APPENDIX 11.0

HYDROLOGY STUDY

Final

Hydrology Study

November 29, 2021

APN: 38011009,10,14,16

Clinton Keith Road

WILDOMAR

Riverside County, California

PROFESSIONAL ENGINEER'S AFFIRMATIVE STATEMENT

I have examined and am familiar with the information in this document and all appendices, and based on my inquiries of individuals immediately responsible for obtaining the information in this document, I believe that the information is true, accurate, and complete

Prepared by

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- 100-year 1-hour

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I. INTRODUCTION

A. LOCATION OF PROPERTY

The 8.95-acre project is located at the intersection of Clinton Keith Road and Hidden Springs Road in Wildomar, CA APN 380-110-004, 9, 10, 14, 16 (see **Appendix A, Exhibits A, B, & C).** This location falls within the Santa Margarita Watershed as shown on **Appendix A, Exhibit D** attached.

B. PURPOSE AND SCOPE

The purpose of this study is to determine the developments effect on hydrology and mitigate the developed storm flows down to 90% of the undeveloped levels to assure that downstream developments only receive their historic storm flows.

C. METHODOLOGY

This study is based on using the Riverside County Hydrology Manuel and Interim Criteria for Sizing Increased Runoff Detention Facilities, and CivilDesign Rational Method Software to model the storm channel flows.

The following criteria were used for the off-site tributary flows:

1.	Current land use:	Scenic Highway Commercial
2.	Proportion Impervious:	80%
3.	Intended Use:	Scenic Highway Commercial
4.	NOAA 14 Precipitation	100-year 1-hour=1.46; 24-hour=6.26 10-year 1-Year = 0.873; 24-hour=3.91 2-year 1-hour = 0.531; 24-hour=2.40 85% Isohyet = 0.685
5.	Soil Type	Group B, C, and D
6.	Riverside County Hydrology Manuel	Rational & Unit Hydrograph Method

D. FLOODPLAIN INFORMATION

The project site is located outside of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Panel 06065C2705G effective August 28, 2008, indicates that the site is located in “Zone X”. Zone X is defined by FEMA as “areas determined to be outside the 0.2% annual chance floodplain” for the Riverside County. (See **Appendix A, Exhibit E** attached)

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II. OFF-SITE TRIBUTARY AREAS

Current offsite contributory flows come from the northeast side of the 15-freeway and are conveyed southwesterly under the freeway onto the adjacent existing commercial property on the opposite side of Hidden Springs Road. These storm flows are then conveyed under Hidden Springs Road via an existing 30-inch reinforced concrete pipe (RCP) culvert onto the subject property. (see report entitled "Preliminary Hydrology Study for Westpark Promenade" dated February 10, 2016 prepared by Pacific Coast Land Consultants). This 30-inch reinforced concrete pipe (RCP) culvert delivers approximately (6.46+7.41+5.18 =) 26.16 cfs which is less than the 53 cfs full flow capacity of this pipe.

To mitigate the on-site flows, we will need to keep the off-site flows separate by piping them from Hidden Springs Road under the project existing the southern retaining wall back into the existing drainage conveyance that directs these flows to existing culvert under Stable Lanes Road. Considering that the natural slope of the existing drainage channel is approximately 2%, a 21-inch diameter pipe could convey the 26.16 cfs flows under and through the project. Considering the additional flows from a similar sized property on the east side of Clinton-Keith Road that is currently released on the site, the two flows would confluence with each other to form a combined flow in excess of 53 cfs. Thus, it is recommended that Hidden Springs Road and the Clinton-Keith Road off-site contributing flows be combined into a 30-inch pipeline which would have a capacity of 65.44 cfs before existing the site on to the neighboring property to the south (See **Appendix A, Exhibit F** attached).

III. ON-SITE HYDROLOGY

A. ONSITE PRE-DEVELOPED DRAINAGE DESCRIPTION

The On-site tributary area consists of a proposed 8.95-acre developed area that accepts an additional 0.37-acres of street right-of-way drainage that flows onto and through a remaining 4.29-acre un-developed area within the historic natural channel. The on-site 8.95-acre project consists of two separate drainage areas A & B. Area A consists of the westerly 1.25-acres that drains to the upper southwest corner of the project on to a neighboring site. Area B consists of the remaining 7.7-acres along the northerly and easterly boundaries that drains to a central existing drainage conveyance onto the southerly neighboring parcel which conveys these flows southeasterly to the existing culvert just west of Clinton Keith Road on Stable Lanes Road. The undeveloped area consists of three soil types B, C & D with varying vegetation levels ranging from poor cover at the hill tops to fair cover in the valleys (See **Appendix A, Exhibit J** attached).

B. PRE-DEVELOPED HYDROLOGY

Using the Riverside County Hydrology Manuel Rational method analysis, Area A was divided into two (2) subareas consisting of upper sheet flows and natural valley channel flows that flow off-site onto the neighboring parcel to the north (See **Appendix A, Exhibit G** attached). In addition, Area B was divided

into seven (7) subareas consisting of upper sheet flows that merge into natural valley channel flows that combine with off-site tributary flow from the existing 30-inch and 18-inch storm drains crossing Hidden Springs Road and Clinton Keith Road respectively. These storm flows ultimately confluence off-site on the westerly neighboring parcels prior to entering the existing culvert just west of Clinton Keith Road on Stable Lanes Road (See **Appendix A, Exhibit G** attached).

This report assumes that these off-site storm flows will be piped through the site and released on the westerly neighboring parcels without converging with the on-site storm flows (See **Appendix A, Exhibit H** attached). The calculations for pre-developed storm flows presented in **Appendix B** and are summarized in tables shown on each Exhibit and tabulate for comparison in Table 1.

Table 1

Developed Unit Hydrograph Method			
Area	1st Flush	10-YEAR CFS	100-YEAR CFS
	85%	1-HOUR	1-HOUR
A	0.68	1.41	2.54
B	4.27	10.58	18.89

C. DEVELOPED CONDITIONS

The project is in the Scenic Highway Commercial Zone as shown on **Appendix A, Exhibit I** attached and is proposed to be a shopping center and a car wash. The two existing drainage areas were maintained with minor variations in acreage due boundary slopes flowing off-site. The developed 1.56-acre Area A has been divided into three (3) subareas which consists of upper sheet flows that confluence via valley gutters that direct the flows to an inlet catch basin prior to discharging into a maximum 4-foot-deep 1.29-acre-foot detention basin (See **Appendix A, Exhibit H** attached).

The developed 7.33-acre Area B was divided into eleven (11)-subareas which consists of off the upper parking areas along Hidden Springs Road to proposed valley gutters directing the flows easterly to two (2) proposed catch basins that pipe these storm flows into an underground detention basin that also receives storm flows from the south.

The 85-percentile rain fall depth first flush storm event was run to determine the flows required to size the each catch basin that will be equipped with a “Bio-Clean” filter sized to mitigate this storm flow.

The 10-year and 100-year 1-hour storm events were run to size the catch basin opening area, storm drainpipe, and retention/detention basins with the flows summarized in Table 2 below. (See **Appendix**

A, Exhibit K for NOAA 14 rainfall data used). The calculations for developed storm flows are presented in **Appendix C** and are summarized in tables shown on each Exhibit.

Table 2

Developed Unit Hydrograph Method			
Area	1st Flush	10-YEAR CFS	100-YEAR CFS
	85%	1-HOUR	1-HOUR
A	2.07	3.07	5.03
B	7.78	11.70	20.00

D. DETENTION BASIN SIZING

Using the CivilDesign Route Software, each basin was broken down into 0.5-foot depth Increments with an associated outflow. The out flow per depth was calculated using an excel spreadsheet that calculates orifice and weir controls on a smooth diameter standpipe to achieve a combined outflow.

Basin A comprises of a 94'x72' surface sized open-air basin with 4:1 side slopes to a maximum depth of 4-feet. This 0.42-acre-foot basin is designed with an 18-inch standpipe riser with (7) 2.25-inch diameter holes cut into the sides of a smooth pipe at various depths that rises to a height of 3-feet above the basin bottom to allow 1-foot of free board in the basin (see **Appendix D Basin A** for the riser pipe orifice design). The orifice/weir outlet design is shown to mitigate the developed 10-year & 100-year 1-hour and 24-hour storm flows to a flow rate below the associated 90% of the pre-developed flow (see **Appendix B Route** calculations for Basin A).

As for Area B, a 57,565 cubic foot (1.32 ac-ft) ADS Storm-Tech underground basin (see **Appendix E**) is proposed to mitigate each developed storm using a dual 18-inch and 18-inch diameter s with (11) 2.5-inch diameter holes cut into the sides of each smooth pipe riser with an orifice configuration shown in the exhibit for Basin B in **Appendix D**. Each storm event's mitigated storm flow Q is reported in Table 3 below. A comparison shows that all the storm events have been mitigated to approximately the 90% of the pre-developed storm flows. An example is that the Basin B developed peak 11.7 cfs 10-year 1-hour storm flow (Table 3) was mitigated to 1.24 cfs (Table 3) which is less than the pre-developed 9.52 cfs flows (Table 3).

Table 3

Routed Unit Hydrograph							
DA	Year	Hr.	Q_{dev}	Q_{out}	<	90%*Q_{pre}	Q_{pre}
A	10	1	3.07	0.36	<	1.27	1.41
	10	24	0.76	0.44	≈	0.42	0.47
	100	1	5.03	0.50	<	2.29	2.54
	100	24	1.28	0.88	≈	0.86	0.95
B	10	1	11.69	1.24	<	9.52	10.58
	10	24	3.50	1.92	<	2.12	2.35
	100	1	20.00	1.92	<	17.00	18.89
	100	24	6.14	4.39	<	5.06	5.62

IV. OUTLET STANDPIPE RISER STRUCTURE

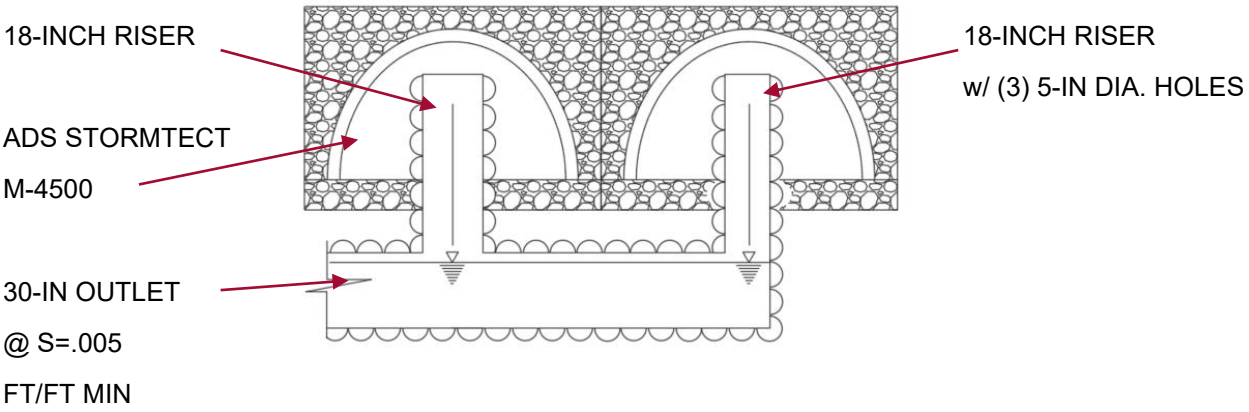
The basin A outlet structure consists of one 18-inch pipe riser within the retention/detention basin system. The 18-inch pipe riser was designed with (7) 2.25-inch diameter orifice outlets to release the mitigated storm flows. The orifice / weir configuration and calculations are provided in Appendix D of this report.

This study also ran the 100-year 1-hour storm flows and determined that this peak 5.03 cfs storm event will be mitigated to 0.50 cfs while maintaining over 1-foot of freeboard above the outlet risers. These mitigated storm flows are then conveyed through an 18-inch reinforced concrete pipe (RCP) culvert sized to convey the 100-year 1-hour 5.03 cfs storm flows off-site.

The basin B outlet structure consists of two risers within the AES storm-tech M-4500 retention/detention basin system (see Figure 1 below). Both are an 18-inch pipe riser with (11) 2.5-inch diameter holes orifice outlets to release mitigated storm flows. The orifice / weir calculations are provided in Appendix D of this report.

This study also ran the 100-year 1 & 24-hour storm flows and routed them through the basin system to affirm that these flows could pass through the proposed storm system. This peak 20 cfs & 6.14 cfs storm events will be mitigated to a 1.92 cfs and 4.39 cfs outflows respectively while maintaining over 1-foot of freeboard above the outlet risers. The mitigated storm flows are then conveyed through a 30-inch reinforced concrete pipe (RCP) culvert sized to convey the 100-year 1-hour 20 cfs storm flows under and through the site to the southern retaining wall to exist alongside the off-site 30-inch storm drain onto the neighboring undeveloped property to the south.

FIGURE 1



V. CONCLUSIONS

Once the off-site flows are piped through the project site and released through the southern retaining wall onto the neighboring parcel; and the proposed underground storm drainage systems and infiltration/detention basins are constructed for each drainage are, the future developed 1 & 24-hour duration for the 2, 10 & 100-year storm flows will be mitigated to their corresponding pre-developed storm flow events.

The mitigated storm flows for Area A will run off-site via their historic drainage conveyance.

The mitigated Area B storm flows will exit the site and confluence with the off-site flows via a 30-inch storm drain that will exit the site through the proposed southern retaining wall back into the historic existing drainage channel that flows south across the neighboring southerly parcel. The system has been sized to protect the proposed buildings from any flood potential.

In addition, this study affirms that the storm drain system and basins has been sized to convey the 100-year 1 & 24-hour storms flows through the site. In addition, these storm flows are provided at each proposed inlet for the design engineer to size each catch basin and corresponding storm drain.

VI. REFERENCES:

County of Riverside of Flood Control and Water Conservation District Low Impact Development BMP. September 2011.

County of Riverside Flood Control and Water Conservation District Hydrology Manual. Created in April 1978.

Federal Emergency Management Agency website: https://msc.fema.gov/portal accessed August 2020.

NOAA Atlas 14, Volume 6, Version 2 POINT PRECIPITATION FREQUENCY (PF) ESTIMATES WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION. Accessed August 2020.

NRCS Soils Data from Soil Map; Riverside County, California, Wildomar Area; Version 8, Jul 31, 2019 Accessed August 2020.

