.03	Q V	|	|	|	|
7+15	0.0103	0.03	Q V	|	|	|	|
7+20	0.0106	0.03	Q V	|	|	|	|

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 7+25       0.0108      0.03  Q      V  |          |          |          |
 7+30       0.0110      0.03  Q      V  |          |          |          |
 7+35       0.0113      0.04  Q      V  |          |          |          |
 7+40       0.0115      0.04  Q      V  |          |          |          |
 7+45       0.0118      0.04  Q      V  |          |          |          |
 7+50       0.0120      0.04  Q      V  |          |          |          |
 7+55       0.0123      0.04  Q      V  |          |          |          |
 8+ 0       0.0125      0.04  Q       V |          |          |          |
 8+ 5       0.0128      0.04  Q       V |          |          |          |
 8+10       0.0132      0.04  Q       V |          |          |          |
 8+15       0.0135      0.04  Q       V |          |          |          |
 8+20       0.0138      0.04  Q       V |          |          |          |
 8+25       0.0141      0.04  Q        V|          |          |          |
 8+30       0.0144      0.04  Q        V|          |          |          |
 8+35       0.0147      0.05  Q        V|          |          |          |
 8+40       0.0150      0.05  Q        V|          |          |          |
 8+45       0.0154      0.05  Q        V|          |          |          |
 8+50       0.0157      0.05  Q         V          |          |          |
 8+55       0.0161      0.05  Q         V          |          |          |
 9+ 0       0.0164      0.05  Q         V          |          |          |
 9+ 5       0.0168      0.06  Q         V          |          |          |
 9+10       0.0172      0.06  Q         |V         |          |          |
 9+15       0.0176      0.06  Q         |V         |          |          |
 9+20       0.0180      0.06  Q         |V         |          |          |
 9+25       0.0184      0.06  Q         |V         |          |          |
 9+30       0.0188      0.06  Q         | V        |          |          |
 9+35       0.0192      0.06  Q         | V        |          |          |
 9+40       0.0196      0.06  Q         | V        |          |          |
 9+45       0.0201      0.06  Q         |  V       |          |          |
 9+50       0.0205      0.06  Q         |  V       |          |          |
 9+55       0.0210      0.07  Q         |  V       |          |          |
10+ 0       0.0214      0.07  Q         |  V       |          |          |
10+ 5       0.0218      0.05  Q         |   V      |          |          |
10+10       0.0221      0.04  Q         |   V      |          |          |
10+15       0.0224      0.04  Q         |   V      |          |          |
10+20       0.0227      0.04  Q         |   V      |          |          |
10+25       0.0230      0.04  Q         |   V      |          |          |
10+30       0.0233      0.04  Q         |    V     |          |          |
10+35       0.0237      0.06  Q         |    V     |          |          |
10+40       0.0241      0.06  Q         |    V     |          |          |
10+45       0.0245      0.06  Q         |    V     |          |          |
10+50       0.0249      0.06  Q         |     V    |          |          |
10+55       0.0253      0.06  Q         |     V    |          |          |
11+ 0       0.0257      0.06  Q         |     V    |          |          |
11+ 5       0.0261      0.06  Q         |     V    |          |          |
11+10       0.0265      0.06  Q         |      V   |          |          |
11+15       0.0269      0.06  Q         |      V   |          |          |
11+20       0.0273      0.06  Q         |      V   |          |          |
11+25       0.0277      0.06  Q         |       V  |          |          |
11+30       0.0281      0.06  Q         |       V  |          |          |
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11+35       0.0284      0.05  Q         |        V |          |          |
11+40       0.0288      0.05  Q         |        V |          |          |
11+45       0.0291      0.05  Q         |        V |          |          |
11+50       0.0295      0.05  Q         |         V|          |          |
11+55       0.0299      0.05  Q         |         V|          |          |
12+ 0       0.0302      0.05  Q         |         V|          |          |
12+ 5       0.0307      0.07  Q         |         V|          |          |
12+10       0.0312      0.07  Q         |          V          |          |
12+15       0.0317      0.07  Q         |          V          |          |
12+20       0.0323      0.08  Q         |          V          |          |
12+25       0.0328      0.08  Q         |          |V         |          |
12+30       0.0333      0.08  Q         |          |V         |          |
12+35       0.0339      0.08  Q         |          | V        |          |
12+40       0.0345      0.08  Q         |          | V        |          |
12+45       0.0351      0.08  Q         |          | V        |          |
12+50       0.0356      0.09  Q         |          |  V       |          |
12+55       0.0362      0.09  Q         |          |  V       |          |
13+ 0       0.0368      0.09  Q         |          |  V       |          |
13+ 5       0.0375      0.10  Q         |          |   V      |          |
13+10       0.0382      0.10  Q         |          |   V      |          |
13+15       0.0389      0.10  Q         |          |    V     |          |
13+20       0.0396      0.10  Q         |          |    V     |          |
13+25       0.0403      0.10  Q         |          |     V    |          |
13+30       0.0410      0.10  Q         |          |     V    |          |
13+35       0.0415      0.08  Q         |          |     V    |          |
13+40       0.0420      0.07  Q         |          |      V   |          |
13+45       0.0425      0.07  Q         |          |      V   |          |
13+50       0.0429      0.07  Q         |          |      V   |          |
13+55       0.0434      0.07  Q         |          |       V  |          |
14+ 0       0.0439      0.07  Q         |          |       V  |          |
14+ 5       0.0444      0.08  Q         |          |       V  |          |
14+10       0.0450      0.08  Q         |          |        V |          |
14+15       0.0455      0.08  Q         |          |        V |          |
14+20       0.0460      0.08  Q         |          |        V |          |
14+25       0.0466      0.08  Q         |          |         V          |
14+30       0.0471      0.08  Q         |          |         V          |
14+35       0.0476      0.08  Q         |          |         V          |
14+40       0.0482      0.08  Q         |          |          |V         |
14+45       0.0487      0.08  Q         |          |          |V         |
14+50       0.0492      0.08  Q         |          |          | V        |
14+55       0.0497      0.07  Q         |          |          | V        |
15+ 0       0.0503      0.07  Q         |          |          | V        |
15+ 5       0.0508      0.07  Q         |          |          |  V       |
15+10       0.0512      0.07  Q         |          |          |  V       |
15+15       0.0517      0.07  Q         |          |          |  V       |
15+20       0.0522      0.07  Q         |          |          |  V       |
15+25       0.0527      0.07  Q         |          |          |   V      |
15+30       0.0532      0.07  Q         |          |          |   V      |
15+35       0.0536      0.06  Q         |          |          |   V      |
15+40       0.0540      0.06  Q         |          |          |    V     |
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15+45       0.0543      0.06  Q         |          |          |    V     |
15+50       0.0547      0.06  Q         |          |          |    V     |
15+55       0.0551      0.06  Q         |          |          |    V     |
16+ 0       0.0555      0.06  Q         |          |          |     V    |
16+ 5       0.0557      0.02  Q         |          |          |     V    |
16+10       0.0557      0.01  Q         |          |          |     V    |
16+15       0.0558      0.01  Q         |          |          |     V    |
16+20       0.0559      0.01  Q         |          |          |     V    |
16+25       0.0560      0.01  Q         |          |          |     V    |
16+30       0.0561      0.01  Q         |          |          |     V    |
16+35       0.0561      0.01  Q         |          |          |     V    |
16+40       0.0562      0.01  Q         |          |          |     V    |
16+45       0.0563      0.01  Q         |          |          |     V    |
16+50       0.0563      0.01  Q         |          |          |     V    |
16+55       0.0564      0.01  Q         |          |          |     V    |
17+ 0       0.0564      0.01  Q         |          |          |     V    |
17+ 5       0.0565      0.01  Q         |          |          |     V    |
17+10       0.0566      0.01  Q         |          |          |     V    |
17+15       0.0567      0.01  Q         |          |          |     V    |
17+20       0.0568      0.01  Q         |          |          |     V    |
17+25       0.0569      0.01  Q         |          |          |      V   |
17+30       0.0570      0.01  Q         |          |          |      V   |
17+35       0.0572      0.01  Q         |          |          |      V   |
17+40       0.0573      0.01  Q         |          |          |      V   |
17+45       0.0574      0.01  Q         |          |          |      V   |
17+50       0.0574      0.01  Q         |          |          |      V   |
17+55       0.0575      0.01  Q         |          |          |      V   |
18+ 0       0.0576      0.01  Q         |          |          |      V   |
18+ 5       0.0577      0.01  Q         |          |          |      V   |
18+10       0.0578      0.01  Q         |          |          |      V   |
18+15       0.0579      0.01  Q         |          |          |      V   |
18+20       0.0579      0.01  Q         |          |          |      V   |
18+25       0.0580      0.01  Q         |          |          |      V   |
18+30       0.0581      0.01  Q         |          |          |      V   |
18+35       0.0582      0.01  Q         |          |          |      V   |
18+40       0.0582      0.01  Q         |          |          |      V   |
18+45       0.0583      0.01  Q         |          |          |      V   |
18+50       0.0583      0.01  Q         |          |          |      V   |
18+55       0.0584      0.01  Q         |          |          |      V   |
19+ 0       0.0584      0.01  Q         |          |          |      V   |
19+ 5       0.0585      0.01  Q         |          |          |       V  |
19+10       0.0585      0.01  Q         |          |          |       V  |
19+15       0.0586      0.01  Q         |          |          |       V  |
19+20       0.0587      0.01  Q         |          |          |       V  |
19+25       0.0588      0.01  Q         |          |          |       V  |
19+30       0.0588      0.01  Q         |          |          |       V  |
19+35       0.0589      0.01  Q         |          |          |       V  |
19+40       0.0590      0.01  Q         |          |          |       V  |
19+45       0.0590      0.01  Q         |          |          |       V  |
19+50       0.0591      0.01  Q         |          |          |       V  |
```

19+55	0.0591	0.01	Q	|	|	|	V |
20+ 0	0.0592	0.01	Q	|	|	|	V |
20+ 5	0.0592	0.01	Q	|	|	|	V |
20+10	0.0593	0.01	Q	|	|	|	V |
20+15	0.0593	0.01	Q	|	|	|	V |
20+20	0.0594	0.01	Q	|	|	|	V |
20+25	0.0595	0.01	Q	|	|	|	V |
20+30	0.0595	0.01	Q	|	|	|	V |
20+35	0.0596	0.01	Q	|	|	|	V |
20+40	0.0596	0.01	Q	|	|	|	V |
20+45	0.0597	0.01	Q	|	|	|	V |
20+50	0.0597	0.01	Q	|	|	|	V |
20+55	0.0598	0.01	Q	|	|	|	V |
21+ 0	0.0598	0.01	Q	|	|	|	V |
21+ 5	0.0599	0.01	Q	|	|	|	V |
21+10	0.0599	0.01	Q	|	|	|	V |
21+15	0.0600	0.01	Q	|	|	|	V|
21+20	0.0601	0.01	Q	|	|	|	V|
21+25	0.0601	0.01	Q	|	|	|	V|
21+30	0.0601	0.01	Q	|	|	|	V|
21+35	0.0602	0.01	Q	|	|	|	V|
21+40	0.0603	0.01	Q	|	|	|	V|
21+45	0.0603	0.01	Q	|	|	|	V|
21+50	0.0604	0.01	Q	|	|	|	V|
21+55	0.0604	0.01	Q	|	|	|	V|
22+ 0	0.0604	0.01	Q	|	|	|	V|
22+ 5	0.0605	0.01	Q	|	|	|	V|
22+10	0.0606	0.01	Q	|	|	|	V|
22+15	0.0606	0.01	Q	|	|	|	V|
22+20	0.0607	0.01	Q	|	|	|	V|
22+25	0.0607	0.01	Q	|	|	|	V|
22+30	0.0608	0.01	Q	|	|	|	V|
22+35	0.0608	0.01	Q	|	|	|	V|
22+40	0.0608	0.01	Q	|	|	|	V|
22+45	0.0609	0.01	Q	|	|	|	V|
22+50	0.0609	0.01	Q	|	|	|	V|
22+55	0.0610	0.01	Q	|	|	|	V|
23+ 0	0.0610	0.01	Q	|	|	|	V|
23+ 5	0.0610	0.01	Q	|	|	|	V|
23+10	0.0611	0.01	Q	|	|	|	V|
23+15	0.0611	0.01	Q	|	|	|	V|
23+20	0.0612	0.01	Q	|	|	|	V|
23+25	0.0612	0.01	Q	|	|	|	V|
23+30	0.0612	0.01	Q	|	|	|	V|
23+35	0.0613	0.01	Q	|	|	|	V|
23+40	0.0613	0.01	Q	|	|	|	V|
23+45	0.0614	0.01	Q	|	|	|	V|
23+50	0.0614	0.01	Q	|	|	|	V|
23+55	0.0614	0.01	Q	|	|	|	V|
24+ 0	0.0615	0.01	Q	|	|	|	V|

```
   24+ 5       0.0615      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

Study date 04/04/22 File: PERRISPOST245.out

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
POST DEVELOPMENT CONDITION
5 YEAR 24 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.94                   5.43

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            4.91                  13.75

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.940(In)
Area Averaged 100-Year Rainfall =    4.910(In)

Point rain (area averaged) =    2.636(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.636(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           56.00         0.810
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  56.0      0.511     0.810        0.138       1.000      0.138
                                                 Sum (F) =   0.138
Area averaged mean soil loss (F) (In/Hr) =  0.138
Minimum soil loss rate ((In/Hr)) =  0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.252
------------------------------------------------------------------------

                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        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

 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	(0.245)	0.005	0.016
2	0.17	0.07	0.021	(0.244)	0.005	0.016
3	0.25	0.07	0.021	(0.243)	0.005	0.016
4	0.33	0.10	0.032	(0.243)	0.008	0.024
5	0.42	0.10	0.032	(0.242)	0.008	0.024
6	0.50	0.10	0.032	(0.241)	0.008	0.024
7	0.58	0.10	0.032	(0.240)	0.008	0.024
8	0.67	0.10	0.032	(0.239)	0.008	0.024
9	0.75	0.10	0.032	(0.238)	0.008	0.024
10	0.83	0.13	0.042	(0.237)	0.011	0.032
11	0.92	0.13	0.042	(0.236)	0.011	0.032
12	1.00	0.13	0.042	(0.235)	0.011	0.032
13	1.08	0.10	0.032	(0.234)	0.008	0.024
14	1.17	0.10	0.032	(0.233)	0.008	0.024
15	1.25	0.10	0.032	(0.232)	0.008	0.024
16	1.33	0.10	0.032	(0.231)	0.008	0.024
17	1.42	0.10	0.032	(0.230)	0.008	0.024
18	1.50	0.10	0.032	(0.230)	0.008	0.024
19	1.58	0.10	0.032	(0.229)	0.008	0.024
20	1.67	0.10	0.032	(0.228)	0.008	0.024
21	1.75	0.10	0.032	(0.227)	0.008	0.024
22	1.83	0.13	0.042	(0.226)	0.011	0.032
23	1.92	0.13	0.042	(0.225)	0.011	0.032
24	2.00	0.13	0.042	(0.224)	0.011	0.032
25	2.08	0.13	0.042	(0.223)	0.011	0.032
26	2.17	0.13	0.042	(0.222)	0.011	0.032
27	2.25	0.13	0.042	(0.221)	0.011	0.032
28	2.33	0.13	0.042	(0.220)	0.011	0.032
29	2.42	0.13	0.042	(0.220)	0.011	0.032
30	2.50	0.13	0.042	(0.219)	0.011	0.032
31	2.58	0.17	0.053	(0.218)	0.013	0.039
32	2.67	0.17	0.053	(0.217)	0.013	0.039
33	2.75	0.17	0.053	(0.216)	0.013	0.039
34	2.83	0.17	0.053	(0.215)	0.013	0.039
35	2.92	0.17	0.053	(0.214)	0.013	0.039
36	3.00	0.17	0.053	(0.213)	0.013	0.039
37	3.08	0.17	0.053	(0.212)	0.013	0.039
38	3.17	0.17	0.053	(0.212)	0.013	0.039
39	3.25	0.17	0.053	(0.211)	0.013	0.039
40	3.33	0.17	0.053	(0.210)	0.013	0.039
41	3.42	0.17	0.053	(0.209)	0.013	0.039
42	3.50	0.17	0.053	(0.208)	0.013	0.039
43	3.58	0.17	0.053	(0.207)	0.013	0.039
44	3.67	0.17	0.053	(0.206)	0.013	0.039
45	3.75	0.17	0.053	(0.205)	0.013	0.039
46	3.83	0.20	0.063	(0.205)	0.016	0.047
47	3.92	0.20	0.063	(0.204)	0.016	0.047

48	4.00	0.20	0.063	(0.203)	0.016	0.047
49	4.08	0.20	0.063	(0.202)	0.016	0.047
50	4.17	0.20	0.063	(0.201)	0.016	0.047
51	4.25	0.20	0.063	(0.200)	0.016	0.047
52	4.33	0.23	0.074	(0.199)	0.019	0.055
53	4.42	0.23	0.074	(0.199)	0.019	0.055
54	4.50	0.23	0.074	(0.198)	0.019	0.055
55	4.58	0.23	0.074	(0.197)	0.019	0.055
56	4.67	0.23	0.074	(0.196)	0.019	0.055
57	4.75	0.23	0.074	(0.195)	0.019	0.055
58	4.83	0.27	0.084	(0.194)	0.021	0.063
59	4.92	0.27	0.084	(0.193)	0.021	0.063
60	5.00	0.27	0.084	(0.193)	0.021	0.063
61	5.08	0.20	0.063	(0.192)	0.016	0.047
62	5.17	0.20	0.063	(0.191)	0.016	0.047
63	5.25	0.20	0.063	(0.190)	0.016	0.047
64	5.33	0.23	0.074	(0.189)	0.019	0.055
65	5.42	0.23	0.074	(0.188)	0.019	0.055
66	5.50	0.23	0.074	(0.188)	0.019	0.055
67	5.58	0.27	0.084	(0.187)	0.021	0.063
68	5.67	0.27	0.084	(0.186)	0.021	0.063
69	5.75	0.27	0.084	(0.185)	0.021	0.063
70	5.83	0.27	0.084	(0.184)	0.021	0.063
71	5.92	0.27	0.084	(0.184)	0.021	0.063
72	6.00	0.27	0.084	(0.183)	0.021	0.063
73	6.08	0.30	0.095	(0.182)	0.024	0.071
74	6.17	0.30	0.095	(0.181)	0.024	0.071
75	6.25	0.30	0.095	(0.180)	0.024	0.071
76	6.33	0.30	0.095	(0.179)	0.024	0.071
77	6.42	0.30	0.095	(0.179)	0.024	0.071
78	6.50	0.30	0.095	(0.178)	0.024	0.071
79	6.58	0.33	0.105	(0.177)	0.027	0.079
80	6.67	0.33	0.105	(0.176)	0.027	0.079
81	6.75	0.33	0.105	(0.175)	0.027	0.079
82	6.83	0.33	0.105	(0.175)	0.027	0.079
83	6.92	0.33	0.105	(0.174)	0.027	0.079
84	7.00	0.33	0.105	(0.173)	0.027	0.079
85	7.08	0.33	0.105	(0.172)	0.027	0.079
86	7.17	0.33	0.105	(0.172)	0.027	0.079
87	7.25	0.33	0.105	(0.171)	0.027	0.079
88	7.33	0.37	0.116	(0.170)	0.029	0.087
89	7.42	0.37	0.116	(0.169)	0.029	0.087
90	7.50	0.37	0.116	(0.168)	0.029	0.087
91	7.58	0.40	0.127	(0.168)	0.032	0.095
92	7.67	0.40	0.127	(0.167)	0.032	0.095
93	7.75	0.40	0.127	(0.166)	0.032	0.095
94	7.83	0.43	0.137	(0.165)	0.035	0.103
95	7.92	0.43	0.137	(0.165)	0.035	0.103
96	8.00	0.43	0.137	(0.164)	0.035	0.103
97	8.08	0.50	0.158	(0.163)	0.040	0.118

98	8.17	0.50	0.158	(0.162)	0.040	0.118
99	8.25	0.50	0.158	(0.162)	0.040	0.118
100	8.33	0.50	0.158	(0.161)	0.040	0.118
101	8.42	0.50	0.158	(0.160)	0.040	0.118
102	8.50	0.50	0.158	(0.159)	0.040	0.118
103	8.58	0.53	0.169	(0.159)	0.043	0.126
104	8.67	0.53	0.169	(0.158)	0.043	0.126
105	8.75	0.53	0.169	(0.157)	0.043	0.126
106	8.83	0.57	0.179	(0.156)	0.045	0.134
107	8.92	0.57	0.179	(0.156)	0.045	0.134
108	9.00	0.57	0.179	(0.155)	0.045	0.134
109	9.08	0.63	0.200	(0.154)	0.050	0.150
110	9.17	0.63	0.200	(0.153)	0.050	0.150
111	9.25	0.63	0.200	(0.153)	0.050	0.150
112	9.33	0.67	0.211	(0.152)	0.053	0.158
113	9.42	0.67	0.211	(0.151)	0.053	0.158
114	9.50	0.67	0.211	(0.150)	0.053	0.158
115	9.58	0.70	0.221	(0.150)	0.056	0.166
116	9.67	0.70	0.221	(0.149)	0.056	0.166
117	9.75	0.70	0.221	(0.148)	0.056	0.166
118	9.83	0.73	0.232	(0.148)	0.058	0.173
119	9.92	0.73	0.232	(0.147)	0.058	0.173
120	10.00	0.73	0.232	(0.146)	0.058	0.173
121	10.08	0.50	0.158	(0.145)	0.040	0.118
122	10.17	0.50	0.158	(0.145)	0.040	0.118
123	10.25	0.50	0.158	(0.144)	0.040	0.118
124	10.33	0.50	0.158	(0.143)	0.040	0.118
125	10.42	0.50	0.158	(0.143)	0.040	0.118
126	10.50	0.50	0.158	(0.142)	0.040	0.118
127	10.58	0.67	0.211	(0.141)	0.053	0.158
128	10.67	0.67	0.211	(0.141)	0.053	0.158
129	10.75	0.67	0.211	(0.140)	0.053	0.158
130	10.83	0.67	0.211	(0.139)	0.053	0.158
131	10.92	0.67	0.211	(0.139)	0.053	0.158
132	11.00	0.67	0.211	(0.138)	0.053	0.158
133	11.08	0.63	0.200	(0.137)	0.050	0.150
134	11.17	0.63	0.200	(0.136)	0.050	0.150
135	11.25	0.63	0.200	(0.136)	0.050	0.150
136	11.33	0.63	0.200	(0.135)	0.050	0.150
137	11.42	0.63	0.200	(0.134)	0.050	0.150
138	11.50	0.63	0.200	(0.134)	0.050	0.150
139	11.58	0.57	0.179	(0.133)	0.045	0.134
140	11.67	0.57	0.179	(0.132)	0.045	0.134
141	11.75	0.57	0.179	(0.132)	0.045	0.134
142	11.83	0.60	0.190	(0.131)	0.048	0.142
143	11.92	0.60	0.190	(0.131)	0.048	0.142
144	12.00	0.60	0.190	(0.130)	0.048	0.142
145	12.08	0.83	0.264	(0.129)	0.066	0.197
146	12.17	0.83	0.264	(0.129)	0.066	0.197
147	12.25	0.83	0.264	(0.128)	0.066	0.197

148	12.33	0.87	0.274	(0.127)	0.069	0.205
149	12.42	0.87	0.274	(0.127)	0.069	0.205
150	12.50	0.87	0.274	(0.126)	0.069	0.205
151	12.58	0.93	0.295	(0.125)	0.074	0.221
152	12.67	0.93	0.295	(0.125)	0.074	0.221
153	12.75	0.93	0.295	(0.124)	0.074	0.221
154	12.83	0.97	0.306	(0.123)	0.077	0.229
155	12.92	0.97	0.306	(0.123)	0.077	0.229
156	13.00	0.97	0.306	(0.122)	0.077	0.229
157	13.08	1.13	0.358	(0.122)	0.090	0.268
158	13.17	1.13	0.358	(0.121)	0.090	0.268
159	13.25	1.13	0.358	(0.120)	0.090	0.268
160	13.33	1.13	0.358	(0.120)	0.090	0.268
161	13.42	1.13	0.358	(0.119)	0.090	0.268
162	13.50	1.13	0.358	(0.119)	0.090	0.268
163	13.58	0.77	0.242	(0.118)	0.061	0.181
164	13.67	0.77	0.242	(0.117)	0.061	0.181
165	13.75	0.77	0.242	(0.117)	0.061	0.181
166	13.83	0.77	0.242	(0.116)	0.061	0.181
167	13.92	0.77	0.242	(0.116)	0.061	0.181
168	14.00	0.77	0.242	(0.115)	0.061	0.181
169	14.08	0.90	0.285	(0.114)	0.072	0.213
170	14.17	0.90	0.285	(0.114)	0.072	0.213
171	14.25	0.90	0.285	(0.113)	0.072	0.213
172	14.33	0.87	0.274	(0.113)	0.069	0.205
173	14.42	0.87	0.274	(0.112)	0.069	0.205
174	14.50	0.87	0.274	(0.112)	0.069	0.205
175	14.58	0.87	0.274	(0.111)	0.069	0.205
176	14.67	0.87	0.274	(0.110)	0.069	0.205
177	14.75	0.87	0.274	(0.110)	0.069	0.205
178	14.83	0.83	0.264	(0.109)	0.066	0.197
179	14.92	0.83	0.264	(0.109)	0.066	0.197
180	15.00	0.83	0.264	(0.108)	0.066	0.197
181	15.08	0.80	0.253	(0.108)	0.064	0.189
182	15.17	0.80	0.253	(0.107)	0.064	0.189
183	15.25	0.80	0.253	(0.106)	0.064	0.189
184	15.33	0.77	0.242	(0.106)	0.061	0.181
185	15.42	0.77	0.242	(0.105)	0.061	0.181
186	15.50	0.77	0.242	(0.105)	0.061	0.181
187	15.58	0.63	0.200	(0.104)	0.050	0.150
188	15.67	0.63	0.200	(0.104)	0.050	0.150
189	15.75	0.63	0.200	(0.103)	0.050	0.150
190	15.83	0.63	0.200	(0.103)	0.050	0.150
191	15.92	0.63	0.200	(0.102)	0.050	0.150
192	16.00	0.63	0.200	(0.102)	0.050	0.150
193	16.08	0.13	0.042	(0.101)	0.011	0.032
194	16.17	0.13	0.042	(0.101)	0.011	0.032
195	16.25	0.13	0.042	(0.100)	0.011	0.032
196	16.33	0.13	0.042	(0.100)	0.011	0.032
197	16.42	0.13	0.042	(0.099)	0.011	0.032

198	16.50	0.13	0.042	(0.099)	0.011	0.032
199	16.58	0.10	0.032	(0.098)	0.008	0.024
200	16.67	0.10	0.032	(0.098)	0.008	0.024
201	16.75	0.10	0.032	(0.097)	0.008	0.024
202	16.83	0.10	0.032	(0.097)	0.008	0.024
203	16.92	0.10	0.032	(0.096)	0.008	0.024
204	17.00	0.10	0.032	(0.096)	0.008	0.024
205	17.08	0.17	0.053	(0.095)	0.013	0.039
206	17.17	0.17	0.053	(0.095)	0.013	0.039
207	17.25	0.17	0.053	(0.094)	0.013	0.039
208	17.33	0.17	0.053	(0.094)	0.013	0.039
209	17.42	0.17	0.053	(0.093)	0.013	0.039
210	17.50	0.17	0.053	(0.093)	0.013	0.039
211	17.58	0.17	0.053	(0.092)	0.013	0.039
212	17.67	0.17	0.053	(0.092)	0.013	0.039
213	17.75	0.17	0.053	(0.091)	0.013	0.039
214	17.83	0.13	0.042	(0.091)	0.011	0.032
215	17.92	0.13	0.042	(0.090)	0.011	0.032
216	18.00	0.13	0.042	(0.090)	0.011	0.032
217	18.08	0.13	0.042	(0.090)	0.011	0.032
218	18.17	0.13	0.042	(0.089)	0.011	0.032
219	18.25	0.13	0.042	(0.089)	0.011	0.032
220	18.33	0.13	0.042	(0.088)	0.011	0.032
221	18.42	0.13	0.042	(0.088)	0.011	0.032
222	18.50	0.13	0.042	(0.087)	0.011	0.032
223	18.58	0.10	0.032	(0.087)	0.008	0.024
224	18.67	0.10	0.032	(0.087)	0.008	0.024
225	18.75	0.10	0.032	(0.086)	0.008	0.024
226	18.83	0.07	0.021	(0.086)	0.005	0.016
227	18.92	0.07	0.021	(0.085)	0.005	0.016
228	19.00	0.07	0.021	(0.085)	0.005	0.016
229	19.08	0.10	0.032	(0.085)	0.008	0.024
230	19.17	0.10	0.032	(0.084)	0.008	0.024
231	19.25	0.10	0.032	(0.084)	0.008	0.024
232	19.33	0.13	0.042	(0.083)	0.011	0.032
233	19.42	0.13	0.042	(0.083)	0.011	0.032
234	19.50	0.13	0.042	(0.083)	0.011	0.032
235	19.58	0.10	0.032	(0.082)	0.008	0.024
236	19.67	0.10	0.032	(0.082)	0.008	0.024
237	19.75	0.10	0.032	(0.081)	0.008	0.024
238	19.83	0.07	0.021	(0.081)	0.005	0.016
239	19.92	0.07	0.021	(0.081)	0.005	0.016
240	20.00	0.07	0.021	(0.080)	0.005	0.016
241	20.08	0.10	0.032	(0.080)	0.008	0.024
242	20.17	0.10	0.032	(0.080)	0.008	0.024
243	20.25	0.10	0.032	(0.079)	0.008	0.024
244	20.33	0.10	0.032	(0.079)	0.008	0.024
245	20.42	0.10	0.032	(0.079)	0.008	0.024
246	20.50	0.10	0.032	(0.078)	0.008	0.024
247	20.58	0.10	0.032	(0.078)	0.008	0.024

248	20.67	0.10	0.032	(0.078)	0.008	0.024
249	20.75	0.10	0.032	(0.077)	0.008	0.024
250	20.83	0.07	0.021	(0.077)	0.005	0.016
251	20.92	0.07	0.021	(0.077)	0.005	0.016
252	21.00	0.07	0.021	(0.076)	0.005	0.016
253	21.08	0.10	0.032	(0.076)	0.008	0.024
254	21.17	0.10	0.032	(0.076)	0.008	0.024
255	21.25	0.10	0.032	(0.076)	0.008	0.024
256	21.33	0.07	0.021	(0.075)	0.005	0.016
257	21.42	0.07	0.021	(0.075)	0.005	0.016
258	21.50	0.07	0.021	(0.075)	0.005	0.016
259	21.58	0.10	0.032	(0.074)	0.008	0.024
260	21.67	0.10	0.032	(0.074)	0.008	0.024
261	21.75	0.10	0.032	(0.074)	0.008	0.024
262	21.83	0.07	0.021	(0.074)	0.005	0.016
263	21.92	0.07	0.021	(0.073)	0.005	0.016
264	22.00	0.07	0.021	(0.073)	0.005	0.016
265	22.08	0.10	0.032	(0.073)	0.008	0.024
266	22.17	0.10	0.032	(0.073)	0.008	0.024
267	22.25	0.10	0.032	(0.072)	0.008	0.024
268	22.33	0.07	0.021	(0.072)	0.005	0.016
269	22.42	0.07	0.021	(0.072)	0.005	0.016
270	22.50	0.07	0.021	(0.072)	0.005	0.016
271	22.58	0.07	0.021	(0.072)	0.005	0.016
272	22.67	0.07	0.021	(0.071)	0.005	0.016
273	22.75	0.07	0.021	(0.071)	0.005	0.016
274	22.83	0.07	0.021	(0.071)	0.005	0.016
275	22.92	0.07	0.021	(0.071)	0.005	0.016
276	23.00	0.07	0.021	(0.071)	0.005	0.016
277	23.08	0.07	0.021	(0.070)	0.005	0.016
278	23.17	0.07	0.021	(0.070)	0.005	0.016
279	23.25	0.07	0.021	(0.070)	0.005	0.016
280	23.33	0.07	0.021	(0.070)	0.005	0.016
281	23.42	0.07	0.021	(0.070)	0.005	0.016
282	23.50	0.07	0.021	(0.070)	0.005	0.016
283	23.58	0.07	0.021	(0.070)	0.005	0.016
284	23.67	0.07	0.021	(0.069)	0.005	0.016
285	23.75	0.07	0.021	(0.069)	0.005	0.016
286	23.83	0.07	0.021	(0.069)	0.005	0.016
287	23.92	0.07	0.021	(0.069)	0.005	0.016
288	24.00	0.07	0.021	(0.069)	0.005	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.7

Flood volume = Effective rainfall 1.97(In)
times area 2.8(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.66(In)
Total soil loss = 0.155(Ac.Ft)
Total rainfall = 2.64(In)
Flood volume = 20037.8 Cubic Feet
Total soil loss = 6750.7 Cubic Feet

Peak flow rate of this hydrograph = 0.757(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.04	Q				
0+15	0.0009	0.04	Q				
0+20	0.0013	0.06	Q				
0+25	0.0017	0.07	Q				
0+30	0.0022	0.07	Q				
0+35	0.0027	0.07	Q				
0+40	0.0031	0.07	Q				
0+45	0.0036	0.07	Q				
0+50	0.0042	0.08	Q				
0+55	0.0048	0.09	Q				
1+ 0	0.0054	0.09	Q				
1+ 5	0.0059	0.07	Q				
1+10	0.0063	0.07	Q				
1+15	0.0068	0.07	Q				
1+20	0.0073	0.07	Q				
1+25	0.0077	0.07	Q				
1+30	0.0082	0.07	Q				
1+35	0.0086	0.07	Q				
1+40	0.0091	0.07	Q				
1+45	0.0096	0.07	Q				
1+50	0.0101	0.08	Q				
1+55	0.0108	0.09	Q				
2+ 0	0.0114	0.09	Q				
2+ 5	0.0120	0.09	QV				
2+10	0.0126	0.09	QV				
2+15	0.0132	0.09	QV				
2+20	0.0138	0.09	QV				
2+25	0.0144	0.09	QV				
2+30	0.0150	0.09	QV				
2+35	0.0158	0.11	QV				
2+40	0.0165	0.11	QV				
2+45	0.0173	0.11	QV				
2+50	0.0181	0.11	QV				
2+55	0.0188	0.11	QV				
3+ 0	0.0196	0.11	QV				
3+ 5	0.0204	0.11	QV				
3+10	0.0211	0.11	QV				