APPENDIX A

Exhibits:

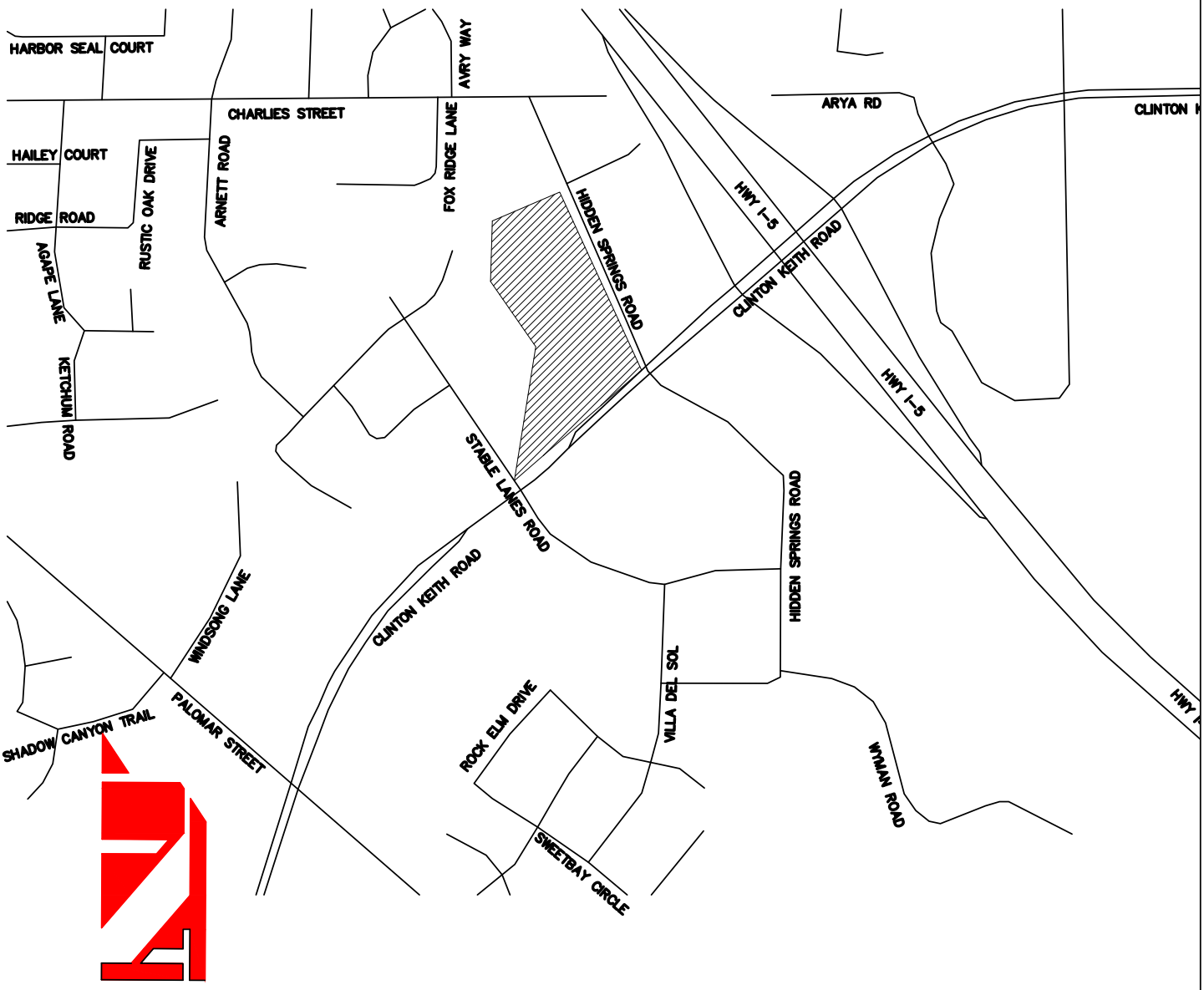
FEMA – A

Exhibit of Pre-developed & Developed Hydrology – B

Land Use Map - C

Soils Group – D

NOAA 14 Precipitation – E



VICINITY MAP

DATE:

SCALE:

PROJECT:

WILDOWMAR
COMMONS

RED BRICK SOLUTION

CONSULTING ENGINEERS
& ARCHITECTS

EXHIBIT A

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCEL MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

SEC. 1 T.7S, R.4W

CITY OF WILDOMAR

TRA 025-007

380-11

369-39

CATT RD.

FOX RIDGE LN.

HIDDEN SPRINGS LN.

KEITH

CLINTON

STABLE LANES WAY

LOT D RD

INTERSTATE HWY 15

PAR 1 — 01 — 1.74 AC. M/L, 2.01 AC NT

PAR 2 — 02 — 1.96 AC GR, 1.8 AC NT

PAR 4 — 03 — 2.42 AC GR, 2.36 AC NT

POR PAR 2 — 04 — 0.05 AC

POR PAR 2 — 10 — 2.43 AC. M/L — 380110010

POR PAR 2 — 09 — 1.76 AC. M/L — 380110009

POR PAR 1 — 14 — 1.09 AC. M/L — 380110014

POR PAR 2 — 08 — 2.16 AC. M/L

POR PAR 2 — 07 — 2.58 AC. M/L

POR PAR 2 — 16 — 3.63 AC. M/L — 380110016

8.86 AC

PAR 1 — 30 — 4.75 AC NT

PAR 8 — 37

PAR 2 — 31

PAR 3 — 32

PAR 7 — 36

PAR 4 — 33

PAR 6 — 35

PAR 5 — 34 — 1.18 AC NT

PAR 1 — 40

PAR 2 — 41 — 1.48 AC NET

PAR 3 — 42

PAR 4 — 43 — 1 AC

PAR 4 — 50

PAR 3 — 49

PAR 5 — 51

PAR 1 — 47

PAR 2 — 48

PAR 7 — 53 — 1.68 AC ML

PAR 6 — 52

PAR 8 — 54

PAR 9 — 55

PAR 10 — 56

PAR 11 — 57

N

W E

S

1 " = 200 '

Legend

- Lot Lines
- Right-Of-Way
- Old Lot Lines
- Reference R.O.W
- Other Easements
- Lease Area
- Subdivision Tic Mark

Bk 376 Pg 45	Bk 376 Pg 41
Pg 10	Bk 380 Pg 11
Pg 24	
Pg 44	
Pg 12	Pg 23

Data

RS 81/26

PM 58/1-5

Map Reference

RS 53/92

PM 18/7 PARCEL MAP NO. 6430

PM 71/65 PARCEL MAP NO. 12089

PM 210/14 - 15 PARCEL MAP NO. 31113

PM 219/98 - 99 PARCEL MAP NO. 34144

PM 239/84 - 89 PARCEL MAP NO. 36080

Date	Old Number	New Number
8/1/2003	17,18	22
8/1/2003	19	23,ST
8/1/2003	20	24,25,ST
8/1/2003	21	26,27,ST
8/1/2003	22	28,ST
1/2/2005	11,12,13,15	29
1/2/2005	29	30-37
9/1/2005	25,26	38
1/2/2006	23,24,27,28	39
4/1/2007	38	40-43
2/26/2009	PG.23	44
2/26/2009	39,44	45
11/8/2010	45	46,ST
2/26/2015	5,6	100-18
2/26/2015	100-18	PGS.42-44
9/8/2016	46	47-57

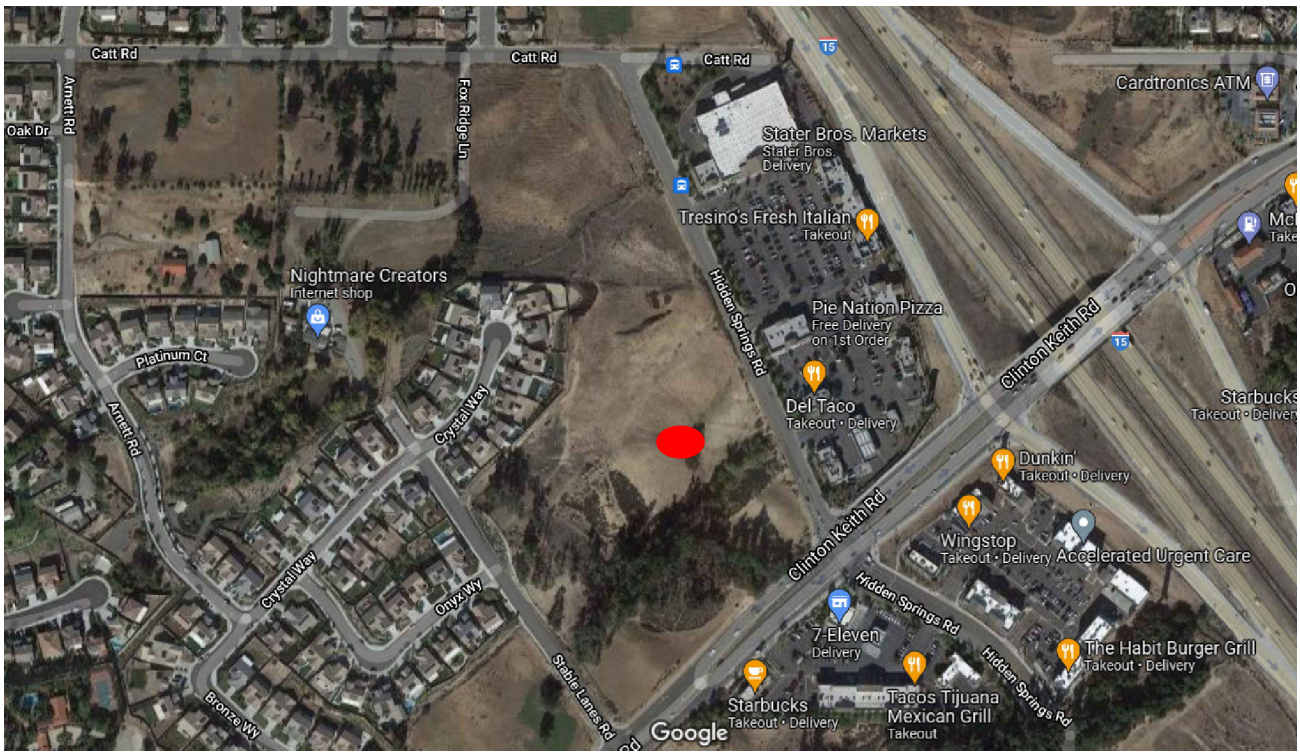
EXHIBIT B

Oct 2016

ASSESSOR'S MAP BK380 PG. 11
Riverside County, Calif.

Mamta Sahi

Latitude	Longitude
33.595075	-117.248298



DATE: SCALE:	LATITUDE-LONGITUDE PROJECT: WILDOWMAR COMMONS	RED BRICK SOLUTION CONSULTING ENGINEERS & ARCHITECTS EXHIBIT C

R 07 W | R 06 W | R 05 W | R 04 W | R 03 W | R 02 W | R 01 W | R 01 E | R 02 E | R 03 E | R 04 E | R 05 E

T 01 S | T 02 S | T 03 S | T 04 S | T 05 S | T 06 S | T 07 S | T 08 S

0.85 MiraLoma
0.61 Riverside North
0.68 PigeonPass
0.54 Riverside South
0.66 MorenoEast
0.85 Beaumont
0.88 PradoDam
0.51 Woodcrest
0.50 LakeMathews
0.68 PerrisReservoir
0.87 VistaGrandeGS
0.70 SanJacintoNWS
1.18 Idyllwild
0.58 SunCity
0.68 Winchester
0.70 ElsinoreNWS
1.11 ElCarisoStation
0.90 HurkeyCreek
0.77 WildomarLaCresta
0.52 SkinnerLake
0.65 Anza
0.77 SantaRosaPlateau
1.00 TemeculaNWS
0.64 AguangaValley

Santa Ana River Watershed

Santa Margarita Watershed

SITE

EXHIBIT D

Rain Gage Locations

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Isohyetal Map for the 85th Percentile 24 hour Storm Event

July 2011

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1994 or later.

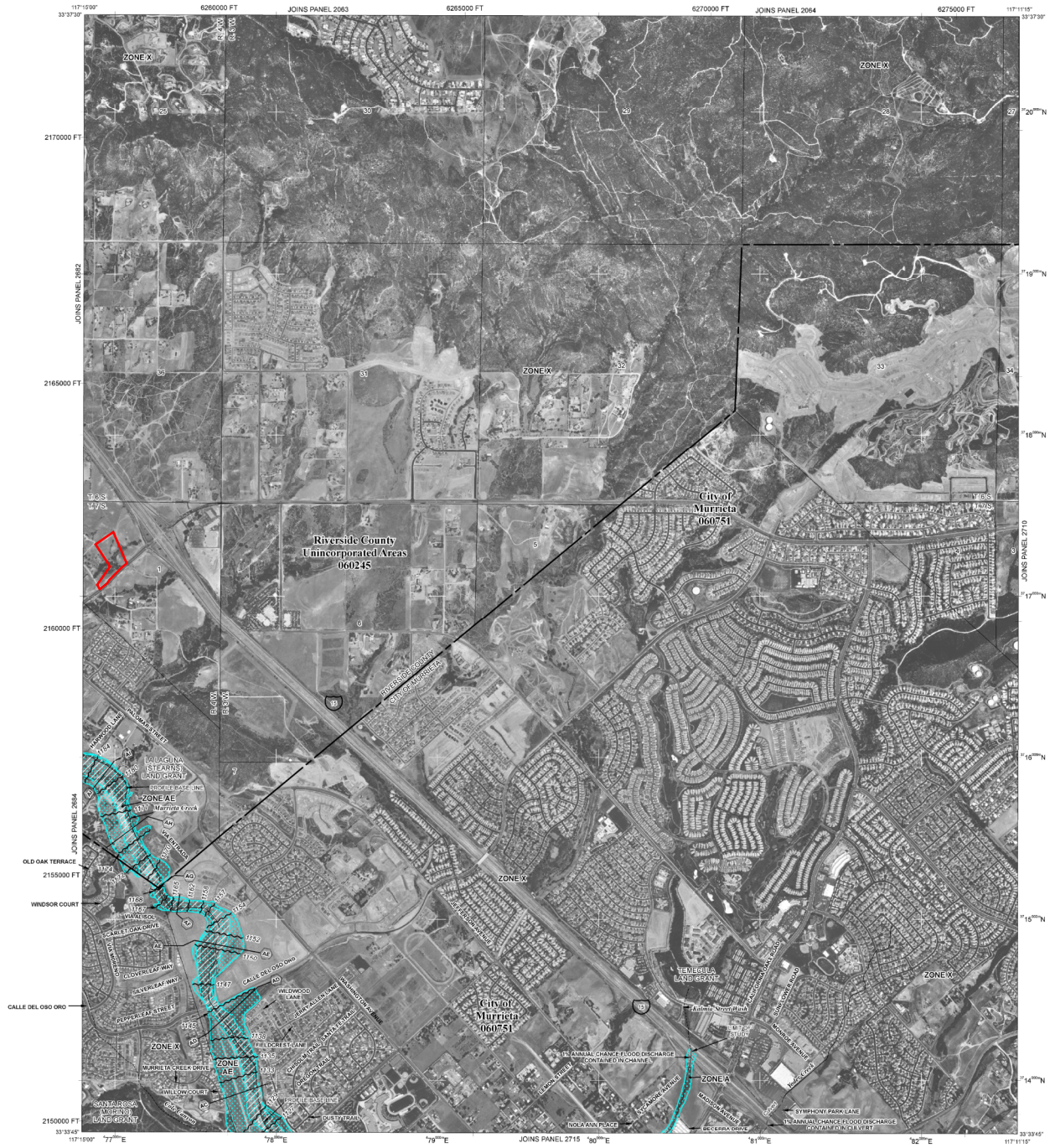
This map may reflect more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 (EL. 987) — Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3776000mN — 1000-meter Universal Transverse Mercator grid values, zone 11N
- 600000 FT — 5000-foot grid ticks: California State Plane coordinate system, zone VI (FIPSZONE 0406), Lambert Conformal Conic projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2705G

FIRM

FLOOD INSURANCE RATE MAP

RIVERSIDE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 2705 OF 3805

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MURRIETA, CITY OF	060751	2705	G
RIVERSIDE COUNTY	060245	2705	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06065C2705G

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

EXHIBIT F

SUMMARY OF EARTHWORK QUANTITIES

ITEM	A CUT/CUBIC YDS..	B FILL/CUBIC YDS.
1. LAND DEVELOPMENT PROGRAM FOR PURE VOLUME (RAW)	54,542	90,570
2. SUBSIDENCE LOSS – 0.1'		1,153
3. OVEREXCAVATION – PAD 63,490 x 4 / 27	7,104	7,104
4. OVEREXCAVATION – ROAD 204,773 x 1 / 27	8,537	8,537
5. SUBTOTALS	70,183	107,364
6. SHRINKAGE @ 10%		11,929
7. TOTALS	70,183	119,293
8. IMPORT		49,110

CONSTRUCTION NOTES:

1. CONSTRUCT 4' WIDE RIBBON GUTTER PER DETAIL 'B' ON SHEET C1.02
2. CONSTRUCT 6" PCC CURB PER SPPWC 120-2, A1-6 (150). SEE DETAIL 'A' ON SHEET C1.02
3. CONSTRUCT ADA SIGNAGE AND STRIPING
4. CONSTRUCT 6" PCC CURB AND GUTTER PER SPPWC 120-2, A1-6 (150) SEE DETAIL 'D' ON SHEET C1.02
5. INSTALL 36"X36" JENSEN (OR EQUAL) DROP INLET CATCH BASIN
6. INSTALL ADS UNDERGROUND STORAGE SYSTEM PER MANF. RECOMMENDATION AND DETAILS

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

PROJECT OWNER
SOMAR LAND GROUP, INC
16391 HARWICH CIRCLE
RIVERSIDE, CA. 92503
ATTN: MR. STEVE MACIE
(702) 497-3101

CONSULTANT
Duke Engineering
CIVIL & STRUCTURAL
LANCASTER - CALIFORNIA
44732 YUCCA AVENUE
LANCASTER, CA
661-952-7918

REVISIONS

No.	Revisions	By	Date

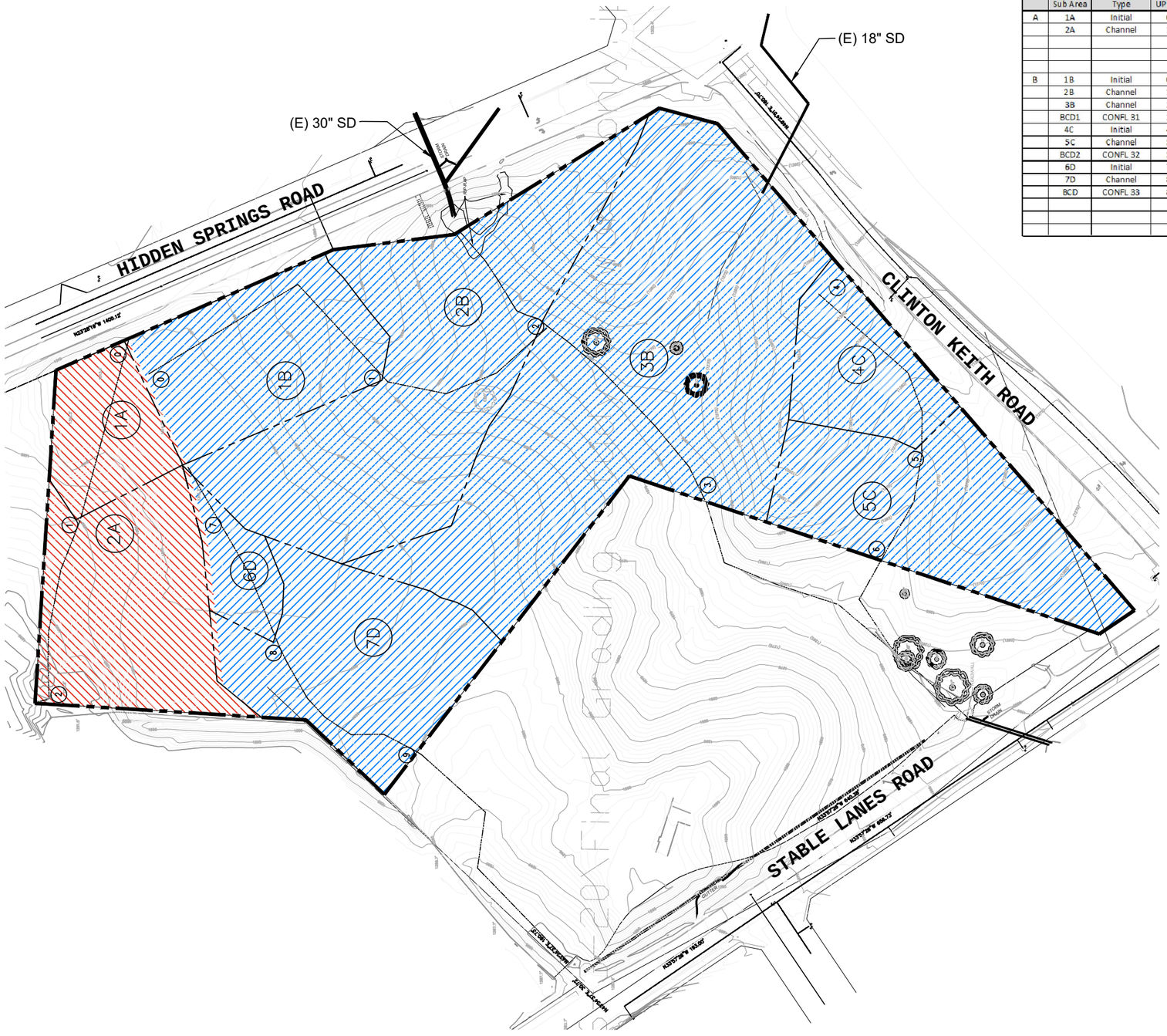
PROJECT
CLINTON KEITH MARKETPLACE
380-110-004,009,010,014,016
WILDOMAR, CA

ENGINEER OF RECORD
REGISTERED PROFESSIONAL ENGINEER
RYAN DUKE
No. 77129
CIVIL
STATE OF CALIFORNIA

SHEET TITLE
CONCEPTUAL GRADING PLAN

SHEET
C1.00
PROJECT: 19067

SHEET NO.
3
OF 10 SHEETS



HYDROLOGIC DATA:

Rational Method - Hydrologic Analysis

DA	DMA	CONVEYANCE	Node		Elevation		Length	Area	Soil	2-YEAR CFS	10-YEAR CFS	100-YEAR CFS
	Sub Area	Type	UPPER	LOWER	UPPER	LOWER	(FT)	(AC)		1-HOUR	1-HOUR	1-HOUR
A	1A	Initial	0	1	1313	1300	190	0.37	D	0.37	0.77	1.30
	2A	Channel	1	2	1300	1290	935	0.88	C- 0.3 D - 0.7	0.68	1.68	3.05
								1.25				
							Unit Hydrograph Method			1-HOUR	1.41	2.54
										24-HOUR	0.47	0.95
B	1B	Initial	0	1	1313	1285	315	0.77	D	0.72	1.50	2.53
	2B	Channel	1	2	1285	1267	185	1.74	B-0.5 D-0.5	1.83	4.38	7.80
	3B	Channel	2	3	1267	1261	244	2.58	B-0.8 D-0.2	3.37	8.38	15.11
	BCD1	CONFL 31	2	3					B	3.37	8.38	15.11
	4C	Initial	4	5	1299	1270	206	0.44	B	0.39	0.91	1.61
	5C	Channel	5	6	1270	1262	123	1.00	B	1.03	2.69	4.97
	BCD2	CONFL 32	5	6						1.03	2.69	4.97
	6D	Initial	7	8	1314	1308	204	0.20	B	0.06	0.21	0.44
	7D	Channel	8	9	1308	1295	198	0.93	B	0.21	0.85	2.00
	BCD	CONFL 33	8	9						4.27	10.91	20.06
								7.67				
							Unit Hydrograph Method			1-HOUR	10.58	18.89
								8.93		24-HOUR	2.35	5.62

LEGEND:

GRAPHIC SCALE

120' 0' 60' 120' 240'

(IN FEET)
1 inch = 120 ft.

CITY OF WILDOMAR

HYDROLOGY STUDY

WILDOMAR COMMONS

0411-182-18

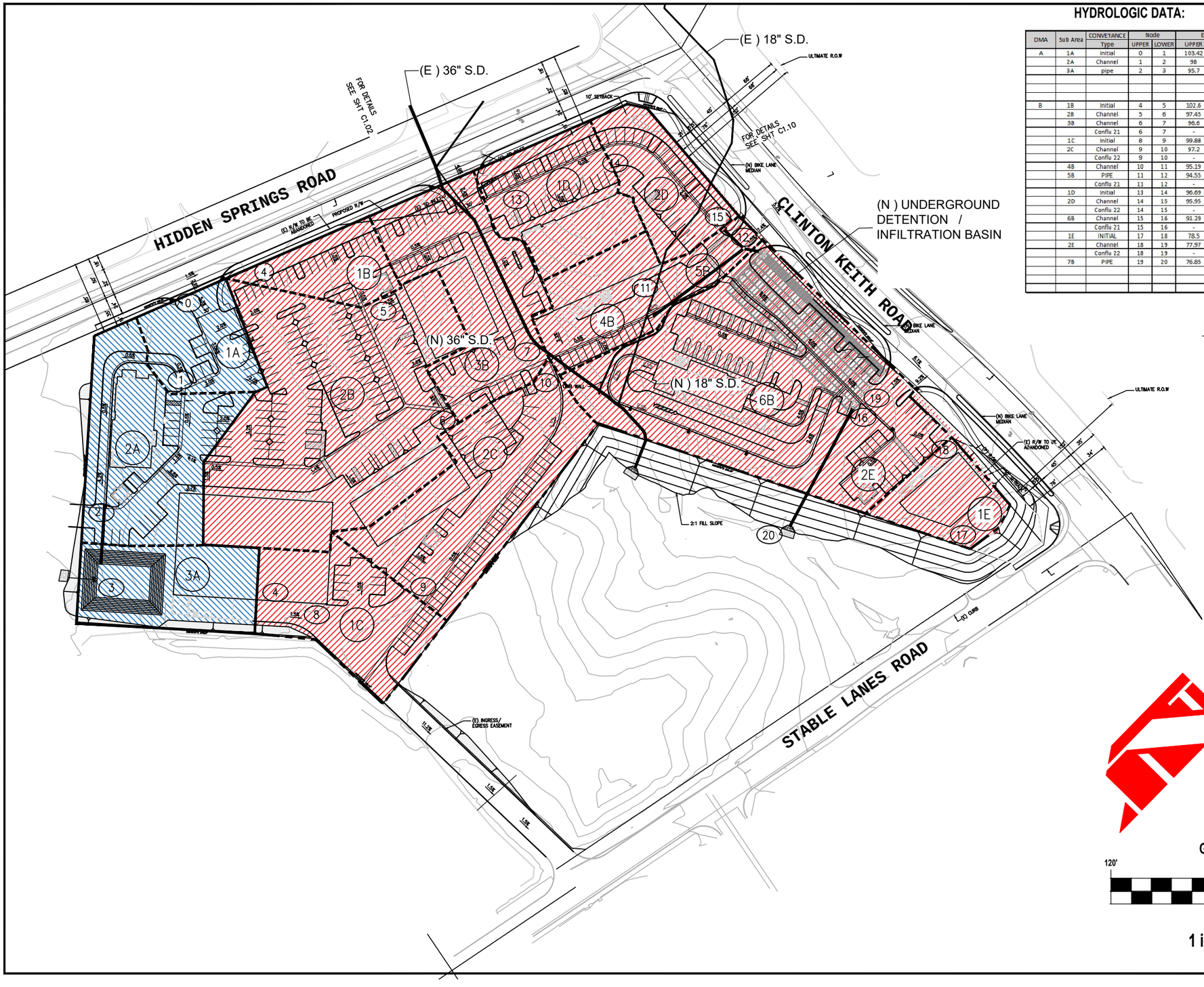
ON-SITE PRE-DEVELOPED

TRIBUTARY DRAINAGE AREAS

RED BRICK SOLUTION

CONSULTING ENGINEERS & ARCHITECTS

EXHIBIT G



HYDROLOGIC DATA:

DMA	Sub Area	CONVEYANCE	Node		Elevation		Length	Area	Soil	1st Flush	10-YEAR CFS	100-YEAR CFS
		Type	UPPER	LOWER	UPPER	LOWER	(FT)	(AC)		85%	1-HOUR	1-HOUR
A	1A	Initial	0	1	103.42	98	156	0.33	D	0.50	0.88	1.42
	2A	Channel	1	2	98	95.7	179	0.74	D	1.46	2.61	4.25
	3A	pipe	2	3	95.7	91.7	70	0.47	D	2.07	3.70	6.04
								1.54				
							Unit Hydrograph Method			1-HOUR	3.07	5.03
										24-HOUR	0.76	1.28
B	1B	Initial	4	5	102.6	97.45	106	0.27	B	0.40	0.71	1.16
	2B	Channel	5	6	97.45	96.6	234	1.63	B	2.25	4.11	6.83
	3B	Channel	6	7	96.6	95.19	128	0.64	B	2.94	5.37	8.95
		Confluence 21	6	7	-	-	-	-	-	2.94	5.37	8.95
	1C	Initial	8	9	99.88	97.2	218	0.55	B	0.73	1.30	2.12
	2C	Channel	9	10	97.2	95.19	342	0.84	B	1.59	2.87	4.74
		Confluence 22	9	10	-	-				4.36	7.92	13.13
	4B	Channel	10	11	95.19	94.55	124	0.52	B	4.89	8.90	14.77
	5B	PIPE	11	12	94.55	91.26	136	0		4.89	8.90	14.77
		Confluence 21	11	12	-	-	-	-	-	4.89	8.90	14.77
	1D	Initial	13	14	96.69	95.95	148	0.45	B	0.59	1.05	1.72
	2D	Channel	14	15	95.95	92	175	0.43	B	1.10	1.97	3.23
		Confluence 22	14	15	-	-	-	-	-	5.82	10.61	17.63
	6B	Channel	15	16	91.29	79.72	202	1.44	B	7.21	13.19	22.00
		Confluence 21	15	16	-	-	-	-	-	7.21	13.19	22.00
	1E	INITAL	17	18	78.5	77.97	147	0.31	B	0.40	0.70	1.15
	2E	Channel	18	19	77.97	76.85	60	0.26	B	0.71	1.27	2.08
		Confluence 22	18	19	-	-	-	-	-	7.78	14.24	23.76
	7B	PIPE	19	20	76.85	60.00	160	0.00	B	7.78	14.24	23.76
								7.33				
							Unit Hydrograph Method			1-HOUR	11.70	20.00
								8.87		24-HOUR	3.50	6.14

LEGEND:

SUB AREA ## NODE #

FLOW LINE

DRAINAGE AREA

SUB AREAS

GRAPHIC SCALE

120' 0' 60' 120' 240'

(IN FEET)

1 inch = 120 ft.

CITY OF WILDOMAR

WILDOMAR COMMONS 0411-182-18

HYDROLOGY STUDY

ON-SITE DEVELOPED

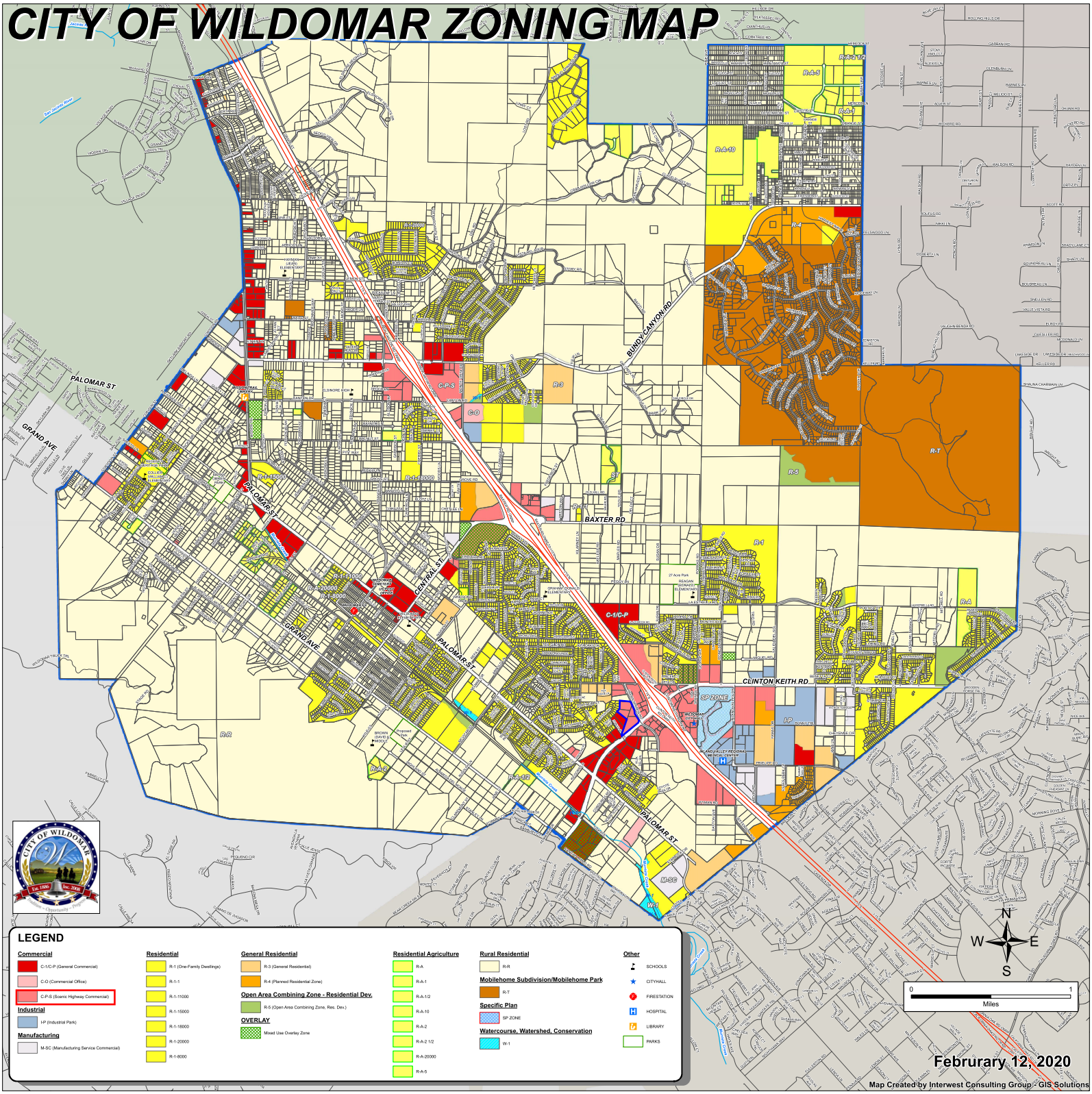
TRIBUTARY DRAINAGE AREAS

RED BRICK SOLUTION

CONSULTING ENGINEERS & ARCHITECTS

EXHIBIT H

EXHIBIT I


CITY OF WILDOMAR ZONING MAP
PALOMAR ST
GRAND AVE
BUNDY CANYON RD
BAXTER RD
CENTRAL ST
CLINTON KEITH RD
R-A-1 1/2
R-A-5
R-A-1
R-A-10
R-4
R-T
R-5
R-1
R-A
R-R
C-1/C-P
C-P-S
C-O
SP ZONE
I-P
M-SC
W-1
LEGEND
Commercial
C-1/C-P (General Commercial)
C-O (Commercial Office)
C-P-S (Scenic Highway Commercial)
Industrial
I-P (Industrial Park)
Manufacturing
M-SC (Manufacturing Service Commercial)
Residential
R-1 (One-Family Dwellings)
R-1-1
R-1-11000
R-1-15000
R-1-18000
R-1-20000
R-1-8000
General Residential
R-3 (General Residential)
R-4 (Planned Residential Zone)
Open Area Combining Zone - Residential Dev.
R-5 (Open Area Combining Zone, Res. Dev.)
OVERLAY
Mixed Use Overlay Zone
Residential Agriculture
R-A
R-A-1
R-A-1/2
R-A-10
R-A-2
R-A-2 1/2
R-A-20000
R-A-5
Rural Residential
R-R
Mobilehome Subdivision/Mobilehome Park
R-T
Specific Plan
SP ZONE
Watercourse, Watershed, Conservation
W-1
Other
SCHOOLS
CITYHALL
FIRESTATION
HOSPITAL
LIBRARY
PARKS
N
W
E
S
0
1
Miles
Februrary 12, 2020
Map Created by Interwest Consulting Group - GIS Solutions