3+15	0.0219	0.11	QV	|	|	|	|
3+20	0.0227	0.11	QV	|	|	|	|
3+25	0.0234	0.11	Q V	|	|	|	|
3+30	0.0242	0.11	Q V	|	|	|	|
3+35	0.0250	0.11	Q V	|	|	|	|
3+40	0.0257	0.11	Q V	|	|	|	|
3+45	0.0265	0.11	Q V	|	|	|	|
3+50	0.0274	0.13	Q V	|	|	|	|
3+55	0.0283	0.13	Q V	|	|	|	|
4+ 0	0.0292	0.13	Q V	|	|	|	|
4+ 5	0.0302	0.13	Q V	|	|	|	|
4+10	0.0311	0.13	Q V	|	|	|	|
4+15	0.0320	0.13	Q V	|	|	|	|
4+20	0.0330	0.15	Q V	|	|	|	|
4+25	0.0341	0.16	Q V	|	|	|	|
4+30	0.0352	0.16	Q V	|	|	|	|
4+35	0.0363	0.16	Q V	|	|	|	|
4+40	0.0373	0.16	Q V	|	|	|	|
4+45	0.0384	0.16	Q V	|	|	|	|
4+50	0.0396	0.17	Q V	|	|	|	|
4+55	0.0408	0.18	Q V	|	|	|	|
5+ 0	0.0421	0.18	Q V	|	|	|	|
5+ 5	0.0430	0.14	Q V	|	|	|	|
5+10	0.0440	0.13	Q V	|	|	|	|
5+15	0.0449	0.13	Q V	|	|	|	|
5+20	0.0459	0.15	Q V	|	|	|	|
5+25	0.0470	0.16	Q V	|	|	|	|
5+30	0.0481	0.16	Q V	|	|	|	|
5+35	0.0493	0.17	Q V	|	|	|	|
5+40	0.0505	0.18	Q V	|	|	|	|
5+45	0.0517	0.18	Q V	|	|	|	|
5+50	0.0529	0.18	Q V	|	|	|	|
5+55	0.0542	0.18	Q V	|	|	|	|
6+ 0	0.0554	0.18	Q V	|	|	|	|
6+ 5	0.0567	0.20	Q V	|	|	|	|
6+10	0.0581	0.20	Q V	|	|	|	|
6+15	0.0595	0.20	Q V	|	|	|	|
6+20	0.0609	0.20	Q V	|	|	|	|
6+25	0.0623	0.20	Q V	|	|	|	|
6+30	0.0636	0.20	Q V	|	|	|	|
6+35	0.0651	0.22	Q V	|	|	|	|
6+40	0.0667	0.22	Q V	|	|	|	|
6+45	0.0682	0.22	Q V	|	|	|	|
6+50	0.0697	0.22	Q V	|	|	|	|
6+55	0.0713	0.22	Q V	|	|	|	|
7+ 0	0.0728	0.22	Q V	|	|	|	|
7+ 5	0.0743	0.22	Q V	|	|	|	|
7+10	0.0759	0.22	Q V	|	|	|	|
7+15	0.0774	0.22	Q V	|	|	|	|
7+20	0.0791	0.24	Q V	|	|	|	|

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 7+25       0.0807      0.24  Q      V  |          |          |          |
 7+30       0.0824      0.24  Q      V  |          |          |          |
 7+35       0.0842      0.26  |Q     V  |          |          |          |
 7+40       0.0861      0.27  |Q     V  |          |          |          |
 7+45       0.0879      0.27  |Q     V  |          |          |          |
 7+50       0.0899      0.28  |Q     V  |          |          |          |
 7+55       0.0919      0.29  |Q     V  |          |          |          |
 8+ 0       0.0939      0.29  |Q      V |          |          |          |
 8+ 5       0.0961      0.32  |Q      V |          |          |          |
 8+10       0.0984      0.33  |Q      V |          |          |          |
 8+15       0.1007      0.33  |Q      V |          |          |          |
 8+20       0.1030      0.33  |Q      V |          |          |          |
 8+25       0.1053      0.33  |Q       V|          |          |          |
 8+30       0.1076      0.33  |Q       V|          |          |          |
 8+35       0.1100      0.35  |Q       V|          |          |          |
 8+40       0.1125      0.36  |Q       V|          |          |          |
 8+45       0.1149      0.36  |Q       V|          |          |          |
 8+50       0.1175      0.37  |Q        V          |          |          |
 8+55       0.1201      0.38  |Q        V          |          |          |
 9+ 0       0.1227      0.38  |Q        V          |          |          |
 9+ 5       0.1256      0.41  |Q        V          |          |          |
 9+10       0.1285      0.42  |Q        |V         |          |          |
 9+15       0.1314      0.42  |Q        |V         |          |          |
 9+20       0.1344      0.44  |Q        |V         |          |          |
 9+25       0.1375      0.45  |Q        |V         |          |          |
 9+30       0.1405      0.45  |Q        | V        |          |          |
 9+35       0.1437      0.46  |Q        | V        |          |          |
 9+40       0.1470      0.47  |Q        | V        |          |          |
 9+45       0.1502      0.47  |Q        |  V       |          |          |
 9+50       0.1535      0.48  |Q        |  V       |          |          |
 9+55       0.1569      0.49  |Q        |  V       |          |          |
10+ 0       0.1603      0.49  |Q        |  V       |          |          |
10+ 5       0.1628      0.37  |Q        |   V      |          |          |
10+10       0.1651      0.33  |Q        |   V      |          |          |
10+15       0.1674      0.33  |Q        |   V      |          |          |
10+20       0.1697      0.33  |Q        |   V      |          |          |
10+25       0.1720      0.33  |Q        |   V      |          |          |
10+30       0.1743      0.33  |Q        |    V     |          |          |
10+35       0.1772      0.42  |Q        |    V     |          |          |
10+40       0.1803      0.45  |Q        |    V     |          |          |
10+45       0.1833      0.45  |Q        |    V     |          |          |
10+50       0.1864      0.45  |Q        |     V    |          |          |
10+55       0.1895      0.45  |Q        |     V    |          |          |
11+ 0       0.1925      0.45  |Q        |     V    |          |          |
11+ 5       0.1955      0.43  |Q        |     V    |          |          |
11+10       0.1984      0.42  |Q        |      V   |          |          |
11+15       0.2013      0.42  |Q        |      V   |          |          |
11+20       0.2042      0.42  |Q        |      V   |          |          |
11+25       0.2071      0.42  |Q        |       V  |          |          |
11+30       0.2100      0.42  |Q        |       V  |          |          |
```

```
11+35       0.2127      0.39  |Q        |       V |         |         |
11+40       0.2153      0.38  |Q        |       V |         |         |
11+45       0.2179      0.38  |Q        |       V |         |         |
11+50       0.2207      0.40  |Q        |        V|         |         |
11+55       0.2234      0.40  |Q        |        V|         |         |
12+ 0       0.2262      0.40  |Q        |        V|         |         |
12+ 5       0.2298      0.52  | Q       |        V|         |         |
12+10       0.2336      0.56  | Q       |         V         |         |
12+15       0.2374      0.56  | Q       |         V         |         |
12+20       0.2414      0.57  | Q       |         V         |         |
12+25       0.2454      0.58  | Q       |          |V       |         |
12+30       0.2494      0.58  | Q       |          |V       |         |
12+35       0.2536      0.61  | Q       |          | V       |         |
12+40       0.2579      0.62  | Q       |          | V       |         |
12+45       0.2622      0.62  | Q       |          | V       |         |
12+50       0.2666      0.64  | Q       |          |  V      |         |
12+55       0.2710      0.65  | Q       |          |  V      |         |
13+ 0       0.2755      0.65  | Q       |          |  V      |         |
13+ 5       0.2805      0.73  | Q       |          |   V     |         |
13+10       0.2857      0.76  |  Q      |          |   V     |         |
13+15       0.2910      0.76  |  Q      |          |    V    |         |
13+20       0.2962      0.76  |  Q      |          |    V    |         |
13+25       0.3014      0.76  |  Q      |          |     V   |         |
13+30       0.3066      0.76  |  Q      |          |     V   |         |
13+35       0.3105      0.57  | Q       |          |     V   |         |
13+40       0.3140      0.51  | Q       |          |      V  |         |
13+45       0.3176      0.51  | Q       |          |      V  |         |
13+50       0.3211      0.51  | Q       |          |      V  |         |
13+55       0.3246      0.51  | Q       |          |       V |         |
14+ 0       0.3281      0.51  | Q       |          |       V |         |
14+ 5       0.3321      0.58  | Q       |          |       V |         |
14+10       0.3363      0.60  | Q       |          |        V|         |
14+15       0.3404      0.60  | Q       |          |        V|         |
14+20       0.3444      0.58  | Q       |          |        V|         |
14+25       0.3484      0.58  | Q       |          |         V         |
14+30       0.3524      0.58  | Q       |          |         V         |
14+35       0.3564      0.58  | Q       |          |         V         |
14+40       0.3604      0.58  | Q       |          |          |V       |
14+45       0.3644      0.58  | Q       |          |          |V       |
14+50       0.3682      0.56  | Q       |          |          | V       |
14+55       0.3721      0.56  | Q       |          |          | V       |
15+ 0       0.3759      0.56  | Q       |          |          | V       |
15+ 5       0.3796      0.54  | Q       |          |          |  V      |
15+10       0.3833      0.53  | Q       |          |          |  V      |
15+15       0.3870      0.53  | Q       |          |          |  V      |
15+20       0.3905      0.52  | Q       |          |          |  V      |
15+25       0.3941      0.51  | Q       |          |          |   V     |
15+30       0.3976      0.51  | Q       |          |          |   V     |
15+35       0.4006      0.44  |Q        |          |          |   V     |
15+40       0.4036      0.42  |Q        |          |          |    V    |
```

```
15+45       0.4065      0.42  |Q        |         |         |    V    |
15+50       0.4094      0.42  |Q        |         |         |    V    |
15+55       0.4123      0.42  |Q        |         |         |    V    |
16+ 0       0.4152      0.42  |Q        |         |         |     V   |
16+ 5       0.4163      0.16  Q         |         |         |     V   |
16+10       0.4169      0.09  Q         |         |         |     V   |
16+15       0.4176      0.09  Q         |         |         |     V   |
16+20       0.4182      0.09  Q         |         |         |     V   |
16+25       0.4188      0.09  Q         |         |         |     V   |
16+30       0.4194      0.09  Q         |         |         |     V   |
16+35       0.4199      0.07  Q         |         |         |     V   |
16+40       0.4203      0.07  Q         |         |         |     V   |
16+45       0.4208      0.07  Q         |         |         |     V   |
16+50       0.4213      0.07  Q         |         |         |     V   |
16+55       0.4217      0.07  Q         |         |         |     V   |
17+ 0       0.4222      0.07  Q         |         |         |     V   |
17+ 5       0.4229      0.10  Q         |         |         |     V   |
17+10       0.4237      0.11  Q         |         |         |     V   |
17+15       0.4244      0.11  Q         |         |         |     V   |
17+20       0.4252      0.11  Q         |         |         |     V   |
17+25       0.4260      0.11  Q         |         |         |      V  |
17+30       0.4267      0.11  Q         |         |         |      V  |
17+35       0.4275      0.11  Q         |         |         |      V  |
17+40       0.4283      0.11  Q         |         |         |      V  |
17+45       0.4290      0.11  Q         |         |         |      V  |
17+50       0.4297      0.09  Q         |         |         |      V  |
17+55       0.4303      0.09  Q         |         |         |      V  |
18+ 0       0.4309      0.09  Q         |         |         |      V  |
18+ 5       0.4315      0.09  Q         |         |         |      V  |
18+10       0.4321      0.09  Q         |         |         |      V  |
18+15       0.4327      0.09  Q         |         |         |      V  |
18+20       0.4333      0.09  Q         |         |         |      V  |
18+25       0.4340      0.09  Q         |         |         |      V  |
18+30       0.4346      0.09  Q         |         |         |      V  |
18+35       0.4351      0.07  Q         |         |         |      V  |
18+40       0.4355      0.07  Q         |         |         |      V  |
18+45       0.4360      0.07  Q         |         |         |      V  |
18+50       0.4363      0.05  Q         |         |         |      V  |
18+55       0.4366      0.04  Q         |         |         |      V  |
19+ 0       0.4369      0.04  Q         |         |         |      V  |
19+ 5       0.4374      0.06  Q         |         |         |       V |
19+10       0.4378      0.07  Q         |         |         |       V |
19+15       0.4383      0.07  Q         |         |         |       V |
19+20       0.4389      0.08  Q         |         |         |       V |
19+25       0.4395      0.09  Q         |         |         |       V |
19+30       0.4401      0.09  Q         |         |         |       V |
19+35       0.4406      0.07  Q         |         |         |       V |
19+40       0.4410      0.07  Q         |         |         |       V |
19+45       0.4415      0.07  Q         |         |         |       V |
19+50       0.4418      0.05  Q         |         |         |       V |
```

19+55	0.4422	0.04	Q	|	|	|	V |
20+ 0	0.4425	0.04	Q	|	|	|	V |
20+ 5	0.4429	0.06	Q	|	|	|	V |
20+10	0.4433	0.07	Q	|	|	|	V |
20+15	0.4438	0.07	Q	|	|	|	V |
20+20	0.4443	0.07	Q	|	|	|	V |
20+25	0.4447	0.07	Q	|	|	|	V |
20+30	0.4452	0.07	Q	|	|	|	V |
20+35	0.4456	0.07	Q	|	|	|	V |
20+40	0.4461	0.07	Q	|	|	|	V |
20+45	0.4466	0.07	Q	|	|	|	V |
20+50	0.4469	0.05	Q	|	|	|	V |
20+55	0.4472	0.04	Q	|	|	|	V |
21+ 0	0.4475	0.04	Q	|	|	|	V |
21+ 5	0.4479	0.06	Q	|	|	|	V |
21+10	0.4484	0.07	Q	|	|	|	V |
21+15	0.4489	0.07	Q	|	|	|	V|
21+20	0.4492	0.05	Q	|	|	|	V|
21+25	0.4495	0.04	Q	|	|	|	V|
21+30	0.4498	0.04	Q	|	|	|	V|
21+35	0.4502	0.06	Q	|	|	|	V|
21+40	0.4507	0.07	Q	|	|	|	V|
21+45	0.4512	0.07	Q	|	|	|	V|
21+50	0.4515	0.05	Q	|	|	|	V|
21+55	0.4518	0.04	Q	|	|	|	V|
22+ 0	0.4521	0.04	Q	|	|	|	V|
22+ 5	0.4525	0.06	Q	|	|	|	V|
22+10	0.4530	0.07	Q	|	|	|	V|
22+15	0.4535	0.07	Q	|	|	|	V|
22+20	0.4538	0.05	Q	|	|	|	V|
22+25	0.4541	0.04	Q	|	|	|	V|
22+30	0.4544	0.04	Q	|	|	|	V|
22+35	0.4547	0.04	Q	|	|	|	V|
22+40	0.4550	0.04	Q	|	|	|	V|
22+45	0.4553	0.04	Q	|	|	|	V|
22+50	0.4556	0.04	Q	|	|	|	V|
22+55	0.4560	0.04	Q	|	|	|	V|
23+ 0	0.4563	0.04	Q	|	|	|	V|
23+ 5	0.4566	0.04	Q	|	|	|	V|
23+10	0.4569	0.04	Q	|	|	|	V|
23+15	0.4572	0.04	Q	|	|	|	V|
23+20	0.4575	0.04	Q	|	|	|	V|
23+25	0.4578	0.04	Q	|	|	|	V|
23+30	0.4581	0.04	Q	|	|	|	V|
23+35	0.4584	0.04	Q	|	|	|	V|
23+40	0.4587	0.04	Q	|	|	|	V|
23+45	0.4590	0.04	Q	|	|	|	V|
23+50	0.4593	0.04	Q	|	|	|	V|
23+55	0.4596	0.04	Q	|	|	|	V|
24+ 0	0.4599	0.04	Q	|	|	|	V|

```
   24+ 5       0.4600      0.01  Q          |          |          |         V
-------------------------------------------------------------------------------
```

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

Study date 04/04/22 File: perrispre10610.out

++

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
PREDEVELOPMENT CONDITION
10 YEAR 6 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.11                  3.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            2.70                  7.56

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.110(In)
Area Averaged 100-Year Rainfall =    2.700(In)

Point rain (area averaged) =    1.764(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.764(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           66.00         0.060
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
66.0  66.0      0.405     0.060        0.383       1.000      0.383
                                                 Sum (F) =   0.383
Area averaged mean soil loss (F) (In/Hr) =  0.383
Minimum soil loss rate ((In/Hr)) =  0.192
(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        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

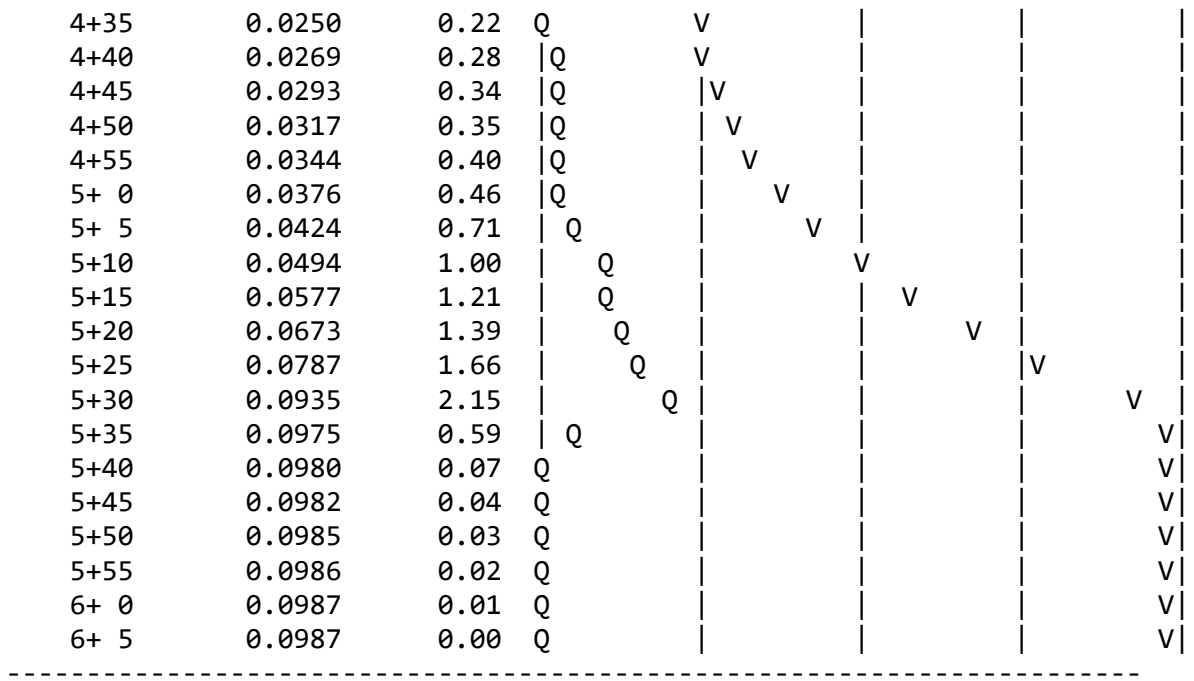
 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value
```

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.106	(0.383)	0.095	0.011
2	0.17	0.60	0.127	(0.383)	0.114	0.013
3	0.25	0.60	0.127	(0.383)	0.114	0.013
4	0.33	0.60	0.127	(0.383)	0.114	0.013
5	0.42	0.60	0.127	(0.383)	0.114	0.013
6	0.50	0.70	0.148	(0.383)	0.133	0.015
7	0.58	0.70	0.148	(0.383)	0.133	0.015
8	0.67	0.70	0.148	(0.383)	0.133	0.015
9	0.75	0.70	0.148	(0.383)	0.133	0.015
10	0.83	0.70	0.148	(0.383)	0.133	0.015
11	0.92	0.70	0.148	(0.383)	0.133	0.015
12	1.00	0.80	0.169	(0.383)	0.152	0.017
13	1.08	0.80	0.169	(0.383)	0.152	0.017
14	1.17	0.80	0.169	(0.383)	0.152	0.017
15	1.25	0.80	0.169	(0.383)	0.152	0.017
16	1.33	0.80	0.169	(0.383)	0.152	0.017
17	1.42	0.80	0.169	(0.383)	0.152	0.017
18	1.50	0.80	0.169	(0.383)	0.152	0.017
19	1.58	0.80	0.169	(0.383)	0.152	0.017
20	1.67	0.80	0.169	(0.383)	0.152	0.017
21	1.75	0.80	0.169	(0.383)	0.152	0.017
22	1.83	0.80	0.169	(0.383)	0.152	0.017
23	1.92	0.80	0.169	(0.383)	0.152	0.017
24	2.00	0.90	0.191	(0.383)	0.171	0.019
25	2.08	0.80	0.169	(0.383)	0.152	0.017
26	2.17	0.90	0.191	(0.383)	0.171	0.019
27	2.25	0.90	0.191	(0.383)	0.171	0.019
28	2.33	0.90	0.191	(0.383)	0.171	0.019
29	2.42	0.90	0.191	(0.383)	0.171	0.019
30	2.50	0.90	0.191	(0.383)	0.171	0.019
31	2.58	0.90	0.191	(0.383)	0.171	0.019
32	2.67	0.90	0.191	(0.383)	0.171	0.019
33	2.75	1.00	0.212	(0.383)	0.191	0.021
34	2.83	1.00	0.212	(0.383)	0.191	0.021
35	2.92	1.00	0.212	(0.383)	0.191	0.021
36	3.00	1.00	0.212	(0.383)	0.191	0.021
37	3.08	1.00	0.212	(0.383)	0.191	0.021
38	3.17	1.10	0.233	(0.383)	0.210	0.023
39	3.25	1.10	0.233	(0.383)	0.210	0.023
40	3.33	1.10	0.233	(0.383)	0.210	0.023
41	3.42	1.20	0.254	(0.383)	0.229	0.025
42	3.50	1.30	0.275	(0.383)	0.248	0.028
43	3.58	1.40	0.296	(0.383)	0.267	0.030
44	3.67	1.40	0.296	(0.383)	0.267	0.030
45	3.75	1.50	0.318	(0.383)	0.286	0.032
46	3.83	1.50	0.318	(0.383)	0.286	0.032
47	3.92	1.60	0.339	(0.383)	0.305	0.034

```
48   4.00     1.60      0.339       (  0.383)       0.305        0.034
49   4.08     1.70      0.360       (  0.383)       0.324        0.036
50   4.17     1.80      0.381       (  0.383)       0.343        0.038
51   4.25     1.90      0.402       (  0.383)       0.362        0.040
52   4.33     2.00      0.423       (  0.383)       0.381        0.042
53   4.42     2.10      0.445          0.383    (  0.400)        0.061
54   4.50     2.10      0.445          0.383    (  0.400)        0.061
55   4.58     2.20      0.466          0.383    (  0.419)        0.082
56   4.67     2.30      0.487          0.383    (  0.438)        0.104
57   4.75     2.40      0.508          0.383    (  0.457)        0.125
58   4.83     2.40      0.508          0.383    (  0.457)        0.125
59   4.92     2.50      0.529          0.383    (  0.476)        0.146
60   5.00     2.60      0.550          0.383    (  0.495)        0.167
61   5.08     3.10      0.656          0.383    (  0.591)        0.273
62   5.17     3.60      0.762          0.383    (  0.686)        0.379
63   5.25     3.90      0.826          0.383    (  0.743)        0.442
64   5.33     4.20      0.889          0.383    (  0.800)        0.506
65   5.42     4.70      0.995          0.383    (  0.895)        0.612
66   5.50     5.60      1.185          0.383    (  1.067)        0.802
67   5.58     1.90      0.402       (  0.383)       0.362        0.040
68   5.67     0.90      0.191       (  0.383)       0.171        0.019
69   5.75     0.60      0.127       (  0.383)       0.114        0.013
70   5.83     0.50      0.106       (  0.383)       0.095        0.011
71   5.92     0.30      0.064       (  0.383)       0.057        0.006
72   6.00     0.20      0.042       (  0.383)       0.038        0.004
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     5.1
      Flood volume = Effective rainfall      0.42(In)
       times area       2.8(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
      Total soil loss =      1.34(In)
      Total soil loss =     0.313(Ac.Ft)
      Total rainfall =      1.76(In)
      Flood volume =        4299.7 Cubic Feet
      Total soil loss =       13630.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.147(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       0.0004      0.03  Q         |         |         |         |
  0+15       0.0006      0.04  Q         |         |         |         |
  0+20       0.0009      0.04  Q         |         |         |         |
```

```
0+25       0.0011      0.04  Q          |          |          |          |
0+30       0.0014      0.04  Q          |          |          |          |
0+35       0.0017      0.04  Q          |          |          |          |
0+40       0.0020      0.04  Q          |          |          |          |
0+45       0.0023      0.04  Q          |          |          |          |
0+50       0.0026      0.04  QV         |          |          |          |
0+55       0.0029      0.04  QV         |          |          |          |
1+ 0       0.0032      0.05  QV         |          |          |          |
1+ 5       0.0035      0.05  QV         |          |          |          |
1+10       0.0038      0.05  QV         |          |          |          |
1+15       0.0042      0.05  QV         |          |          |          |
1+20       0.0045      0.05  QV         |          |          |          |
1+25       0.0048      0.05  QV         |          |          |          |
1+30       0.0052      0.05  Q V        |          |          |          |
1+35       0.0055      0.05  Q V        |          |          |          |
1+40       0.0058      0.05  Q V        |          |          |          |
1+45       0.0061      0.05  Q V        |          |          |          |
1+50       0.0065      0.05  Q V        |          |          |          |
1+55       0.0068      0.05  Q V        |          |          |          |
2+ 0       0.0072      0.05  Q V        |          |          |          |
2+ 5       0.0075      0.05  Q  V       |          |          |          |
2+10       0.0079      0.05  Q  V       |          |          |          |
2+15       0.0082      0.05  Q  V       |          |          |          |
2+20       0.0086      0.05  Q  V       |          |          |          |
2+25       0.0090      0.05  Q  V       |          |          |          |
2+30       0.0093      0.05  Q  V       |          |          |          |
2+35       0.0097      0.05  Q  V       |          |          |          |
2+40       0.0101      0.05  Q   V      |          |          |          |
2+45       0.0105      0.06  Q   V      |          |          |          |
2+50       0.0109      0.06  Q   V      |          |          |          |
2+55       0.0113      0.06  Q   V      |          |          |          |
3+ 0       0.0117      0.06  Q   V      |          |          |          |
3+ 5       0.0121      0.06  Q   V      |          |          |          |
3+10       0.0126      0.06  Q    V     |          |          |          |
3+15       0.0130      0.07  Q    V     |          |          |          |
3+20       0.0135      0.07  Q    V     |          |          |          |
3+25       0.0140      0.07  Q    V     |          |          |          |
3+30       0.0145      0.08  Q    V     |          |          |          |
3+35       0.0151      0.08  Q     V    |          |          |          |
3+40       0.0156      0.08  Q     V    |          |          |          |
3+45       0.0162      0.09  Q     V    |          |          |          |
3+50       0.0169      0.09  Q     V    |          |          |          |
3+55       0.0175      0.09  Q      V   |          |          |          |
4+ 0       0.0182      0.10  Q      V   |          |          |          |
4+ 5       0.0189      0.10  Q      V   |          |          |          |
4+10       0.0196      0.11  Q      V   |          |          |          |
4+15       0.0204      0.11  Q       V  |          |          |          |
4+20       0.0212      0.12  Q       V  |          |          |          |
4+25       0.0223      0.16  Q        V |          |          |          |
4+30       0.0235      0.17  Q        V |          |          |          |
```


4+35 0.0250 0.22
4+40 0.0269 0.28
4+45 0.0293 0.34
4+50 0.0317 0.35
4+55 0.0344 0.40
5+ 0 0.0376 0.46
5+ 5 0.0424 0.71
5+10 0.0494 1.00
5+15 0.0577 1.21
5+20 0.0673 1.39
5+25 0.0787 1.66
5+30 0.0935 2.15
5+35 0.0975 0.59
5+40 0.0980 0.07
5+45 0.0982 0.04
5+50 0.0985 0.03
5+55 0.0986 0.02
6+ 0 0.0987 0.01
6+ 5 0.0987 0.00

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

Study date 04/04/22 File: PERRISPOST610.out

++

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
POST DEVELOPMENT CONDITION
10 YEAR 6 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.11                  3.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            2.70                  7.56

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.110(In)
Area Averaged 100-Year Rainfall =    2.700(In)

Point rain (area averaged) =    1.764(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.764(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           56.00         0.810
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  56.0      0.511     0.810        0.138       1.000      0.138
                                                 Sum (F) =   0.138
Area averaged mean soil loss (F) (In/Hr) =  0.138
Minimum soil loss rate ((In/Hr)) =  0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.252
------------------------------------------------------------------------

                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        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                                Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

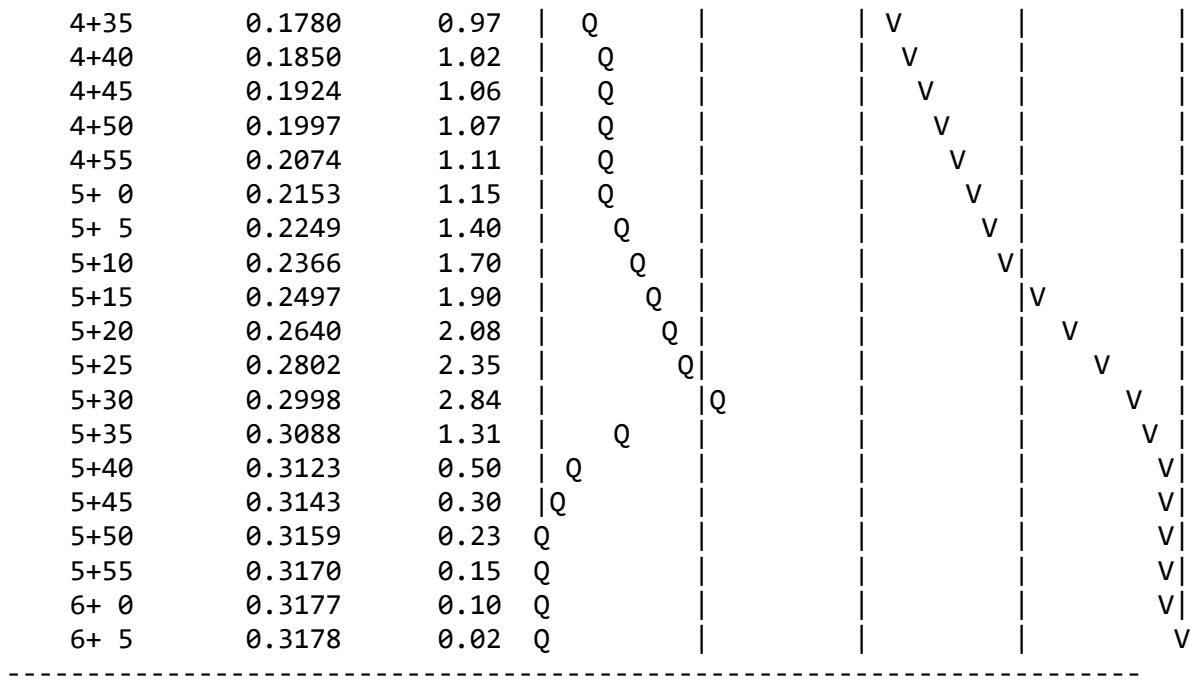
 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value
```

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.106	(0.138)	0.027	0.079
2	0.17	0.60	0.127	(0.138)	0.032	0.095
3	0.25	0.60	0.127	(0.138)	0.032	0.095
4	0.33	0.60	0.127	(0.138)	0.032	0.095
5	0.42	0.60	0.127	(0.138)	0.032	0.095
6	0.50	0.70	0.148	(0.138)	0.037	0.111
7	0.58	0.70	0.148	(0.138)	0.037	0.111
8	0.67	0.70	0.148	(0.138)	0.037	0.111
9	0.75	0.70	0.148	(0.138)	0.037	0.111
10	0.83	0.70	0.148	(0.138)	0.037	0.111
11	0.92	0.70	0.148	(0.138)	0.037	0.111
12	1.00	0.80	0.169	(0.138)	0.043	0.127
13	1.08	0.80	0.169	(0.138)	0.043	0.127
14	1.17	0.80	0.169	(0.138)	0.043	0.127
15	1.25	0.80	0.169	(0.138)	0.043	0.127
16	1.33	0.80	0.169	(0.138)	0.043	0.127
17	1.42	0.80	0.169	(0.138)	0.043	0.127
18	1.50	0.80	0.169	(0.138)	0.043	0.127
19	1.58	0.80	0.169	(0.138)	0.043	0.127
20	1.67	0.80	0.169	(0.138)	0.043	0.127
21	1.75	0.80	0.169	(0.138)	0.043	0.127
22	1.83	0.80	0.169	(0.138)	0.043	0.127
23	1.92	0.80	0.169	(0.138)	0.043	0.127
24	2.00	0.90	0.191	(0.138)	0.048	0.143
25	2.08	0.80	0.169	(0.138)	0.043	0.127
26	2.17	0.90	0.191	(0.138)	0.048	0.143
27	2.25	0.90	0.191	(0.138)	0.048	0.143
28	2.33	0.90	0.191	(0.138)	0.048	0.143
29	2.42	0.90	0.191	(0.138)	0.048	0.143
30	2.50	0.90	0.191	(0.138)	0.048	0.143
31	2.58	0.90	0.191	(0.138)	0.048	0.143
32	2.67	0.90	0.191	(0.138)	0.048	0.143
33	2.75	1.00	0.212	(0.138)	0.053	0.158
34	2.83	1.00	0.212	(0.138)	0.053	0.158
35	2.92	1.00	0.212	(0.138)	0.053	0.158
36	3.00	1.00	0.212	(0.138)	0.053	0.158
37	3.08	1.00	0.212	(0.138)	0.053	0.158
38	3.17	1.10	0.233	(0.138)	0.059	0.174
39	3.25	1.10	0.233	(0.138)	0.059	0.174
40	3.33	1.10	0.233	(0.138)	0.059	0.174
41	3.42	1.20	0.254	(0.138)	0.064	0.190
42	3.50	1.30	0.275	(0.138)	0.069	0.206
43	3.58	1.40	0.296	(0.138)	0.075	0.222
44	3.67	1.40	0.296	(0.138)	0.075	0.222
45	3.75	1.50	0.318	(0.138)	0.080	0.238
46	3.83	1.50	0.318	(0.138)	0.080	0.238
47	3.92	1.60	0.339	(0.138)	0.085	0.253

```
48   4.00     1.60      0.339       (  0.138)       0.085        0.253
49   4.08     1.70      0.360       (  0.138)       0.091        0.269
50   4.17     1.80      0.381       (  0.138)       0.096        0.285
51   4.25     1.90      0.402       (  0.138)       0.101        0.301
52   4.33     2.00      0.423       (  0.138)       0.107        0.317
53   4.42     2.10      0.445       (  0.138)       0.112        0.333
54   4.50     2.10      0.445       (  0.138)       0.112        0.333
55   4.58     2.20      0.466       (  0.138)       0.117        0.348
56   4.67     2.30      0.487       (  0.138)       0.123        0.364
57   4.75     2.40      0.508       (  0.138)       0.128        0.380
58   4.83     2.40      0.508       (  0.138)       0.128        0.380
59   4.92     2.50      0.529       (  0.138)       0.133        0.396
60   5.00     2.60      0.550          0.138    (  0.139)        0.412
61   5.08     3.10      0.656          0.138    (  0.165)        0.518
62   5.17     3.60      0.762          0.138    (  0.192)        0.624
63   5.25     3.90      0.826          0.138    (  0.208)        0.687
64   5.33     4.20      0.889          0.138    (  0.224)        0.751
65   5.42     4.70      0.995          0.138    (  0.251)        0.857
66   5.50     5.60      1.185          0.138    (  0.299)        1.047
67   5.58     1.90      0.402       (  0.138)       0.101        0.301
68   5.67     0.90      0.191       (  0.138)       0.048        0.143
69   5.75     0.60      0.127       (  0.138)       0.032        0.095
70   5.83     0.50      0.106       (  0.138)       0.027        0.079
71   5.92     0.30      0.064       (  0.138)       0.016        0.048
72   6.00     0.20      0.042       (  0.138)       0.011        0.032
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    16.3
      Flood volume = Effective rainfall      1.36(In)
       times area       2.8(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
      Total soil loss =      0.40(In)
      Total soil loss =     0.094(Ac.Ft)
      Total rainfall =      1.76(In)
      Flood volume =       13842.9 Cubic Feet
      Total soil loss =        4087.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.838(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       0.0012      0.17  Q         |         |         |         |
  0+10       0.0030      0.26  VQ        |         |         |         |
  0+15       0.0048      0.27  VQ        |         |         |         |
  0+20       0.0067      0.27  VQ        |         |         |         |
```