United States Department of Agriculture

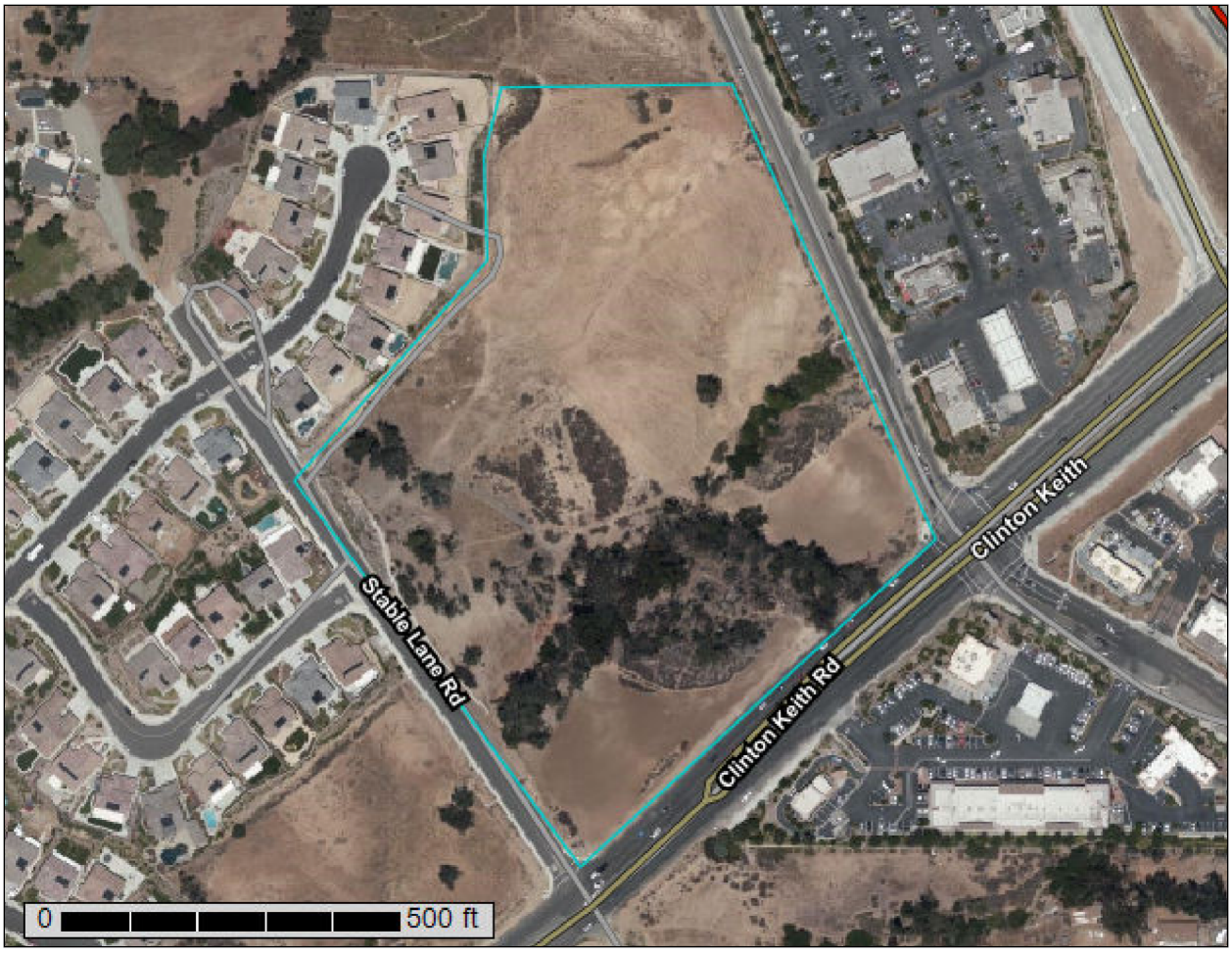
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Western Riverside Area, California

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PlD Soil Class D	Placentia fine sandy loam, 5 to 15 percent slopes	4.3	30.0%
RmE3 Soil Class C	Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded	0.3	1.9%
RnE3 Soil Class C	Ramona and Buren loams, 5 to 25 percent slopes, severely eroded	0.9	6.4%
SmE2 Soil Class B	San Timoteo loam, 8 to 25 percent slopes, eroded	8.8	61.7%
Totals for Area of Interest		**14.3**	**100.0%**



Custom Soil Resource Report
Soil Map

Map Scale: 1:2,230 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

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

EXHIBIT K

NOAA Atlas 14, Volume 6, Version 2
Location name: Wildomar, California, USA*
Latitude: 33.5947°, Longitude: -117.248°
Elevation: 1277.07 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	**0.095** (0.080-0.115)	**0.128** (0.107-0.155)	**0.173** (0.145-0.209)	**0.211** (0.175-0.257)	**0.264** (0.211-0.334)	**0.307** (0.240-0.397)	**0.352** (0.268-0.467)	**0.399** (0.295-0.546)	**0.466** (0.330-0.665)	**0.519** (0.354-0.768)
10-min	**0.137** (0.115-0.165)	**0.184** (0.154-0.222)	**0.248** (0.207-0.300)	**0.302** (0.250-0.368)	**0.379** (0.303-0.479)	**0.440** (0.344-0.569)	**0.505** (0.384-0.669)	**0.573** (0.423-0.782)	**0.668** (0.473-0.953)	**0.744** (0.508-1.10)
15-min	**0.165** (0.139-0.199)	**0.222** (0.186-0.268)	**0.300** (0.251-0.363)	**0.365** (0.303-0.446)	**0.458** (0.366-0.579)	**0.532** (0.416-0.688)	**0.610** (0.465-0.809)	**0.692** (0.512-0.946)	**0.808** (0.572-1.15)	**0.900** (0.614-1.33)
30-min	**0.260** (0.218-0.313)	**0.350** (0.293-0.422)	**0.472** (0.394-0.571)	**0.575** (0.476-0.701)	**0.721** (0.577-0.911)	**0.838** (0.655-1.08)	**0.960** (0.731-1.27)	**1.09** (0.806-1.49)	**1.27** (0.900-1.81)	**1.42** (0.966-2.10)
60-min	**0.395** (0.332-0.476)	**0.531** (0.445-0.640)	**0.716** (0.599-0.866)	**0.873** (0.723-1.06)	**1.10** (0.875-1.38)	**1.27** (0.994-1.64)	**1.46** (1.11-1.93)	**1.65** (1.22-2.26)	**1.93** (1.37-2.75)	**2.15** (1.47-3.18)
2-hr	**0.583** (0.489-0.702)	**0.768** (0.644-0.926)	**1.02** (0.851-1.23)	**1.23** (1.02-1.50)	**1.52** (1.22-1.93)	**1.76** (1.37-2.27)	**2.00** (1.52-2.65)	**2.26** (1.67-3.08)	**2.61** (1.85-3.73)	**2.89** (1.98-4.28)
3-hr	**0.722** (0.606-0.869)	**0.945** (0.792-1.14)	**1.25** (1.04-1.51)	**1.50** (1.24-1.83)	**1.85** (1.48-2.34)	**2.13** (1.67-2.75)	**2.42** (1.84-3.21)	**2.72** (2.01-3.72)	**3.14** (2.22-4.48)	**3.47** (2.37-5.14)
6-hr	**1.02** (0.859-1.23)	**1.34** (1.12-1.61)	**1.76** (1.47-2.13)	**2.11** (1.75-2.57)	**2.59** (2.07-3.27)	**2.97** (2.32-3.84)	**3.36** (2.56-4.46)	**3.77** (2.79-5.15)	**4.33** (3.07-6.19)	**4.77** (3.26-7.07)
12-hr	**1.35** (1.13-1.62)	**1.79** (1.50-2.15)	**2.37** (1.98-2.86)	**2.84** (2.36-3.47)	**3.50** (2.80-4.42)	**4.00** (3.13-5.17)	**4.52** (3.44-5.99)	**5.05** (3.74-6.90)	**5.78** (4.09-8.24)	**6.34** (4.33-9.38)
24-hr	**1.77** (1.56-2.04)	**2.40** (2.12-2.78)	**3.23** (2.85-3.75)	**3.91** (3.42-4.57)	**4.83** (4.09-5.83)	**5.54** (4.60-6.82)	**6.26** (5.07-7.88)	**7.00** (5.52-9.06)	**8.00** (6.07-10.8)	**8.78** (6.44-12.2)
2-day	**2.12** (1.87-2.45)	**2.96** (2.61-3.42)	**4.08** (3.59-4.73)	**5.00** (4.36-5.83)	**6.25** (5.29-7.54)	**7.23** (6.00-8.89)	**8.23** (6.67-10.4)	**9.27** (7.31-12.0)	**10.7** (8.11-14.4)	**11.8** (8.66-16.5)
3-day	**2.27** (2.01-2.63)	**3.23** (2.85-3.73)	**4.51** (3.97-5.23)	**5.58** (4.87-6.51)	**7.05** (5.96-8.50)	**8.20** (6.80-10.1)	**9.40** (7.62-11.8)	**10.7** (8.41-13.8)	**12.4** (9.41-16.7)	**13.8** (10.1-19.2)
4-day	**2.44** (2.16-2.82)	**3.51** (3.10-4.05)	**4.94** (4.35-5.72)	**6.13** (5.36-7.16)	**7.79** (6.59-9.40)	**9.11** (7.55-11.2)	**10.5** (8.49-13.2)	**11.9** (9.41-15.4)	**14.0** (10.6-18.8)	**15.6** (11.4-21.7)
7-day	**2.79** (2.47-3.23)	**4.03** (3.56-4.66)	**5.73** (5.04-6.64)	**7.15** (6.24-8.35)	**9.15** (7.74-11.0)	**10.7** (8.91-13.2)	**12.4** (10.1-15.6)	**14.2** (11.2-18.4)	**16.7** (12.7-22.5)	**18.7** (13.7-26.1)
10-day	**2.97** (2.63-3.43)	**4.31** (3.80-4.98)	**6.14** (5.41-7.12)	**7.69** (6.72-8.99)	**9.89** (8.37-11.9)	**11.7** (9.66-14.3)	**13.5** (10.9-17.0)	**15.5** (12.2-20.0)	**18.3** (13.9-24.6)	**20.6** (15.1-28.6)
20-day	**3.56** (3.14-4.11)	**5.22** (4.61-6.03)	**7.53** (6.63-8.73)	**9.52** (8.31-11.1)	**12.4** (10.5-14.9)	**14.7** (12.2-18.1)	**17.2** (13.9-21.6)	**19.8** (15.6-25.7)	**23.6** (17.9-31.8)	**26.8** (19.6-37.2)
30-day	**4.18** (3.70-4.83)	**6.14** (5.42-7.10)	**8.90** (7.84-10.3)	**11.3** (9.86-13.2)	**14.8** (12.5-17.8)	**17.6** (14.6-21.7)	**20.7** (16.7-26.0)	**24.0** (18.9-31.0)	**28.7** (21.8-38.7)	**32.6** (23.9-45.4)
45-day	**4.87** (4.30-5.62)	**7.12** (6.29-8.23)	**10.3** (9.09-12.0)	**13.1** (11.5-15.3)	**17.3** (14.6-20.8)	**20.7** (17.2-25.5)	**24.4** (19.8-30.7)	**28.4** (22.4-36.7)	**34.2** (25.9-46.1)	**39.1** (28.6-54.4)
60-day	**5.60** (4.95-6.46)	**8.11** (7.16-9.38)	**11.7** (10.3-13.6)	**14.9** (13.0-17.4)	**19.7** (16.6-23.7)	**23.6** (19.6-29.1)	**27.9** (22.6-35.1)	**32.6** (25.7-42.2)	**39.4** (29.9-53.1)	**45.1** (33.1-62.8)

[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.

Back to Top

PF graphical

APPENDIX B

BASIN A

Pre-Developed – Rational Method

- 10-year 1-hour
- 100-year 1-hour

Post-Developed – Rational Method

- 2-year -1 hour
- 10-year 1-hour
- 100-year 1-hour

Pre-Developed – Unit Hydrograph Method

- 10-year 1-hour; 24-hour
- 100-year 1-hour; 24-hour

Post-Developed – Unit Hydrograph Method

- 10-year 1-hour; 24-hour
- 100-year 1-hour; 24-hour

Route

- 10-year 1-hour; 24-hour
- 100-year 1-hour; 24-hour

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 10/29/21 File:2030rpa.out

BASIN A
PRE-DEVELOPED
2-YEAR 1-HOUR
AMC1

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.531(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 190.000(Ft.)
Top (of initial area) elevation = 1312.000(Ft.)
Bottom (of initial area) elevation = 1300.000(Ft.)
Difference in elevation = 12.000(Ft.)
Slope = 0.06316 s(percent)= 6.32
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 7.511 min.
Rainfall intensity = 1.440(In/Hr) for a 2.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.700
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 1) = 76.40
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 0.373(CFS)
Total initial stream area = 0.370(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 1.000 to Point/Station 2.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1300.000(Ft.)
Downstream point elevation = 1290.000(Ft.)
Channel length thru subarea = 935.000(Ft.)
Channel base width = 20.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 0.568(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 0.568(CFS)
Depth of flow = 0.046(Ft.), Average velocity = 0.584(Ft/s)
Channel flow top width = 21.857(Ft.)
Flow Velocity = 0.58(Ft/s)

Travel time = 26.67 min.
Time of concentration = 34.18 min.

Sub-Channel No. 1 Critical depth = 0.029(Ft.)
' ' ' Critical flow top width = 21.152(Ft.)
' ' ' Critical flow velocity= 0.958(Ft/s)
' ' ' Critical flow area = 0.593(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.506
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.300
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.700
RI index for soil(AMC 1) = 71.12
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 0.696(In/Hr) for a 2.0 year storm
Subarea runoff = 0.310(CFS) for 0.880(Ac.)
Total runoff = 0.683(CFS) Total area = 1.250(Ac.)
Depth of flow = 0.052(Ft.), Average velocity = 0.627(Ft/s)

Sub-Channel No. 1 Critical depth = 0.033(Ft.)
' ' ' Critical flow top width = 21.309(Ft.)
' ' ' Critical flow velocity= 1.010(Ft/s)
' ' ' Critical flow area = 0.676(Sq.Ft)

End of computations, total study area = 1.25 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number = 86.7

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 10/29/21 File:2030rpa.out

BASIN A
PRE-DEVELOPED
10-YEAR 1-HOUR
AMC II

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.913(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 190.000(Ft.)
Top (of initial area) elevation = 1312.000(Ft.)
Bottom (of initial area) elevation = 1300.000(Ft.)
Difference in elevation = 12.000(Ft.)
Slope = 0.06316 s(percent)= 6.32
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 7.511 min.
Rainfall intensity = 2.476(In/Hr) for a 10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.844
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 89.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 0.773(CFS)
Total initial stream area = 0.370(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 1.000 to Point/Station 2.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1300.000(Ft.)
Downstream point elevation = 1290.000(Ft.)
Channel length thru subarea = 935.000(Ft.)
Channel base width = 20.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 1.259(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 1.259(CFS)
Depth of flow = 0.074(Ft.), Average velocity = 0.788(Ft/s)
Channel flow top width = 22.976(Ft.)
Flow Velocity = 0.79(Ft/s)
Travel time = 19.78 min.
Time of concentration = 27.30 min.

Sub-Channel No. 1 Critical depth = 0.049(Ft.)
' ' ' Critical flow top width = 21.953(Ft.)
' ' ' Critical flow velocity= 1.229(Ft/s)
' ' ' Critical flow area = 1.024(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.771
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.300
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.700
RI index for soil(AMC 2) = 85.70
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 1.333(In/Hr) for a 10.0 year storm
Subarea runoff = 0.905(CFS) for 0.880(Ac.)
Total runoff = 1.678(CFS) Total area = 1.250(Ac.)
Depth of flow = 0.088(Ft.), Average velocity = 0.875(Ft/s)

Sub-Channel No. 1 Critical depth = 0.059(Ft.)
' ' ' Critical flow top width = 22.363(Ft.)
' ' ' Critical flow velocity= 1.341(Ft/s)

' ' ' Critical flow area = 1.251(Sq.Ft)

End of computations, total study area = 1.25 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number = 86.7

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 10/29/21 File:2030rpa.out

BASIN A
PRE-DEVELOPED
100-YEAR 1-HOUR
AMC III

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.460(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 190.000(Ft.)
Top (of initial area) elevation = 1312.000(Ft.)
Bottom (of initial area) elevation = 1300.000(Ft.)
Difference in elevation = 12.000(Ft.)
Slope = 0.06316 s(percent)= 6.32
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 7.511 min.
Rainfall intensity = 3.959(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.886
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3) = 95.60
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 1.298(CFS)
Total initial stream area = 0.370(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 1.000 to Point/Station 2.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1300.000(Ft.)
Downstream point elevation = 1290.000(Ft.)
Channel length thru subarea = 935.000(Ft.)
Channel base width = 20.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 2.220(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 2.220(CFS)
Depth of flow = 0.104(Ft.), Average velocity = 0.969(Ft/s)
Channel flow top width = 24.152(Ft.)
Flow Velocity = 0.97(Ft/s)
Travel time = 16.09 min.
Time of concentration = 23.60 min.

Sub-Channel No. 1 Critical depth = 0.071(Ft.)
' ' ' Critical flow top width = 22.852(Ft.)
' ' ' Critical flow velocity= 1.453(Ft/s)
' ' ' Critical flow area = 1.527(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.869
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.300
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.700
RI index for soil(AMC 3) = 94.28
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 2.285(In/Hr) for a 100.0 year storm
Subarea runoff = 1.748(CFS) for 0.880(Ac.)
Total runoff = 3.046(CFS) Total area = 1.250(Ac.)
Depth of flow = 0.125(Ft.), Average velocity = 1.084(Ft/s)

Sub-Channel No. 1 Critical depth = 0.087(Ft.)
' ' ' Critical flow top width = 23.477(Ft.)
' ' ' Critical flow velocity= 1.612(Ft/s)

' ' ' Critical flow area = 1.889(Sq.Ft)

End of computations, total study area = 1.25 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number = 86.7

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 11/01/21 File:2030da100.out

AREA A - DEVELOPED
2-YEAR 1-HOUR
AMC I

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.531(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 156.000(Ft.)
Top (of initial area) elevation = 103.420(Ft.)
Bottom (of initial area) elevation = 98.000(Ft.)
Difference in elevation = 5.420(Ft.)
Slope = 0.03474 s(percent)= 3.47
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Warning: TC computed to be less than 5 min.; program is assuming the
time of concentration is 5 minutes.
Initial area time of concentration = 5.000 min.
Rainfall intensity = 1.750(In/Hr) for a 2.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.867
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 1) = 57.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 0.501(CFS)
Total initial stream area = 0.330(Ac.)
Pervious area fraction = 0.100

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    98.000(Ft.)
Downstream point elevation =    95.700(Ft.)
Channel length thru subarea  =   179.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      1.022(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      1.022(CFS)
Depth of flow =   0.080(Ft.), Average velocity =   1.593(Ft/s)
Channel flow top width =   12.015(Ft.)
Flow Velocity =    1.59(Ft/s)
Travel time  =    1.87 min.
Time of concentration =    6.87 min.

Sub-Channel No. 1 Critical depth =      0.089(Ft.)
  '     '       '     Critical flow top width =     12.887(Ft.)
  '     '       '     Critical flow velocity=    1.362(Ft/s)
  '     '       '     Critical flow area =      0.750(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.864
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 1)  =  57.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      1.502(In/Hr) for a     2.0 year storm
Subarea runoff =      0.960(CFS) for      0.740(Ac.)
Total runoff =      1.461(CFS)        Total area =       1.070(Ac.)
Depth of flow =   0.095(Ft.), Average velocity =   1.753(Ft/s)

Sub-Channel No. 1 Critical depth =      0.106(Ft.)
  '     '       '     Critical flow top width =     14.645(Ft.)
  '     '       '     Critical flow velocity=    1.473(Ft/s)
  '     '       '     Critical flow area =      0.992(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =    95.700(Ft.)
Downstream point/station elevation =    91.700(Ft.)
Pipe length  =    70.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     1.461(CFS)
Nearest computed pipe diameter  =      9.00(In.)
Calculated individual pipe flow  =     1.461(CFS)
Normal flow depth in pipe =    3.79(In.)
Flow top width inside pipe =    8.89(In.)
Critical Depth =    6.69(In.)
Pipe flow velocity =      8.28(Ft/s)
Travel time through pipe =    0.14 min.
Time of concentration (TC) =     7.01 min.
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** SUBAREA FLOW ADDITION ****
_____________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.864
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 1)  =  57.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =     7.01 min.
Rainfall intensity =      1.488(In/Hr) for a     2.0 year storm
Subarea runoff =      0.604(CFS) for      0.470(Ac.)
Total runoff =      2.065(CFS)         Total area =       1.540(Ac.)
End of computations, total study area =            1.54 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  75.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 11/01/21 File:2030da100.out

AREA A - DEVELOPED
10-YEAR 1-HOUR
AMC II

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.913(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 156.000(Ft.)
Top (of initial area) elevation = 103.420(Ft.)
Bottom (of initial area) elevation = 98.000(Ft.)
Difference in elevation = 5.420(Ft.)
Slope = 0.03474 s(percent)= 3.47
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Warning: TC computed to be less than 5 min.; program is assuming the
time of concentration is 5 minutes.
Initial area time of concentration = 5.000 min.
Rainfall intensity = 3.010(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.888
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 75.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 0.882(CFS)
Total initial stream area = 0.330(Ac.)
Pervious area fraction = 0.100

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    98.000(Ft.)
Downstream point elevation =    95.700(Ft.)
Channel length thru subarea  =   179.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      1.778(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      1.778(CFS)
Depth of flow =   0.104(Ft.), Average velocity =   1.846(Ft/s)
Channel flow top width =   14.443(Ft.)
Flow Velocity =    1.85(Ft/s)
Travel time  =    1.62 min.
Time of concentration =    6.62 min.

Sub-Channel No. 1 Critical depth =      0.117(Ft.)
  '     '       '     Critical flow top width =     15.719(Ft.)
  '     '       '     Critical flow velocity=    1.539(Ft/s)
  '     '       '     Critical flow area =      1.155(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.887
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2)  =  75.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      2.631(In/Hr) for a    10.0 year storm
Subarea runoff =      1.727(CFS) for      0.740(Ac.)
Total runoff =      2.610(CFS)        Total area =       1.070(Ac.)
Depth of flow =   0.125(Ft.), Average velocity =   2.042(Ft/s)

Sub-Channel No. 1 Critical depth =      0.142(Ft.)
  '     '       '     Critical flow top width =     18.160(Ft.)
  '     '       '     Critical flow velocity=    1.663(Ft/s)
  '     '       '     Critical flow area =      1.569(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =    95.700(Ft.)
Downstream point/station elevation =    91.700(Ft.)
Pipe length  =    70.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     2.610(CFS)
Nearest computed pipe diameter  =      9.00(In.)
Calculated individual pipe flow  =     2.610(CFS)
Normal flow depth in pipe =    5.34(In.)
Flow top width inside pipe =    8.84(In.)
Critical Depth =    8.40(In.)
Pipe flow velocity =      9.56(Ft/s)
Travel time through pipe =    0.12 min.
Time of concentration (TC) =     6.74 min.
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** SUBAREA FLOW ADDITION ****
____________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.887
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2)  =  75.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =     6.74 min.
Rainfall intensity =      2.608(In/Hr) for a    10.0 year storm
Subarea runoff =      1.087(CFS) for      0.470(Ac.)
Total runoff =      3.697(CFS)        Total area =       1.540(Ac.)
End of computations, total study area =            1.54 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  75.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 11/01/21 File:2030da100.out

AREA A - DEVELOPED
100-YEAR 1-HOUR
AMC III

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.460(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 156.000(Ft.)
Top (of initial area) elevation = 103.420(Ft.)
Bottom (of initial area) elevation = 98.000(Ft.)
Difference in elevation = 5.420(Ft.)
Slope = 0.03474 s(percent)= 3.47
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Warning: TC computed to be less than 5 min.; program is assuming the
time of concentration is 5 minutes.
Initial area time of concentration = 5.000 min.
Rainfall intensity = 4.812(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.897
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3) = 88.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 1.424(CFS)
Total initial stream area = 0.330(Ac.)
Pervious area fraction = 0.100

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    98.000(Ft.)
Downstream point elevation =    95.700(Ft.)
Channel length thru subarea  =   179.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      2.885(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      2.885(CFS)
Depth of flow =   0.131(Ft.), Average velocity =   2.096(Ft/s)
Channel flow top width =   17.068(Ft.)
Flow Velocity =    2.10(Ft/s)
Travel time  =    1.42 min.
Time of concentration =    6.42 min.

Sub-Channel No. 1 Critical depth =      0.148(Ft.)
  '     '       '     Critical flow top width =     18.844(Ft.)
  '     '       '     Critical flow velocity=    1.702(Ft/s)
  '     '       '     Critical flow area =      1.695(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.896
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      4.267(In/Hr) for a   100.0 year storm
Subarea runoff =      2.830(CFS) for      0.740(Ac.)
Total runoff =      4.254(CFS)        Total area =       1.070(Ac.)
Depth of flow =   0.156(Ft.), Average velocity =   2.318(Ft/s)

Sub-Channel No. 1 Critical depth =      0.178(Ft.)
  '     '       '     Critical flow top width =     21.773(Ft.)
  '     '       '     Critical flow velocity=    1.857(Ft/s)
  '     '       '     Critical flow area =      2.290(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =    95.700(Ft.)
Downstream point/station elevation =    91.700(Ft.)
Pipe length  =    70.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.254(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     4.254(CFS)
Normal flow depth in pipe =    6.00(In.)
Flow top width inside pipe =   12.00(In.)
Critical Depth =   10.42(In.)
Pipe flow velocity =     10.84(Ft/s)
Travel time through pipe =    0.11 min.
Time of concentration (TC) =     6.53 min.
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** SUBAREA FLOW ADDITION ****
____________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.896
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =     6.53 min.
Rainfall intensity =      4.233(In/Hr) for a   100.0 year storm
Subarea runoff =      1.783(CFS) for      0.470(Ac.)
Total runoff =      6.038(CFS)      Total area =       1.540(Ac.)
End of computations, total study area =            1.54 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  75.0
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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 10/30/21 File: 2030upa10110.out

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

Program License Serial Number 6434

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

English Units used in output format

PRE-DEVELPED AREA-A
10-YEAR 1-HOUR
AMC II

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.364 Hr.
Lag time = 21.84 Min.
25% of lag time = 5.46 Min.
40% of lag time = 8.74 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	0.53	0.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	1.46	1.83

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.531(In)
Area Averaged 100-Year Rainfall = 1.460(In)

Point rain (area averaged) = 0.913(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.913(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.250	86.70	0.100

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
86.7	86.7	0.168	0.100	0.153	1.000	0.153
					Sum (F) =	0.153

Area averaged mean soil loss (F) (In/Hr) = 0.153
Minimum soil loss rate ((In/Hr)) = 0.076
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	22.894	1.536	0.019
2	0.167	45.788	4.491	0.057
3	0.250	68.681	7.218	0.091
4	0.333	91.575	12.723	0.160
5	0.417	114.469	24.887	0.314
6	0.500	137.363	12.989	0.164
7	0.583	160.256	7.579	0.095
8	0.667	183.150	5.524	0.070
9	0.750	206.044	4.427	0.056
10	0.833	228.938	3.537	0.045
11	0.917	251.832	2.934	0.037
12	1.000	274.725	2.430	0.031
13	1.083	297.619	2.019	0.025
14	1.167	320.513	1.684	0.021
15	1.250	343.407	1.349	0.017
16	1.333	366.300	1.060	0.013
17	1.417	389.194	0.871	0.011
18	1.500	412.088	0.610	0.008
19	1.583	434.982	0.316	0.004
20	1.667	457.875	0.272	0.003
21	1.750	480.769	0.239	0.003
22	1.833	503.663	0.228	0.003
23	1.917	526.557	0.170	0.002
24	2.000	549.451	0.137	0.002
25	2.083	572.344	0.159	0.002
26	2.167	595.238	0.183	0.002
27	2.250	618.132	0.154	0.002
28	2.333	641.026	0.094	0.001
29	2.417	663.919	0.083	0.001
30	2.500	686.813	0.049	0.001
31	2.583	709.707	0.049	0.001
			Sum = 100.000	Sum= 1.260

Storm Event 2 Effective Rainfall = 0.329(In)

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	4.40	0.174	0.153	(0.156)	0.021
2	0.17	4.50	0.178	0.153	(0.160)	0.025
3	0.25	5.40	0.213	0.153	(0.192)	0.060
4	0.33	5.40	0.213	0.153	(0.192)	0.060
5	0.42	5.70	0.225	0.153	(0.202)	0.072
6	0.50	6.40	0.252	0.153	(0.227)	0.100

7	0.58	7.90	0.312	0.153	(0.280)	0.159
8	0.67	9.10	0.359	0.153	(0.323)	0.206
9	0.75	12.80	0.505	0.153	(0.454)	0.352
10	0.83	25.60	1.010	0.153	(0.909)	0.857
11	0.92	7.90	0.312	0.153	(0.280)	0.159
12	1.00	4.90	0.193	0.153	(0.174)	0.041

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.1

Flood volume = Effective rainfall 0.18(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.016(Ac.Ft)
Total rainfall = 0.33(In)
Flood volume = 799.6 Cubic Feet
Total soil loss = 692.1 Cubic Feet

Storm Event 1 Effective Rainfall = 0.913(In)

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	4.40	0.482	0.153	(	0.434)	0.330
2	0.17	4.50	0.493	0.153	(	0.444)	0.341
3	0.25	5.40	0.592	0.153	(	0.533)	0.439
4	0.33	5.40	0.592	0.153	(	0.533)	0.439
5	0.42	5.70	0.625	0.153	(	0.562)	0.472
6	0.50	6.40	0.701	0.153	(	0.631)	0.549
7	0.58	7.90	0.866	0.153	(	0.779)	0.713
8	0.67	9.10	0.997	0.153	(	0.897)	0.845
9	0.75	12.80	1.403	0.153	(	1.262)	1.250
10	0.83	25.60	2.805	0.153	(	2.525)	2.653
11	0.92	7.90	0.866	0.153	(	0.779)	0.713
12	1.00	4.90	0.537	0.153	(	0.483)	0.384