```
0+25       0.0085      0.27  |Q         |          |          |          |
0+30       0.0106      0.30  |Q         |          |          |          |
0+35       0.0128      0.31  |Q         |          |          |          |
0+40       0.0149      0.31  |Q         |          |          |          |
0+45       0.0171      0.31  |QV        |          |          |          |
0+50       0.0192      0.31  |QV        |          |          |          |
0+55       0.0214      0.31  |QV        |          |          |          |
1+ 0       0.0238      0.35  |QV        |          |          |          |
1+ 5       0.0262      0.36  |Q V       |          |          |          |
1+10       0.0287      0.36  |Q V       |          |          |          |
1+15       0.0312      0.36  |Q V       |          |          |          |
1+20       0.0336      0.36  |Q  V      |          |          |          |
1+25       0.0361      0.36  |Q  V      |          |          |          |
1+30       0.0386      0.36  |Q  V      |          |          |          |
1+35       0.0410      0.36  |Q   V     |          |          |          |
1+40       0.0435      0.36  |Q   V     |          |          |          |
1+45       0.0460      0.36  |Q   V     |          |          |          |
1+50       0.0484      0.36  |Q    V    |          |          |          |
1+55       0.0509      0.36  |Q    V    |          |          |          |
2+ 0       0.0536      0.39  |Q    V    |          |          |          |
2+ 5       0.0561      0.37  |Q     V   |          |          |          |
2+10       0.0588      0.39  |Q     V   |          |          |          |
2+15       0.0616      0.40  |Q     V   |          |          |          |
2+20       0.0644      0.40  |Q      V  |          |          |          |
2+25       0.0671      0.40  |Q      V  |          |          |          |
2+30       0.0699      0.40  |Q      V  |          |          |          |
2+35       0.0727      0.40  |Q       V |          |          |          |
2+40       0.0754      0.40  |Q       V |          |          |          |
2+45       0.0785      0.44  |Q       V |          |          |          |
2+50       0.0815      0.45  |Q        V          |          |          |
2+55       0.0846      0.45  |Q        V          |          |          |
3+ 0       0.0877      0.45  |Q        |V         |          |          |
3+ 5       0.0908      0.45  |Q        |V         |          |          |
3+10       0.0941      0.48  |Q        |V         |          |          |
3+15       0.0975      0.49  |Q        | V        |          |          |
3+20       0.1009      0.49  |Q        | V        |          |          |
3+25       0.1045      0.53  | Q       |  V       |          |          |
3+30       0.1084      0.57  | Q       |  V       |          |          |
3+35       0.1127      0.62  | Q       |   V      |          |          |
3+40       0.1170      0.63  | Q       |   V      |          |          |
3+45       0.1215      0.66  | Q       |    V     |          |          |
3+50       0.1261      0.67  | Q       |    V     |          |          |
3+55       0.1310      0.71  | Q       |     V    |          |          |
4+ 0       0.1359      0.72  | Q       |      V   |          |          |
4+ 5       0.1411      0.75  |  Q      |      V   |          |          |
4+10       0.1466      0.79  |  Q      |       V  |          |          |
4+15       0.1524      0.84  |  Q      |        V |          |          |
4+20       0.1584      0.88  |  Q      |        V |          |          |
4+25       0.1648      0.93  |  Q      |         V          |          |
4+30       0.1713      0.94  |  Q      |         |V         |          |
```


4+35 0.1780 0.97
4+40 0.1850 1.02
4+45 0.1924 1.06
4+50 0.1997 1.07
4+55 0.2074 1.11
5+ 0 0.2153 1.15
5+ 5 0.2249 1.40
5+10 0.2366 1.70
5+15 0.2497 1.90
5+20 0.2640 2.08
5+25 0.2802 2.35
5+30 0.2998 2.84
5+35 0.3088 1.31
5+40 0.3123 0.50
5+45 0.3143 0.30
5+50 0.3159 0.23
5+55 0.3170 0.15
6+ 0 0.3177 0.10
6+ 5 0.3178 0.02

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

Study date 04/04/22 File: PERRISPRE102410.out

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
PREDEVELOPMENT CONDITION
10 YEAR 24HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.94                   5.43

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            4.91                  13.75

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.940(In)
Area Averaged 100-Year Rainfall =    4.910(In)

Point rain (area averaged) =    3.162(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.162(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           66.00         0.060
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
66.0  66.0      0.405     0.060        0.383       1.000      0.383
                                                 Sum (F) =   0.383
Area averaged mean soil loss (F) (In/Hr) =  0.383
Minimum soil loss rate ((In/Hr)) =  0.192
(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        683.770         78.076              2.203
    2   0.167       1367.541         21.924              0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

 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	0.025	(0.680)	0.023	0.003
2	0.17	0.07	0.025	(0.677)	0.023	0.003
3	0.25	0.07	0.025	(0.674)	0.023	0.003
4	0.33	0.10	0.038	(0.672)	0.034	0.004
5	0.42	0.10	0.038	(0.669)	0.034	0.004
6	0.50	0.10	0.038	(0.666)	0.034	0.004
7	0.58	0.10	0.038	(0.664)	0.034	0.004
8	0.67	0.10	0.038	(0.661)	0.034	0.004
9	0.75	0.10	0.038	(0.659)	0.034	0.004
10	0.83	0.13	0.051	(0.656)	0.046	0.005
11	0.92	0.13	0.051	(0.653)	0.046	0.005
12	1.00	0.13	0.051	(0.651)	0.046	0.005
13	1.08	0.10	0.038	(0.648)	0.034	0.004
14	1.17	0.10	0.038	(0.646)	0.034	0.004
15	1.25	0.10	0.038	(0.643)	0.034	0.004
16	1.33	0.10	0.038	(0.641)	0.034	0.004
17	1.42	0.10	0.038	(0.638)	0.034	0.004
18	1.50	0.10	0.038	(0.636)	0.034	0.004
19	1.58	0.10	0.038	(0.633)	0.034	0.004
20	1.67	0.10	0.038	(0.630)	0.034	0.004
21	1.75	0.10	0.038	(0.628)	0.034	0.004
22	1.83	0.13	0.051	(0.625)	0.046	0.005
23	1.92	0.13	0.051	(0.623)	0.046	0.005
24	2.00	0.13	0.051	(0.620)	0.046	0.005
25	2.08	0.13	0.051	(0.618)	0.046	0.005
26	2.17	0.13	0.051	(0.615)	0.046	0.005
27	2.25	0.13	0.051	(0.613)	0.046	0.005
28	2.33	0.13	0.051	(0.610)	0.046	0.005
29	2.42	0.13	0.051	(0.608)	0.046	0.005
30	2.50	0.13	0.051	(0.605)	0.046	0.005
31	2.58	0.17	0.063	(0.603)	0.057	0.006
32	2.67	0.17	0.063	(0.600)	0.057	0.006
33	2.75	0.17	0.063	(0.598)	0.057	0.006
34	2.83	0.17	0.063	(0.596)	0.057	0.006
35	2.92	0.17	0.063	(0.593)	0.057	0.006
36	3.00	0.17	0.063	(0.591)	0.057	0.006
37	3.08	0.17	0.063	(0.588)	0.057	0.006
38	3.17	0.17	0.063	(0.586)	0.057	0.006
39	3.25	0.17	0.063	(0.583)	0.057	0.006
40	3.33	0.17	0.063	(0.581)	0.057	0.006
41	3.42	0.17	0.063	(0.578)	0.057	0.006
42	3.50	0.17	0.063	(0.576)	0.057	0.006
43	3.58	0.17	0.063	(0.574)	0.057	0.006
44	3.67	0.17	0.063	(0.571)	0.057	0.006
45	3.75	0.17	0.063	(0.569)	0.057	0.006
46	3.83	0.20	0.076	(0.566)	0.068	0.008
47	3.92	0.20	0.076	(0.564)	0.068	0.008

48	4.00	0.20	0.076	(0.562)	0.068	0.008
49	4.08	0.20	0.076	(0.559)	0.068	0.008
50	4.17	0.20	0.076	(0.557)	0.068	0.008
51	4.25	0.20	0.076	(0.554)	0.068	0.008
52	4.33	0.23	0.089	(0.552)	0.080	0.009
53	4.42	0.23	0.089	(0.550)	0.080	0.009
54	4.50	0.23	0.089	(0.547)	0.080	0.009
55	4.58	0.23	0.089	(0.545)	0.080	0.009
56	4.67	0.23	0.089	(0.543)	0.080	0.009
57	4.75	0.23	0.089	(0.540)	0.080	0.009
58	4.83	0.27	0.101	(0.538)	0.091	0.010
59	4.92	0.27	0.101	(0.536)	0.091	0.010
60	5.00	0.27	0.101	(0.533)	0.091	0.010
61	5.08	0.20	0.076	(0.531)	0.068	0.008
62	5.17	0.20	0.076	(0.529)	0.068	0.008
63	5.25	0.20	0.076	(0.526)	0.068	0.008
64	5.33	0.23	0.089	(0.524)	0.080	0.009
65	5.42	0.23	0.089	(0.522)	0.080	0.009
66	5.50	0.23	0.089	(0.520)	0.080	0.009
67	5.58	0.27	0.101	(0.517)	0.091	0.010
68	5.67	0.27	0.101	(0.515)	0.091	0.010
69	5.75	0.27	0.101	(0.513)	0.091	0.010
70	5.83	0.27	0.101	(0.510)	0.091	0.010
71	5.92	0.27	0.101	(0.508)	0.091	0.010
72	6.00	0.27	0.101	(0.506)	0.091	0.010
73	6.08	0.30	0.114	(0.504)	0.102	0.011
74	6.17	0.30	0.114	(0.501)	0.102	0.011
75	6.25	0.30	0.114	(0.499)	0.102	0.011
76	6.33	0.30	0.114	(0.497)	0.102	0.011
77	6.42	0.30	0.114	(0.495)	0.102	0.011
78	6.50	0.30	0.114	(0.493)	0.102	0.011
79	6.58	0.33	0.126	(0.490)	0.114	0.013
80	6.67	0.33	0.126	(0.488)	0.114	0.013
81	6.75	0.33	0.126	(0.486)	0.114	0.013
82	6.83	0.33	0.126	(0.484)	0.114	0.013
83	6.92	0.33	0.126	(0.482)	0.114	0.013
84	7.00	0.33	0.126	(0.479)	0.114	0.013
85	7.08	0.33	0.126	(0.477)	0.114	0.013
86	7.17	0.33	0.126	(0.475)	0.114	0.013
87	7.25	0.33	0.126	(0.473)	0.114	0.013
88	7.33	0.37	0.139	(0.471)	0.125	0.014
89	7.42	0.37	0.139	(0.469)	0.125	0.014
90	7.50	0.37	0.139	(0.466)	0.125	0.014
91	7.58	0.40	0.152	(0.464)	0.137	0.015
92	7.67	0.40	0.152	(0.462)	0.137	0.015
93	7.75	0.40	0.152	(0.460)	0.137	0.015
94	7.83	0.43	0.164	(0.458)	0.148	0.016
95	7.92	0.43	0.164	(0.456)	0.148	0.016
96	8.00	0.43	0.164	(0.454)	0.148	0.016
97	8.08	0.50	0.190	(0.452)	0.171	0.019

98	8.17	0.50	0.190	(0.449)	0.171	0.019
99	8.25	0.50	0.190	(0.447)	0.171	0.019
100	8.33	0.50	0.190	(0.445)	0.171	0.019
101	8.42	0.50	0.190	(0.443)	0.171	0.019
102	8.50	0.50	0.190	(0.441)	0.171	0.019
103	8.58	0.53	0.202	(0.439)	0.182	0.020
104	8.67	0.53	0.202	(0.437)	0.182	0.020
105	8.75	0.53	0.202	(0.435)	0.182	0.020
106	8.83	0.57	0.215	(0.433)	0.194	0.022
107	8.92	0.57	0.215	(0.431)	0.194	0.022
108	9.00	0.57	0.215	(0.429)	0.194	0.022
109	9.08	0.63	0.240	(0.427)	0.216	0.024
110	9.17	0.63	0.240	(0.425)	0.216	0.024
111	9.25	0.63	0.240	(0.423)	0.216	0.024
112	9.33	0.67	0.253	(0.421)	0.228	0.025
113	9.42	0.67	0.253	(0.419)	0.228	0.025
114	9.50	0.67	0.253	(0.417)	0.228	0.025
115	9.58	0.70	0.266	(0.415)	0.239	0.027
116	9.67	0.70	0.266	(0.413)	0.239	0.027
117	9.75	0.70	0.266	(0.411)	0.239	0.027
118	9.83	0.73	0.278	(0.409)	0.250	0.028
119	9.92	0.73	0.278	(0.407)	0.250	0.028
120	10.00	0.73	0.278	(0.405)	0.250	0.028
121	10.08	0.50	0.190	(0.403)	0.171	0.019
122	10.17	0.50	0.190	(0.401)	0.171	0.019
123	10.25	0.50	0.190	(0.399)	0.171	0.019
124	10.33	0.50	0.190	(0.397)	0.171	0.019
125	10.42	0.50	0.190	(0.395)	0.171	0.019
126	10.50	0.50	0.190	(0.393)	0.171	0.019
127	10.58	0.67	0.253	(0.391)	0.228	0.025
128	10.67	0.67	0.253	(0.389)	0.228	0.025
129	10.75	0.67	0.253	(0.387)	0.228	0.025
130	10.83	0.67	0.253	(0.386)	0.228	0.025
131	10.92	0.67	0.253	(0.384)	0.228	0.025
132	11.00	0.67	0.253	(0.382)	0.228	0.025
133	11.08	0.63	0.240	(0.380)	0.216	0.024
134	11.17	0.63	0.240	(0.378)	0.216	0.024
135	11.25	0.63	0.240	(0.376)	0.216	0.024
136	11.33	0.63	0.240	(0.374)	0.216	0.024
137	11.42	0.63	0.240	(0.372)	0.216	0.024
138	11.50	0.63	0.240	(0.371)	0.216	0.024
139	11.58	0.57	0.215	(0.369)	0.194	0.022
140	11.67	0.57	0.215	(0.367)	0.194	0.022
141	11.75	0.57	0.215	(0.365)	0.194	0.022
142	11.83	0.60	0.228	(0.363)	0.205	0.023
143	11.92	0.60	0.228	(0.361)	0.205	0.023
144	12.00	0.60	0.228	(0.360)	0.205	0.023
145	12.08	0.83	0.316	(0.358)	0.285	0.032
146	12.17	0.83	0.316	(0.356)	0.285	0.032
147	12.25	0.83	0.316	(0.354)	0.285	0.032

148	12.33	0.87	0.329	(0.352)	0.296	0.033
149	12.42	0.87	0.329	(0.351)	0.296	0.033
150	12.50	0.87	0.329	(0.349)	0.296	0.033
151	12.58	0.93	0.354	(0.347)	0.319	0.035
152	12.67	0.93	0.354	(0.345)	0.319	0.035
153	12.75	0.93	0.354	(0.344)	0.319	0.035
154	12.83	0.97	0.367	(0.342)	0.330	0.037
155	12.92	0.97	0.367	(0.340)	0.330	0.037
156	13.00	0.97	0.367	(0.338)	0.330	0.037
157	13.08	1.13	0.430	0.337	(0.387)	0.093
158	13.17	1.13	0.430	0.335	(0.387)	0.095
159	13.25	1.13	0.430	0.333	(0.387)	0.097
160	13.33	1.13	0.430	0.332	(0.387)	0.098
161	13.42	1.13	0.430	0.330	(0.387)	0.100
162	13.50	1.13	0.430	0.328	(0.387)	0.102
163	13.58	0.77	0.291	(0.327)	0.262	0.029
164	13.67	0.77	0.291	(0.325)	0.262	0.029
165	13.75	0.77	0.291	(0.323)	0.262	0.029
166	13.83	0.77	0.291	(0.322)	0.262	0.029
167	13.92	0.77	0.291	(0.320)	0.262	0.029
168	14.00	0.77	0.291	(0.318)	0.262	0.029
169	14.08	0.90	0.341	(0.317)	0.307	0.034
170	14.17	0.90	0.341	(0.315)	0.307	0.034
171	14.25	0.90	0.341	(0.314)	0.307	0.034
172	14.33	0.87	0.329	(0.312)	0.296	0.033
173	14.42	0.87	0.329	(0.310)	0.296	0.033
174	14.50	0.87	0.329	(0.309)	0.296	0.033
175	14.58	0.87	0.329	(0.307)	0.296	0.033
176	14.67	0.87	0.329	(0.306)	0.296	0.033
177	14.75	0.87	0.329	(0.304)	0.296	0.033
178	14.83	0.83	0.316	(0.302)	0.285	0.032
179	14.92	0.83	0.316	(0.301)	0.285	0.032
180	15.00	0.83	0.316	(0.299)	0.285	0.032
181	15.08	0.80	0.304	(0.298)	0.273	0.030
182	15.17	0.80	0.304	(0.296)	0.273	0.030
183	15.25	0.80	0.304	(0.295)	0.273	0.030
184	15.33	0.77	0.291	(0.293)	0.262	0.029
185	15.42	0.77	0.291	(0.292)	0.262	0.029
186	15.50	0.77	0.291	(0.290)	0.262	0.029
187	15.58	0.63	0.240	(0.289)	0.216	0.024
188	15.67	0.63	0.240	(0.287)	0.216	0.024
189	15.75	0.63	0.240	(0.286)	0.216	0.024
190	15.83	0.63	0.240	(0.284)	0.216	0.024
191	15.92	0.63	0.240	(0.283)	0.216	0.024
192	16.00	0.63	0.240	(0.281)	0.216	0.024
193	16.08	0.13	0.051	(0.280)	0.046	0.005
194	16.17	0.13	0.051	(0.279)	0.046	0.005
195	16.25	0.13	0.051	(0.277)	0.046	0.005
196	16.33	0.13	0.051	(0.276)	0.046	0.005
197	16.42	0.13	0.051	(0.274)	0.046	0.005

198	16.50	0.13	0.051	(0.273)	0.046	0.005
199	16.58	0.10	0.038	(0.272)	0.034	0.004
200	16.67	0.10	0.038	(0.270)	0.034	0.004
201	16.75	0.10	0.038	(0.269)	0.034	0.004
202	16.83	0.10	0.038	(0.267)	0.034	0.004
203	16.92	0.10	0.038	(0.266)	0.034	0.004
204	17.00	0.10	0.038	(0.265)	0.034	0.004
205	17.08	0.17	0.063	(0.263)	0.057	0.006
206	17.17	0.17	0.063	(0.262)	0.057	0.006
207	17.25	0.17	0.063	(0.261)	0.057	0.006
208	17.33	0.17	0.063	(0.259)	0.057	0.006
209	17.42	0.17	0.063	(0.258)	0.057	0.006
210	17.50	0.17	0.063	(0.257)	0.057	0.006
211	17.58	0.17	0.063	(0.256)	0.057	0.006
212	17.67	0.17	0.063	(0.254)	0.057	0.006
213	17.75	0.17	0.063	(0.253)	0.057	0.006
214	17.83	0.13	0.051	(0.252)	0.046	0.005
215	17.92	0.13	0.051	(0.251)	0.046	0.005
216	18.00	0.13	0.051	(0.249)	0.046	0.005
217	18.08	0.13	0.051	(0.248)	0.046	0.005
218	18.17	0.13	0.051	(0.247)	0.046	0.005
219	18.25	0.13	0.051	(0.246)	0.046	0.005
220	18.33	0.13	0.051	(0.244)	0.046	0.005
221	18.42	0.13	0.051	(0.243)	0.046	0.005
222	18.50	0.13	0.051	(0.242)	0.046	0.005
223	18.58	0.10	0.038	(0.241)	0.034	0.004
224	18.67	0.10	0.038	(0.240)	0.034	0.004
225	18.75	0.10	0.038	(0.239)	0.034	0.004
226	18.83	0.07	0.025	(0.237)	0.023	0.003
227	18.92	0.07	0.025	(0.236)	0.023	0.003
228	19.00	0.07	0.025	(0.235)	0.023	0.003
229	19.08	0.10	0.038	(0.234)	0.034	0.004
230	19.17	0.10	0.038	(0.233)	0.034	0.004
231	19.25	0.10	0.038	(0.232)	0.034	0.004
232	19.33	0.13	0.051	(0.231)	0.046	0.005
233	19.42	0.13	0.051	(0.230)	0.046	0.005
234	19.50	0.13	0.051	(0.229)	0.046	0.005
235	19.58	0.10	0.038	(0.228)	0.034	0.004
236	19.67	0.10	0.038	(0.227)	0.034	0.004
237	19.75	0.10	0.038	(0.226)	0.034	0.004
238	19.83	0.07	0.025	(0.225)	0.023	0.003
239	19.92	0.07	0.025	(0.224)	0.023	0.003
240	20.00	0.07	0.025	(0.223)	0.023	0.003
241	20.08	0.10	0.038	(0.222)	0.034	0.004
242	20.17	0.10	0.038	(0.221)	0.034	0.004
243	20.25	0.10	0.038	(0.220)	0.034	0.004
244	20.33	0.10	0.038	(0.219)	0.034	0.004
245	20.42	0.10	0.038	(0.218)	0.034	0.004
246	20.50	0.10	0.038	(0.217)	0.034	0.004
247	20.58	0.10	0.038	(0.216)	0.034	0.004

248	20.67	0.10	0.038	(0.215)	0.034	0.004
249	20.75	0.10	0.038	(0.214)	0.034	0.004
250	20.83	0.07	0.025	(0.213)	0.023	0.003
251	20.92	0.07	0.025	(0.212)	0.023	0.003
252	21.00	0.07	0.025	(0.212)	0.023	0.003
253	21.08	0.10	0.038	(0.211)	0.034	0.004
254	21.17	0.10	0.038	(0.210)	0.034	0.004
255	21.25	0.10	0.038	(0.209)	0.034	0.004
256	21.33	0.07	0.025	(0.208)	0.023	0.003
257	21.42	0.07	0.025	(0.208)	0.023	0.003
258	21.50	0.07	0.025	(0.207)	0.023	0.003
259	21.58	0.10	0.038	(0.206)	0.034	0.004
260	21.67	0.10	0.038	(0.205)	0.034	0.004
261	21.75	0.10	0.038	(0.204)	0.034	0.004
262	21.83	0.07	0.025	(0.204)	0.023	0.003
263	21.92	0.07	0.025	(0.203)	0.023	0.003
264	22.00	0.07	0.025	(0.202)	0.023	0.003
265	22.08	0.10	0.038	(0.202)	0.034	0.004
266	22.17	0.10	0.038	(0.201)	0.034	0.004
267	22.25	0.10	0.038	(0.200)	0.034	0.004
268	22.33	0.07	0.025	(0.200)	0.023	0.003
269	22.42	0.07	0.025	(0.199)	0.023	0.003
270	22.50	0.07	0.025	(0.199)	0.023	0.003
271	22.58	0.07	0.025	(0.198)	0.023	0.003
272	22.67	0.07	0.025	(0.197)	0.023	0.003
273	22.75	0.07	0.025	(0.197)	0.023	0.003
274	22.83	0.07	0.025	(0.196)	0.023	0.003
275	22.92	0.07	0.025	(0.196)	0.023	0.003
276	23.00	0.07	0.025	(0.195)	0.023	0.003
277	23.08	0.07	0.025	(0.195)	0.023	0.003
278	23.17	0.07	0.025	(0.195)	0.023	0.003
279	23.25	0.07	0.025	(0.194)	0.023	0.003
280	23.33	0.07	0.025	(0.194)	0.023	0.003
281	23.42	0.07	0.025	(0.193)	0.023	0.003
282	23.50	0.07	0.025	(0.193)	0.023	0.003
283	23.58	0.07	0.025	(0.193)	0.023	0.003
284	23.67	0.07	0.025	(0.192)	0.023	0.003
285	23.75	0.07	0.025	(0.192)	0.023	0.003
286	23.83	0.07	0.025	(0.192)	0.023	0.003
287	23.92	0.07	0.025	(0.192)	0.023	0.003
288	24.00	0.07	0.025	(0.192)	0.023	0.003

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.1

Flood volume = Effective rainfall 0.34(In)
times area 2.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 2.82(In)
Total soil loss = 0.658(Ac.Ft)
Total rainfall = 3.16(In)
Flood volume = 3490.5 Cubic Feet
Total soil loss = 28646.6 Cubic Feet

Peak flow rate of this hydrograph = 0.286(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	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.01	Q				
0+35	0.0004	0.01	Q				
0+40	0.0005	0.01	Q				
0+45	0.0006	0.01	Q				
0+50	0.0007	0.01	Q				
0+55	0.0008	0.01	Q				
1+ 0	0.0009	0.01	Q				
1+ 5	0.0009	0.01	Q				
1+10	0.0010	0.01	Q				
1+15	0.0011	0.01	Q				
1+20	0.0012	0.01	Q				
1+25	0.0012	0.01	Q				
1+30	0.0013	0.01	Q				
1+35	0.0014	0.01	Q				
1+40	0.0015	0.01	Q				
1+45	0.0015	0.01	Q				
1+50	0.0016	0.01	Q				
1+55	0.0017	0.01	Q				
2+ 0	0.0018	0.01	Q				
2+ 5	0.0019	0.01	Q				
2+10	0.0020	0.01	QV				
2+15	0.0021	0.01	QV				
2+20	0.0022	0.01	QV				
2+25	0.0023	0.01	QV				
2+30	0.0024	0.01	QV				
2+35	0.0025	0.02	QV				
2+40	0.0027	0.02	QV				
2+45	0.0028	0.02	QV				
2+50	0.0029	0.02	QV				
2+55	0.0030	0.02	QV				
3+ 0	0.0031	0.02	QV				
3+ 5	0.0033	0.02	QV				
3+10	0.0034	0.02	QV				

3+15	0.0035	0.02	QV	|	|	|	|
3+20	0.0036	0.02	QV	|	|	|	|
3+25	0.0038	0.02	QV	|	|	|	|
3+30	0.0039	0.02	QV	|	|	|	|
3+35	0.0040	0.02	QV	|	|	|	|
3+40	0.0041	0.02	Q V	|	|	|	|
3+45	0.0043	0.02	Q V	|	|	|	|
3+50	0.0044	0.02	Q V	|	|	|	|
3+55	0.0045	0.02	Q V	|	|	|	|
4+ 0	0.0047	0.02	Q V	|	|	|	|
4+ 5	0.0048	0.02	Q V	|	|	|	|
4+10	0.0050	0.02	Q V	|	|	|	|
4+15	0.0051	0.02	Q V	|	|	|	|
4+20	0.0053	0.02	Q V	|	|	|	|
4+25	0.0055	0.02	Q V	|	|	|	|
4+30	0.0056	0.02	Q V	|	|	|	|
4+35	0.0058	0.02	Q V	|	|	|	|
4+40	0.0060	0.02	Q V	|	|	|	|
4+45	0.0062	0.02	Q V	|	|	|	|
4+50	0.0064	0.03	Q V	|	|	|	|
4+55	0.0065	0.03	Q V	|	|	|	|
5+ 0	0.0067	0.03	Q V	|	|	|	|
5+ 5	0.0069	0.02	Q V	|	|	|	|
5+10	0.0071	0.02	Q V	|	|	|	|
5+15	0.0072	0.02	Q V	|	|	|	|
5+20	0.0074	0.02	Q V	|	|	|	|
5+25	0.0075	0.02	Q V	|	|	|	|
5+30	0.0077	0.02	Q V	|	|	|	|
5+35	0.0079	0.03	Q V	|	|	|	|
5+40	0.0081	0.03	Q V	|	|	|	|
5+45	0.0083	0.03	Q V	|	|	|	|
5+50	0.0085	0.03	Q V	|	|	|	|
5+55	0.0087	0.03	Q V	|	|	|	|
6+ 0	0.0089	0.03	Q V	|	|	|	|
6+ 5	0.0091	0.03	Q V	|	|	|	|
6+10	0.0093	0.03	Q V	|	|	|	|
6+15	0.0095	0.03	Q V	|	|	|	|
6+20	0.0098	0.03	Q V	|	|	|	|
6+25	0.0100	0.03	Q V	|	|	|	|
6+30	0.0102	0.03	Q V	|	|	|	|
6+35	0.0104	0.03	Q V	|	|	|	|
6+40	0.0107	0.04	Q V	|	|	|	|
6+45	0.0109	0.04	Q V	|	|	|	|
6+50	0.0112	0.04	Q V	|	|	|	|
6+55	0.0114	0.04	Q V	|	|	|	|
7+ 0	0.0117	0.04	Q V	|	|	|	|
7+ 5	0.0119	0.04	Q V	|	|	|	|
7+10	0.0122	0.04	Q V	|	|	|	|
7+15	0.0124	0.04	Q V	|	|	|	|
7+20	0.0127	0.04	Q V	|	|	|	|

```
 7+25       0.0130      0.04  Q     V   |          |          |          |
 7+30       0.0132      0.04  Q     V   |          |          |          |
 7+35       0.0135      0.04  Q     V   |          |          |          |
 7+40       0.0138      0.04  Q     V   |          |          |          |
 7+45       0.0141      0.04  Q      V  |          |          |          |
 7+50       0.0144      0.05  Q      V  |          |          |          |
 7+55       0.0147      0.05  Q      V  |          |          |          |
 8+ 0       0.0151      0.05  Q      V  |          |          |          |
 8+ 5       0.0154      0.05  Q      V  |          |          |          |
 8+10       0.0158      0.05  Q      V  |          |          |          |
 8+15       0.0162      0.05  Q       V |          |          |          |
 8+20       0.0165      0.05  Q       V |          |          |          |
 8+25       0.0169      0.05  Q       V |          |          |          |
 8+30       0.0173      0.05  Q       V |          |          |          |
 8+35       0.0176      0.06  Q       V |          |          |          |
 8+40       0.0180      0.06  Q        V|          |          |          |
 8+45       0.0184      0.06  Q        V|          |          |          |
 8+50       0.0188      0.06  Q        V|          |          |          |
 8+55       0.0193      0.06  Q        V|          |          |          |
 9+ 0       0.0197      0.06  Q        V|          |          |          |
 9+ 5       0.0201      0.07  Q         V          |          |          |
 9+10       0.0206      0.07  Q         V          |          |          |
 9+15       0.0211      0.07  Q         V          |          |          |
 9+20       0.0216      0.07  Q         V          |          |          |
 9+25       0.0220      0.07  Q         |V         |          |          |
 9+30       0.0225      0.07  Q         |V         |          |          |
 9+35       0.0231      0.07  Q         |V         |          |          |
 9+40       0.0236      0.07  Q         |V         |          |          |
 9+45       0.0241      0.07  Q         | V        |          |          |
 9+50       0.0246      0.08  Q         | V        |          |          |
 9+55       0.0252      0.08  Q         | V        |          |          |
10+ 0       0.0257      0.08  Q         | V        |          |          |
10+ 5       0.0261      0.06  Q         |  V       |          |          |
10+10       0.0265      0.05  Q         |  V       |          |          |
10+15       0.0268      0.05  Q         |  V       |          |          |
10+20       0.0272      0.05  Q         |  V       |          |          |
10+25       0.0276      0.05  Q         |  V       |          |          |
10+30       0.0280      0.05  Q         |  V       |          |          |
10+35       0.0284      0.07  Q         |   V      |          |          |
10+40       0.0289      0.07  Q         |   V      |          |          |
10+45       0.0294      0.07  Q         |   V      |          |          |
10+50       0.0299      0.07  Q         |   V      |          |          |
10+55       0.0304      0.07  Q         |    V     |          |          |
11+ 0       0.0309      0.07  Q         |    V     |          |          |
11+ 5       0.0314      0.07  Q         |    V     |          |          |
11+10       0.0318      0.07  Q         |    V     |          |          |
11+15       0.0323      0.07  Q         |     V    |          |          |
11+20       0.0328      0.07  Q         |     V    |          |          |
11+25       0.0332      0.07  Q         |     V    |          |          |
11+30       0.0337      0.07  Q         |     V    |          |          |
```

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11+35       0.0341      0.06  Q         |      V  |         |         |
11+40       0.0345      0.06  Q         |      V  |         |         |
11+45       0.0350      0.06  Q         |      V  |         |         |
11+50       0.0354      0.06  Q         |      V  |         |         |
11+55       0.0358      0.06  Q         |      V  |         |         |
12+ 0       0.0363      0.06  Q         |       V |         |         |
12+ 5       0.0369      0.08  Q         |       V |         |         |
12+10       0.0375      0.09  Q         |       V |         |         |
12+15       0.0381      0.09  Q         |        V|         |         |
12+20       0.0387      0.09  Q         |        V|         |         |
12+25       0.0394      0.09  Q         |        V|         |         |
12+30       0.0400      0.09  Q         |        V|         |         |
12+35       0.0407      0.10  Q         |         V         |         |
12+40       0.0414      0.10  Q         |         V         |         |
12+45       0.0420      0.10  Q         |         V         |         |
12+50       0.0428      0.10  Q         |         |V        |         |
12+55       0.0435      0.10  Q         |         |V        |         |
13+ 0       0.0442      0.10  Q         |         | V       |         |
13+ 5       0.0458      0.23  Q         |         | V       |         |
13+10       0.0476      0.27  |Q        |         |  V      |         |
13+15       0.0495      0.27  |Q        |         |   V     |         |
13+20       0.0514      0.28  |Q        |         |    V    |         |
13+25       0.0533      0.28  |Q        |         |     V   |         |
13+30       0.0553      0.29  |Q        |         |      V  |         |
13+35       0.0562      0.13  Q         |         |       V |         |
13+40       0.0567      0.08  Q         |         |       V |         |
13+45       0.0573      0.08  Q         |         |       V |         |
13+50       0.0579      0.08  Q         |         |       V |         |
13+55       0.0584      0.08  Q         |         |        V|         |
14+ 0       0.0590      0.08  Q         |         |        V|         |
14+ 5       0.0596      0.09  Q         |         |        V|         |
14+10       0.0603      0.10  Q         |         |         V         |
14+15       0.0610      0.10  Q         |         |         V         |
14+20       0.0616      0.09  Q         |         |         V         |
14+25       0.0622      0.09  Q         |         |         |V        |
14+30       0.0629      0.09  Q         |         |         |V        |
14+35       0.0635      0.09  Q         |         |         |V        |
14+40       0.0642      0.09  Q         |         |         | V       |
14+45       0.0648      0.09  Q         |         |         | V       |
14+50       0.0654      0.09  Q         |         |         | V       |
14+55       0.0660      0.09  Q         |         |         | V       |
15+ 0       0.0666      0.09  Q         |         |         |  V      |
15+ 5       0.0672      0.09  Q         |         |         |  V      |
15+10       0.0678      0.09  Q         |         |         |  V      |
15+15       0.0684      0.09  Q         |         |         |   V     |
15+20       0.0690      0.08  Q         |         |         |   V     |
15+25       0.0696      0.08  Q         |         |         |   V     |
15+30       0.0701      0.08  Q         |         |         |    V    |
15+35       0.0706      0.07  Q         |         |         |    V    |
15+40       0.0711      0.07  Q         |         |         |    V    |
```

15+45	0.0715	0.07	Q	|	|	|	V |
15+50	0.0720	0.07	Q	|	|	|	V |
15+55	0.0725	0.07	Q	|	|	|	V |
16+ 0	0.0729	0.07	Q	|	|	|	V |
16+ 5	0.0731	0.03	Q	|	|	|	V |
16+10	0.0732	0.01	Q	|	|	|	V |
16+15	0.0733	0.01	Q	|	|	|	V |
16+20	0.0734	0.01	Q	|	|	|	V |
16+25	0.0735	0.01	Q	|	|	|	V |
16+30	0.0736	0.01	Q	|	|	|	V |
16+35	0.0737	0.01	Q	|	|	|	V |
16+40	0.0738	0.01	Q	|	|	|	V |
16+45	0.0738	0.01	Q	|	|	|	V |
16+50	0.0739	0.01	Q	|	|	|	V |
16+55	0.0740	0.01	Q	|	|	|	V |
17+ 0	0.0741	0.01	Q	|	|	|	V |
17+ 5	0.0742	0.02	Q	|	|	|	V |
17+10	0.0743	0.02	Q	|	|	|	V |
17+15	0.0744	0.02	Q	|	|	|	V |
17+20	0.0745	0.02	Q	|	|	|	V |
17+25	0.0747	0.02	Q	|	|	|	V |
17+30	0.0748	0.02	Q	|	|	|	V |
17+35	0.0749	0.02	Q	|	|	|	V |
17+40	0.0750	0.02	Q	|	|	|	V |
17+45	0.0752	0.02	Q	|	|	|	V |
17+50	0.0753	0.02	Q	|	|	|	V |
17+55	0.0754	0.01	Q	|	|	|	V |
18+ 0	0.0755	0.01	Q	|	|	|	V |
18+ 5	0.0756	0.01	Q	|	|	|	V |
18+10	0.0757	0.01	Q	|	|	|	V |
18+15	0.0758	0.01	Q	|	|	|	V |
18+20	0.0759	0.01	Q	|	|	|	V |
18+25	0.0760	0.01	Q	|	|	|	V |
18+30	0.0761	0.01	Q	|	|	|	V |
18+35	0.0761	0.01	Q	|	|	|	V |
18+40	0.0762	0.01	Q	|	|	|	V |
18+45	0.0763	0.01	Q	|	|	|	V |
18+50	0.0763	0.01	Q	|	|	|	V |
18+55	0.0764	0.01	Q	|	|	|	V |
19+ 0	0.0764	0.01	Q	|	|	|	V |
19+ 5	0.0765	0.01	Q	|	|	|	V |
19+10	0.0766	0.01	Q	|	|	|	V |
19+15	0.0766	0.01	Q	|	|	|	V |
19+20	0.0767	0.01	Q	|	|	|	V |
19+25	0.0768	0.01	Q	|	|	|	V |
19+30	0.0769	0.01	Q	|	|	|	V |
19+35	0.0770	0.01	Q	|	|	|	V |
19+40	0.0771	0.01	Q	|	|	|	V |
19+45	0.0772	0.01	Q	|	|	|	V |
19+50	0.0772	0.01	Q	|	|	|	V |