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.1

Flood volume = Effective rainfall 0.76(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.016(Ac.Ft)
Total rainfall = 0.91(In)
Flood volume = 3451.5 Cubic Feet
Total soil loss = 692.1 Cubic Feet

Peak flow rate of this hydrograph = 1.413(CFS)

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TOTAL OF: 2 1 - H O U R S T O R M E V E N T S
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	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0003	0.02	Q				
0+30	0.0005	0.03	Q				
0+35	0.0008	0.05	Q				
0+40	0.0013	0.07	Q				
0+45	0.0019	0.09	Q				
0+50	0.0028	0.14	QV				
0+55	0.0042	0.20	QV				
1+ 0	0.0060	0.26	|QV				
1+ 5	0.0060	0.01	Q V				
1+10	0.0062	0.03	Q V				

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1+15       0.0066      0.06  Q  V      |          |          |          |
1+20       0.0074      0.12  Q  V      |          |          |          |
1+25       0.0090      0.23  Q   V     |          |          |          |
1+30       0.0111      0.31  |Q   V    |          |          |          |
1+35       0.0138      0.38  |Q    V   |          |          |          |
1+40       0.0169      0.45  |Q     V  |          |          |          |
1+45       0.0205      0.53  | Q      V|          |          |          |
1+50       0.0251      0.67  | Q       |V         |          |          |
1+55       0.0310      0.85  |  Q      |   V      |          |          |
2+ 0       0.0380      1.02  |   Q     |      V   |          |          |
2+ 5       0.0465      1.23  |   Q     |          |V         |          |
2+10       0.0562      1.41  |    Q    |          |     V    |          |
2+15       0.0633      1.02  |   Q     |          |        V|          |
2+20       0.0682      0.72  | Q       |          |         | V        |
2+25       0.0717      0.50  | Q       |          |         |  V       |
2+30       0.0744      0.39  |Q        |          |         |   V      |
2+35       0.0765      0.31  |Q        |          |         |    V     |
2+40       0.0782      0.25  |Q        |          |         |     V    |
2+45       0.0796      0.21  Q         |          |         |      V   |
2+50       0.0808      0.17  Q         |          |         |      V   |
2+55       0.0818      0.14  Q         |          |         |       V  |
3+ 0       0.0825      0.11  Q         |          |         |       V  |
3+ 5       0.0831      0.09  Q         |          |         |       V  |
3+10       0.0836      0.07  Q         |          |         |        V |
3+15       0.0839      0.05  Q         |          |         |        V |
3+20       0.0841      0.03  Q         |          |         |        V |
3+25       0.0843      0.03  Q         |          |         |        V |
3+30       0.0845      0.02  Q         |          |         |        V |
3+35       0.0846      0.02  Q         |          |         |        V |
3+40       0.0847      0.02  Q         |          |         |        V |
3+45       0.0848      0.01  Q         |          |         |        V |
3+50       0.0849      0.01  Q         |          |         |        V |
3+55       0.0850      0.01  Q         |          |         |        V |
4+ 0       0.0851      0.01  Q         |          |         |        V |
4+ 5       0.0851      0.01  Q         |          |         |        V |
4+10       0.0852      0.01  Q         |          |         |        V |
4+15       0.0852      0.00  Q         |          |         |        V |
4+20       0.0852      0.00  Q         |          |         |        V |
4+25       0.0852      0.00  Q         |          |         |        V |
4+30       0.0852      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 11/01/21 File: 2030upa2410.out

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

Program License Serial Number 6434

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

English Units used in output format

PRE-DEVELOPED AREA A
10-YEAR 24-HOUR
AMCII

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.364 Hr.
Lag time = 21.84 Min.
25% of lag time = 5.46 Min.
40% of lag time = 8.74 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]
1.25	2.40	3.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	6.26	7.82

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.260(In)

Point rain (area averaged) = 3.988(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.988(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.250	86.70	0.100

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
86.7	86.7	0.168	0.100	0.153	1.000	0.153
					Sum (F) =	0.153

Area averaged mean soil loss (F) (In/Hr) = 0.153
Minimum soil loss rate ((In/Hr)) = 0.076
(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
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	22.894	1.536	0.019
2	0.167	45.788	4.491	0.057
3	0.250	68.681	7.218	0.091
4	0.333	91.575	12.723	0.160
5	0.417	114.469	24.887	0.314
6	0.500	137.363	12.989	0.164
7	0.583	160.256	7.579	0.095
8	0.667	183.150	5.524	0.070
9	0.750	206.044	4.427	0.056
10	0.833	228.938	3.537	0.045
11	0.917	251.832	2.934	0.037
12	1.000	274.725	2.430	0.031
13	1.083	297.619	2.019	0.025
14	1.167	320.513	1.684	0.021
15	1.250	343.407	1.349	0.017
16	1.333	366.300	1.060	0.013
17	1.417	389.194	0.871	0.011
18	1.500	412.088	0.610	0.008
19	1.583	434.982	0.316	0.004
20	1.667	457.875	0.272	0.003
21	1.750	480.769	0.239	0.003
22	1.833	503.663	0.228	0.003
23	1.917	526.557	0.170	0.002
24	2.000	549.451	0.137	0.002
25	2.083	572.344	0.159	0.002
26	2.167	595.238	0.183	0.002
27	2.250	618.132	0.154	0.002
28	2.333	641.026	0.094	0.001
29	2.417	663.919	0.083	0.001
30	2.500	686.813	0.049	0.001
31	2.583	709.707	0.049	0.001
			Sum = 100.000	Sum= 1.260

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	0.032	(0.270)	0.029	0.003
2	0.17	0.07	0.032	(0.269)	0.029	0.003
3	0.25	0.07	0.032	(0.268)	0.029	0.003
4	0.33	0.10	0.048	(0.267)	0.043	0.005
5	0.42	0.10	0.048	(0.266)	0.043	0.005
6	0.50	0.10	0.048	(0.265)	0.043	0.005
7	0.58	0.10	0.048	(0.264)	0.043	0.005
8	0.67	0.10	0.048	(0.263)	0.043	0.005
9	0.75	0.10	0.048	(0.262)	0.043	0.005
10	0.83	0.13	0.064	(0.261)	0.057	0.006
11	0.92	0.13	0.064	(0.260)	0.057	0.006
12	1.00	0.13	0.064	(0.259)	0.057	0.006

13	1.08	0.10	0.048	(0.258)	0.043	0.005
14	1.17	0.10	0.048	(0.257)	0.043	0.005
15	1.25	0.10	0.048	(0.256)	0.043	0.005
16	1.33	0.10	0.048	(0.255)	0.043	0.005
17	1.42	0.10	0.048	(0.254)	0.043	0.005
18	1.50	0.10	0.048	(0.253)	0.043	0.005
19	1.58	0.10	0.048	(0.252)	0.043	0.005
20	1.67	0.10	0.048	(0.251)	0.043	0.005
21	1.75	0.10	0.048	(0.250)	0.043	0.005
22	1.83	0.13	0.064	(0.249)	0.057	0.006
23	1.92	0.13	0.064	(0.248)	0.057	0.006
24	2.00	0.13	0.064	(0.247)	0.057	0.006
25	2.08	0.13	0.064	(0.246)	0.057	0.006
26	2.17	0.13	0.064	(0.245)	0.057	0.006
27	2.25	0.13	0.064	(0.244)	0.057	0.006
28	2.33	0.13	0.064	(0.243)	0.057	0.006
29	2.42	0.13	0.064	(0.242)	0.057	0.006
30	2.50	0.13	0.064	(0.241)	0.057	0.006
31	2.58	0.17	0.080	(0.240)	0.072	0.008
32	2.67	0.17	0.080	(0.239)	0.072	0.008
33	2.75	0.17	0.080	(0.238)	0.072	0.008
34	2.83	0.17	0.080	(0.237)	0.072	0.008
35	2.92	0.17	0.080	(0.236)	0.072	0.008
36	3.00	0.17	0.080	(0.235)	0.072	0.008
37	3.08	0.17	0.080	(0.234)	0.072	0.008
38	3.17	0.17	0.080	(0.233)	0.072	0.008
39	3.25	0.17	0.080	(0.232)	0.072	0.008
40	3.33	0.17	0.080	(0.231)	0.072	0.008
41	3.42	0.17	0.080	(0.230)	0.072	0.008
42	3.50	0.17	0.080	(0.229)	0.072	0.008
43	3.58	0.17	0.080	(0.228)	0.072	0.008
44	3.67	0.17	0.080	(0.227)	0.072	0.008
45	3.75	0.17	0.080	(0.226)	0.072	0.008
46	3.83	0.20	0.096	(0.225)	0.086	0.010
47	3.92	0.20	0.096	(0.224)	0.086	0.010
48	4.00	0.20	0.096	(0.223)	0.086	0.010
49	4.08	0.20	0.096	(0.223)	0.086	0.010
50	4.17	0.20	0.096	(0.222)	0.086	0.010
51	4.25	0.20	0.096	(0.221)	0.086	0.010
52	4.33	0.23	0.112	(0.220)	0.100	0.011
53	4.42	0.23	0.112	(0.219)	0.100	0.011
54	4.50	0.23	0.112	(0.218)	0.100	0.011
55	4.58	0.23	0.112	(0.217)	0.100	0.011
56	4.67	0.23	0.112	(0.216)	0.100	0.011
57	4.75	0.23	0.112	(0.215)	0.100	0.011
58	4.83	0.27	0.128	(0.214)	0.115	0.013
59	4.92	0.27	0.128	(0.213)	0.115	0.013
60	5.00	0.27	0.128	(0.212)	0.115	0.013
61	5.08	0.20	0.096	(0.211)	0.086	0.010
62	5.17	0.20	0.096	(0.210)	0.086	0.010
63	5.25	0.20	0.096	(0.209)	0.086	0.010
64	5.33	0.23	0.112	(0.209)	0.100	0.011
65	5.42	0.23	0.112	(0.208)	0.100	0.011
66	5.50	0.23	0.112	(0.207)	0.100	0.011
67	5.58	0.27	0.128	(0.206)	0.115	0.013
68	5.67	0.27	0.128	(0.205)	0.115	0.013
69	5.75	0.27	0.128	(0.204)	0.115	0.013
70	5.83	0.27	0.128	(0.203)	0.115	0.013
71	5.92	0.27	0.128	(0.202)	0.115	0.013
72	6.00	0.27	0.128	(0.201)	0.115	0.013
73	6.08	0.30	0.144	(0.200)	0.129	0.014
74	6.17	0.30	0.144	(0.200)	0.129	0.014
75	6.25	0.30	0.144	(0.199)	0.129	0.014
76	6.33	0.30	0.144	(0.198)	0.129	0.014
77	6.42	0.30	0.144	(0.197)	0.129	0.014
78	6.50	0.30	0.144	(0.196)	0.129	0.014
79	6.58	0.33	0.160	(0.195)	0.144	0.016
80	6.67	0.33	0.160	(0.194)	0.144	0.016
81	6.75	0.33	0.160	(0.193)	0.144	0.016
82	6.83	0.33	0.160	(0.193)	0.144	0.016
83	6.92	0.33	0.160	(0.192)	0.144	0.016

84	7.00	0.33	0.160	(	0.191)	0.144	0.016
85	7.08	0.33	0.160	(	0.190)	0.144	0.016
86	7.17	0.33	0.160	(	0.189)	0.144	0.016
87	7.25	0.33	0.160	(	0.188)	0.144	0.016
88	7.33	0.37	0.175	(	0.187)	0.158	0.018
89	7.42	0.37	0.175	(	0.186)	0.158	0.018
90	7.50	0.37	0.175	(	0.186)	0.158	0.018
91	7.58	0.40	0.191	(	0.185)	0.172	0.019
92	7.67	0.40	0.191	(	0.184)	0.172	0.019
93	7.75	0.40	0.191	(	0.183)	0.172	0.019
94	7.83	0.43	0.207		0.182	(0.187)	0.025
95	7.92	0.43	0.207		0.181	(0.187)	0.026
96	8.00	0.43	0.207		0.181	(0.187)	0.027
97	8.08	0.50	0.239		0.180	(0.215)	0.060
98	8.17	0.50	0.239		0.179	(0.215)	0.060
99	8.25	0.50	0.239		0.178	(0.215)	0.061
100	8.33	0.50	0.239		0.177	(0.215)	0.062
101	8.42	0.50	0.239		0.176	(0.215)	0.063
102	8.50	0.50	0.239		0.176	(0.215)	0.064
103	8.58	0.53	0.255		0.175	(0.230)	0.081
104	8.67	0.53	0.255		0.174	(0.230)	0.081
105	8.75	0.53	0.255		0.173	(0.230)	0.082
106	8.83	0.57	0.271		0.172	(0.244)	0.099
107	8.92	0.57	0.271		0.171	(0.244)	0.100
108	9.00	0.57	0.271		0.171	(0.244)	0.101
109	9.08	0.63	0.303		0.170	(0.273)	0.133
110	9.17	0.63	0.303		0.169	(0.273)	0.134
111	9.25	0.63	0.303		0.168	(0.273)	0.135
112	9.33	0.67	0.319		0.167	(0.287)	0.152
113	9.42	0.67	0.319		0.167	(0.287)	0.152
114	9.50	0.67	0.319		0.166	(0.287)	0.153
115	9.58	0.70	0.335		0.165	(0.301)	0.170
116	9.67	0.70	0.335		0.164	(0.301)	0.171
117	9.75	0.70	0.335		0.163	(0.301)	0.172
118	9.83	0.73	0.351		0.163	(0.316)	0.188
119	9.92	0.73	0.351		0.162	(0.316)	0.189
120	10.00	0.73	0.351		0.161	(0.316)	0.190
121	10.08	0.50	0.239		0.160	(0.215)	0.079
122	10.17	0.50	0.239		0.160	(0.215)	0.080
123	10.25	0.50	0.239		0.159	(0.215)	0.081
124	10.33	0.50	0.239		0.158	(0.215)	0.081
125	10.42	0.50	0.239		0.157	(0.215)	0.082
126	10.50	0.50	0.239		0.156	(0.215)	0.083
127	10.58	0.67	0.319		0.156	(0.287)	0.163
128	10.67	0.67	0.319		0.155	(0.287)	0.164
129	10.75	0.67	0.319		0.154	(0.287)	0.165
130	10.83	0.67	0.319		0.153	(0.287)	0.166
131	10.92	0.67	0.319		0.153	(0.287)	0.166
132	11.00	0.67	0.319		0.152	(0.287)	0.167
133	11.08	0.63	0.303		0.151	(0.273)	0.152
134	11.17	0.63	0.303		0.150	(0.273)	0.153
135	11.25	0.63	0.303		0.150	(0.273)	0.153
136	11.33	0.63	0.303		0.149	(0.273)	0.154
137	11.42	0.63	0.303		0.148	(0.273)	0.155
138	11.50	0.63	0.303		0.147	(0.273)	0.156
139	11.58	0.57	0.271		0.147	(0.244)	0.124
140	11.67	0.57	0.271		0.146	(0.244)	0.125
141	11.75	0.57	0.271		0.145	(0.244)	0.126
142	11.83	0.60	0.287		0.145	(0.258)	0.143
143	11.92	0.60	0.287		0.144	(0.258)	0.143
144	12.00	0.60	0.287		0.143	(0.258)	0.144
145	12.08	0.83	0.399		0.142	(0.359)	0.256
146	12.17	0.83	0.399		0.142	(0.359)	0.257
147	12.25	0.83	0.399		0.141	(0.359)	0.258
148	12.33	0.87	0.415		0.140	(0.373)	0.274
149	12.42	0.87	0.415		0.140	(0.373)	0.275
150	12.50	0.87	0.415		0.139	(0.373)	0.276
151	12.58	0.93	0.447		0.138	(0.402)	0.309
152	12.67	0.93	0.447		0.137	(0.402)	0.309
153	12.75	0.93	0.447		0.137	(0.402)	0.310
154	12.83	0.97	0.463		0.136	(0.416)	0.327

155	12.92	0.97	0.463	0.135	(0.416)	0.327
156	13.00	0.97	0.463	0.135	(0.416)	0.328
157	13.08	1.13	0.542	0.134	(0.488)	0.408
158	13.17	1.13	0.542	0.133	(0.488)	0.409
159	13.25	1.13	0.542	0.133	(0.488)	0.410
160	13.33	1.13	0.542	0.132	(0.488)	0.410
161	13.42	1.13	0.542	0.131	(0.488)	0.411
162	13.50	1.13	0.542	0.131	(0.488)	0.412
163	13.58	0.77	0.367	0.130	(0.330)	0.237
164	13.67	0.77	0.367	0.129	(0.330)	0.238
165	13.75	0.77	0.367	0.129	(0.330)	0.238
166	13.83	0.77	0.367	0.128	(0.330)	0.239
167	13.92	0.77	0.367	0.127	(0.330)	0.240
168	14.00	0.77	0.367	0.127	(0.330)	0.240
169	14.08	0.90	0.431	0.126	(0.388)	0.305
170	14.17	0.90	0.431	0.125	(0.388)	0.305
171	14.25	0.90	0.431	0.125	(0.388)	0.306
172	14.33	0.87	0.415	0.124	(0.373)	0.291
173	14.42	0.87	0.415	0.123	(0.373)	0.291
174	14.50	0.87	0.415	0.123	(0.373)	0.292
175	14.58	0.87	0.415	0.122	(0.373)	0.293
176	14.67	0.87	0.415	0.122	(0.373)	0.293
177	14.75	0.87	0.415	0.121	(0.373)	0.294
178	14.83	0.83	0.399	0.120	(0.359)	0.278
179	14.92	0.83	0.399	0.120	(0.359)	0.279
180	15.00	0.83	0.399	0.119	(0.359)	0.280
181	15.08	0.80	0.383	0.119	(0.345)	0.264
182	15.17	0.80	0.383	0.118	(0.345)	0.265
183	15.25	0.80	0.383	0.117	(0.345)	0.266
184	15.33	0.77	0.367	0.117	(0.330)	0.250
185	15.42	0.77	0.367	0.116	(0.330)	0.251
186	15.50	0.77	0.367	0.116	(0.330)	0.251
187	15.58	0.63	0.303	0.115	(0.273)	0.188
188	15.67	0.63	0.303	0.114	(0.273)	0.189
189	15.75	0.63	0.303	0.114	(0.273)	0.189
190	15.83	0.63	0.303	0.113	(0.273)	0.190
191	15.92	0.63	0.303	0.113	(0.273)	0.191
192	16.00	0.63	0.303	0.112	(0.273)	0.191
193	16.08	0.13	0.064	(0.111)	0.057	0.006
194	16.17	0.13	0.064	(0.111)	0.057	0.006
195	16.25	0.13	0.064	(0.110)	0.057	0.006
196	16.33	0.13	0.064	(0.110)	0.057	0.006
197	16.42	0.13	0.064	(0.109)	0.057	0.006
198	16.50	0.13	0.064	(0.109)	0.057	0.006
199	16.58	0.10	0.048	(0.108)	0.043	0.005
200	16.67	0.10	0.048	(0.108)	0.043	0.005
201	16.75	0.10	0.048	(0.107)	0.043	0.005
202	16.83	0.10	0.048	(0.106)	0.043	0.005
203	16.92	0.10	0.048	(0.106)	0.043	0.005
204	17.00	0.10	0.048	(0.105)	0.043	0.005
205	17.08	0.17	0.080	(0.105)	0.072	0.008
206	17.17	0.17	0.080	(0.104)	0.072	0.008
207	17.25	0.17	0.080	(0.104)	0.072	0.008
208	17.33	0.17	0.080	(0.103)	0.072	0.008
209	17.42	0.17	0.080	(0.103)	0.072	0.008
210	17.50	0.17	0.080	(0.102)	0.072	0.008
211	17.58	0.17	0.080	(0.102)	0.072	0.008
212	17.67	0.17	0.080	(0.101)	0.072	0.008
213	17.75	0.17	0.080	(0.101)	0.072	0.008
214	17.83	0.13	0.064	(0.100)	0.057	0.006
215	17.92	0.13	0.064	(0.100)	0.057	0.006
216	18.00	0.13	0.064	(0.099)	0.057	0.006
217	18.08	0.13	0.064	(0.099)	0.057	0.006
218	18.17	0.13	0.064	(0.098)	0.057	0.006
219	18.25	0.13	0.064	(0.098)	0.057	0.006
220	18.33	0.13	0.064	(0.097)	0.057	0.006
221	18.42	0.13	0.064	(0.097)	0.057	0.006
222	18.50	0.13	0.064	(0.096)	0.057	0.006
223	18.58	0.10	0.048	(0.096)	0.043	0.005
224	18.67	0.10	0.048	(0.095)	0.043	0.005
225	18.75	0.10	0.048	(0.095)	0.043	0.005

226	18.83	0.07	0.032	(0.094)	0.029	0.003
227	18.92	0.07	0.032	(0.094)	0.029	0.003
228	19.00	0.07	0.032	(0.094)	0.029	0.003
229	19.08	0.10	0.048	(0.093)	0.043	0.005
230	19.17	0.10	0.048	(0.093)	0.043	0.005
231	19.25	0.10	0.048	(0.092)	0.043	0.005
232	19.33	0.13	0.064	(0.092)	0.057	0.006
233	19.42	0.13	0.064	(0.091)	0.057	0.006
234	19.50	0.13	0.064	(0.091)	0.057	0.006
235	19.58	0.10	0.048	(0.091)	0.043	0.005
236	19.67	0.10	0.048	(0.090)	0.043	0.005
237	19.75	0.10	0.048	(0.090)	0.043	0.005
238	19.83	0.07	0.032	(0.089)	0.029	0.003
239	19.92	0.07	0.032	(0.089)	0.029	0.003
240	20.00	0.07	0.032	(0.089)	0.029	0.003
241	20.08	0.10	0.048	(0.088)	0.043	0.005
242	20.17	0.10	0.048	(0.088)	0.043	0.005
243	20.25	0.10	0.048	(0.087)	0.043	0.005
244	20.33	0.10	0.048	(0.087)	0.043	0.005
245	20.42	0.10	0.048	(0.087)	0.043	0.005
246	20.50	0.10	0.048	(0.086)	0.043	0.005
247	20.58	0.10	0.048	(0.086)	0.043	0.005
248	20.67	0.10	0.048	(0.086)	0.043	0.005
249	20.75	0.10	0.048	(0.085)	0.043	0.005
250	20.83	0.07	0.032	(0.085)	0.029	0.003
251	20.92	0.07	0.032	(0.085)	0.029	0.003
252	21.00	0.07	0.032	(0.084)	0.029	0.003
253	21.08	0.10	0.048	(0.084)	0.043	0.005
254	21.17	0.10	0.048	(0.084)	0.043	0.005
255	21.25	0.10	0.048	(0.083)	0.043	0.005
256	21.33	0.07	0.032	(0.083)	0.029	0.003
257	21.42	0.07	0.032	(0.083)	0.029	0.003
258	21.50	0.07	0.032	(0.082)	0.029	0.003
259	21.58	0.10	0.048	(0.082)	0.043	0.005
260	21.67	0.10	0.048	(0.082)	0.043	0.005
261	21.75	0.10	0.048	(0.081)	0.043	0.005
262	21.83	0.07	0.032	(0.081)	0.029	0.003
263	21.92	0.07	0.032	(0.081)	0.029	0.003
264	22.00	0.07	0.032	(0.081)	0.029	0.003
265	22.08	0.10	0.048	(0.080)	0.043	0.005
266	22.17	0.10	0.048	(0.080)	0.043	0.005
267	22.25	0.10	0.048	(0.080)	0.043	0.005
268	22.33	0.07	0.032	(0.080)	0.029	0.003
269	22.42	0.07	0.032	(0.079)	0.029	0.003
270	22.50	0.07	0.032	(0.079)	0.029	0.003
271	22.58	0.07	0.032	(0.079)	0.029	0.003
272	22.67	0.07	0.032	(0.079)	0.029	0.003
273	22.75	0.07	0.032	(0.078)	0.029	0.003
274	22.83	0.07	0.032	(0.078)	0.029	0.003
275	22.92	0.07	0.032	(0.078)	0.029	0.003
276	23.00	0.07	0.032	(0.078)	0.029	0.003
277	23.08	0.07	0.032	(0.078)	0.029	0.003
278	23.17	0.07	0.032	(0.077)	0.029	0.003
279	23.25	0.07	0.032	(0.077)	0.029	0.003
280	23.33	0.07	0.032	(0.077)	0.029	0.003
281	23.42	0.07	0.032	(0.077)	0.029	0.003
282	23.50	0.07	0.032	(0.077)	0.029	0.003
283	23.58	0.07	0.032	(0.077)	0.029	0.003
284	23.67	0.07	0.032	(0.077)	0.029	0.003
285	23.75	0.07	0.032	(0.076)	0.029	0.003
286	23.83	0.07	0.032	(0.076)	0.029	0.003
287	23.92	0.07	0.032	(0.076)	0.029	0.003
288	24.00	0.07	0.032	(0.076)	0.029	0.003

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.1

Flood volume = Effective rainfall 1.76(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 2.23(In)
Total soil loss = 0.232(Ac.Ft)
Total rainfall = 3.99(In)
Flood volume = 7979.7 Cubic Feet

Total soil loss = 10116.0 Cubic Feet

Peak flow rate of this hydrograph = 0.473(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	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0000	0.00	Q				
0+25	0.0000	0.00	Q				
0+30	0.0000	0.00	Q				
0+35	0.0001	0.00	Q				
0+40	0.0001	0.00	Q				
0+45	0.0001	0.00	Q				
0+50	0.0002	0.00	Q				
0+55	0.0002	0.01	Q				
1+ 0	0.0002	0.01	Q				
1+ 5	0.0003	0.01	Q				
1+10	0.0003	0.01	Q				
1+15	0.0004	0.01	Q				
1+20	0.0004	0.01	Q				
1+25	0.0005	0.01	Q				
1+30	0.0005	0.01	Q				
1+35	0.0005	0.01	Q				
1+40	0.0006	0.01	Q				
1+45	0.0006	0.01	Q				
1+50	0.0007	0.01	Q				
1+55	0.0007	0.01	Q				
2+ 0	0.0008	0.01	Q				
2+ 5	0.0008	0.01	Q				
2+10	0.0009	0.01	Q				
2+15	0.0009	0.01	Q				
2+20	0.0010	0.01	Q				
2+25	0.0010	0.01	Q				
2+30	0.0011	0.01	Q				
2+35	0.0011	0.01	Q				
2+40	0.0012	0.01	Q				
2+45	0.0012	0.01	Q				
2+50	0.0013	0.01	Q				
2+55	0.0013	0.01	Q				
3+ 0	0.0014	0.01	Q				
3+ 5	0.0015	0.01	Q				
3+10	0.0015	0.01	Q				
3+15	0.0016	0.01	Q				
3+20	0.0017	0.01	Q				
3+25	0.0017	0.01	Q				
3+30	0.0018	0.01	Q				
3+35	0.0019	0.01	Q				
3+40	0.0019	0.01	Q				
3+45	0.0020	0.01	Q				
3+50	0.0021	0.01	Q				
3+55	0.0021	0.01	Q				
4+ 0	0.0022	0.01	Q				
4+ 5	0.0023	0.01	Q				
4+10	0.0024	0.01	Q				
4+15	0.0024	0.01	Q				
4+20	0.0025	0.01	Q				
4+25	0.0026	0.01	Q				
4+30	0.0027	0.01	Q				
4+35	0.0028	0.01	Q				
4+40	0.0029	0.01	Q				
4+45	0.0030	0.01	Q				
4+50	0.0030	0.01	Q				

4+55	0.0031	0.01	Q	|	|	|	|
5+ 0	0.0032	0.01	Q	|	|	|	|
5+ 5	0.0033	0.01	Q	|	|	|	|
5+10	0.0034	0.01	Q	|	|	|	|
5+15	0.0035	0.01	Q	|	|	|	|
5+20	0.0036	0.01	Q	|	|	|	|
5+25	0.0037	0.01	Q	|	|	|	|
5+30	0.0038	0.01	Q	|	|	|	|
5+35	0.0039	0.01	Q	|	|	|	|
5+40	0.0040	0.01	Q	|	|	|	|
5+45	0.0041	0.01	Q	|	|	|	|
5+50	0.0042	0.01	Q	|	|	|	|
5+55	0.0043	0.01	Q	|	|	|	|
6+ 0	0.0044	0.02	Q	|	|	|	|
6+ 5	0.0045	0.02	Q	|	|	|	|
6+10	0.0046	0.02	QV	|	|	|	|
6+15	0.0047	0.02	QV	|	|	|	|
6+20	0.0048	0.02	QV	|	|	|	|
6+25	0.0050	0.02	QV	|	|	|	|
6+30	0.0051	0.02	QV	|	|	|	|
6+35	0.0052	0.02	QV	|	|	|	|
6+40	0.0053	0.02	QV	|	|	|	|
6+45	0.0054	0.02	QV	|	|	|	|
6+50	0.0056	0.02	QV	|	|	|	|
6+55	0.0057	0.02	QV	|	|	|	|
7+ 0	0.0058	0.02	QV	|	|	|	|
7+ 5	0.0060	0.02	QV	|	|	|	|
7+10	0.0061	0.02	QV	|	|	|	|
7+15	0.0062	0.02	QV	|	|	|	|
7+20	0.0064	0.02	QV	|	|	|	|
7+25	0.0065	0.02	QV	|	|	|	|
7+30	0.0066	0.02	QV	|	|	|	|
7+35	0.0068	0.02	QV	|	|	|	|
7+40	0.0069	0.02	QV	|	|	|	|
7+45	0.0071	0.02	QV	|	|	|	|
7+50	0.0072	0.02	QV	|	|	|	|
7+55	0.0074	0.02	QV	|	|	|	|
8+ 0	0.0076	0.02	QV	|	|	|	|
8+ 5	0.0077	0.03	QV	|	|	|	|
8+10	0.0079	0.03	QV	|	|	|	|
8+15	0.0082	0.03	QV	|	|	|	|
8+20	0.0085	0.04	QV	|	|	|	|
8+25	0.0088	0.05	QV	|	|	|	|
8+30	0.0092	0.06	Q V	|	|	|	|
8+35	0.0097	0.06	Q V	|	|	|	|
8+40	0.0101	0.07	Q V	|	|	|	|
8+45	0.0106	0.07	Q V	|	|	|	|
8+50	0.0112	0.08	Q V	|	|	|	|
8+55	0.0118	0.09	Q V	|	|	|	|
9+ 0	0.0124	0.09	Q V	|	|	|	|
9+ 5	0.0131	0.10	Q V	|	|	|	|
9+10	0.0138	0.11	Q V	|	|	|	|
9+15	0.0146	0.12	Q V	|	|	|	|
9+20	0.0155	0.13	Q V	|	|	|	|
9+25	0.0164	0.14	Q V	|	|	|	|
9+30	0.0175	0.15	Q V	|	|	|	|
9+35	0.0185	0.16	Q V	|	|	|	|
9+40	0.0197	0.17	Q V	|	|	|	|
9+45	0.0209	0.17	Q V	|	|	|	|
9+50	0.0221	0.18	Q V	|	|	|	|
9+55	0.0235	0.19	Q V	|	|	|	|
10+ 0	0.0248	0.20	Q V	|	|	|	|
10+ 5	0.0262	0.20	Q V	|	|	|	|
10+10	0.0277	0.21	Q V	|	|	|	|
10+15	0.0291	0.20	Q V	|	|	|	|
10+20	0.0304	0.19	Q V	|	|	|	|
10+25	0.0314	0.16	Q V	|	|	|	|
10+30	0.0324	0.14	Q V	|	|	|	|
10+35	0.0334	0.14	Q V	|	|	|	|
10+40	0.0343	0.13	Q V	|	|	|	|
10+45	0.0352	0.14	Q V	|	|	|	|