19+55	0.0773	0.01	Q	|	|	|	V |
20+ 0	0.0773	0.01	Q	|	|	|	V |
20+ 5	0.0774	0.01	Q	|	|	|	V |
20+10	0.0775	0.01	Q	|	|	|	V |
20+15	0.0775	0.01	Q	|	|	|	V |
20+20	0.0776	0.01	Q	|	|	|	V |
20+25	0.0777	0.01	Q	|	|	|	V |
20+30	0.0778	0.01	Q	|	|	|	V |
20+35	0.0778	0.01	Q	|	|	|	V |
20+40	0.0779	0.01	Q	|	|	|	V |
20+45	0.0780	0.01	Q	|	|	|	V |
20+50	0.0780	0.01	Q	|	|	|	V |
20+55	0.0781	0.01	Q	|	|	|	V |
21+ 0	0.0781	0.01	Q	|	|	|	V|
21+ 5	0.0782	0.01	Q	|	|	|	V|
21+10	0.0783	0.01	Q	|	|	|	V|
21+15	0.0783	0.01	Q	|	|	|	V|
21+20	0.0784	0.01	Q	|	|	|	V|
21+25	0.0784	0.01	Q	|	|	|	V|
21+30	0.0785	0.01	Q	|	|	|	V|
21+35	0.0786	0.01	Q	|	|	|	V|
21+40	0.0786	0.01	Q	|	|	|	V|
21+45	0.0787	0.01	Q	|	|	|	V|
21+50	0.0788	0.01	Q	|	|	|	V|
21+55	0.0788	0.01	Q	|	|	|	V|
22+ 0	0.0789	0.01	Q	|	|	|	V|
22+ 5	0.0789	0.01	Q	|	|	|	V|
22+10	0.0790	0.01	Q	|	|	|	V|
22+15	0.0791	0.01	Q	|	|	|	V|
22+20	0.0791	0.01	Q	|	|	|	V|
22+25	0.0792	0.01	Q	|	|	|	V|
22+30	0.0792	0.01	Q	|	|	|	V|
22+35	0.0793	0.01	Q	|	|	|	V|
22+40	0.0793	0.01	Q	|	|	|	V|
22+45	0.0794	0.01	Q	|	|	|	V|
22+50	0.0794	0.01	Q	|	|	|	V|
22+55	0.0795	0.01	Q	|	|	|	V|
23+ 0	0.0795	0.01	Q	|	|	|	V|
23+ 5	0.0796	0.01	Q	|	|	|	V|
23+10	0.0796	0.01	Q	|	|	|	V|
23+15	0.0797	0.01	Q	|	|	|	V|
23+20	0.0797	0.01	Q	|	|	|	V|
23+25	0.0798	0.01	Q	|	|	|	V|
23+30	0.0798	0.01	Q	|	|	|	V|
23+35	0.0799	0.01	Q	|	|	|	V|
23+40	0.0799	0.01	Q	|	|	|	V|
23+45	0.0800	0.01	Q	|	|	|	V|
23+50	0.0800	0.01	Q	|	|	|	V|
23+55	0.0801	0.01	Q	|	|	|	V|
24+ 0	0.0801	0.01	Q	|	|	|	V|

```
   24+ 5       0.0801      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

Study date 04/04/22 File: PERRISPOST2410.out

++

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

Program License Serial Number 6215

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

English Units used in output format

CNG PERRIS, CA
POST DEVELOPMENT CONDITION
10 YEAR 24 HR STORM EVENT
2022.04.04

Drainage Area = 2.80(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.80(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 590.00(Ft.)
Length along longest watercourse measured to centroid = 54.00(Ft.)
Length along longest watercourse = 0.112 Mi.
Length along longest watercourse measured to centroid = 0.010 Mi.
Difference in elevation = 8.00(Ft.)
Slope along watercourse = 71.5932 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.73 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
        2.80            1.94                   5.43

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.80            4.91                  13.75

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.940(In)
Area Averaged 100-Year Rainfall =    4.910(In)

Point rain (area averaged) =    3.162(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.162(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.800           56.00         0.810
 Total Area Entered =      2.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  56.0      0.511     0.810        0.138       1.000      0.138
                                                 Sum (F) =   0.138
Area averaged mean soil loss (F) (In/Hr) =  0.138
Minimum soil loss rate ((In/Hr)) =  0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.252
------------------------------------------------------------------------

               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        683.770         78.076             2.203
    2   0.167       1367.541         21.924             0.619
                               Sum = 100.000   Sum=       2.822
------------------------------------------------------------------------

 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	0.025	(0.245)	0.006	0.019
2	0.17	0.07	0.025	(0.244)	0.006	0.019
3	0.25	0.07	0.025	(0.243)	0.006	0.019
4	0.33	0.10	0.038	(0.243)	0.010	0.028
5	0.42	0.10	0.038	(0.242)	0.010	0.028
6	0.50	0.10	0.038	(0.241)	0.010	0.028
7	0.58	0.10	0.038	(0.240)	0.010	0.028
8	0.67	0.10	0.038	(0.239)	0.010	0.028
9	0.75	0.10	0.038	(0.238)	0.010	0.028
10	0.83	0.13	0.051	(0.237)	0.013	0.038
11	0.92	0.13	0.051	(0.236)	0.013	0.038
12	1.00	0.13	0.051	(0.235)	0.013	0.038
13	1.08	0.10	0.038	(0.234)	0.010	0.028
14	1.17	0.10	0.038	(0.233)	0.010	0.028
15	1.25	0.10	0.038	(0.232)	0.010	0.028
16	1.33	0.10	0.038	(0.231)	0.010	0.028
17	1.42	0.10	0.038	(0.230)	0.010	0.028
18	1.50	0.10	0.038	(0.230)	0.010	0.028
19	1.58	0.10	0.038	(0.229)	0.010	0.028
20	1.67	0.10	0.038	(0.228)	0.010	0.028
21	1.75	0.10	0.038	(0.227)	0.010	0.028
22	1.83	0.13	0.051	(0.226)	0.013	0.038
23	1.92	0.13	0.051	(0.225)	0.013	0.038
24	2.00	0.13	0.051	(0.224)	0.013	0.038
25	2.08	0.13	0.051	(0.223)	0.013	0.038
26	2.17	0.13	0.051	(0.222)	0.013	0.038
27	2.25	0.13	0.051	(0.221)	0.013	0.038
28	2.33	0.13	0.051	(0.220)	0.013	0.038
29	2.42	0.13	0.051	(0.220)	0.013	0.038
30	2.50	0.13	0.051	(0.219)	0.013	0.038
31	2.58	0.17	0.063	(0.218)	0.016	0.047
32	2.67	0.17	0.063	(0.217)	0.016	0.047
33	2.75	0.17	0.063	(0.216)	0.016	0.047
34	2.83	0.17	0.063	(0.215)	0.016	0.047
35	2.92	0.17	0.063	(0.214)	0.016	0.047
36	3.00	0.17	0.063	(0.213)	0.016	0.047
37	3.08	0.17	0.063	(0.212)	0.016	0.047
38	3.17	0.17	0.063	(0.212)	0.016	0.047
39	3.25	0.17	0.063	(0.211)	0.016	0.047
40	3.33	0.17	0.063	(0.210)	0.016	0.047
41	3.42	0.17	0.063	(0.209)	0.016	0.047
42	3.50	0.17	0.063	(0.208)	0.016	0.047
43	3.58	0.17	0.063	(0.207)	0.016	0.047
44	3.67	0.17	0.063	(0.206)	0.016	0.047
45	3.75	0.17	0.063	(0.205)	0.016	0.047
46	3.83	0.20	0.076	(0.205)	0.019	0.057
47	3.92	0.20	0.076	(0.204)	0.019	0.057

48	4.00	0.20	0.076	(0.203)	0.019	0.057
49	4.08	0.20	0.076	(0.202)	0.019	0.057
50	4.17	0.20	0.076	(0.201)	0.019	0.057
51	4.25	0.20	0.076	(0.200)	0.019	0.057
52	4.33	0.23	0.089	(0.199)	0.022	0.066
53	4.42	0.23	0.089	(0.199)	0.022	0.066
54	4.50	0.23	0.089	(0.198)	0.022	0.066
55	4.58	0.23	0.089	(0.197)	0.022	0.066
56	4.67	0.23	0.089	(0.196)	0.022	0.066
57	4.75	0.23	0.089	(0.195)	0.022	0.066
58	4.83	0.27	0.101	(0.194)	0.025	0.076
59	4.92	0.27	0.101	(0.193)	0.025	0.076
60	5.00	0.27	0.101	(0.193)	0.025	0.076
61	5.08	0.20	0.076	(0.192)	0.019	0.057
62	5.17	0.20	0.076	(0.191)	0.019	0.057
63	5.25	0.20	0.076	(0.190)	0.019	0.057
64	5.33	0.23	0.089	(0.189)	0.022	0.066
65	5.42	0.23	0.089	(0.188)	0.022	0.066
66	5.50	0.23	0.089	(0.188)	0.022	0.066
67	5.58	0.27	0.101	(0.187)	0.025	0.076
68	5.67	0.27	0.101	(0.186)	0.025	0.076
69	5.75	0.27	0.101	(0.185)	0.025	0.076
70	5.83	0.27	0.101	(0.184)	0.025	0.076
71	5.92	0.27	0.101	(0.184)	0.025	0.076
72	6.00	0.27	0.101	(0.183)	0.025	0.076
73	6.08	0.30	0.114	(0.182)	0.029	0.085
74	6.17	0.30	0.114	(0.181)	0.029	0.085
75	6.25	0.30	0.114	(0.180)	0.029	0.085
76	6.33	0.30	0.114	(0.179)	0.029	0.085
77	6.42	0.30	0.114	(0.179)	0.029	0.085
78	6.50	0.30	0.114	(0.178)	0.029	0.085
79	6.58	0.33	0.126	(0.177)	0.032	0.095
80	6.67	0.33	0.126	(0.176)	0.032	0.095
81	6.75	0.33	0.126	(0.175)	0.032	0.095
82	6.83	0.33	0.126	(0.175)	0.032	0.095
83	6.92	0.33	0.126	(0.174)	0.032	0.095
84	7.00	0.33	0.126	(0.173)	0.032	0.095
85	7.08	0.33	0.126	(0.172)	0.032	0.095
86	7.17	0.33	0.126	(0.172)	0.032	0.095
87	7.25	0.33	0.126	(0.171)	0.032	0.095
88	7.33	0.37	0.139	(0.170)	0.035	0.104
89	7.42	0.37	0.139	(0.169)	0.035	0.104
90	7.50	0.37	0.139	(0.168)	0.035	0.104
91	7.58	0.40	0.152	(0.168)	0.038	0.114
92	7.67	0.40	0.152	(0.167)	0.038	0.114
93	7.75	0.40	0.152	(0.166)	0.038	0.114
94	7.83	0.43	0.164	(0.165)	0.041	0.123
95	7.92	0.43	0.164	(0.165)	0.041	0.123
96	8.00	0.43	0.164	(0.164)	0.041	0.123
97	8.08	0.50	0.190	(0.163)	0.048	0.142

98	8.17	0.50	0.190	(0.162)	0.048	0.142
99	8.25	0.50	0.190	(0.162)	0.048	0.142
100	8.33	0.50	0.190	(0.161)	0.048	0.142
101	8.42	0.50	0.190	(0.160)	0.048	0.142
102	8.50	0.50	0.190	(0.159)	0.048	0.142
103	8.58	0.53	0.202	(0.159)	0.051	0.151
104	8.67	0.53	0.202	(0.158)	0.051	0.151
105	8.75	0.53	0.202	(0.157)	0.051	0.151
106	8.83	0.57	0.215	(0.156)	0.054	0.161
107	8.92	0.57	0.215	(0.156)	0.054	0.161
108	9.00	0.57	0.215	(0.155)	0.054	0.161
109	9.08	0.63	0.240	(0.154)	0.061	0.180
110	9.17	0.63	0.240	(0.153)	0.061	0.180
111	9.25	0.63	0.240	(0.153)	0.061	0.180
112	9.33	0.67	0.253	(0.152)	0.064	0.189
113	9.42	0.67	0.253	(0.151)	0.064	0.189
114	9.50	0.67	0.253	(0.150)	0.064	0.189
115	9.58	0.70	0.266	(0.150)	0.067	0.199
116	9.67	0.70	0.266	(0.149)	0.067	0.199
117	9.75	0.70	0.266	(0.148)	0.067	0.199
118	9.83	0.73	0.278	(0.148)	0.070	0.208
119	9.92	0.73	0.278	(0.147)	0.070	0.208
120	10.00	0.73	0.278	(0.146)	0.070	0.208
121	10.08	0.50	0.190	(0.145)	0.048	0.142
122	10.17	0.50	0.190	(0.145)	0.048	0.142
123	10.25	0.50	0.190	(0.144)	0.048	0.142
124	10.33	0.50	0.190	(0.143)	0.048	0.142
125	10.42	0.50	0.190	(0.143)	0.048	0.142
126	10.50	0.50	0.190	(0.142)	0.048	0.142
127	10.58	0.67	0.253	(0.141)	0.064	0.189
128	10.67	0.67	0.253	(0.141)	0.064	0.189
129	10.75	0.67	0.253	(0.140)	0.064	0.189
130	10.83	0.67	0.253	(0.139)	0.064	0.189
131	10.92	0.67	0.253	(0.139)	0.064	0.189
132	11.00	0.67	0.253	(0.138)	0.064	0.189
133	11.08	0.63	0.240	(0.137)	0.061	0.180
134	11.17	0.63	0.240	(0.136)	0.061	0.180
135	11.25	0.63	0.240	(0.136)	0.061	0.180
136	11.33	0.63	0.240	(0.135)	0.061	0.180
137	11.42	0.63	0.240	(0.134)	0.061	0.180
138	11.50	0.63	0.240	(0.134)	0.061	0.180
139	11.58	0.57	0.215	(0.133)	0.054	0.161
140	11.67	0.57	0.215	(0.132)	0.054	0.161
141	11.75	0.57	0.215	(0.132)	0.054	0.161
142	11.83	0.60	0.228	(0.131)	0.057	0.170
143	11.92	0.60	0.228	(0.131)	0.057	0.170
144	12.00	0.60	0.228	(0.130)	0.057	0.170
145	12.08	0.83	0.316	(0.129)	0.080	0.237
146	12.17	0.83	0.316	(0.129)	0.080	0.237
147	12.25	0.83	0.316	(0.128)	0.080	0.237

148	12.33	0.87	0.329	(0.127)	0.083	0.246
149	12.42	0.87	0.329	(0.127)	0.083	0.246
150	12.50	0.87	0.329	(0.126)	0.083	0.246
151	12.58	0.93	0.354	(0.125)	0.089	0.265
152	12.67	0.93	0.354	(0.125)	0.089	0.265
153	12.75	0.93	0.354	(0.124)	0.089	0.265
154	12.83	0.97	0.367	(0.123)	0.092	0.274
155	12.92	0.97	0.367	(0.123)	0.092	0.274
156	13.00	0.97	0.367	(0.122)	0.092	0.274
157	13.08	1.13	0.430	(0.122)	0.108	0.322
158	13.17	1.13	0.430	(0.121)	0.108	0.322
159	13.25	1.13	0.430	(0.120)	0.108	0.322
160	13.33	1.13	0.430	(0.120)	0.108	0.322
161	13.42	1.13	0.430	(0.119)	0.108	0.322
162	13.50	1.13	0.430	(0.119)	0.108	0.322
163	13.58	0.77	0.291	(0.118)	0.073	0.218
164	13.67	0.77	0.291	(0.117)	0.073	0.218
165	13.75	0.77	0.291	(0.117)	0.073	0.218
166	13.83	0.77	0.291	(0.116)	0.073	0.218
167	13.92	0.77	0.291	(0.116)	0.073	0.218
168	14.00	0.77	0.291	(0.115)	0.073	0.218
169	14.08	0.90	0.341	(0.114)	0.086	0.255
170	14.17	0.90	0.341	(0.114)	0.086	0.255
171	14.25	0.90	0.341	(0.113)	0.086	0.255
172	14.33	0.87	0.329	(0.113)	0.083	0.246
173	14.42	0.87	0.329	(0.112)	0.083	0.246
174	14.50	0.87	0.329	(0.112)	0.083	0.246
175	14.58	0.87	0.329	(0.111)	0.083	0.246
176	14.67	0.87	0.329	(0.110)	0.083	0.246
177	14.75	0.87	0.329	(0.110)	0.083	0.246
178	14.83	0.83	0.316	(0.109)	0.080	0.237
179	14.92	0.83	0.316	(0.109)	0.080	0.237
180	15.00	0.83	0.316	(0.108)	0.080	0.237
181	15.08	0.80	0.304	(0.108)	0.076	0.227
182	15.17	0.80	0.304	(0.107)	0.076	0.227
183	15.25	0.80	0.304	(0.106)	0.076	0.227
184	15.33	0.77	0.291	(0.106)	0.073	0.218
185	15.42	0.77	0.291	(0.105)	0.073	0.218
186	15.50	0.77	0.291	(0.105)	0.073	0.218
187	15.58	0.63	0.240	(0.104)	0.061	0.180
188	15.67	0.63	0.240	(0.104)	0.061	0.180
189	15.75	0.63	0.240	(0.103)	0.061	0.180
190	15.83	0.63	0.240	(0.103)	0.061	0.180
191	15.92	0.63	0.240	(0.102)	0.061	0.180
192	16.00	0.63	0.240	(0.102)	0.061	0.180
193	16.08	0.13	0.051	(0.101)	0.013	0.038
194	16.17	0.13	0.051	(0.101)	0.013	0.038
195	16.25	0.13	0.051	(0.100)	0.013	0.038
196	16.33	0.13	0.051	(0.100)	0.013	0.038
197	16.42	0.13	0.051	(0.099)	0.013	0.038

198	16.50	0.13	0.051	(0.099)	0.013	0.038
199	16.58	0.10	0.038	(0.098)	0.010	0.028
200	16.67	0.10	0.038	(0.098)	0.010	0.028
201	16.75	0.10	0.038	(0.097)	0.010	0.028
202	16.83	0.10	0.038	(0.097)	0.010	0.028
203	16.92	0.10	0.038	(0.096)	0.010	0.028
204	17.00	0.10	0.038	(0.096)	0.010	0.028
205	17.08	0.17	0.063	(0.095)	0.016	0.047
206	17.17	0.17	0.063	(0.095)	0.016	0.047
207	17.25	0.17	0.063	(0.094)	0.016	0.047
208	17.33	0.17	0.063	(0.094)	0.016	0.047
209	17.42	0.17	0.063	(0.093)	0.016	0.047
210	17.50	0.17	0.063	(0.093)	0.016	0.047
211	17.58	0.17	0.063	(0.092)	0.016	0.047
212	17.67	0.17	0.063	(0.092)	0.016	0.047
213	17.75	0.17	0.063	(0.091)	0.016	0.047
214	17.83	0.13	0.051	(0.091)	0.013	0.038
215	17.92	0.13	0.051	(0.090)	0.013	0.038
216	18.00	0.13	0.051	(0.090)	0.013	0.038
217	18.08	0.13	0.051	(0.090)	0.013	0.038
218	18.17	0.13	0.051	(0.089)	0.013	0.038
219	18.25	0.13	0.051	(0.089)	0.013	0.038
220	18.33	0.13	0.051	(0.088)	0.013	0.038
221	18.42	0.13	0.051	(0.088)	0.013	0.038
222	18.50	0.13	0.051	(0.087)	0.013	0.038
223	18.58	0.10	0.038	(0.087)	0.010	0.028
224	18.67	0.10	0.038	(0.087)	0.010	0.028
225	18.75	0.10	0.038	(0.086)	0.010	0.028
226	18.83	0.07	0.025	(0.086)	0.006	0.019
227	18.92	0.07	0.025	(0.085)	0.006	0.019
228	19.00	0.07	0.025	(0.085)	0.006	0.019
229	19.08	0.10	0.038	(0.085)	0.010	0.028
230	19.17	0.10	0.038	(0.084)	0.010	0.028
231	19.25	0.10	0.038	(0.084)	0.010	0.028
232	19.33	0.13	0.051	(0.083)	0.013	0.038
233	19.42	0.13	0.051	(0.083)	0.013	0.038
234	19.50	0.13	0.051	(0.083)	0.013	0.038
235	19.58	0.10	0.038	(0.082)	0.010	0.028
236	19.67	0.10	0.038	(0.082)	0.010	0.028
237	19.75	0.10	0.038	(0.081)	0.010	0.028
238	19.83	0.07	0.025	(0.081)	0.006	0.019
239	19.92	0.07	0.025	(0.081)	0.006	0.019
240	20.00	0.07	0.025	(0.080)	0.006	0.019
241	20.08	0.10	0.038	(0.080)	0.010	0.028
242	20.17	0.10	0.038	(0.080)	0.010	0.028
243	20.25	0.10	0.038	(0.079)	0.010	0.028
244	20.33	0.10	0.038	(0.079)	0.010	0.028
245	20.42	0.10	0.038	(0.079)	0.010	0.028
246	20.50	0.10	0.038	(0.078)	0.010	0.028
247	20.58	0.10	0.038	(0.078)	0.010	0.028

248	20.67	0.10	0.038	(0.078)	0.010	0.028
249	20.75	0.10	0.038	(0.077)	0.010	0.028
250	20.83	0.07	0.025	(0.077)	0.006	0.019
251	20.92	0.07	0.025	(0.077)	0.006	0.019
252	21.00	0.07	0.025	(0.076)	0.006	0.019
253	21.08	0.10	0.038	(0.076)	0.010	0.028
254	21.17	0.10	0.038	(0.076)	0.010	0.028
255	21.25	0.10	0.038	(0.076)	0.010	0.028
256	21.33	0.07	0.025	(0.075)	0.006	0.019
257	21.42	0.07	0.025	(0.075)	0.006	0.019
258	21.50	0.07	0.025	(0.075)	0.006	0.019
259	21.58	0.10	0.038	(0.074)	0.010	0.028
260	21.67	0.10	0.038	(0.074)	0.010	0.028
261	21.75	0.10	0.038	(0.074)	0.010	0.028
262	21.83	0.07	0.025	(0.074)	0.006	0.019
263	21.92	0.07	0.025	(0.073)	0.006	0.019
264	22.00	0.07	0.025	(0.073)	0.006	0.019
265	22.08	0.10	0.038	(0.073)	0.010	0.028
266	22.17	0.10	0.038	(0.073)	0.010	0.028
267	22.25	0.10	0.038	(0.072)	0.010	0.028
268	22.33	0.07	0.025	(0.072)	0.006	0.019
269	22.42	0.07	0.025	(0.072)	0.006	0.019
270	22.50	0.07	0.025	(0.072)	0.006	0.019
271	22.58	0.07	0.025	(0.072)	0.006	0.019
272	22.67	0.07	0.025	(0.071)	0.006	0.019
273	22.75	0.07	0.025	(0.071)	0.006	0.019
274	22.83	0.07	0.025	(0.071)	0.006	0.019
275	22.92	0.07	0.025	(0.071)	0.006	0.019
276	23.00	0.07	0.025	(0.071)	0.006	0.019
277	23.08	0.07	0.025	(0.070)	0.006	0.019
278	23.17	0.07	0.025	(0.070)	0.006	0.019
279	23.25	0.07	0.025	(0.070)	0.006	0.019
280	23.33	0.07	0.025	(0.070)	0.006	0.019
281	23.42	0.07	0.025	(0.070)	0.006	0.019
282	23.50	0.07	0.025	(0.070)	0.006	0.019
283	23.58	0.07	0.025	(0.070)	0.006	0.019
284	23.67	0.07	0.025	(0.069)	0.006	0.019
285	23.75	0.07	0.025	(0.069)	0.006	0.019
286	23.83	0.07	0.025	(0.069)	0.006	0.019
287	23.92	0.07	0.025	(0.069)	0.006	0.019
288	24.00	0.07	0.025	(0.069)	0.006	0.019

(Loss Rate Not Used)

Sum = 100.0 Sum = 28.4

Flood volume = Effective rainfall 2.37(In)
times area 2.8(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.80(In)
Total soil loss = 0.186(Ac.Ft)
Total rainfall = 3.16(In)
Flood volume = 24038.6 Cubic Feet
Total soil loss = 8098.6 Cubic Feet

Peak flow rate of this hydrograph = 0.908(CFS)

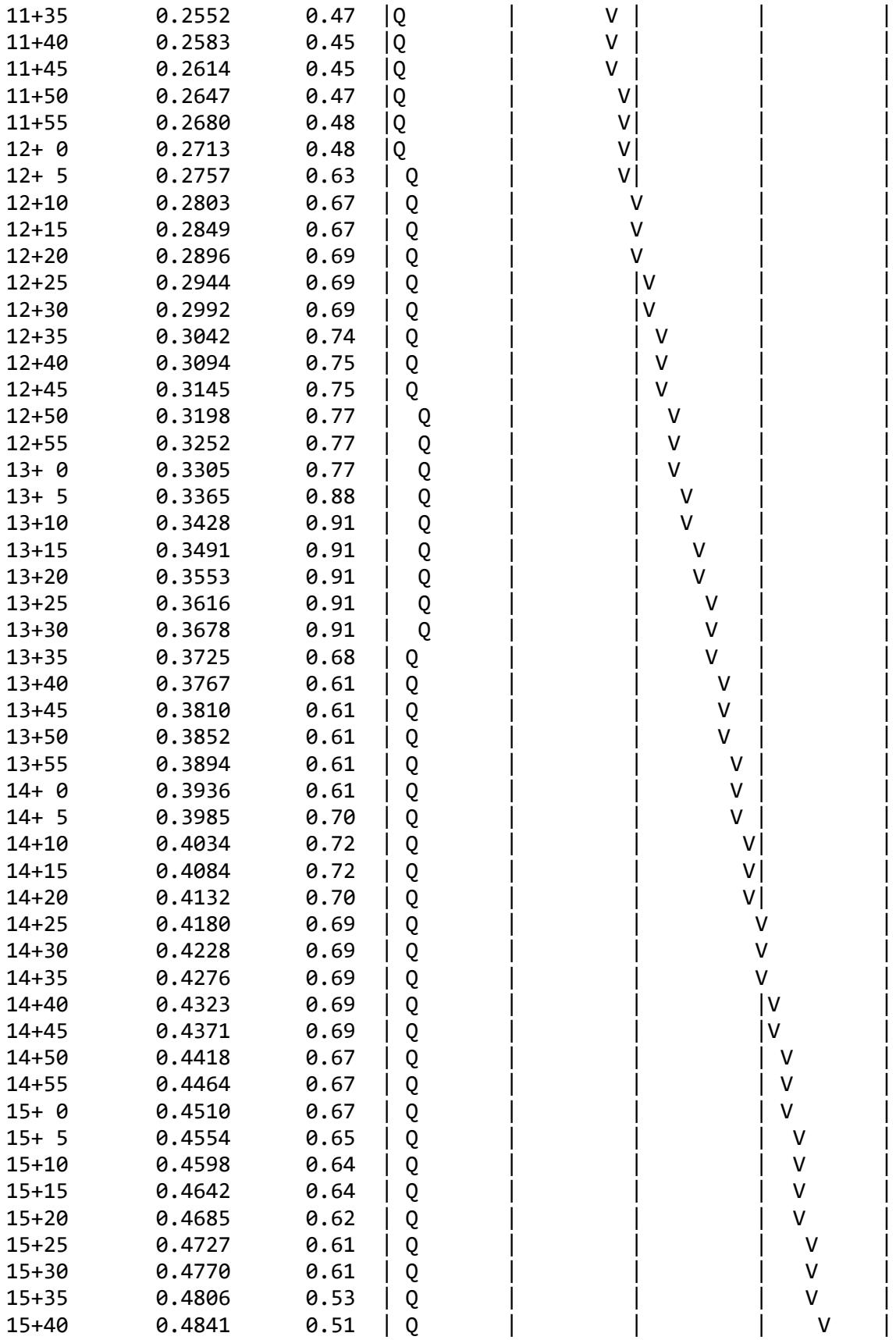
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0003	0.04	Q				
0+10	0.0007	0.05	Q				
0+15	0.0010	0.05	Q				
0+20	0.0015	0.07	Q				
0+25	0.0021	0.08	Q				
0+30	0.0026	0.08	Q				
0+35	0.0032	0.08	Q				
0+40	0.0037	0.08	Q				
0+45	0.0043	0.08	Q				
0+50	0.0050	0.10	Q				
0+55	0.0057	0.11	Q				
1+ 0	0.0065	0.11	Q				
1+ 5	0.0071	0.09	Q				
1+10	0.0076	0.08	Q				
1+15	0.0082	0.08	Q				
1+20	0.0087	0.08	Q				
1+25	0.0093	0.08	Q				
1+30	0.0098	0.08	Q				
1+35	0.0104	0.08	Q				
1+40	0.0109	0.08	Q				
1+45	0.0115	0.08	Q				
1+50	0.0122	0.10	Q				
1+55	0.0129	0.11	Q				
2+ 0	0.0136	0.11	Q				
2+ 5	0.0144	0.11	QV				
2+10	0.0151	0.11	QV				
2+15	0.0158	0.11	QV				
2+20	0.0166	0.11	QV				
2+25	0.0173	0.11	QV				
2+30	0.0180	0.11	QV				
2+35	0.0189	0.13	QV				
2+40	0.0198	0.13	QV				
2+45	0.0208	0.13	QV				
2+50	0.0217	0.13	QV				
2+55	0.0226	0.13	QV				
3+ 0	0.0235	0.13	QV				
3+ 5	0.0244	0.13	QV				
3+10	0.0254	0.13	QV				

3+15	0.0263	0.13	QV	|	|	|	|
3+20	0.0272	0.13	QV	|	|	|	|
3+25	0.0281	0.13	Q V	|	|	|	|
3+30	0.0290	0.13	Q V	|	|	|	|
3+35	0.0300	0.13	Q V	|	|	|	|
3+40	0.0309	0.13	Q V	|	|	|	|
3+45	0.0318	0.13	Q V	|	|	|	|
3+50	0.0329	0.15	Q V	|	|	|	|
3+55	0.0340	0.16	Q V	|	|	|	|
4+ 0	0.0351	0.16	Q V	|	|	|	|
4+ 5	0.0362	0.16	Q V	|	|	|	|
4+10	0.0373	0.16	Q V	|	|	|	|
4+15	0.0384	0.16	Q V	|	|	|	|
4+20	0.0396	0.18	Q V	|	|	|	|
4+25	0.0409	0.19	Q V	|	|	|	|
4+30	0.0422	0.19	Q V	|	|	|	|
4+35	0.0435	0.19	Q V	|	|	|	|
4+40	0.0448	0.19	Q V	|	|	|	|
4+45	0.0461	0.19	Q V	|	|	|	|
4+50	0.0475	0.21	Q V	|	|	|	|
4+55	0.0490	0.21	Q V	|	|	|	|
5+ 0	0.0504	0.21	Q V	|	|	|	|
5+ 5	0.0516	0.17	Q V	|	|	|	|
5+10	0.0527	0.16	Q V	|	|	|	|
5+15	0.0538	0.16	Q V	|	|	|	|
5+20	0.0551	0.18	Q V	|	|	|	|
5+25	0.0564	0.19	Q V	|	|	|	|
5+30	0.0577	0.19	Q V	|	|	|	|
5+35	0.0591	0.21	Q V	|	|	|	|
5+40	0.0606	0.21	Q V	|	|	|	|
5+45	0.0620	0.21	Q V	|	|	|	|
5+50	0.0635	0.21	Q V	|	|	|	|
5+55	0.0650	0.21	Q V	|	|	|	|
6+ 0	0.0665	0.21	Q V	|	|	|	|
6+ 5	0.0681	0.23	Q V	|	|	|	|
6+10	0.0697	0.24	Q V	|	|	|	|
6+15	0.0714	0.24	Q V	|	|	|	|
6+20	0.0730	0.24	Q V	|	|	|	|
6+25	0.0747	0.24	Q V	|	|	|	|
6+30	0.0763	0.24	Q V	|	|	|	|
6+35	0.0781	0.26	|Q V	|	|	|	|
6+40	0.0800	0.27	|Q V	|	|	|	|
6+45	0.0818	0.27	|Q V	|	|	|	|
6+50	0.0837	0.27	|Q V	|	|	|	|
6+55	0.0855	0.27	|Q V	|	|	|	|
7+ 0	0.0873	0.27	|Q V	|	|	|	|
7+ 5	0.0892	0.27	|Q V	|	|	|	|
7+10	0.0910	0.27	|Q V	|	|	|	|
7+15	0.0929	0.27	|Q V	|	|	|	|
7+20	0.0948	0.29	|Q V	|	|	|	|

7+25	0.0969	0.29	Q V				
7+30	0.0989	0.29	Q V				
7+35	0.1011	0.31	Q V				
7+40	0.1033	0.32	Q V				
7+45	0.1055	0.32	Q V				
7+50	0.1078	0.34	Q V				
7+55	0.1102	0.35	Q V				
8+ 0	0.1126	0.35	Q V				
8+ 5	0.1153	0.39	Q V				
8+10	0.1180	0.40	Q V				
8+15	0.1208	0.40	Q V				
8+20	0.1236	0.40	Q V				
8+25	0.1263	0.40	Q V				
8+30	0.1291	0.40	Q V				
8+35	0.1320	0.42	Q V				
8+40	0.1349	0.43	Q V				
8+45	0.1379	0.43	Q V				
8+50	0.1410	0.45	Q V				
8+55	0.1441	0.45	Q V				
9+ 0	0.1472	0.45	Q V				
9+ 5	0.1506	0.50	Q V				
9+10	0.1541	0.51	Q V				
9+15	0.1576	0.51	Q V				
9+20	0.1613	0.53	Q V				
9+25	0.1649	0.53	Q V				
9+30	0.1686	0.53	Q V				
9+35	0.1724	0.56	Q V				
9+40	0.1763	0.56	Q V				
9+45	0.1802	0.56	Q V				
9+50	0.1842	0.58	Q V				
9+55	0.1882	0.59	Q V				
10+ 0	0.1923	0.59	Q V				
10+ 5	0.1953	0.44	Q V				
10+10	0.1981	0.40	Q V				
10+15	0.2008	0.40	Q V				
10+20	0.2036	0.40	Q V				
10+25	0.2063	0.40	Q V				
10+30	0.2091	0.40	Q V				
10+35	0.2126	0.50	Q V				
10+40	0.2163	0.53	Q V				
10+45	0.2199	0.53	Q V				
10+50	0.2236	0.53	Q V				
10+55	0.2273	0.53	Q V				
11+ 0	0.2310	0.53	Q V				
11+ 5	0.2345	0.51	Q V				
11+10	0.2380	0.51	Q V				
11+15	0.2415	0.51	Q V				
11+20	0.2450	0.51	Q V				
11+25	0.2485	0.51	Q V				
11+30	0.2520	0.51	Q V				


11+35 0.2552 0.47
11+40 0.2583 0.45
11+45 0.2614 0.45
11+50 0.2647 0.47
11+55 0.2680 0.48
12+ 0 0.2713 0.48
12+ 5 0.2757 0.63
12+10 0.2803 0.67
12+15 0.2849 0.67
12+20 0.2896 0.69
12+25 0.2944 0.69
12+30 0.2992 0.69
12+35 0.3042 0.74
12+40 0.3094 0.75
12+45 0.3145 0.75
12+50 0.3198 0.77
12+55 0.3252 0.77
13+ 0 0.3305 0.77
13+ 5 0.3365 0.88
13+10 0.3428 0.91
13+15 0.3491 0.91
13+20 0.3553 0.91
13+25 0.3616 0.91
13+30 0.3678 0.91
13+35 0.3725 0.68
13+40 0.3767 0.61
13+45 0.3810 0.61
13+50 0.3852 0.61
13+55 0.3894 0.61
14+ 0 0.3936 0.61
14+ 5 0.3985 0.70
14+10 0.4034 0.72
14+15 0.4084 0.72
14+20 0.4132 0.70
14+25 0.4180 0.69
14+30 0.4228 0.69
14+35 0.4276 0.69
14+40 0.4323 0.69
14+45 0.4371 0.69
14+50 0.4418 0.67
14+55 0.4464 0.67
15+ 0 0.4510 0.67
15+ 5 0.4554 0.65
15+10 0.4598 0.64
15+15 0.4642 0.64
15+20 0.4685 0.62
15+25 0.4727 0.61
15+30 0.4770 0.61
15+35 0.4806 0.53
15+40 0.4841 0.51

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15+45       0.4876      0.51  | Q       |         |         |    V    |
15+50       0.4911      0.51  | Q       |         |         |    V    |
15+55       0.4946      0.51  | Q       |         |         |    V    |
16+ 0       0.4981      0.51  | Q       |         |         |     V   |
16+ 5       0.4994      0.19  Q         |         |         |     V   |
16+10       0.5002      0.11  Q         |         |         |     V   |
16+15       0.5009      0.11  Q         |         |         |     V   |
16+20       0.5017      0.11  Q         |         |         |     V   |
16+25       0.5024      0.11  Q         |         |         |     V   |
16+30       0.5031      0.11  Q         |         |         |     V   |
16+35       0.5037      0.09  Q         |         |         |     V   |
16+40       0.5043      0.08  Q         |         |         |     V   |
16+45       0.5048      0.08  Q         |         |         |     V   |
16+50       0.5054      0.08  Q         |         |         |     V   |
16+55       0.5059      0.08  Q         |         |         |     V   |
17+ 0       0.5065      0.08  Q         |         |         |     V   |
17+ 5       0.5073      0.12  Q         |         |         |     V   |
17+10       0.5082      0.13  Q         |         |         |     V   |
17+15       0.5092      0.13  Q         |         |         |     V   |
17+20       0.5101      0.13  Q         |         |         |     V   |
17+25       0.5110      0.13  Q         |         |         |      V  |
17+30       0.5119      0.13  Q         |         |         |      V  |
17+35       0.5128      0.13  Q         |         |         |      V  |
17+40       0.5138      0.13  Q         |         |         |      V  |
17+45       0.5147      0.13  Q         |         |         |      V  |
17+50       0.5155      0.11  Q         |         |         |      V  |
17+55       0.5162      0.11  Q         |         |         |      V  |
18+ 0       0.5169      0.11  Q         |         |         |      V  |
18+ 5       0.5177      0.11  Q         |         |         |      V  |
18+10       0.5184      0.11  Q         |         |         |      V  |
18+15       0.5191      0.11  Q         |         |         |      V  |
18+20       0.5199      0.11  Q         |         |         |      V  |
18+25       0.5206      0.11  Q         |         |         |      V  |
18+30       0.5213      0.11  Q         |         |         |      V  |
18+35       0.5219      0.09  Q         |         |         |      V  |
18+40       0.5225      0.08  Q         |         |         |      V  |
18+45       0.5230      0.08  Q         |         |         |      V  |
18+50       0.5234      0.06  Q         |         |         |      V  |
18+55       0.5238      0.05  Q         |         |         |      V  |
19+ 0       0.5242      0.05  Q         |         |         |      V  |
19+ 5       0.5247      0.07  Q         |         |         |       V |
19+10       0.5252      0.08  Q         |         |         |       V |
19+15       0.5258      0.08  Q         |         |         |       V |
19+20       0.5265      0.10  Q         |         |         |       V |
19+25       0.5272      0.11  Q         |         |         |       V |
19+30       0.5280      0.11  Q         |         |         |       V |
19+35       0.5286      0.09  Q         |         |         |       V |
19+40       0.5291      0.08  Q         |         |         |       V |
19+45       0.5297      0.08  Q         |         |         |       V |
19+50       0.5301      0.06  Q         |         |         |       V |
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19+55	0.5304	0.05	Q	|	|	|	V |
20+ 0	0.5308	0.05	Q	|	|	|	V |
20+ 5	0.5313	0.07	Q	|	|	|	V |
20+10	0.5319	0.08	Q	|	|	|	V |
20+15	0.5324	0.08	Q	|	|	|	V |
20+20	0.5330	0.08	Q	|	|	|	V |
20+25	0.5335	0.08	Q	|	|	|	V |
20+30	0.5341	0.08	Q	|	|	|	V |
20+35	0.5346	0.08	Q	|	|	|	V |
20+40	0.5352	0.08	Q	|	|	|	V |
20+45	0.5357	0.08	Q	|	|	|	V |
20+50	0.5361	0.06	Q	|	|	|	V |
20+55	0.5365	0.05	Q	|	|	|	V |
21+ 0	0.5369	0.05	Q	|	|	|	V |
21+ 5	0.5374	0.07	Q	|	|	|	V |
21+10	0.5379	0.08	Q	|	|	|	V |
21+15	0.5385	0.08	Q	|	|	|	V|
21+20	0.5389	0.06	Q	|	|	|	V|
21+25	0.5393	0.05	Q	|	|	|	V|
21+30	0.5396	0.05	Q	|	|	|	V|
21+35	0.5401	0.07	Q	|	|	|	V|
21+40	0.5407	0.08	Q	|	|	|	V|
21+45	0.5412	0.08	Q	|	|	|	V|
21+50	0.5417	0.06	Q	|	|	|	V|
21+55	0.5420	0.05	Q	|	|	|	V|
22+ 0	0.5424	0.05	Q	|	|	|	V|
22+ 5	0.5429	0.07	Q	|	|	|	V|
22+10	0.5435	0.08	Q	|	|	|	V|
22+15	0.5440	0.08	Q	|	|	|	V|
22+20	0.5444	0.06	Q	|	|	|	V|
22+25	0.5448	0.05	Q	|	|	|	V|
22+30	0.5451	0.05	Q	|	|	|	V|
22+35	0.5455	0.05	Q	|	|	|	V|
22+40	0.5459	0.05	Q	|	|	|	V|
22+45	0.5463	0.05	Q	|	|	|	V|
22+50	0.5466	0.05	Q	|	|	|	V|
22+55	0.5470	0.05	Q	|	|	|	V|
23+ 0	0.5474	0.05	Q	|	|	|	V|
23+ 5	0.5477	0.05	Q	|	|	|	V|
23+10	0.5481	0.05	Q	|	|	|	V|
23+15	0.5485	0.05	Q	|	|	|	V|
23+20	0.5488	0.05	Q	|	|	|	V|
23+25	0.5492	0.05	Q	|	|	|	V|
23+30	0.5496	0.05	Q	|	|	|	V|
23+35	0.5499	0.05	Q	|	|	|	V|
23+40	0.5503	0.05	Q	|	|	|	V|
23+45	0.5507	0.05	Q	|	|	|	V|
23+50	0.5510	0.05	Q	|	|	|	V|
23+55	0.5514	0.05	Q	|	|	|	V|
24+ 0	0.5518	0.05	Q	|	|	|	V|

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   24+ 5       0.5519      0.01  Q         |         |         |        V|
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BASIN ROUTING CALCULATIONS FOR UNDERGROUND CHAMBER SYSTEM (HYDRAFLOW)

Hydraflow Table of Contents I:\Clients\Developer\01 Perris WQMP\Hydrology\PERRIS SUH WORKING FILE.gpw

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)							Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	Manual	------	-------	0.070	-------	0.100	0.290	-------	-------	0.000	PRE 24HR
2	Manual	------	-------	0.560	-------	0.760	0.910	-------	-------	0.000	POST 24HR
3	Reservoir	2	-------	0.000	-------	0.000	0.240	-------	-------	0.000	UG CHAMBER 24HR
5	Manual	------	-------	0.950	-------	1.630	2.150	-------	-------	0.000	PRE 6HR
6	Manual	------	-------	1.640	-------	2.320	2.840	-------	-------	0.000	POST 6HR
7	Reservoir	6	-------	0.000	-------	0.000	0.000	-------	-------	0.000	UG CHAMBERS 6HR

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

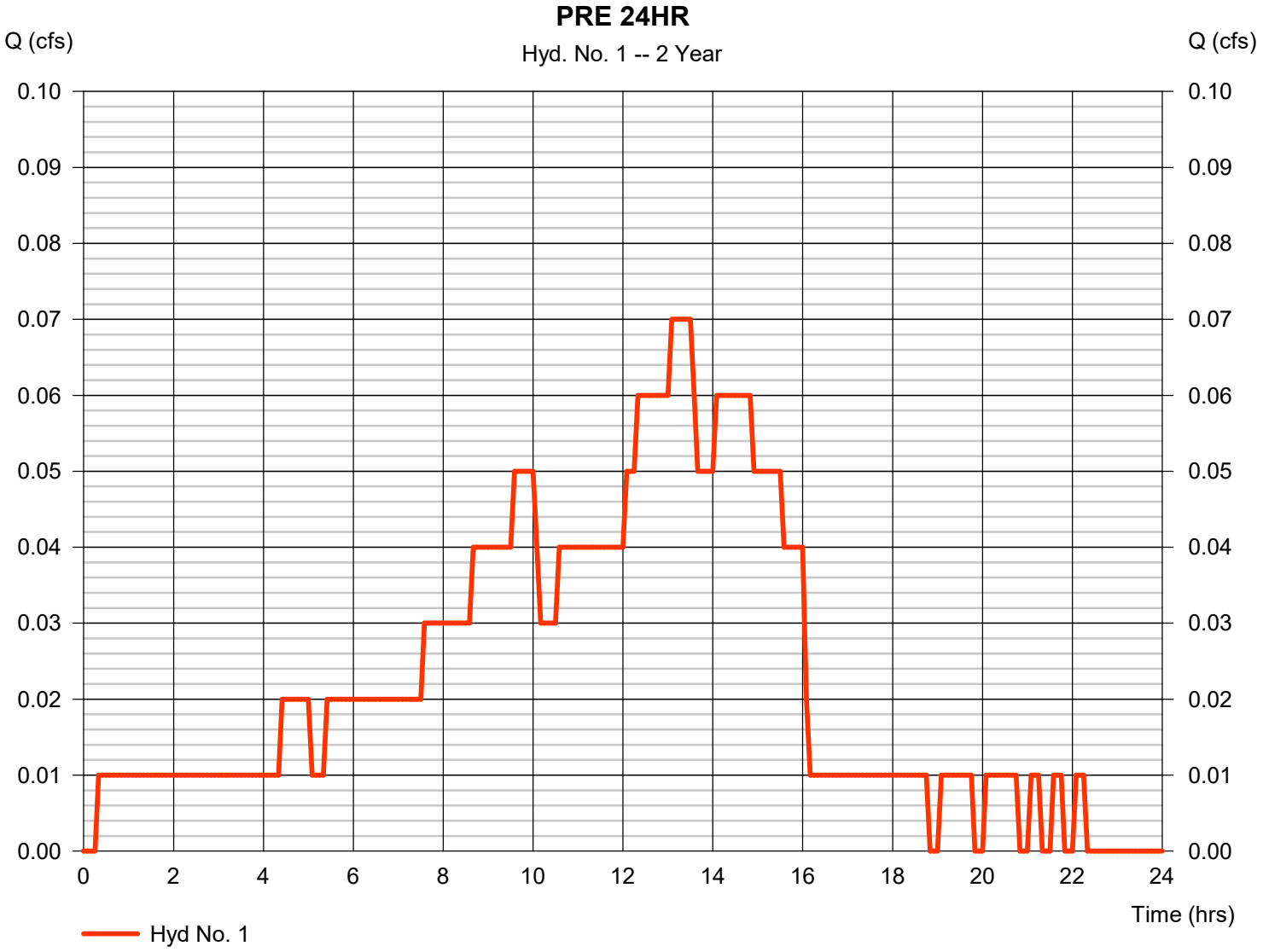
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Manual	0.070	5	785	1,956	------	------	------	PRE 24HR
2	Manual	0.560	5	790	14,772	------	------	------	POST 24HR
3	Reservoir	0.000	5	n/a	0	2	1511.89	14,772	UG CHAMBER 24HR
5	Manual	0.950	5	330	1,734	------	------	------	PRE 6HR
6	Manual	1.640	5	330	8,514	------	------	------	POST 6HR
7	Reservoir	0.000	5	n/a	0	6	1510.67	8,514	UG CHAMBERS 6HR

Hydrograph Report

Hyd. No. 1

PRE 24HR

Hydrograph type	=	Manual	Peak discharge	=	0.070 cfs
Storm frequency	=	2 yrs	Time to peak	=	13.08 hrs
Time interval	=	5 min	Hyd. volume	=	1,956 cuft

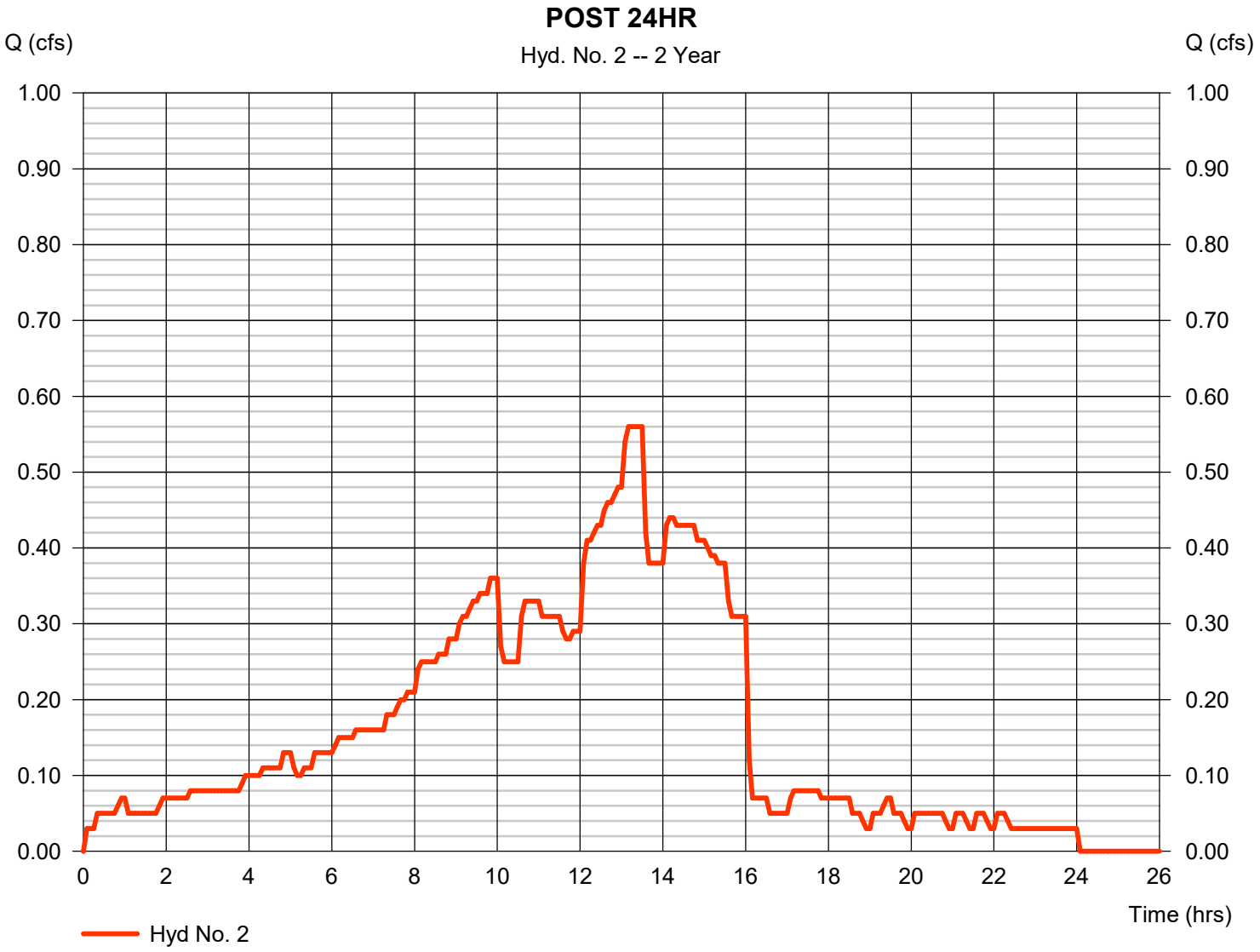


Hydrograph Report

Hyd. No. 2

POST 24HR

Hydrograph type	= Manual	Peak discharge	= 0.560 cfs
Storm frequency	= 2 yrs	Time to peak	= 13.17 hrs
Time interval	= 5 min	Hyd. volume	= 14,772 cuft



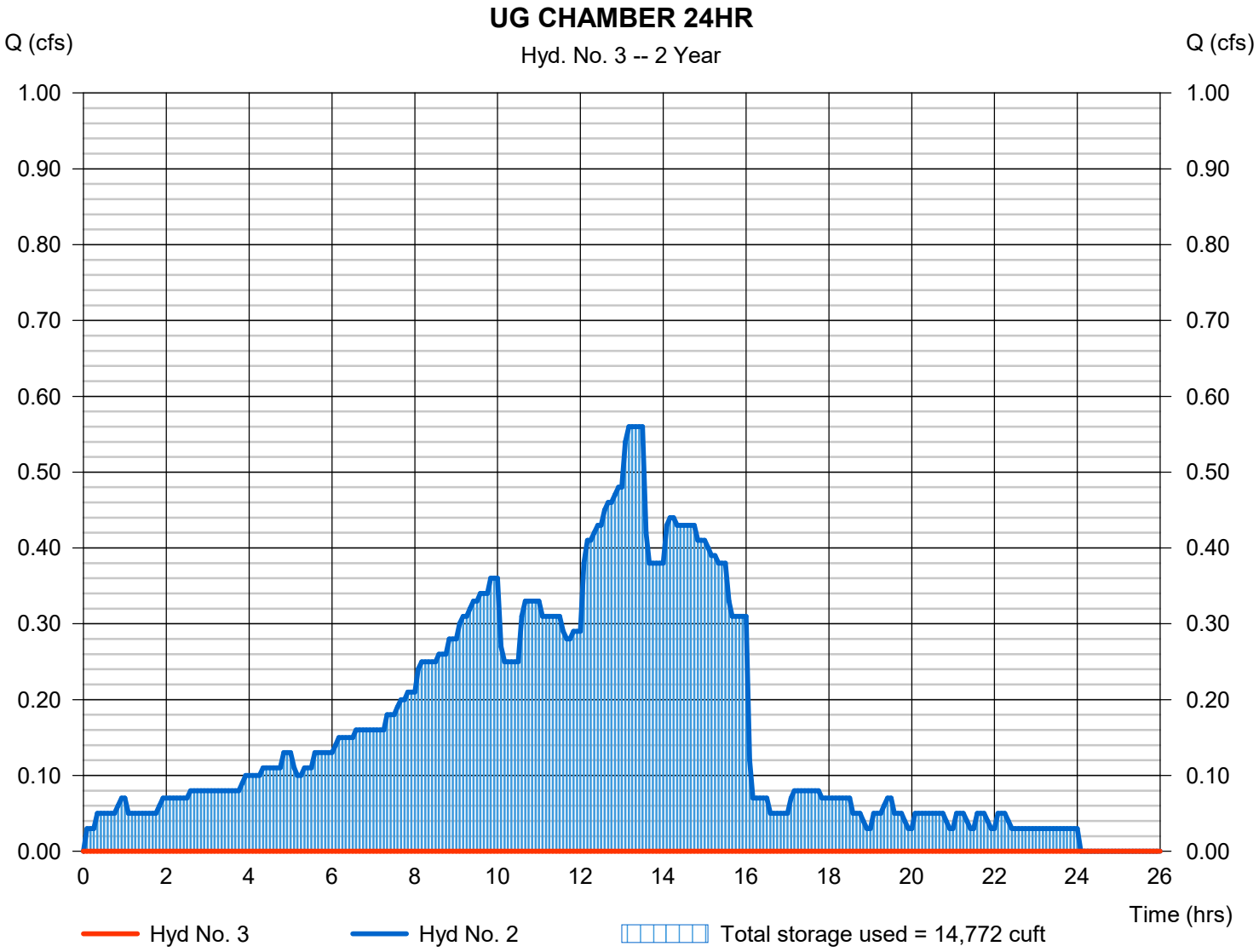
Hydrograph Report

Hyd. No. 3

UG CHAMBER 24HR

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	2 yrs	Time to peak	=	n/a
Time interval	=	5 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	2 - POST 24HR	Max. Elevation	=	1511.89 ft
Reservoir name	=	UG CHAMBERS	Max. Storage	=	14,772 cuft

Storage Indication method used.



Pond No. 1 - UG CHAMBERS

Pond Data

UG Chambers -Invert elev. = 1510.00 ft, Rise x Span = 3.00 x 3.00 ft, Barrel Len = 105.00 ft, No. Barrels = 3, Slope = 0.00%, Headers = Yes
Encasement -Invert elev. = 1509.00 ft, Width = 13.00 ft, Height = 5.00 ft, Voids = 100.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	1509.00	n/a	0	0
0.50	1509.50	n/a	2,555	2,555
1.00	1510.00	n/a	2,555	5,110
1.50	1510.50	n/a	2,555	7,665
2.00	1511.00	n/a	2,555	10,220
2.50	1511.50	n/a	2,555	12,775
3.00	1512.00	n/a	2,555	15,329
3.50	1512.50	n/a	2,555	17,884
4.00	1513.00	n/a	2,555	20,439
4.50	1513.50	n/a	2,555	22,994
5.00	1514.00	n/a	2,555	25,549

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 1510.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 3.00	0.00	0.00	0.00
Crest El. (ft)	= 1513.10	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)
TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	1509.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.05	255	1509.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.10	511	1509.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.15	766	1509.15	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.20	1,022	1509.20	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.25	1,277	1509.25	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.30	1,533	1509.30	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.35	1,788	1509.35	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.40	2,044	1509.40	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.45	2,299	1509.45	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.50	2,555	1509.50	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.55	2,810	1509.55	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.60	3,066	1509.60	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.65	3,321	1509.65	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.70	3,577	1509.70	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.75	3,832	1509.75	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.80	4,088	1509.80	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.85	4,343	1509.85	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.90	4,599	1509.90	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.95	4,854	1509.95	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.00	5,110	1510.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.05	5,365	1510.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.10	5,621	1510.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.15	5,876	1510.15	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.20	6,132	1510.20	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.25	6,387	1510.25	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.30	6,643	1510.30	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.35	6,898	1510.35	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.40	7,154	1510.40	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.45	7,409	1510.45	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.50	7,665	1510.50	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.55	7,920	1510.55	0.00	---	---	---	0.00	---	---	---	---	---	0.000

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UG CHAMBERS

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
1.60	8,176	1510.60	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.65	8,431	1510.65	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.70	8,687	1510.70	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.75	8,942	1510.75	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.80	9,198	1510.80	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.85	9,453	1510.85	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.90	9,709	1510.90	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.95	9,964	1510.95	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.00	10,220	1511.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.05	10,475	1511.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.10	10,731	1511.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.15	10,986	1511.15	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.20	11,242	1511.20	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.25	11,497	1511.25	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.30	11,753	1511.30	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.35	12,008	1511.35	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.40	12,264	1511.40	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.45	12,519	1511.45	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.50	12,775	1511.50	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.55	13,030	1511.55	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.60	13,286	1511.60	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.65	13,541	1511.65	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.70	13,797	1511.70	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.75	14,052	1511.75	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.80	14,307	1511.80	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.85	14,563	1511.85	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.90	14,818	1511.90	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.95	15,074	1511.95	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.00	15,329	1512.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.05	15,585	1512.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.10	15,840	1512.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.15	16,096	1512.15	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.20	16,351	1512.20	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.25	16,607	1512.25	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.30	16,862	1512.30	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.35	17,118	1512.35	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.40	17,373	1512.40	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.45	17,629	1512.45	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.50	17,884	1512.50	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.55	18,140	1512.55	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.60	18,395	1512.60	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.65	18,651	1512.65	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.70	18,906	1512.70	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.75	19,162	1512.75	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.80	19,417	1512.80	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.85	19,673	1512.85	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.90	19,928	1512.90	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.95	20,184	1512.95	0.00	---	---	---	0.00	---	---	---	---	---	0.000
4.00	20,439	1513.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
4.05	20,695	1513.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
4.10	20,950	1513.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
4.15	21,206	1513.15	0.00	---	---	---	0.11	---	---	---	---	---	0.112
4.20	21,461	1513.20	0.00	---	---	---	0.32	---	---	---	---	---	0.317
4.25	21,717	1513.25	0.00	---	---	---	0.58	---	---	---	---	---	0.582
4.30	21,972	1513.30	0.00	---	---	---	0.90	---	---	---	---	---	0.896
4.35	22,228	1513.35	0.00	---	---	---	1.25	---	---	---	---	---	1.251
4.40	22,483	1513.40	0.00	---	---	---	1.64	---	---	---	---	---	1.645
4.45	22,739	1513.45	0.00	---	---	---	2.07	---	---	---	---	---	2.073
4.50	22,994	1513.50	0.00	---	---	---	2.53	---	---	---	---	---	2.528
4.55	23,250	1513.55	0.00	---	---	---	3.02	---	---	---	---	---	3.016
4.60	23,505	1513.60	0.00	---	---	---	3.53	---	---	---	---	---	3.533
4.65	23,761	1513.65	0.00	---	---	---	4.08	---	---	---	---	---	4.077
4.70	24,016	1513.70	0.00	---	---	---	4.65	---	---	---	---	---	4.645
4.75	24,272	1513.75	0.00	---	---	---	5.24	---	---	---	---	---	5.238
4.80	24,527	1513.80	0.00	---	---	---	5.85	---	---	---	---	---	5.855
4.85	24,783	1513.85	0.00	---	---	---	6.49	---	---	---	---	---	6.493
4.90	25,038	1513.90	0.00	---	---	---	7.15	---	---	---	---	---	7.154
4.95	25,294	1513.95	0.00	---	---	---	7.84	---	---	---	---	---	7.835
5.00	25,549	1514.00	0.00	---	---	---	8.53	---	---	---	---	---	8.530

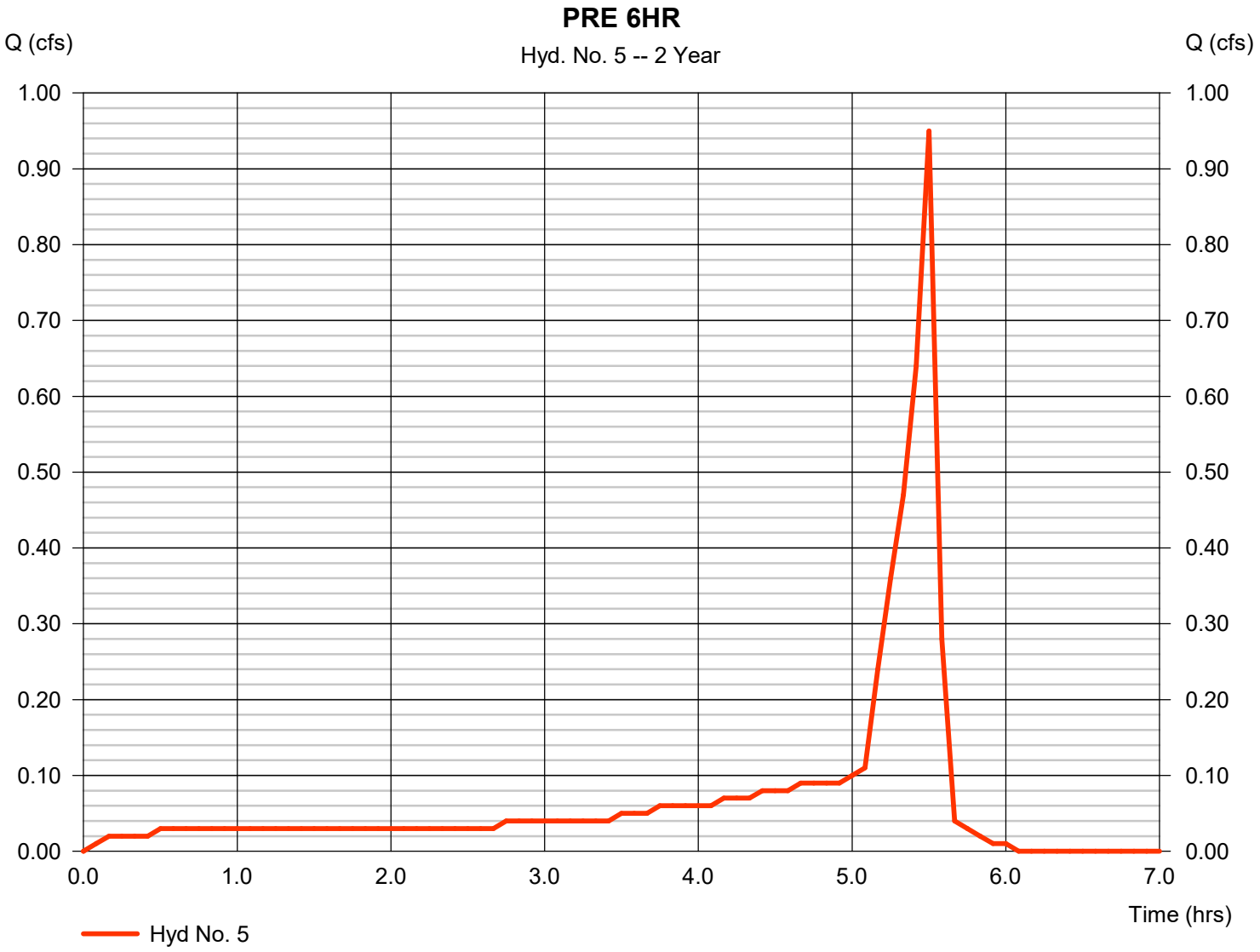
...End

Hydrograph Report

Hyd. No. 5

PRE 6HR

Hydrograph type	= Manual	Peak discharge	= 0.950 cfs
Storm frequency	= 2 yrs	Time to peak	= 5.50 hrs
Time interval	= 5 min	Hyd. volume	= 1,734 cuft

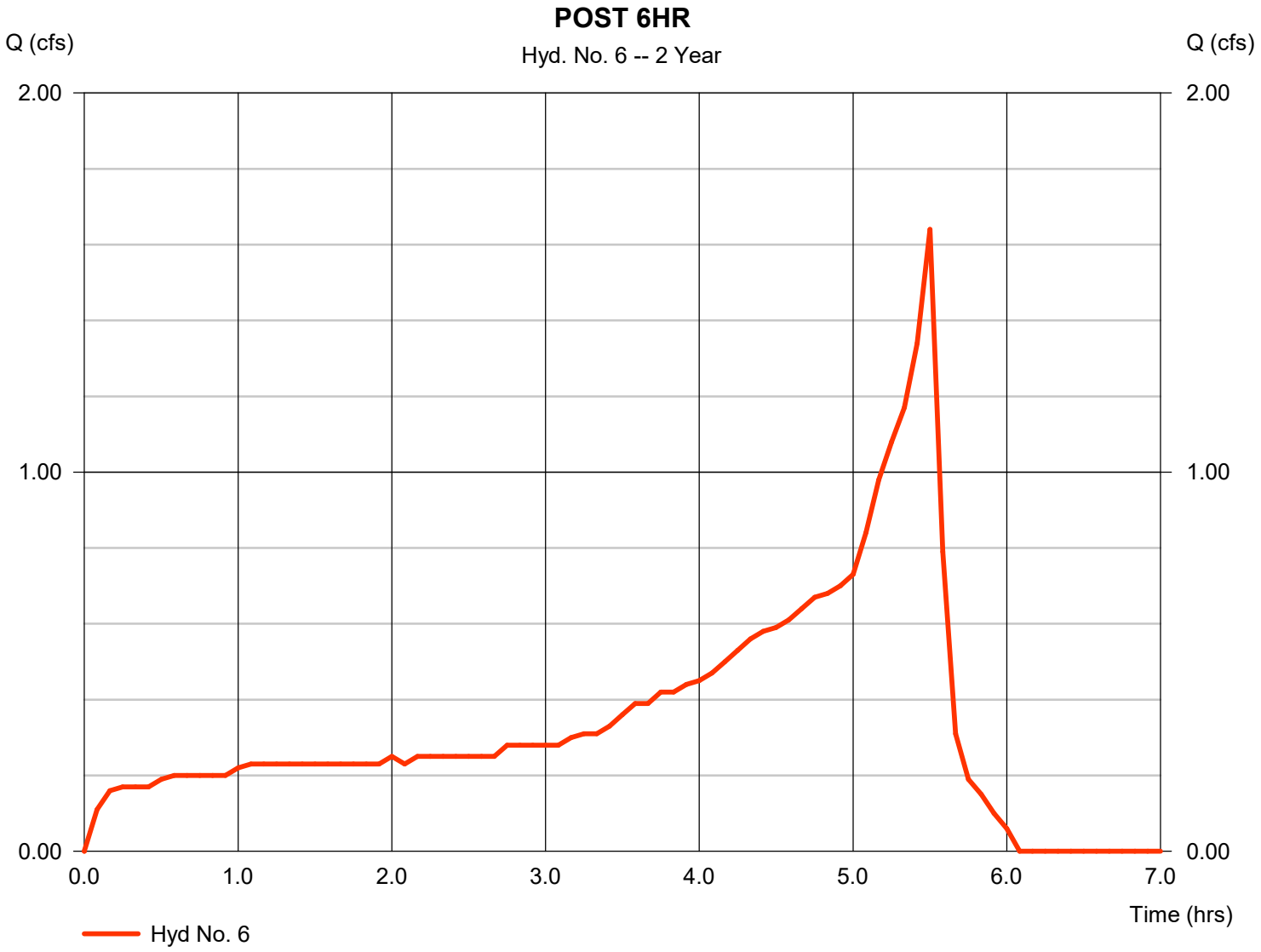


Hydrograph Report

Hyd. No. 6

POST 6HR

Hydrograph type	= Manual	Peak discharge	= 1.640 cfs
Storm frequency	= 2 yrs	Time to peak	= 5.50 hrs
Time interval	= 5 min	Hyd. volume	= 8,514 cuft



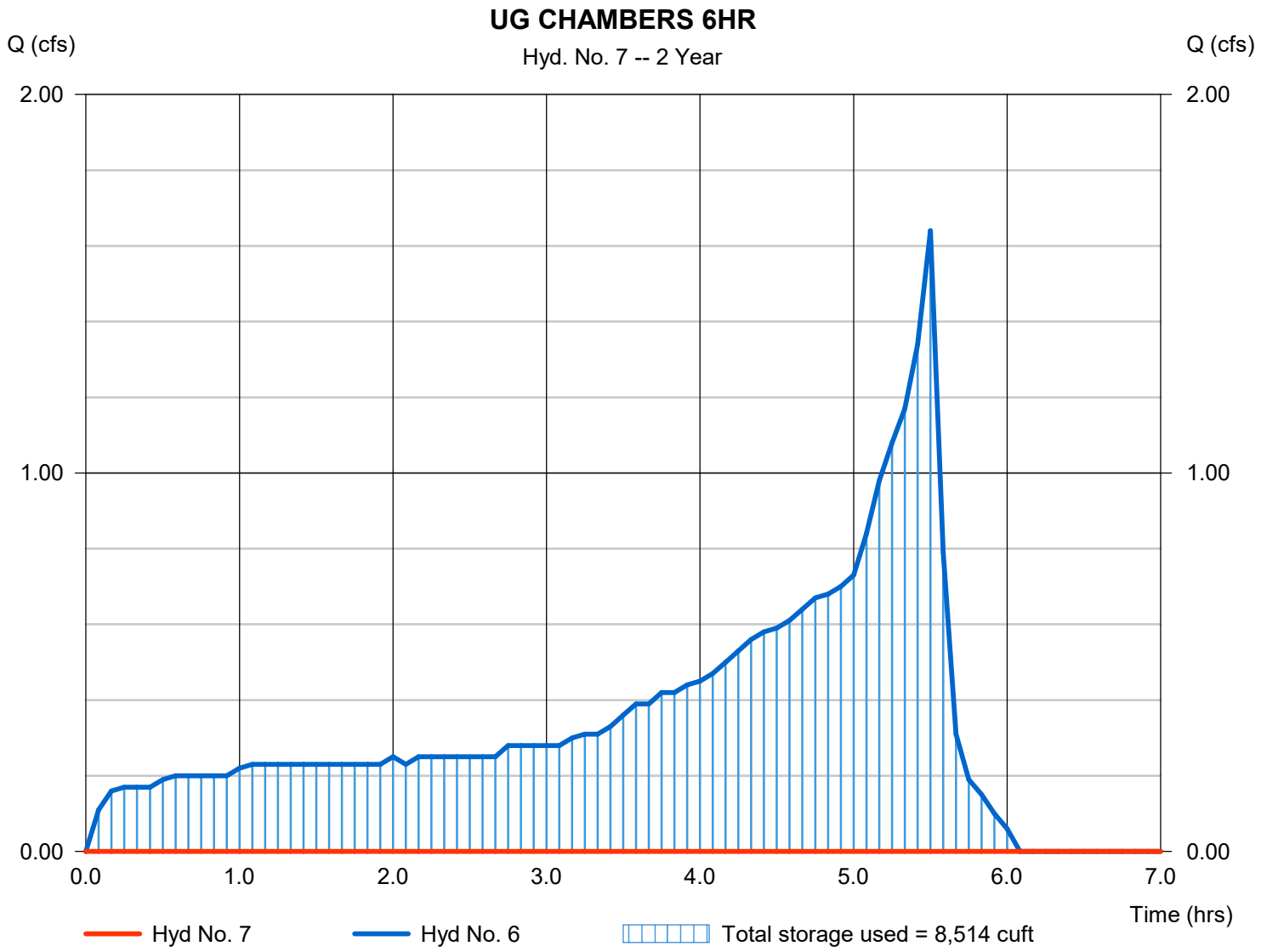
Hydrograph Report

Hyd. No. 7

UG CHAMBERS 6HR

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	2 yrs	Time to peak	=	n/a
Time interval	=	5 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	6 - POST 6HR	Max. Elevation	=	1510.67 ft
Reservoir name	=	UG CHAMBERS	Max. Storage	=	8,514 cuft

Storage Indication method used.



Pond No. 1 - UG CHAMBERS

Pond Data

UG Chambers -Invert elev. = 1510.00 ft, Rise x Span = 3.00 x 3.00 ft, Barrel Len = 105.00 ft, No. Barrels = 3, Slope = 0.00%, Headers = Yes
Encasement -Invert elev. = 1509.00 ft, Width = 13.00 ft, Height = 5.00 ft, Voids = 100.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	1509.00	n/a	0	0
0.50	1509.50	n/a	2,555	2,555
1.00	1510.00	n/a	2,555	5,110
1.50	1510.50	n/a	2,555	7,665
2.00	1511.00	n/a	2,555	10,220
2.50	1511.50	n/a	2,555	12,775
3.00	1512.00	n/a	2,555	15,329
3.50	1512.50	n/a	2,555	17,884
4.00	1513.00	n/a	2,555	20,439
4.50	1513.50	n/a	2,555	22,994
5.00	1514.00	n/a	2,555	25,549

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 1510.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 3.00	0.00	0.00	0.00
Crest El. (ft)	= 1513.10	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)
TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	1509.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.05	255	1509.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.10	511	1509.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.15	766	1509.15	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.20	1,022	1509.20	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.25	1,277	1509.25	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.30	1,533	1509.30	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.35	1,788	1509.35	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.40	2,044	1509.40	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.45	2,299	1509.45	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.50	2,555	1509.50	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.55	2,810	1509.55	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.60	3,066	1509.60	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.65	3,321	1509.65	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.70	3,577	1509.70	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.75	3,832	1509.75	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.80	4,088	1509.80	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.85	4,343	1509.85	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.90	4,599	1509.90	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.95	4,854	1509.95	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.00	5,110	1510.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.05	5,365	1510.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.10	5,621	1510.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.15	5,876	1510.15	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.20	6,132	1510.20	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.25	6,387	1510.25	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.30	6,643	1510.30	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.35	6,898	1510.35	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.40	7,154	1510.40	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.45	7,409	1510.45	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.50	7,665	1510.50	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.55	7,920	1510.55	0.00	---	---	---	0.00	---	---	---	---	---	0.000

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UG CHAMBERS

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
1.60	8,176	1510.60	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.65	8,431	1510.65	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.70	8,687	1510.70	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.75	8,942	1510.75	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.80	9,198	1510.80	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.85	9,453	1510.85	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.90	9,709	1510.90	0.00	---	---	---	0.00	---	---	---	---	---	0.000
1.95	9,964	1510.95	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.00	10,220	1511.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.05	10,475	1511.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.10	10,731	1511.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.15	10,986	1511.15	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.20	11,242	1511.20	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.25	11,497	1511.25	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.30	11,753	1511.30	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.35	12,008	1511.35	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.40	12,264	1511.40	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.45	12,519	1511.45	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.50	12,775	1511.50	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.55	13,030	1511.55	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.60	13,286	1511.60	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.65	13,541	1511.65	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.70	13,797	1511.70	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.75	14,052	1511.75	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.80	14,307	1511.80	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.85	14,563	1511.85	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.90	14,818	1511.90	0.00	---	---	---	0.00	---	---	---	---	---	0.000
2.95	15,074	1511.95	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.00	15,329	1512.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.05	15,585	1512.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.10	15,840	1512.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.15	16,096	1512.15	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.20	16,351	1512.20	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.25	16,607	1512.25	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.30	16,862	1512.30	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.35	17,118	1512.35	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.40	17,373	1512.40	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.45	17,629	1512.45	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.50	17,884	1512.50	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.55	18,140	1512.55	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.60	18,395	1512.60	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.65	18,651	1512.65	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.70	18,906	1512.70	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.75	19,162	1512.75	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.80	19,417	1512.80	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.85	19,673	1512.85	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.90	19,928	1512.90	0.00	---	---	---	0.00	---	---	---	---	---	0.000
3.95	20,184	1512.95	0.00	---	---	---	0.00	---	---	---	---	---	0.000
4.00	20,439	1513.00	0.00	---	---	---	0.00	---	---	---	---	---	0.000
4.05	20,695	1513.05	0.00	---	---	---	0.00	---	---	---	---	---	0.000
4.10	20,950	1513.10	0.00	---	---	---	0.00	---	---	---	---	---	0.000
4.15	21,206	1513.15	0.00	---	---	---	0.11	---	---	---	---	---	0.112
4.20	21,461	1513.20	0.00	---	---	---	0.32	---	---	---	---	---	0.317
4.25	21,717	1513.25	0.00	---	---	---	0.58	---	---	---	---	---	0.582
4.30	21,972	1513.30	0.00	---	---	---	0.90	---	---	---	---	---	0.896
4.35	22,228	1513.35	0.00	---	---	---	1.25	---	---	---	---	---	1.251
4.40	22,483	1513.40	0.00	---	---	---	1.64	---	---	---	---	---	1.645
4.45	22,739	1513.45	0.00	---	---	---	2.07	---	---	---	---	---	2.073
4.50	22,994	1513.50	0.00	---	---	---	2.53	---	---	---	---	---	2.528
4.55	23,250	1513.55	0.00	---	---	---	3.02	---	---	---	---	---	3.016
4.60	23,505	1513.60	0.00	---	---	---	3.53	---	---	---	---	---	3.533
4.65	23,761	1513.65	0.00	---	---	---	4.08	---	---	---	---	---	4.077
4.70	24,016	1513.70	0.00	---	---	---	4.65	---	---	---	---	---	4.645
4.75	24,272	1513.75	0.00	---	---	---	5.24	---	---	---	---	---	5.238
4.80	24,527	1513.80	0.00	---	---	---	5.85	---	---	---	---	---	5.855
4.85	24,783	1513.85	0.00	---	---	---	6.49	---	---	---	---	---	6.493
4.90	25,038	1513.90	0.00	---	---	---	7.15	---	---	---	---	---	7.154
4.95	25,294	1513.95	0.00	---	---	---	7.84	---	---	---	---	---	7.835
5.00	25,549	1514.00	0.00	---	---	---	8.53	---	---	---	---	---	8.530

...End

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

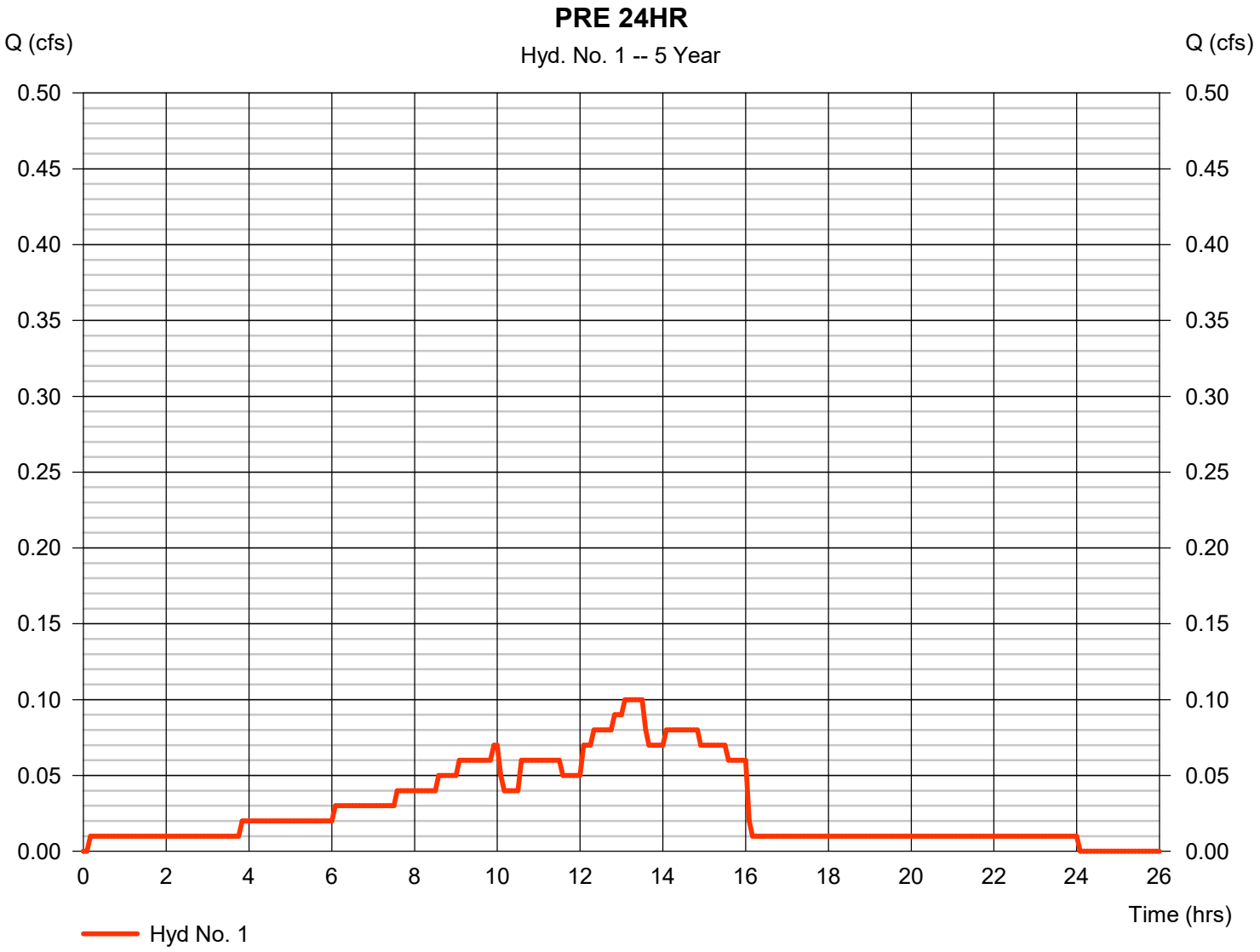
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Manual	0.100	5	785	2,697	------	------	------	PRE 24HR
2	Manual	0.760	5	790	19,998	------	------	------	POST 24HR
3	Reservoir	0.000	5	n/a	0	2	1512.91	19,998	UG CHAMBER 24HR
5	Manual	1.630	5	330	3,009	------	------	------	PRE 6HR
6	Manual	2.320	5	330	11,520	------	------	------	POST 6HR
7	Reservoir	0.000	5	n/a	0	6	1511.25	11,520	UG CHAMBERS 6HR

Hydrograph Report

Hyd. No. 1

PRE 24HR

Hydrograph type	= Manual	Peak discharge	= 0.100 cfs
Storm frequency	= 5 yrs	Time to peak	= 13.08 hrs
Time interval	= 5 min	Hyd. volume	= 2,697 cuft

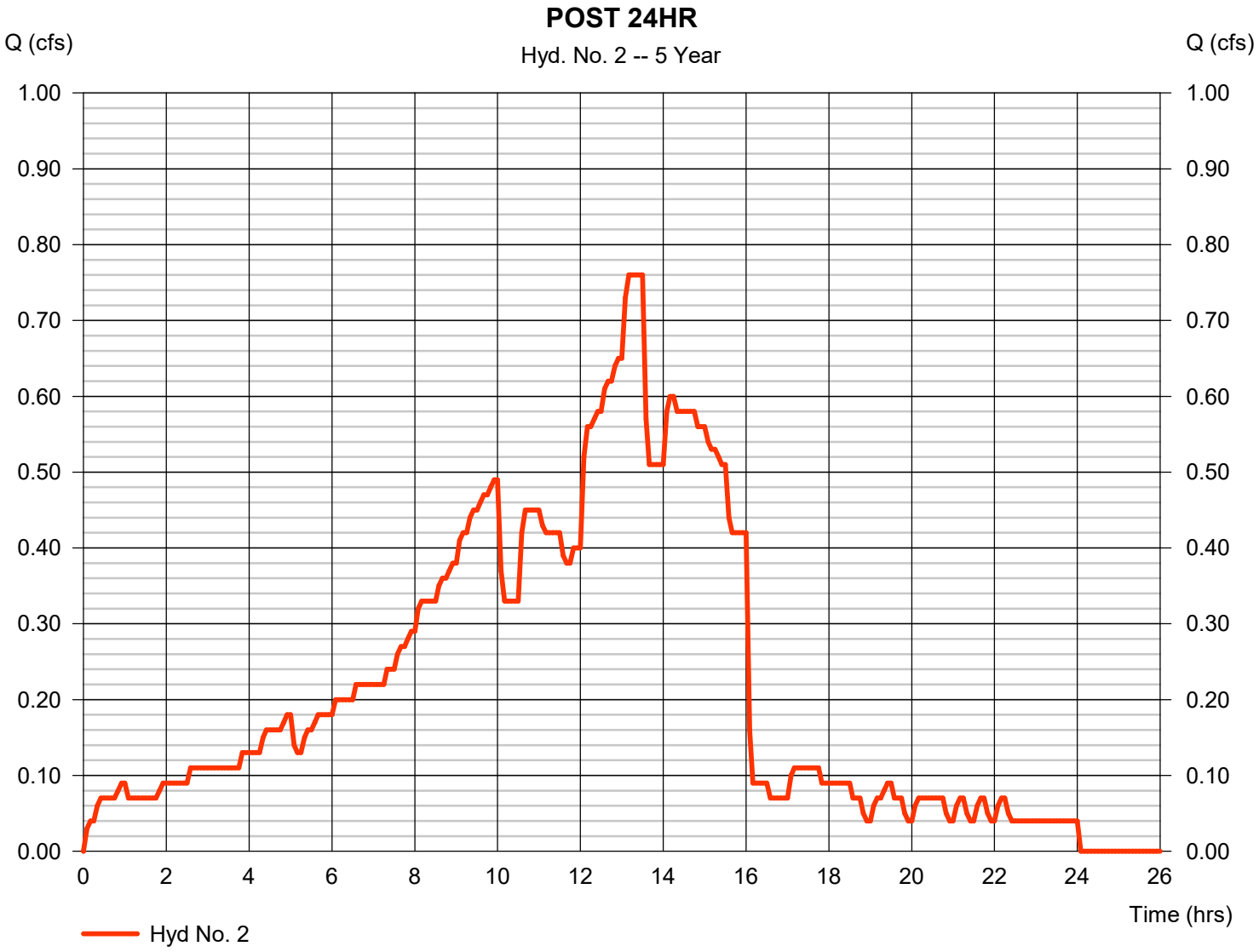


Hydrograph Report

Hyd. No. 2

POST 24HR

Hydrograph type	= Manual	Peak discharge	= 0.760 cfs
Storm frequency	= 5 yrs	Time to peak	= 13.17 hrs
Time interval	= 5 min	Hyd. volume	= 19,998 cuft



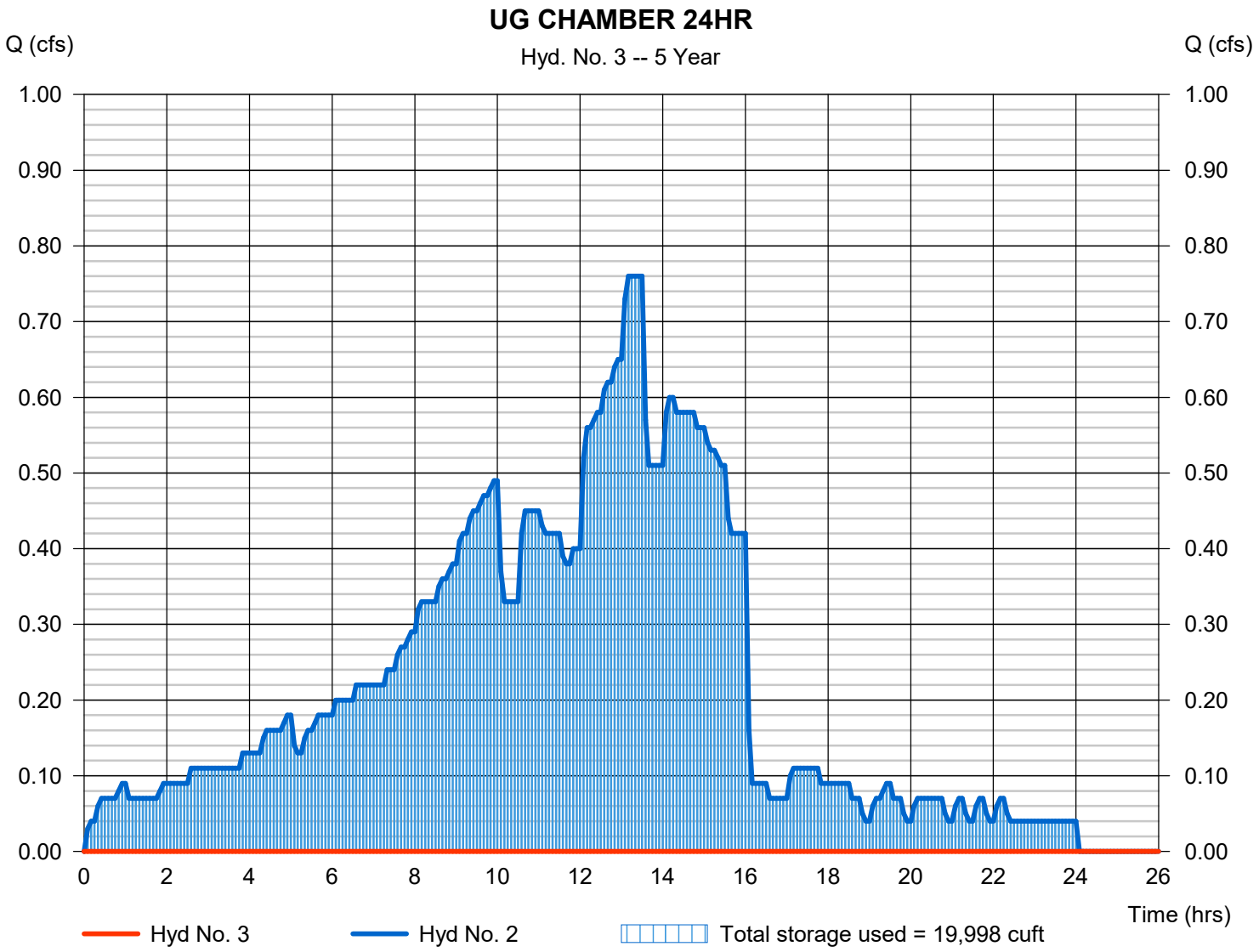
Hydrograph Report

Hyd. No. 3

UG CHAMBER 24HR

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	5 yrs	Time to peak	=	n/a
Time interval	=	5 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	2 - POST 24HR	Max. Elevation	=	1512.91 ft
Reservoir name	=	UG CHAMBERS	Max. Storage	=	19,998 cuft

Storage Indication method used.

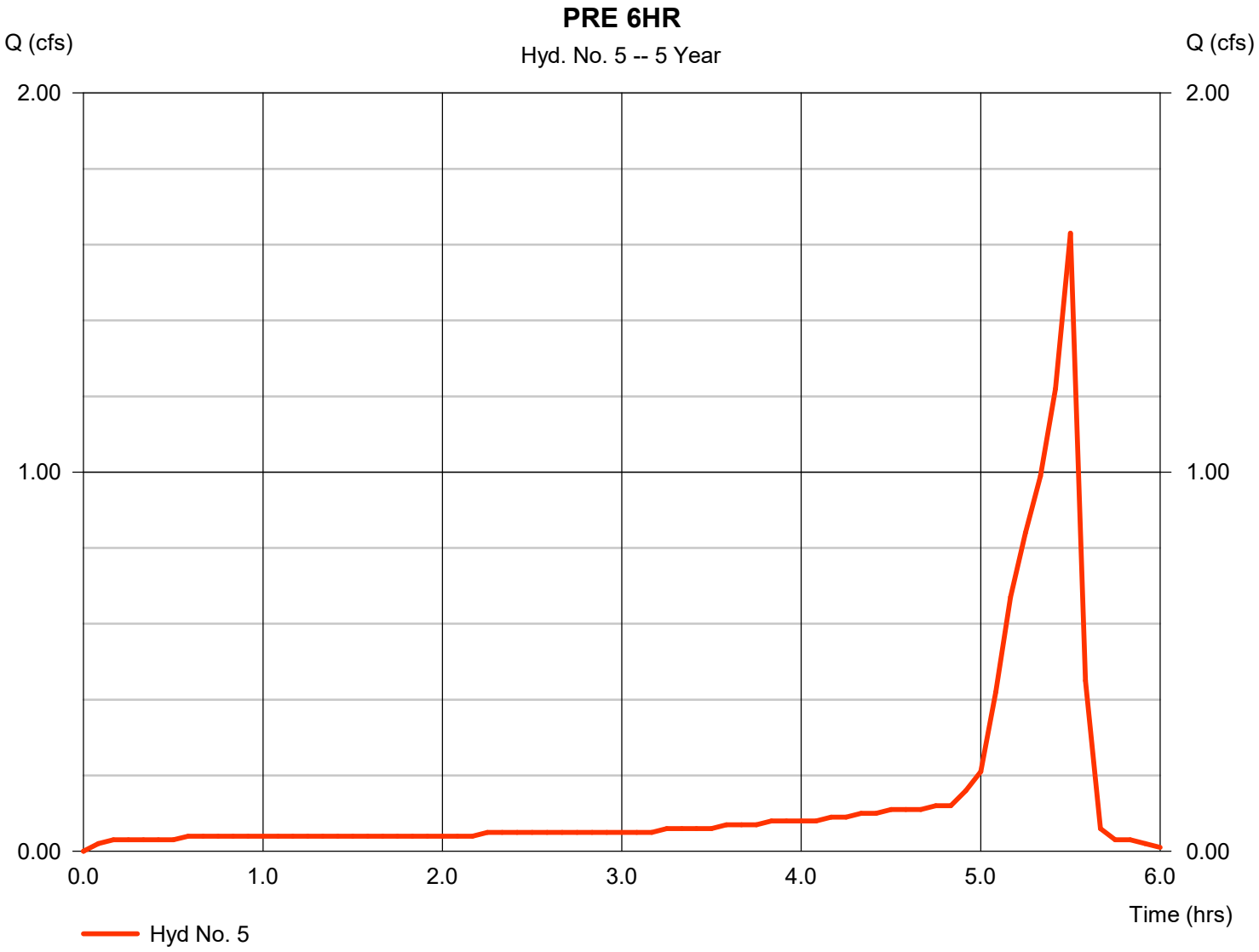


Hydrograph Report

Hyd. No. 5

PRE 6HR

Hydrograph type	= Manual	Peak discharge	= 1.630 cfs
Storm frequency	= 5 yrs	Time to peak	= 5.50 hrs
Time interval	= 5 min	Hyd. volume	= 3,009 cuft

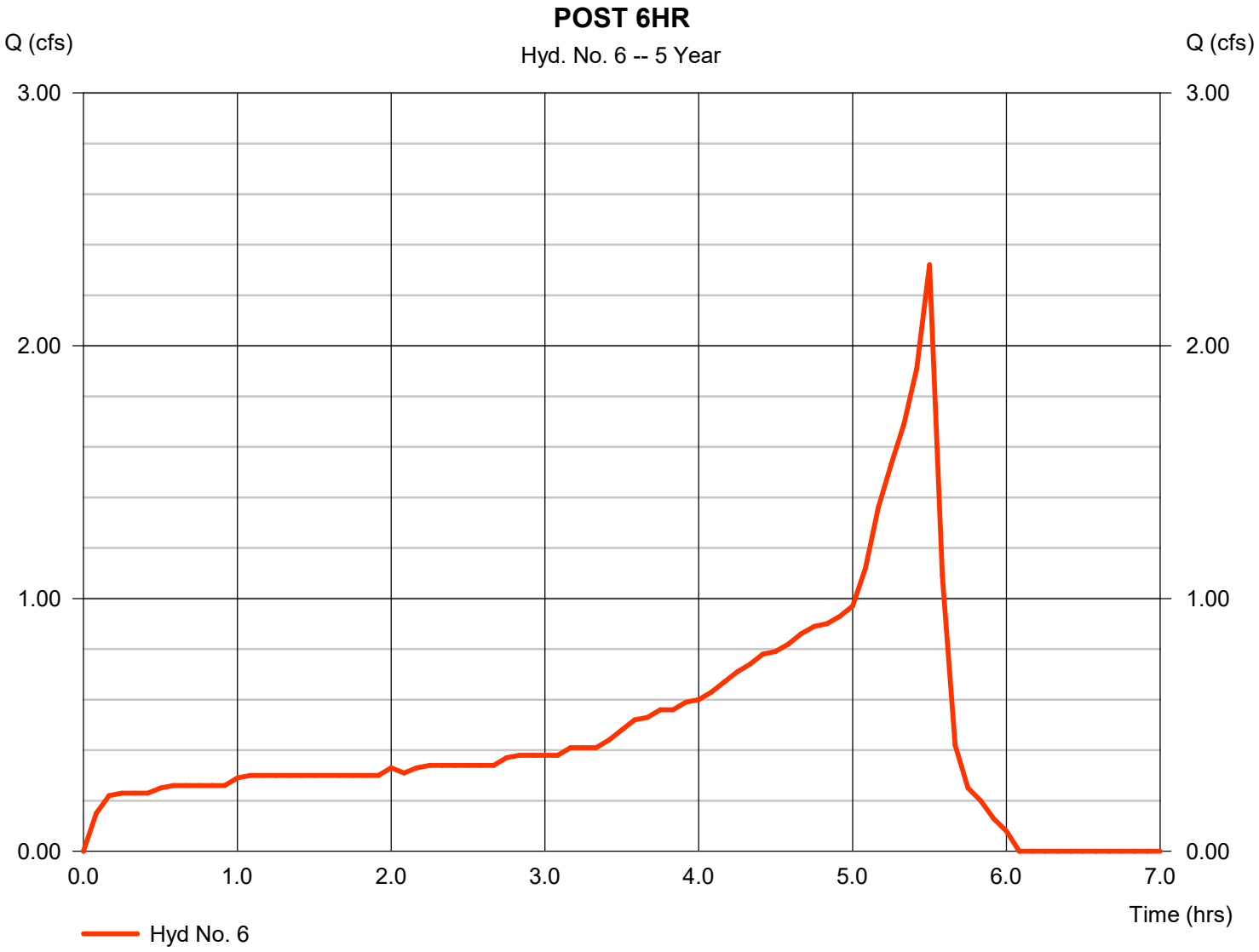


Hydrograph Report

Hyd. No. 6

POST 6HR

Hydrograph type	= Manual	Peak discharge	= 2.320 cfs
Storm frequency	= 5 yrs	Time to peak	= 5.50 hrs
Time interval	= 5 min	Hyd. volume	= 11,520 cuft



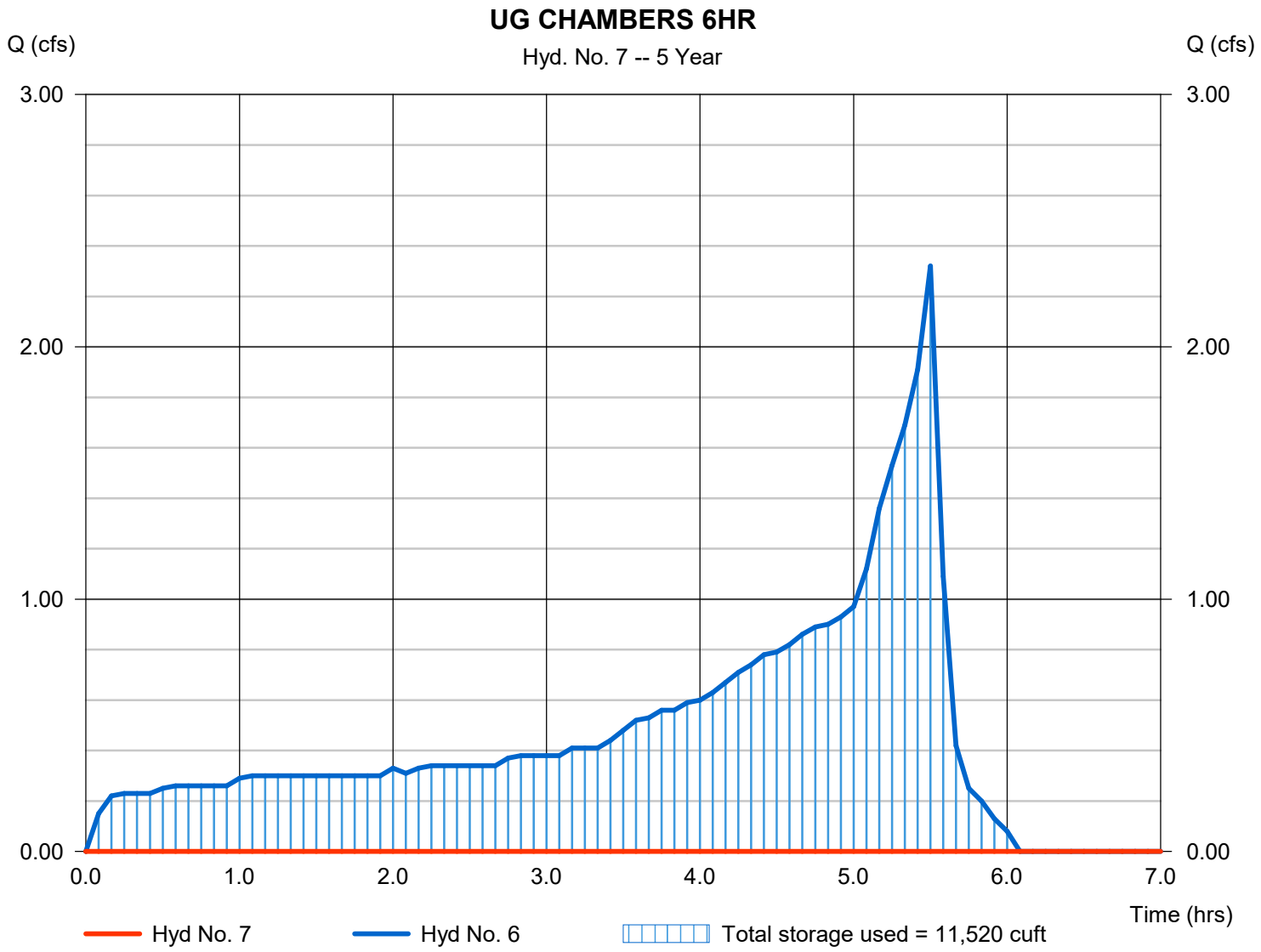
Hydrograph Report

Hyd. No. 7

UG CHAMBERS 6HR

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	5 yrs	Time to peak	=	n/a
Time interval	=	5 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	6 - POST 6HR	Max. Elevation	=	1511.25 ft
Reservoir name	=	UG CHAMBERS	Max. Storage	=	11,520 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

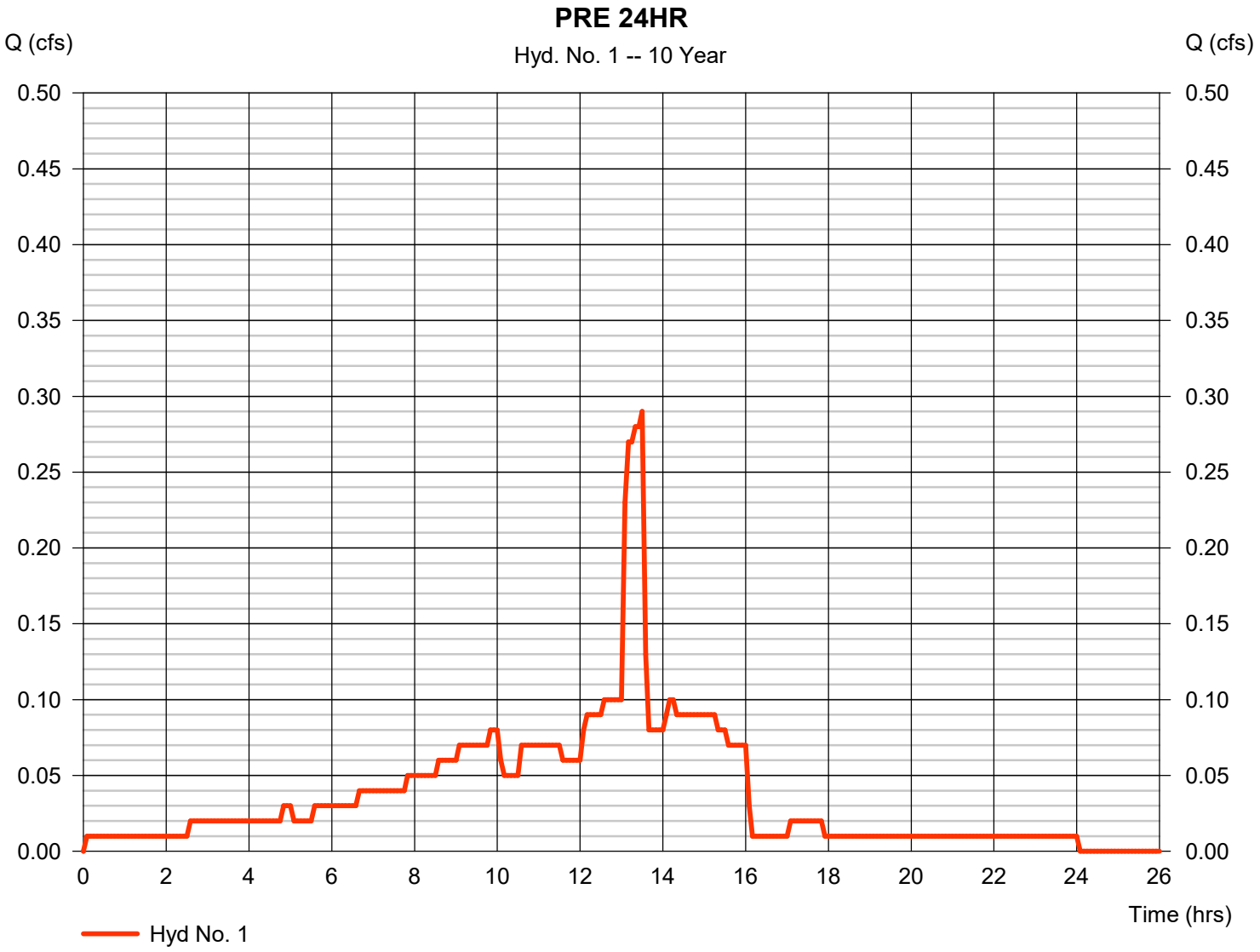
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Manual	0.290	5	810	3,474	------	------	------	PRE 24HR
2	Manual	0.910	5	790	23,979	------	------	------	POST 24HR
3	Reservoir	0.297	5	965	3,027	2	1513.20	21,436	UG CHAMBER 24HR
5	Manual	2.150	5	330	4,302	------	------	------	PRE 6HR
6	Manual	2.840	5	330	13,839	------	------	------	POST 6HR
7	Reservoir	0.000	5	n/a	0	6	1511.71	13,839	UG CHAMBERS 6HR

Hydrograph Report

Hyd. No. 1

PRE 24HR

Hydrograph type	= Manual	Peak discharge	= 0.290 cfs
Storm frequency	= 10 yrs	Time to peak	= 13.50 hrs
Time interval	= 5 min	Hyd. volume	= 3,474 cuft

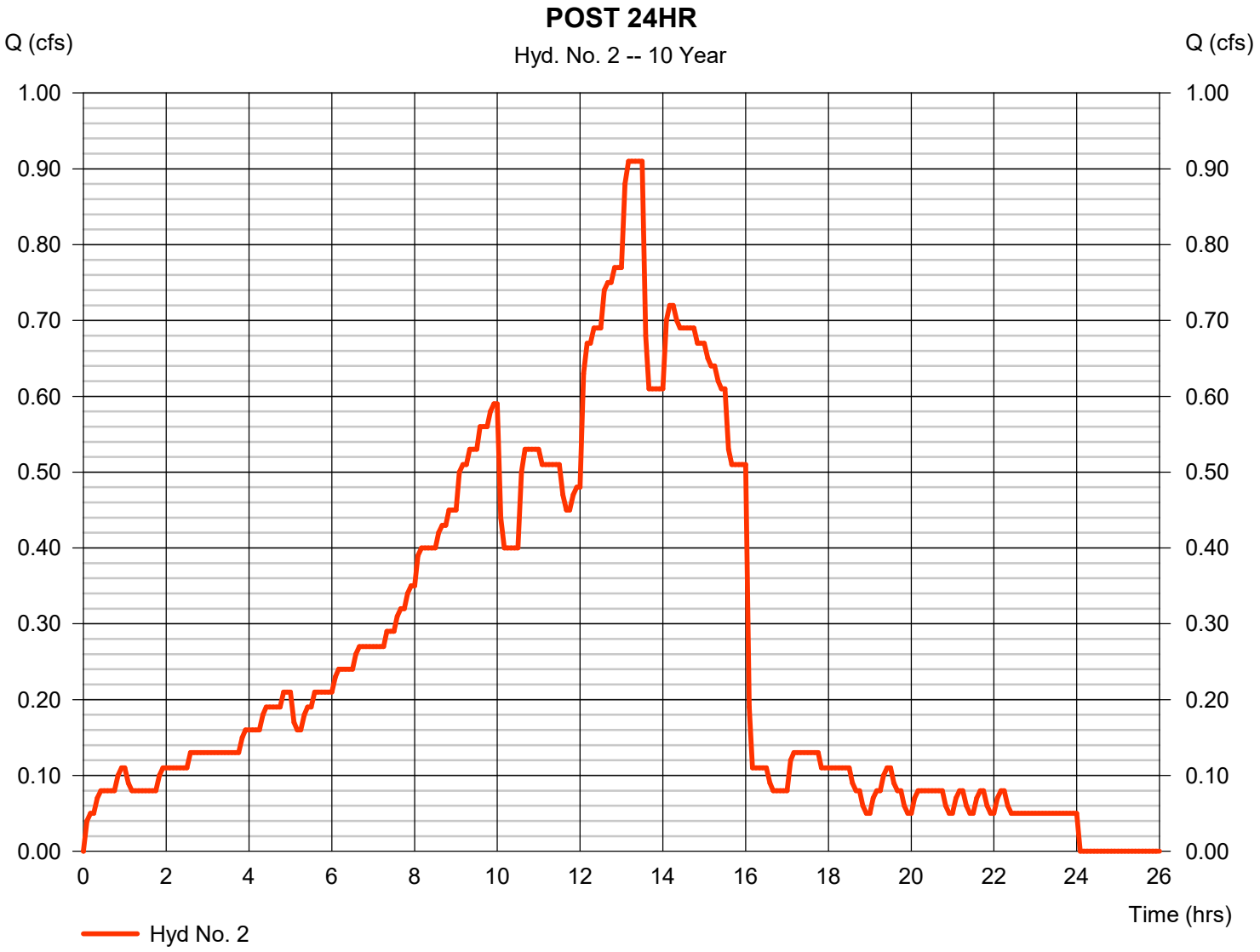


Hydrograph Report

Hyd. No. 2

POST 24HR

Hydrograph type	= Manual	Peak discharge	= 0.910 cfs
Storm frequency	= 10 yrs	Time to peak	= 13.17 hrs
Time interval	= 5 min	Hyd. volume	= 23,979 cuft



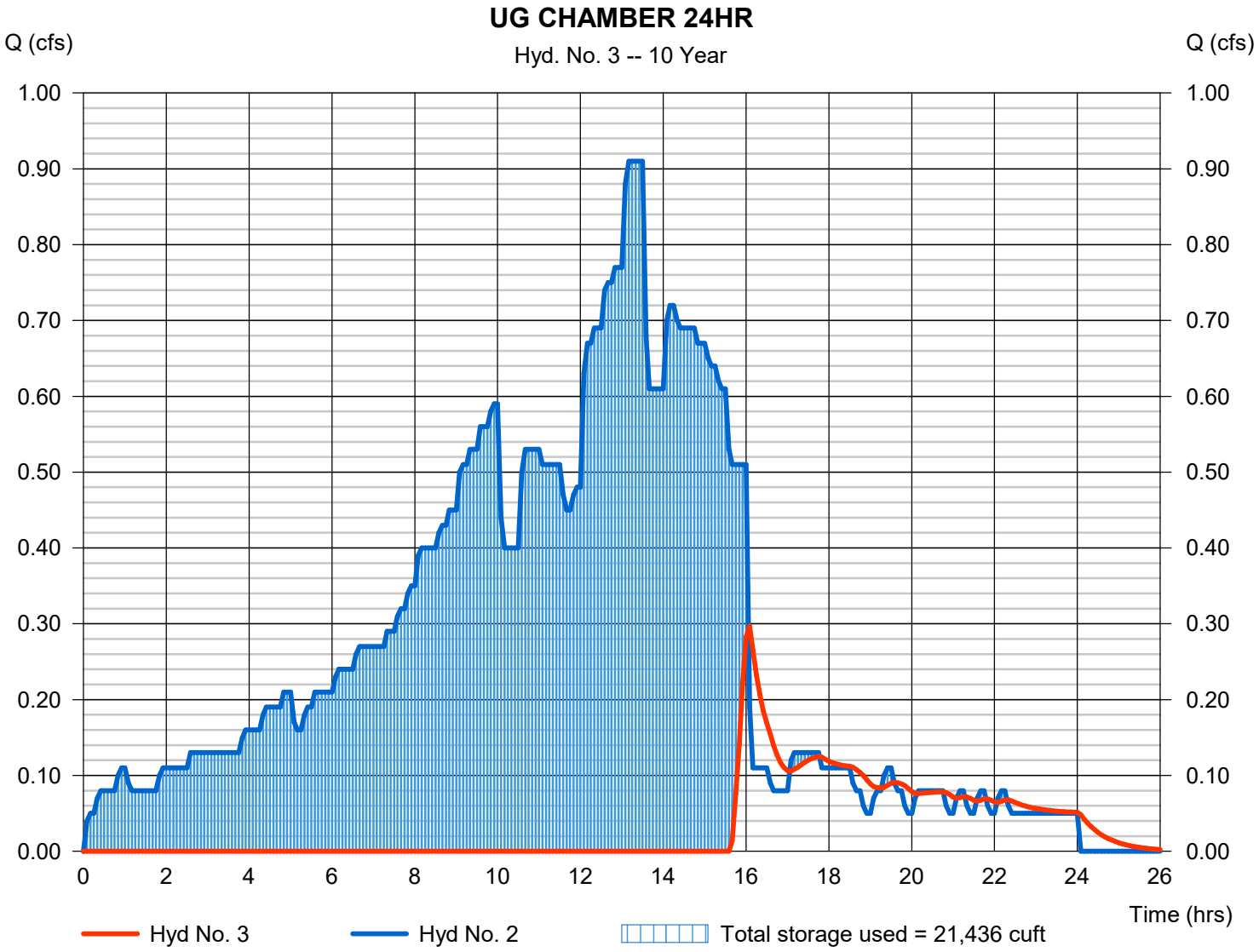
Hydrograph Report

Hyd. No. 3

UG CHAMBER 24HR

Hydrograph type	=	Reservoir	Peak discharge	=	0.240 cfs
Storm frequency	=	10 yrs	Time to peak	=	16.08 hrs
Time interval	=	5 min	Hyd. volume	=	3,027 cuft
Inflow hyd. No.	=	2 - POST 24HR	Max. Elevation	=	1513.20 ft
Reservoir name	=	UG CHAMBERS	Max. Storage	=	21,436 cuft

Storage Indication method used.

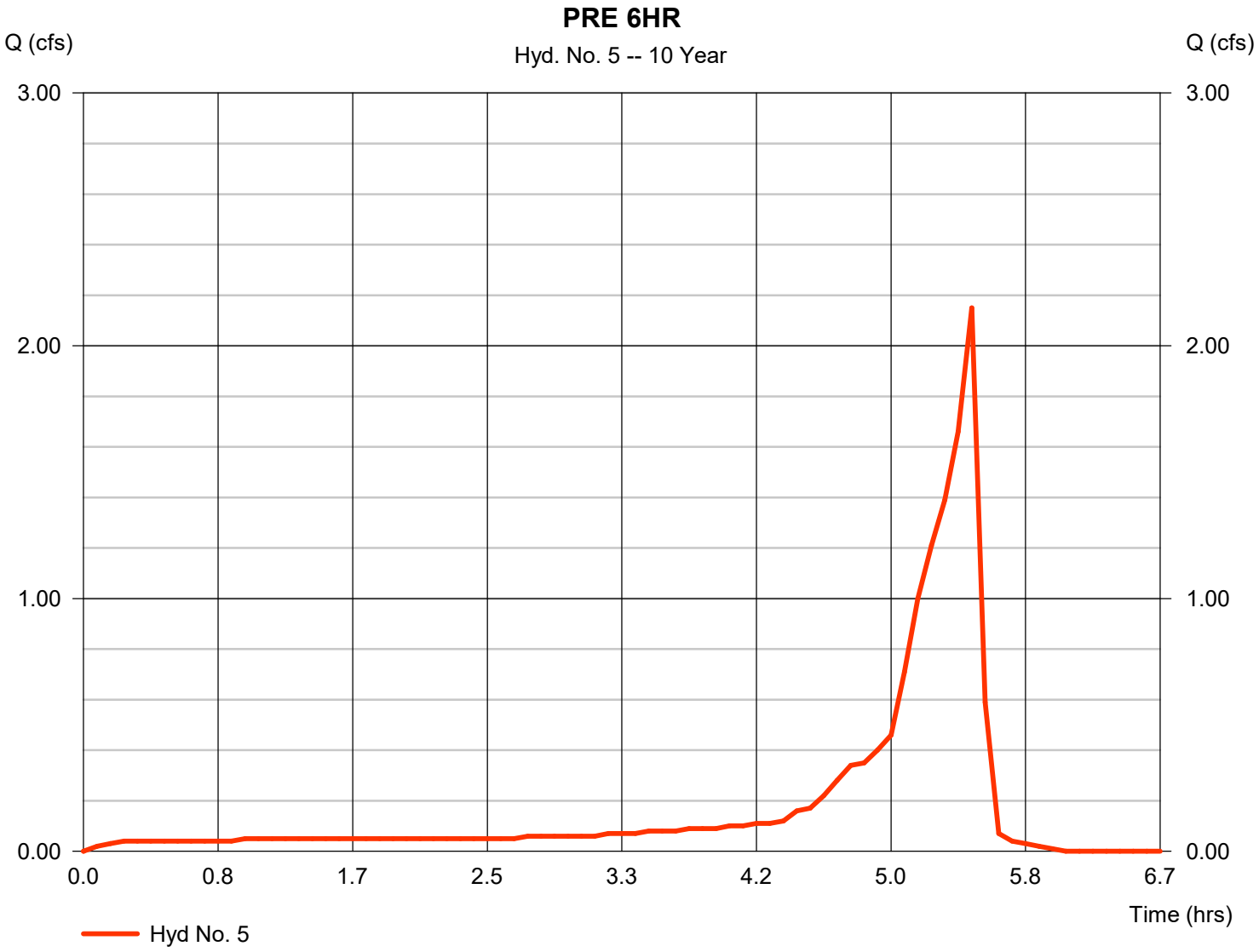


Hydrograph Report

Hyd. No. 5

PRE 6HR

Hydrograph type	= Manual	Peak discharge	= 2.150 cfs
Storm frequency	= 10 yrs	Time to peak	= 5.50 hrs
Time interval	= 5 min	Hyd. volume	= 4,302 cuft

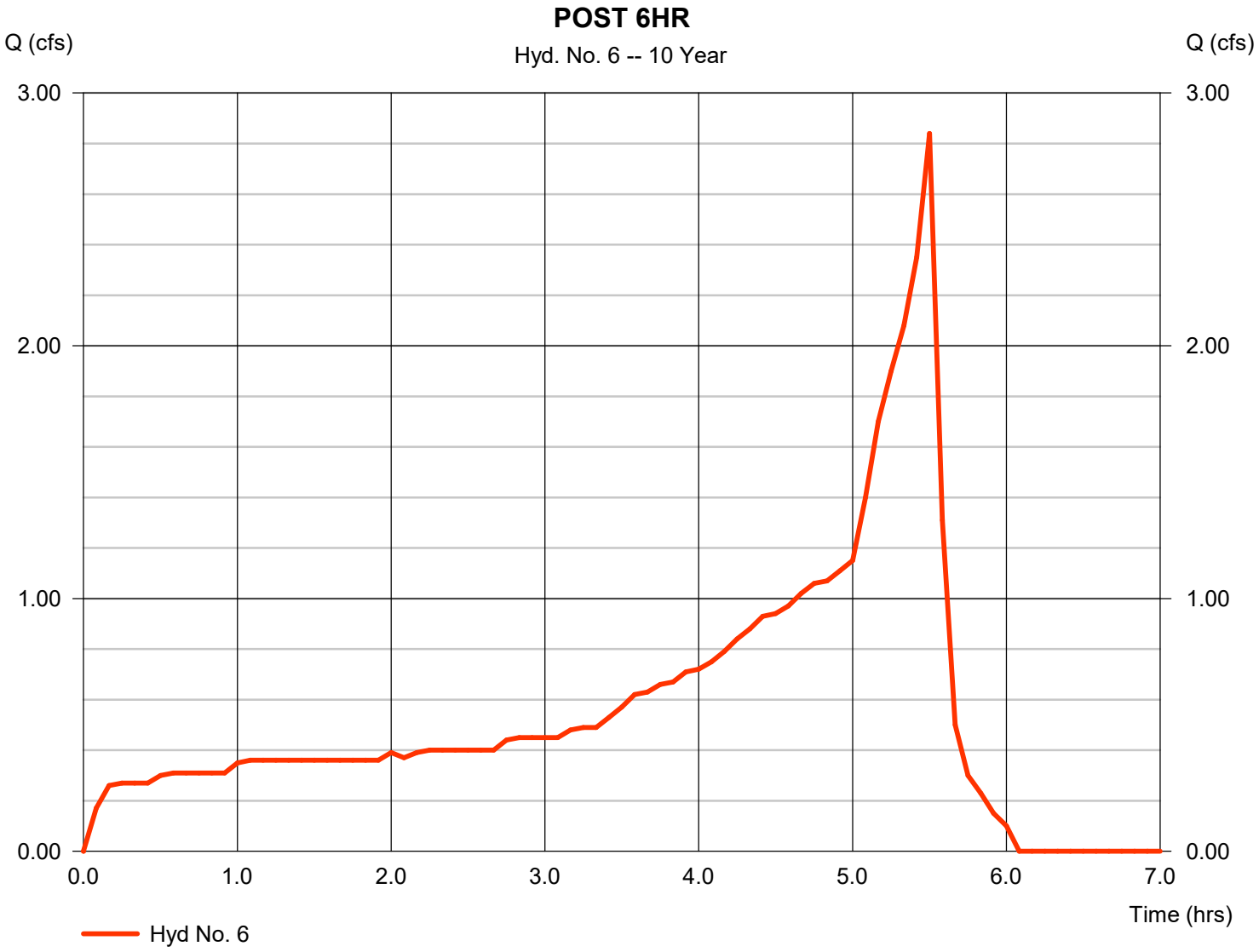


Hydrograph Report

Hyd. No. 6

POST 6HR

Hydrograph type	= Manual	Peak discharge	= 2.840 cfs
Storm frequency	= 10 yrs	Time to peak	= 5.50 hrs
Time interval	= 5 min	Hyd. volume	= 13,839 cuft



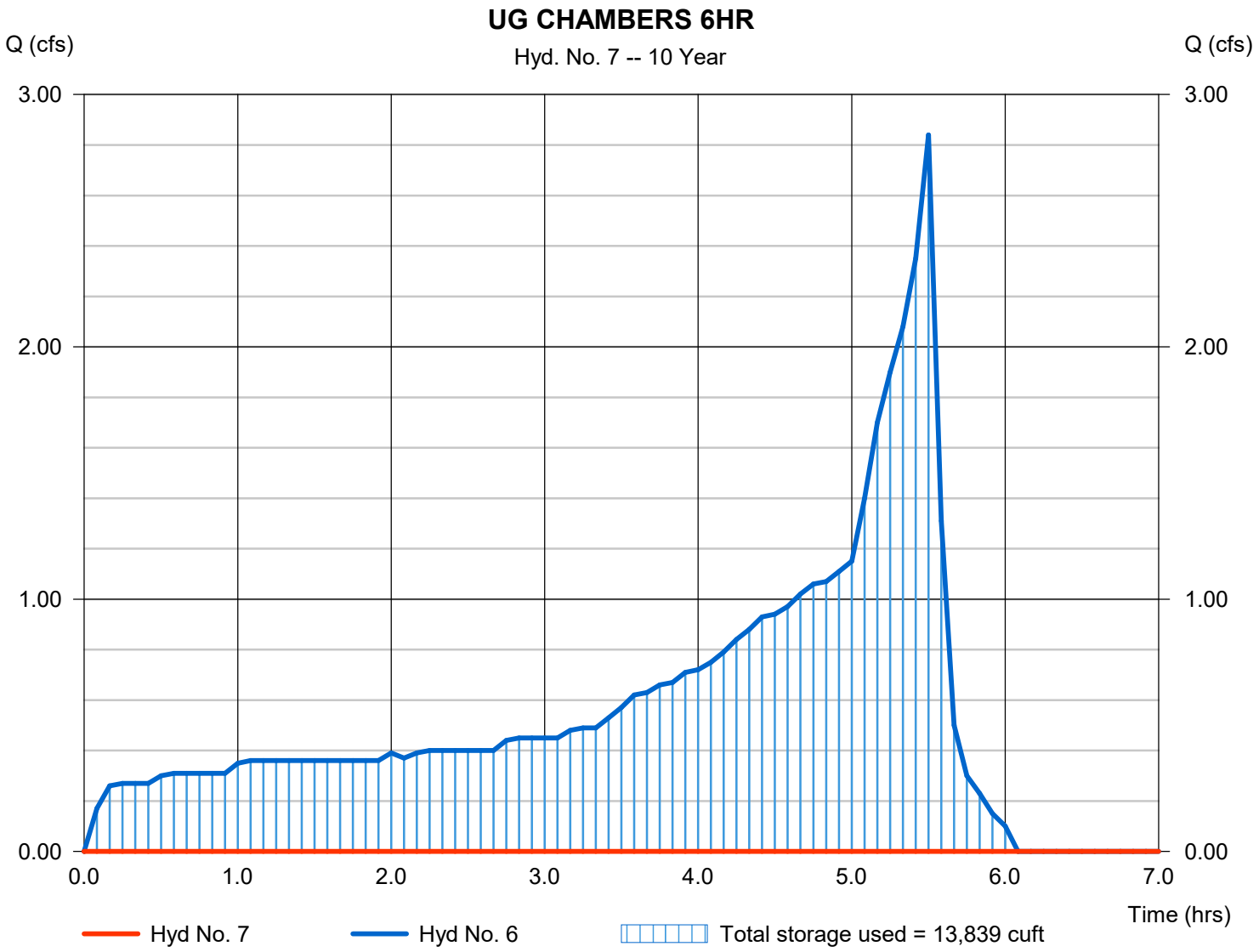
Hydrograph Report

Hyd. No. 7

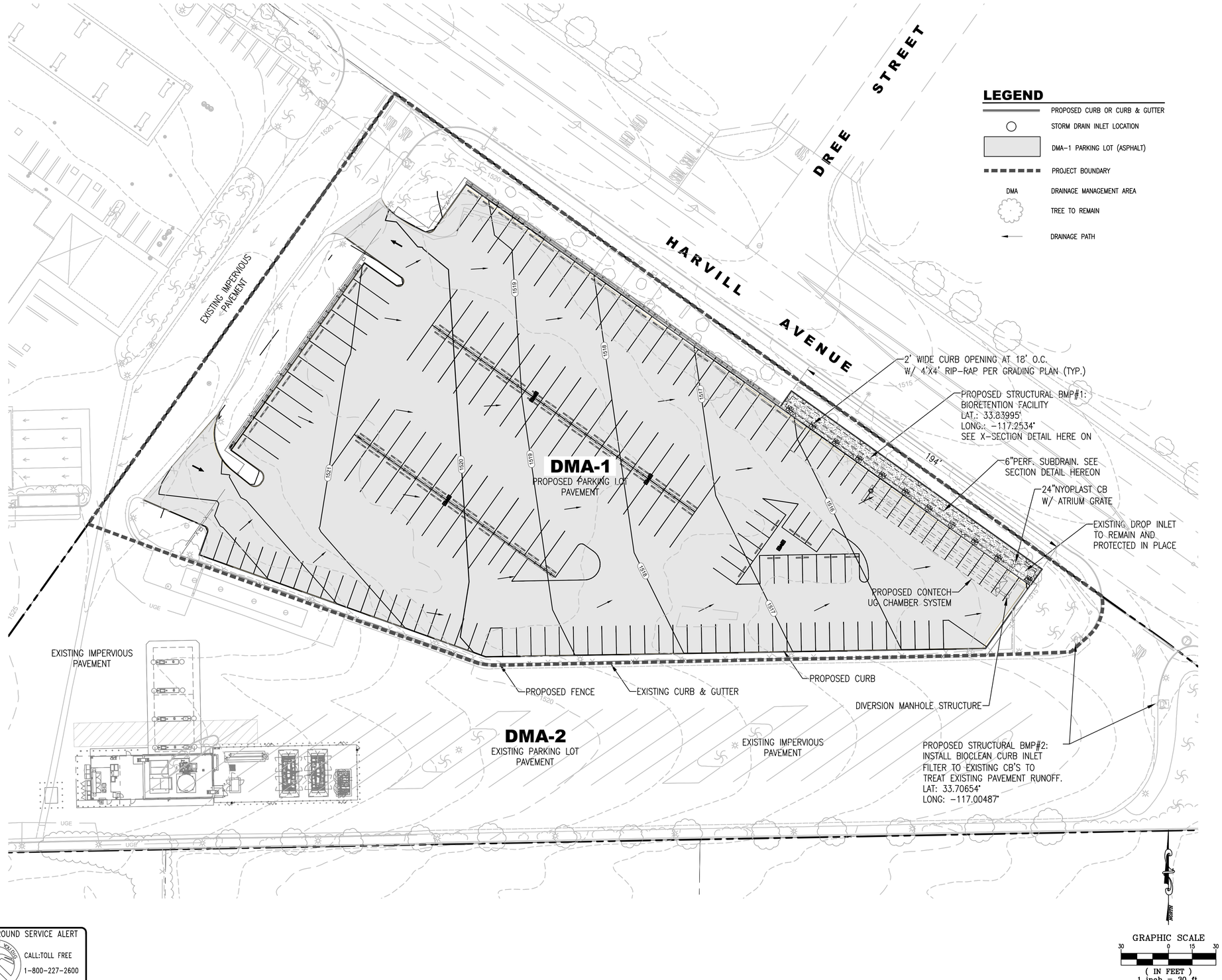
UG CHAMBERS 6HR

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	10 yrs	Time to peak	=	n/a
Time interval	=	5 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	6 - POST 6HR	Max. Elevation	=	1511.71 ft
Reservoir name	=	UG CHAMBERS	Max. Storage	=	13,839 cuft

Storage Indication method used.



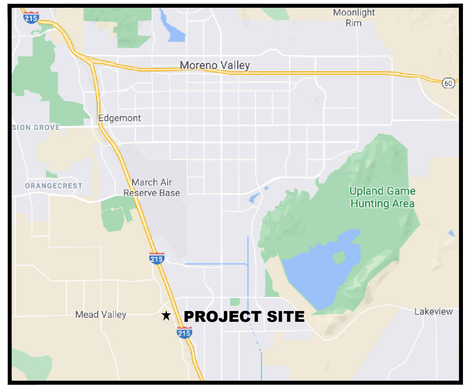
HYDROLOGY MAPS



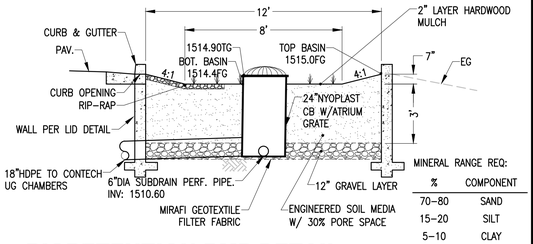
LEGEND

- PROPOSED CURB OR CURB & GUTTER
- STORM DRAIN INLET LOCATION
- DMA-1 PARKING LOT (ASPHALT)
- PROJECT BOUNDARY
- DMA — DRAINAGE MANAGEMENT AREA
- TREE TO REMAIN
- DRAINAGE PATH

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.



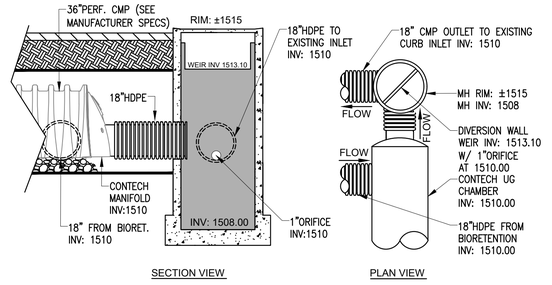
LOCATION MAP
NTS



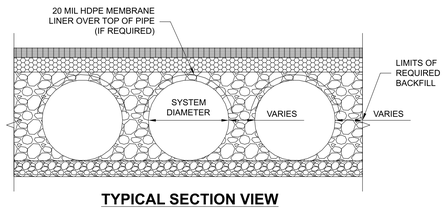
MINERAL RANGE REQ:

%	COMPONENT
70–80	SAND
15–20	SILT
5–10	CLAY

BIORETENTION BMP DETAIL
PER RIVERSIDE COUNTY LID BMP HANDBOOK FACT SHEET 3.5



DIVERSION MANHOLE STRUCTURE
N.T.S.



TYPICAL SECTION VIEW
LINER OVER ROWS
SCALE: N.T.S.

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, AN HDPE MEMBRANE LINER IS RECOMMENDED WITH THE SYSTEM. THE IMPERMEABLE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

TYPICAL CHAMBERS SECTION
N.T.S.

UNDERGROUND SERVICE ALERT
CALL:TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

NOTE:
WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.

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.

MARK	BY	DATE	REVISIONS	APPR.	DATE
	DESIGNER			CITY	

SEAL-ENGINEER

PREPARED BY:

BENCHMARK

CITY OF PERRIS

CNG FUELING STATION ARCO TRAVEL ZONE CENTER

WQMP SITE PLAN

INITIAL DESIGN DATE: 06/05/20

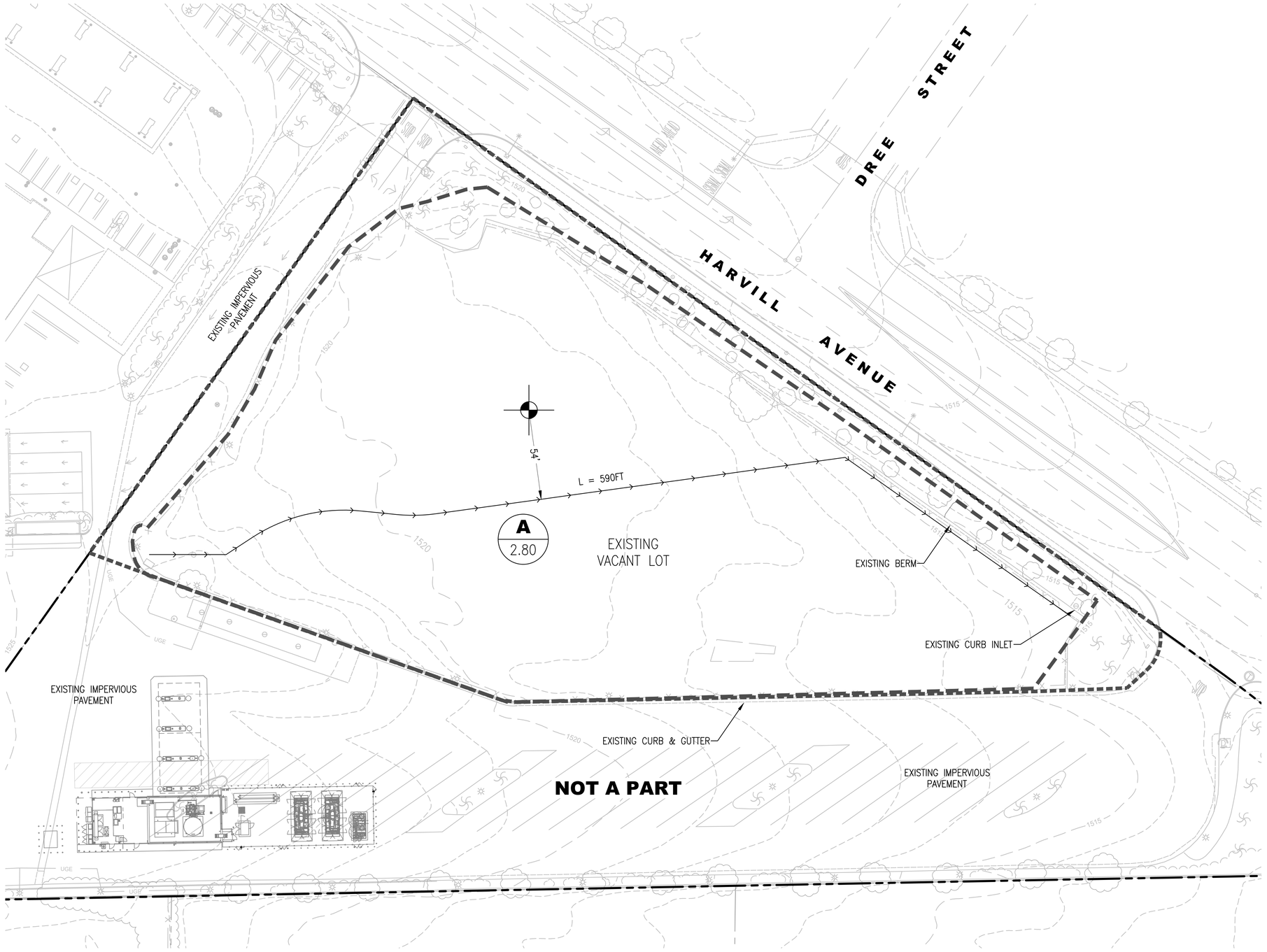
SHEET NO. WQMP-1

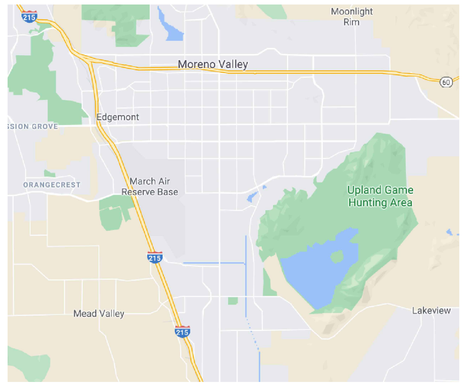
OF 1 SHEET

FOR:

W.O.

CITY FILE NO.





LOCATION MAP
NTS

LEGEND

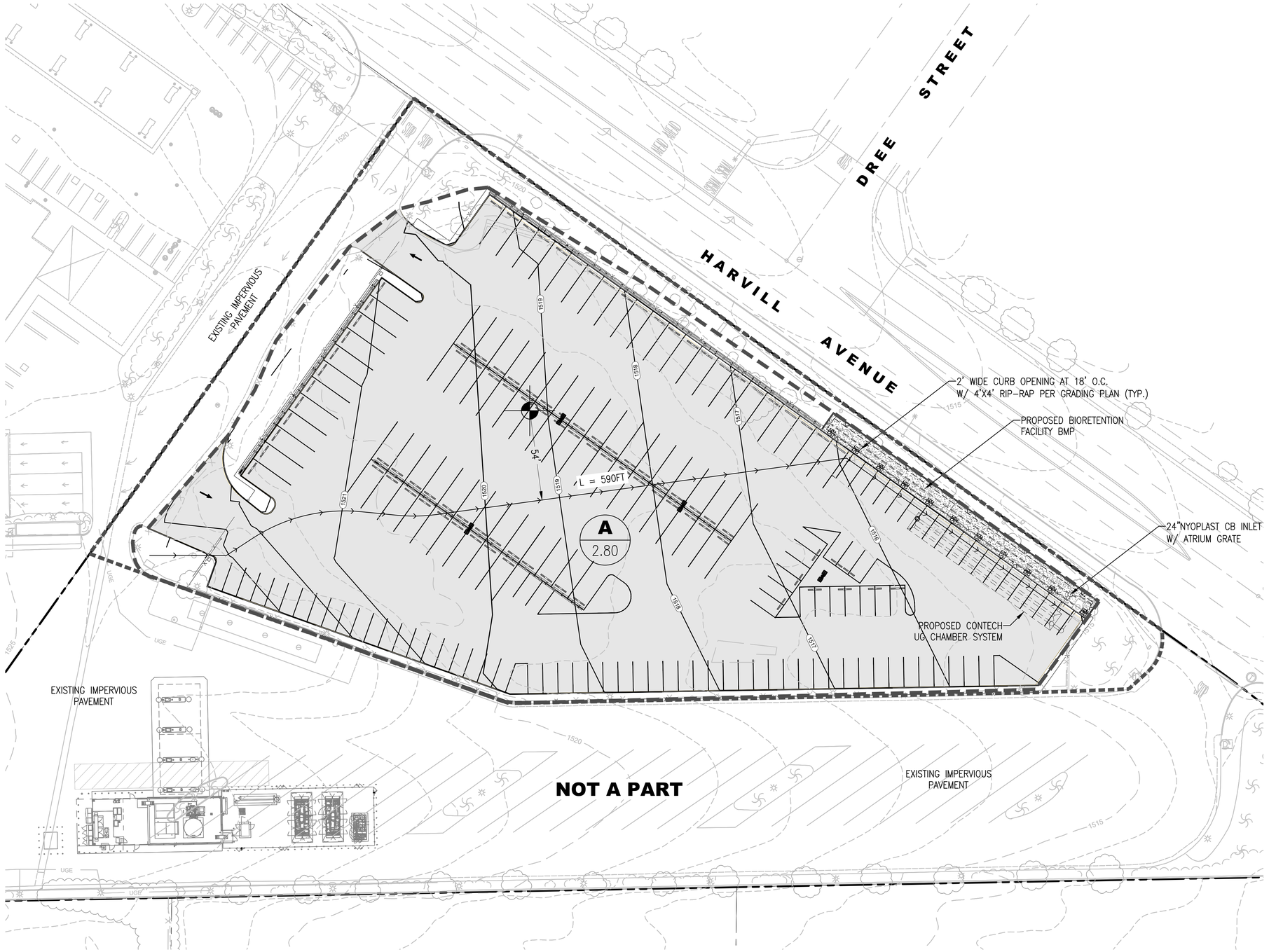
- A / 2.80 — HYDROLOGIC BASIN ID / HYDROLOGIC BASIN ACREAGE
- PROJECT BOUNDARY / LIMITS OF WORK
- HYDROLOGY ANALYSIS AREA
- RUNOFF FLOW PATH

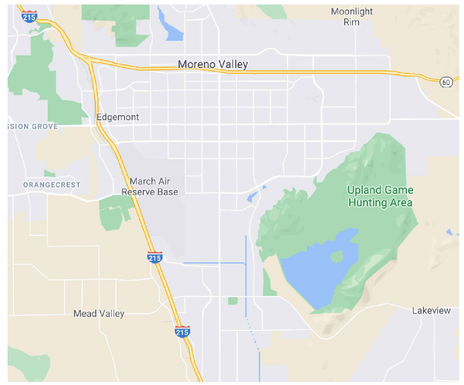
NORTH

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

PRE DEVELOPMENT MAP

CLEAN ENERGY, PERRIS CALIFORNIA





LOCATION MAP
NTS

LEGEND

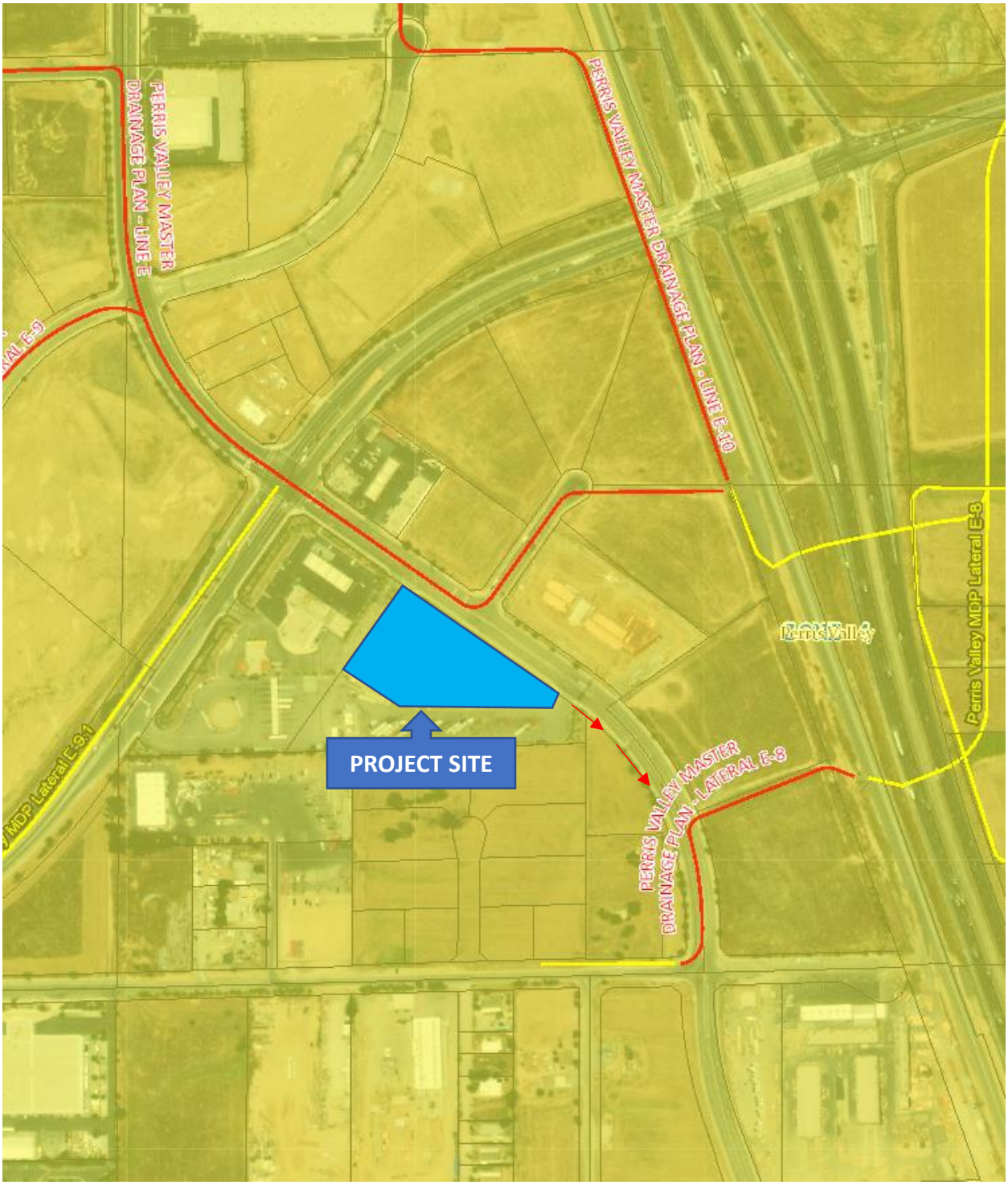
- A / 2.80 — HYDROLOGIC BASIN ID / HYDROLOGIC BASIN ACREAGE
- PROPOSED PARKING LOT (ASPHALT)
- PROJECT BOUNDARY / LIMITS OF WORK
- HYDROLOGY ANALYSIS AREA
- RUNOFF FLOW PATH
- PROPOSED CURB OR CURB & GUTTER

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

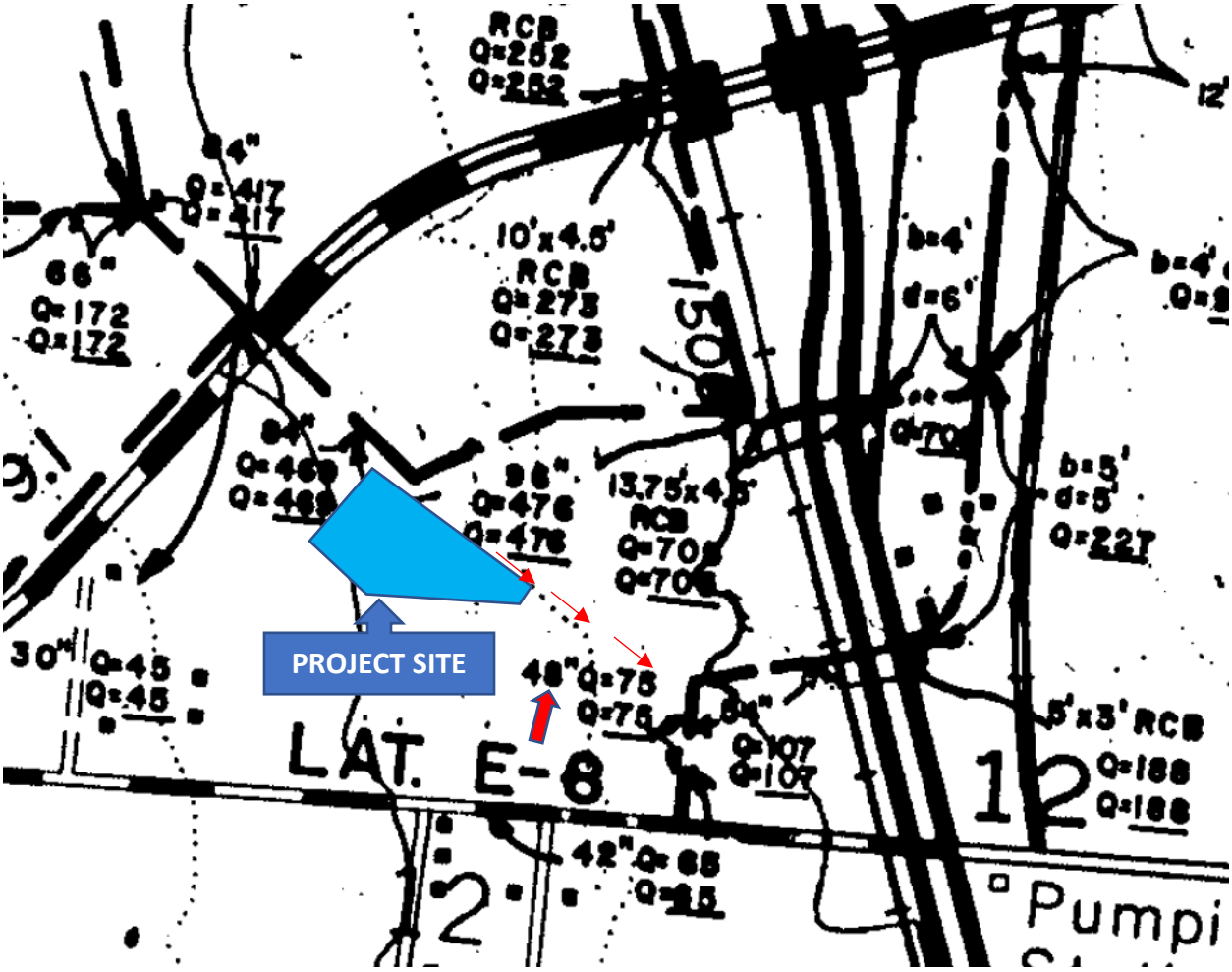
POST DEVELOPMENT MAP

CLEAN ENERGY, PERRIS CALIFORNIA

RIVERSIDE COUNTY
PERRIS VALLEY MASTER DRAINAGE PLAN



RIVERSIDE COUNTY
PERRIS VALLEY MASTER DRAINAGE PLAN



LEGEND

—I—I—	MASTER PLAN BOUNDARY
———	EXISTING FACILITY
—··—··—	OPEN CHANNEL -(CONC. TRAPEZOIDAL CHANNEL, SS = 1.5 : 1 ; UNLESS OTHERWISE NOTED)
– – – –	STORM DRAIN (RCP UNLESS OTHERWISE NOTED)
250 or 250	FLOW RATE - IN CUBIC FEET PER SECOND, 250 = DESIGN Q, 250 = 100 YR. Q

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

MASTER DRAINAGE PLAN
FOR THE
PERRIS VALLEY AREA
JULY 1987 (REVISED JUNE 1991)

J. F. DAVIDSON ASSOCIATES
CIVIL ENGINEERS • PLANNERS • SURVEYORS
3426 TENTH STREET • RIVERSIDE, CALIFORNIA 92501 • (714) 686-0844
11200 S. MT. VERNON AVE., SUITE "D" • COLTON, CALIF. 92324 • (714) 825-1082
JFD ASSOCIATES

APPENDIX A – HYDRAULICS

UNDERGROUND CHAMBERS

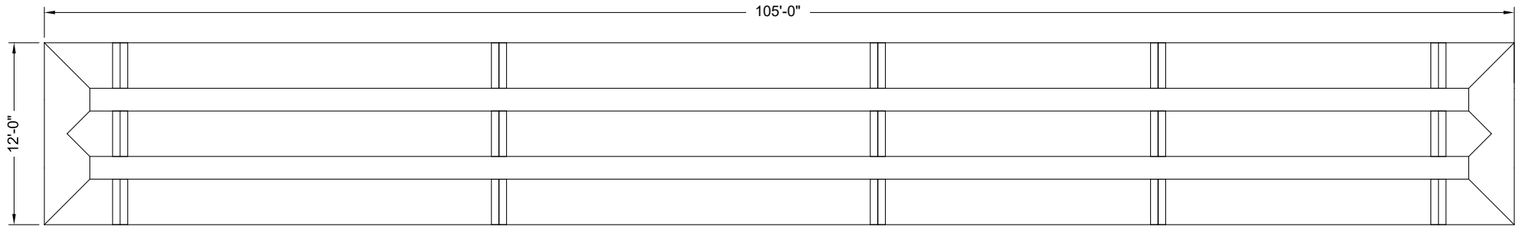
PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20 & HS25
- APPROX. LINEAR FOOTAGE = 297 lf.

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 4,000 cf.
- PIPE STORAGE VOLUME = 2,099 cf.
- BACKFILL STORAGE VOLUME = 1,932 cf.
- TOTAL STORAGE PROVIDED = 4,032 cf.

PIPE DETAILS
- DIAMETER = 36 IN.
- CORRUGATION = 2 2/3x1/2
- GAGE = 16
- COATING = ALT2
- WALL TYPE = Perforated
- BARRELL SPACING = 18 IN.

BACKFILL DETAILS
- WIDTH AT ENDS = 12 IN.
- ABOVE PIPE = 12 IN.
- WIDTH AT SIDES = 12 IN.
- BELOW PIPE = 12 IN.



NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE $2\frac{2}{3}$" x $\frac{1}{2}$" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

ASSEMBLY
SCALE: 1" = 10'

DATE	REVISION DESCRIPTION	BY

CONTECH® ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH® CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO10895 Clean Energy Time Fill - Perris CA
Clean Energy Time Fill - Detention System
Perris, CA
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
6784	10895	10/10/2021
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: D1		

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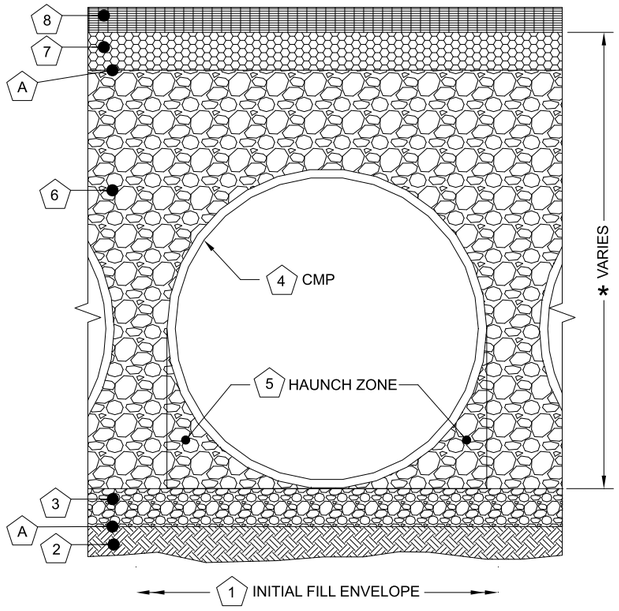


Infiltration Systems - CMP Infiltration & CMP Perforated Drainage Pipe			
Material Location	Description	Material Designation	Designation
8 Rigid or Flexible Pavement (if applicable)			
7 Road Base (if applicable			
A Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45	Engineer Decision for consideration to prevent soil migration into varying soil types. Wrap the trench only.
6 Backfill	Infiltration pipe systems have a pipe perforation sized of 3/8" diameter. An open graded, free draining stone, with a particle size of ½" – 2 ½" diameter is recommended.	AASHTO M 145-A-1 or AASHTO M 43 - 3, 4	Material shall be worked into the pipe haunches by means of shovel-slicing, rodding, air-tamper, vibratory rod, or other effective methods. Compaction of all placed fill material is necessary and shall be considered adequate when no further yielding of the material is observed under the compactor, or under foot, and the Project Engineer or his representative is satisfied with the level of compaction"
3 Bedding Stone	Well graded granular bedding material w/maximum particle size of 3"	AASHTO M43 - 3,357,4,467, 5, 56, 57	For soil aggregates larger than 3/8" a dedicated bedding layer is not required for CMP. Pipe may be placed on the trench bottom comprised of native suitable well graded & granular material. For Arch pipes it is recommended to be shaped to a relatively flat bottom or fine-grade the foundation to a slight v-shape. Soil aggregates less than 3/8" and unsuitable material should be over-excavated and re-placed with a 4"-6" layer of well graded & granular stone per the material designation.
A Geotextile Layer	None	None	Contech does not recommend geotextiles be placed under the invert of Infiltration systems due to the propensity for geotextiles to clog over time.
* Note: The listed AASHTO designations are for gradation only. The stone must also be angular and clean.			

1 MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT.

FOUNDATION/BEDDING PREPARATION

2 PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER.

5 HAUNCH ZONE MATERIAL SHALL BE PLACED AND UNIFORMLY COMPACTED WITHOUT SOFT SPOTS.

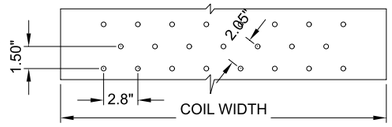
BACKFILL

MATERIAL SHALL BE PLACED IN 8"-10" MAXIMUM LIFTS. INADEQUATE COMPACTION CAN LEAD TO EXCESSIVE DEFLECTIONS WITHIN THE SYSTEM AND SETTLEMENT OF THE SOILS OVER THE SYSTEM. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO-LIFT DIFFERENTIAL BETWEEN THE SIDES OF ANY PIPE IN THE SYSTEM AT ALL TIMES DURING THE BACKFILL PROCESS. BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON ANY PIPES IN THE SYSTEM.

EQUIPMENT USED TO PLACE AND COMPACT THE BACKFILL SHALL BE OF A SIZE AND TYPE SO AS NOT TO DISTORT, DAMAGE, OR DISPLACE THE PIPE. ATTENTION MUST BE GIVEN TO PROVIDING ADEQUATE MINIMUM COVER FOR SUCH EQUIPMENT. MAINTAIN BALANCED LOADING ON ALL PIPES IN THE SYSTEM DURING ALL SUCH OPERATIONS.

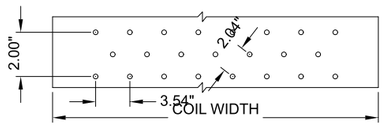
OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS. REFER TO TYPICAL BACKFILL DETAIL FOR MATERIAL REQUIRED.

2 2/3" x 1/2" CORRUGATION - STEEL AND ALUMINUM CMP EDGE SPACING EQUAL ON BOTH SIDES



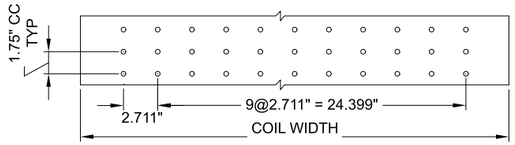
OPEN AREA = 3.76 SQ IN/SQ FT

3" x 1" CORRUGATION - STEEL AND ALUMINUM CMP (COIL PROVIDED FROM CONTECH LANTANA, FL PLANT)



OPEN AREA = 4.16 SQ IN/SQ FT

5" x 1" CORRUGATION - STEEL ONLY
EDGE SPACING EQUAL ON BOTH SIDES



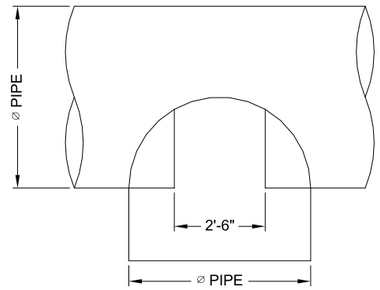
OPEN AREA = 3.33 SQ IN/SQ FT

NOTES:

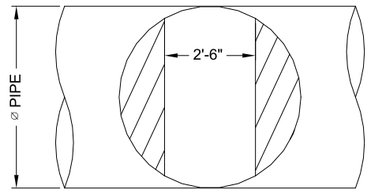
1. PERFORATIONS MEET AASHTO AND ASTM SPECIFICATIONS.
2. PERFORATION OPEN AREA PER SQUARE FOOT OF PIPE IS BASED ON THE NOMINAL DIAMETER AND LENGTH OF PIPE.
3. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
4. ALL HOLES ⌀3/8".

TYPICAL PERFORATION DETAIL

SCALE: N.T.S.



PLAN

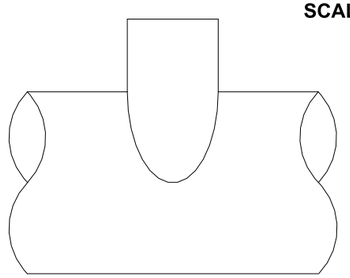


FRONT

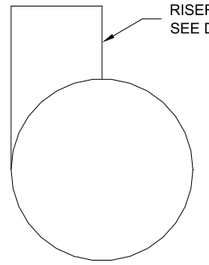
TYPICAL MANWAY DETAIL

SCALE: N.T.S.

NOTE:
MANWAY DETAIL APPLICABLE FOR CMP SYSTEMS WITH DIAMETERS 48" AND LARGER. MANWAYS MAY BE REQUIRED ON SMALLER SYSTEMS DEPENDING ON ACTUAL SITE SPECIFIC CONDITIONS.



ELEVATION

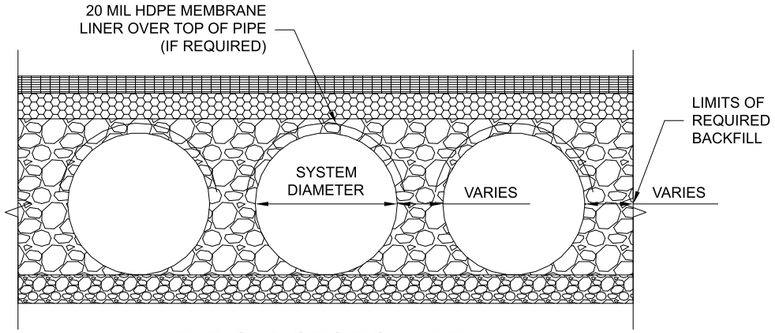


END

NOTE:
LADDERS ARE OPTIONAL AND ARE NOT REQUIRED FOR ALL SYSTEMS.

TYPICAL RISER DETAIL

SCALE: N.T.S.



TYPICAL SECTION VIEW

LINER OVER ROWS
SCALE: N.T.S.

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, AN HDPE MEMBRANE LINER IS RECOMMENDED WITH THE SYSTEM. THE IMPERMEABLE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

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www.ContechES.com
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CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO10895 Clean Energy Time Fill - Perris CA
Clean Energy Time Fill - Detention System
Perris, CA
DETENTION SYSTEM

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6784	10895	10/10/2021
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: D2		

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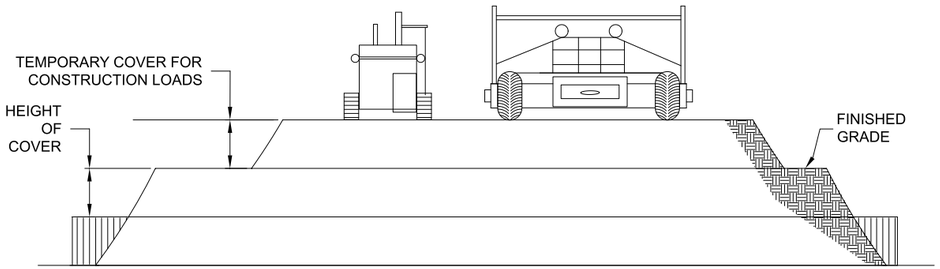


CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM

SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

POLYMER COATED: AASHTO M-245 OR ASTM A-762

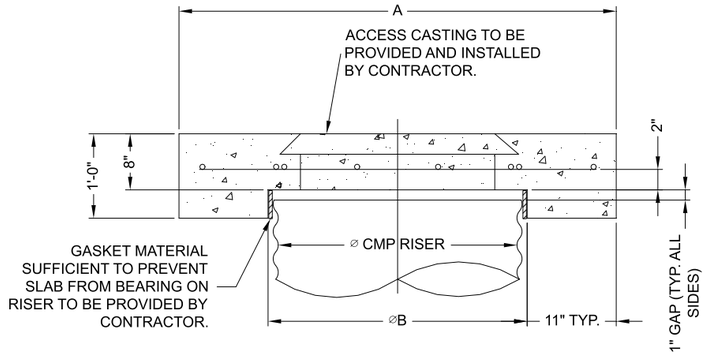
ALUMINUM: AASHTO M-196 OR ASTM B-745

HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSP'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

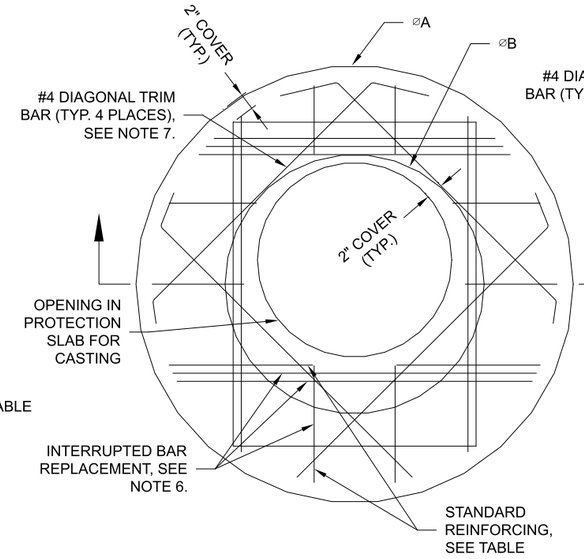
NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.



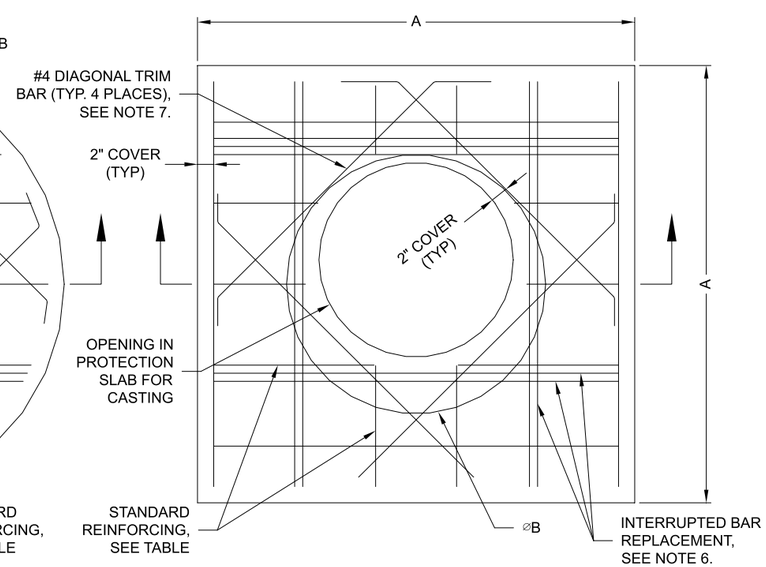
SECTION VIEW

REINFORCING TABLE				
⌀ CMP RISER	A	⌀ B	REINFORCING	**BEARING PRESSURE (PSF)
24"	⌀ 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	⌀ 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	⌀ 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	⌀ 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	⌀ 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:

1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL

SCALE: N.T.S.

DATE	REVISION DESCRIPTION	BY

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CONTECH® CMP DETENTION SYSTEMS
CONTECH **DYODS** DRAWING

DYO10895 Clean Energy Time Fill - Perris CA
Clean Energy Time Fill - Detention System
Perris, CA
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
6784	10895	10/10/2021
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: D3		

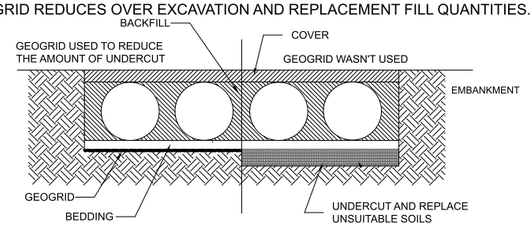
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

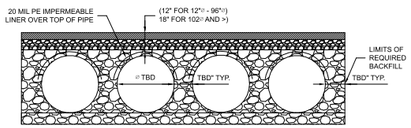


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

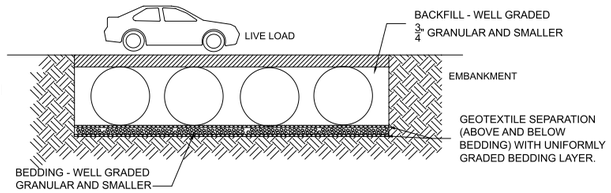
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

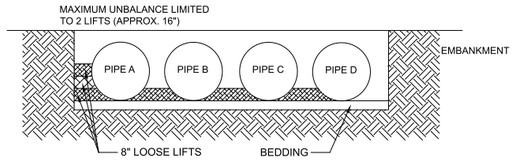
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



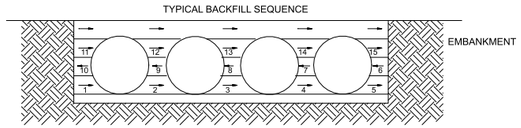
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

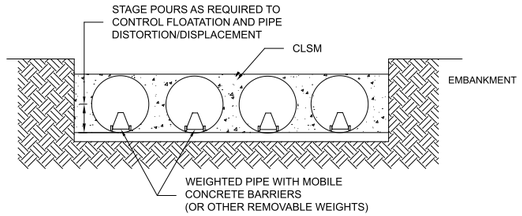


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

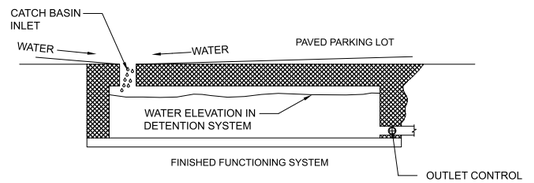


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

DATE	REVISION DESCRIPTION	BY

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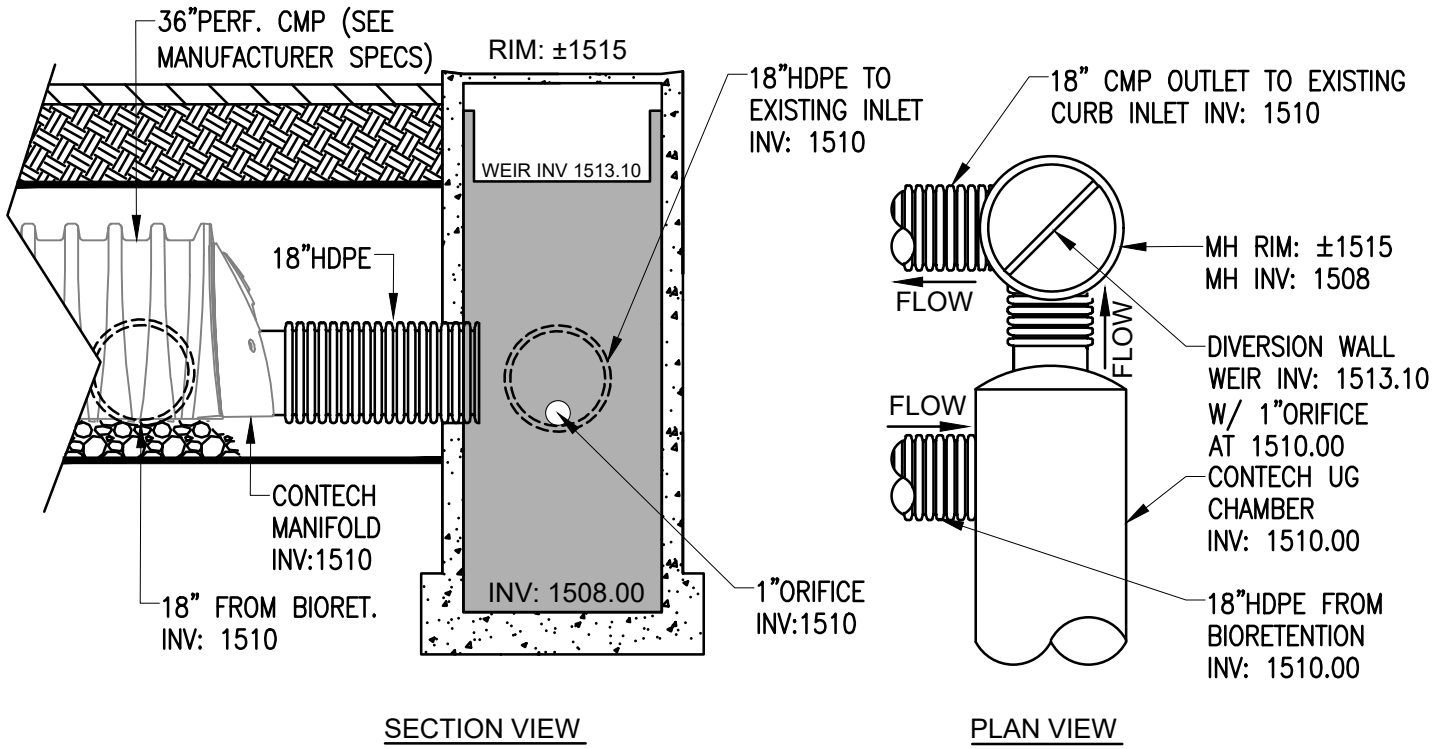
CONTECH CMP DETENTION SYSTEMS

CONTECH **DYODS** DRAWING

DYO10895 Clean Energy Time Fill - Perris CA
Clean Energy Time Fill - Detention System
Perris, CA
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
6784	10895	10/10/2021
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: D4		

OUTLET STRUCTURE



DIVERSION MANHOLE STRUCTURE

N.T.S.

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Oct 11 2021

18-Inch Outflow Pipe

Circular

Diameter (ft)	= 1.50
Invert Elev (ft)	= 1510.00
Slope (%)	= 1.00
N-Value	= 0.012

Calculations

Compute by:	Known Depth
Known Depth (ft)	= 1.40

Highlighted

Depth (ft)	= 1.40
Q (cfs)	= 12.24
Area (sqft)	= 1.72
Velocity (ft/s)	= 7.13
Wetted Perim (ft)	= 3.93
Crit Depth, Yc (ft)	= 1.33
Top Width (ft)	= 0.75
EGL (ft)	= 2.19