10+50	0.0362	0.15	Q V	|	|	|	|
10+55	0.0374	0.17	Q V	|	|	|	|
11+ 0	0.0386	0.18	Q V	|	|	|	|
11+ 5	0.0399	0.19	Q V	|	|	|	|
11+10	0.0412	0.19	Q V	|	|	|	|
11+15	0.0426	0.19	Q V	|	|	|	|
11+20	0.0439	0.19	Q V	|	|	|	|
11+25	0.0452	0.19	Q V	|	|	|	|
11+30	0.0465	0.19	Q V	|	|	|	|
11+35	0.0478	0.19	Q V	|	|	|	|
11+40	0.0491	0.19	Q V	|	|	|	|
11+45	0.0504	0.19	Q |V	|	|	|	|
11+50	0.0517	0.19	Q |V	|	|	|	|
11+55	0.0529	0.18	Q |V	|	|	|	|
12+ 0	0.0541	0.17	Q |V	|	|	|	|
12+ 5	0.0553	0.18	Q | V	|	|	|	|
12+10	0.0566	0.19	Q | V	|	|	|	|
12+15	0.0580	0.20	Q | V	|	|	|	|
12+20	0.0595	0.22	Q | V	|	|	|	|
12+25	0.0612	0.25	|Q | V	|	|	|	|
12+30	0.0631	0.27	|Q | V	|	|	|	|
12+35	0.0651	0.29	|Q | V	|	|	|	|
12+40	0.0672	0.30	|Q | V	|	|	|	|
12+45	0.0694	0.32	|Q | V	|	|	|	|
12+50	0.0717	0.33	|Q | V	|	|	|	|
12+55	0.0740	0.35	|Q | V	|	|	|	|
13+ 0	0.0765	0.36	|Q | V	|	|	|	|
13+ 5	0.0791	0.37	|Q | V	|	|	|	|
13+10	0.0817	0.39	|Q | V	|	|	|	|
13+15	0.0845	0.40	|Q | V	|	|	|	|
13+20	0.0874	0.42	|Q | V	|	|	|	|
13+25	0.0905	0.45	|Q | V	|	|	|	|
13+30	0.0937	0.47	|Q | V	|	|	|	|
13+35	0.0969	0.47	|Q | V	|	|	|	|
13+40	0.1002	0.47	|Q | V	|	|	|	|
13+45	0.1034	0.46	|Q | V	|	|	|	|
13+50	0.1064	0.44	|Q | V	|	|	|	|
13+55	0.1091	0.39	|Q | V	|	|	|	|
14+ 0	0.1116	0.36	|Q | V	|	|	|	|
14+ 5	0.1140	0.35	|Q | V	|	|	|	|
14+10	0.1164	0.35	|Q | V	|	|	|	|
14+15	0.1188	0.35	|Q | V	|	|	|	|
14+20	0.1212	0.35	|Q | V	|	|	|	|
14+25	0.1237	0.36	|Q | V	|	|	|	|
14+30	0.1263	0.37	|Q | V	|	|	|	|
14+35	0.1288	0.37	|Q | V	|	|	|	|
14+40	0.1314	0.37	|Q | V	|	|	|	|
14+45	0.1339	0.37	|Q | V	|	|	|	|
14+50	0.1364	0.37	|Q | V	|	|	|	|
14+55	0.1389	0.37	|Q | V	|	|	|	|
15+ 0	0.1414	0.37	|Q | V	|	|	|	|
15+ 5	0.1440	0.36	|Q | V	|	|	|	|
15+10	0.1464	0.36	|Q | V	|	|	|	|
15+15	0.1489	0.36	|Q | V	|	|	|	|
15+20	0.1513	0.35	|Q | V	|	|	|	|
15+25	0.1537	0.35	|Q | V	|	|	|	|
15+30	0.1560	0.34	|Q | V	|	|	|	|
15+35	0.1583	0.34	|Q | V	|	|	|	|
15+40	0.1606	0.33	|Q | V	|	|	|	|
15+45	0.1628	0.32	|Q | V	|	|	|	|
15+50	0.1649	0.30	|Q | V	|	|	|	|
15+55	0.1668	0.28	|Q | V	|	|	|	|
16+ 0	0.1687	0.27	|Q | V	|	|	|	|
16+ 5	0.1705	0.26	|Q | V	|	|	|	|
16+10	0.1722	0.25	Q | V	|	|	|	|
16+15	0.1738	0.23	Q | V	|	|	|	|
16+20	0.1751	0.19	Q | V	|	|	|	|
16+25	0.1760	0.13	Q | V	|	|	|	|
16+30	0.1767	0.10	Q | V	|	|	|	|
16+35	0.1773	0.08	Q | V	|	|	|	|
16+40	0.1777	0.07	Q | V	|	|	|	|

16+45	0.1781	0.06	Q	|	|	|	V |
16+50	0.1784	0.05	Q	|	|	|	V |
16+55	0.1787	0.04	Q	|	|	|	V|
17+ 0	0.1789	0.03	Q	|	|	|	V|
17+ 5	0.1791	0.03	Q	|	|	|	V|
17+10	0.1792	0.02	Q	|	|	|	V|
17+15	0.1794	0.02	Q	|	|	|	V|
17+20	0.1795	0.02	Q	|	|	|	V|
17+25	0.1796	0.02	Q	|	|	|	V|
17+30	0.1797	0.01	Q	|	|	|	V|
17+35	0.1798	0.01	Q	|	|	|	V|
17+40	0.1799	0.01	Q	|	|	|	V|
17+45	0.1799	0.01	Q	|	|	|	V|
17+50	0.1800	0.01	Q	|	|	|	V|
17+55	0.1801	0.01	Q	|	|	|	V|
18+ 0	0.1802	0.01	Q	|	|	|	V|
18+ 5	0.1803	0.01	Q	|	|	|	V|
18+10	0.1803	0.01	Q	|	|	|	V|
18+15	0.1804	0.01	Q	|	|	|	V|
18+20	0.1805	0.01	Q	|	|	|	V|
18+25	0.1805	0.01	Q	|	|	|	V|
18+30	0.1806	0.01	Q	|	|	|	V|
18+35	0.1806	0.01	Q	|	|	|	V|
18+40	0.1807	0.01	Q	|	|	|	V|
18+45	0.1807	0.01	Q	|	|	|	V|
18+50	0.1808	0.01	Q	|	|	|	V|
18+55	0.1808	0.01	Q	|	|	|	V|
19+ 0	0.1809	0.01	Q	|	|	|	V|
19+ 5	0.1809	0.01	Q	|	|	|	V|
19+10	0.1810	0.01	Q	|	|	|	V|
19+15	0.1810	0.01	Q	|	|	|	V|
19+20	0.1810	0.01	Q	|	|	|	V|
19+25	0.1811	0.01	Q	|	|	|	V|
19+30	0.1811	0.01	Q	|	|	|	V|
19+35	0.1812	0.01	Q	|	|	|	V|
19+40	0.1812	0.01	Q	|	|	|	V|
19+45	0.1813	0.01	Q	|	|	|	V|
19+50	0.1813	0.01	Q	|	|	|	V|
19+55	0.1814	0.01	Q	|	|	|	V|
20+ 0	0.1814	0.01	Q	|	|	|	V|
20+ 5	0.1814	0.01	Q	|	|	|	V|
20+10	0.1815	0.01	Q	|	|	|	V|
20+15	0.1815	0.01	Q	|	|	|	V|
20+20	0.1815	0.01	Q	|	|	|	V|
20+25	0.1816	0.01	Q	|	|	|	V|
20+30	0.1816	0.01	Q	|	|	|	V|
20+35	0.1817	0.01	Q	|	|	|	V|
20+40	0.1817	0.01	Q	|	|	|	V|
20+45	0.1817	0.01	Q	|	|	|	V|
20+50	0.1818	0.01	Q	|	|	|	V|
20+55	0.1818	0.01	Q	|	|	|	V|
21+ 0	0.1819	0.01	Q	|	|	|	V|
21+ 5	0.1819	0.01	Q	|	|	|	V|
21+10	0.1819	0.01	Q	|	|	|	V|
21+15	0.1820	0.00	Q	|	|	|	V|
21+20	0.1820	0.01	Q	|	|	|	V|
21+25	0.1820	0.01	Q	|	|	|	V|
21+30	0.1821	0.01	Q	|	|	|	V|
21+35	0.1821	0.01	Q	|	|	|	V|
21+40	0.1822	0.00	Q	|	|	|	V|
21+45	0.1822	0.00	Q	|	|	|	V|
21+50	0.1822	0.00	Q	|	|	|	V|
21+55	0.1823	0.01	Q	|	|	|	V|
22+ 0	0.1823	0.01	Q	|	|	|	V|
22+ 5	0.1823	0.01	Q	|	|	|	V|
22+10	0.1824	0.00	Q	|	|	|	V|
22+15	0.1824	0.00	Q	|	|	|	V|
22+20	0.1824	0.00	Q	|	|	|	V|
22+25	0.1825	0.01	Q	|	|	|	V|
22+30	0.1825	0.01	Q	|	|	|	V|
22+35	0.1825	0.01	Q	|	|	|	V|

22+40	0.1826	0.00	Q	|	|	|	V|
22+45	0.1826	0.00	Q	|	|	|	V|
22+50	0.1826	0.00	Q	|	|	|	V|
22+55	0.1827	0.00	Q	|	|	|	V|
23+ 0	0.1827	0.00	Q	|	|	|	V|
23+ 5	0.1827	0.00	Q	|	|	|	V|
23+10	0.1827	0.00	Q	|	|	|	V|
23+15	0.1828	0.00	Q	|	|	|	V|
23+20	0.1828	0.00	Q	|	|	|	V|
23+25	0.1828	0.00	Q	|	|	|	V|
23+30	0.1829	0.00	Q	|	|	|	V|
23+35	0.1829	0.00	Q	|	|	|	V|
23+40	0.1829	0.00	Q	|	|	|	V|
23+45	0.1829	0.00	Q	|	|	|	V|
23+50	0.1830	0.00	Q	|	|	|	V|
23+55	0.1830	0.00	Q	|	|	|	V|
24+ 0	0.1830	0.00	Q	|	|	|	V|
24+ 5	0.1831	0.00	Q	|	|	|	V|
24+10	0.1831	0.00	Q	|	|	|	V|
24+15	0.1831	0.00	Q	|	|	|	V|
24+20	0.1831	0.00	Q	|	|	|	V|
24+25	0.1831	0.00	Q	|	|	|	V|
24+30	0.1831	0.00	Q	|	|	|	V|
24+35	0.1832	0.00	Q	|	|	|	V|
24+40	0.1832	0.00	Q	|	|	|	V|
24+45	0.1832	0.00	Q	|	|	|	V|
24+50	0.1832	0.00	Q	|	|	|	V|
24+55	0.1832	0.00	Q	|	|	|	V|
25+ 0	0.1832	0.00	Q	|	|	|	V|
25+ 5	0.1832	0.00	Q	|	|	|	V|
25+10	0.1832	0.00	Q	|	|	|	V|
25+15	0.1832	0.00	Q	|	|	|	V|
25+20	0.1832	0.00	Q	|	|	|	V|
25+25	0.1832	0.00	Q	|	|	|	V|
25+30	0.1832	0.00	Q	|	|	|	V|
25+35	0.1832	0.00	Q	|	|	|	V|
25+40	0.1832	0.00	Q	|	|	|	V|
25+45	0.1832	0.00	Q	|	|	|	V|
25+50	0.1832	0.00	Q	|	|	|	V|
25+55	0.1832	0.00	Q	|	|	|	V|
26+ 0	0.1832	0.00	Q	|	|	|	V|
26+ 5	0.1832	0.00	Q	|	|	|	V|
26+10	0.1832	0.00	Q	|	|	|	V|
26+15	0.1832	0.00	Q	|	|	|	V|
26+20	0.1832	0.00	Q	|	|	|	V|
26+25	0.1832	0.00	Q	|	|	|	V|
26+30	0.1832	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 10/30/21 File: 2030upa1100.out

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

Program License Serial Number 6434

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

English Units used in output format

PRE-DEVELOPED AREA A
100-YEAR 1-HOUR
AMC III

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.315 Hr.
Lag time = 18.90 Min.
25% of lag time = 4.72 Min.
40% of lag time = 7.56 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	0.53	0.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	1.46	1.83

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.531(In)
Area Averaged 100-Year Rainfall = 1.460(In)

Point rain (area averaged) = 1.460(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.460(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.250	86.70	0.100

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
86.7	94.7	0.069	0.100	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.031
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	26.455	1.834	0.023
2	0.167	52.910	5.614	0.071
3	0.250	79.365	9.917	0.125
4	0.333	105.820	21.929	0.276
5	0.417	132.275	21.579	0.272
6	0.500	158.730	9.581	0.121
7	0.583	185.185	6.526	0.082
8	0.667	211.640	5.025	0.063
9	0.750	238.095	3.898	0.049
10	0.833	264.550	3.160	0.040
11	0.917	291.005	2.527	0.032
12	1.000	317.460	2.057	0.026
13	1.083	343.915	1.609	0.020
14	1.167	370.370	1.224	0.015
15	1.250	396.825	0.956	0.012
16	1.333	423.280	0.582	0.007
17	1.417	449.735	0.321	0.004
18	1.500	476.190	0.292	0.004
19	1.583	502.646	0.264	0.003
20	1.667	529.101	0.202	0.003
21	1.750	555.556	0.160	0.002
22	1.833	582.011	0.195	0.002
23	1.917	608.466	0.206	0.003
24	2.000	634.921	0.130	0.002
25	2.083	661.376	0.101	0.001
26	2.167	687.831	0.062	0.001
27	2.250	714.286	0.051	0.001
			Sum = 100.000	Sum= 1.260

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	4.40	0.771	0.063	(0.694)	0.708
2	0.17	4.50	0.788	0.063	(0.710)	0.725
3	0.25	5.40	0.946	0.063	(0.851)	0.883
4	0.33	5.40	0.946	0.063	(0.851)	0.883
5	0.42	5.70	0.999	0.063	(0.899)	0.936
6	0.50	6.40	1.121	0.063	(1.009)	1.058
7	0.58	7.90	1.384	0.063	(1.246)	1.321
8	0.67	9.10	1.594	0.063	(1.435)	1.531
9	0.75	12.80	2.243	0.063	(2.018)	2.180
10	0.83	25.60	4.485	0.063	(4.037)	4.422
11	0.92	7.90	1.384	0.063	(1.246)	1.321
12	1.00	4.90	0.858	0.063	(0.773)	0.796
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	16.8

```
      Flood volume = Effective rainfall      1.40(In)
       times area       1.3(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
      Total soil loss =      0.06(In)
      Total soil loss =     0.007(Ac.Ft)
      Total rainfall =      1.46(In)
      Flood volume =        6339.1 Cubic Feet
      Total soil loss =         285.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.540(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          1 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.02  Q         |         |         |         |
   0+10       0.0006      0.07  Q         |         |         |         |
   0+15       0.0017      0.16  Q         |         |         |         |
   0+20       0.0042      0.37  |Q        |         |         |         |
   0+25       0.0083      0.59  | Q       |         |         |         |
   0+30       0.0133      0.73  | QV      |         |         |         |
   0+35       0.0192      0.85  |  Q V    |         |         |         |
   0+40       0.0258      0.97  |  Q   V  |         |         |         |
   0+45       0.0336      1.13  |   Q    V|         |         |         |
   0+50       0.0433      1.41  |    Q    |V        |         |         |
   0+55       0.0554      1.75  |      Q  |    V    |         |         |
   1+ 0       0.0699      2.11  |       Q |        V|         |         |
   1+ 5       0.0874      2.54  |         Q         |   V     |         |
   1+10       0.1033      2.31  |         Q|        |       V |         |
   1+15       0.1142      1.59  |     Q    |        |         |V        |
   1+20       0.1219      1.11  |   Q      |        |         |  V      |
   1+25       0.1272      0.77  |  Q       |        |         |   V     |
   1+30       0.1313      0.59  | Q        |        |         |     V   |
   1+35       0.1345      0.47  |Q         |        |         |     V   |
   1+40       0.1371      0.37  |Q         |        |         |      V  |
   1+45       0.1391      0.29  |Q         |        |         |       V |
   1+50       0.1407      0.23  Q          |        |         |       V |
   1+55       0.1419      0.17  Q          |        |         |       V |
   2+ 0       0.1427      0.13  Q          |        |         |        V|
   2+ 5       0.1434      0.09  Q          |        |         |        V|
   2+10       0.1438      0.06  Q          |        |         |        V|
   2+15       0.1442      0.05  Q          |        |         |        V|
   2+20       0.1444      0.04  Q          |        |         |        V|
   2+25       0.1447      0.03  Q          |        |         |        V|
   2+30       0.1449      0.03  Q          |        |         |        V|
   2+35       0.1451      0.03  Q          |        |         |        V|
   2+40       0.1452      0.02  Q          |        |         |        V|
   2+45       0.1453      0.02  Q          |        |         |        V|
   2+50       0.1454      0.01  Q          |        |         |        V|
   2+55       0.1455      0.01  Q          |        |         |        V|
   3+ 0       0.1455      0.00  Q          |        |         |        V|
   3+ 5       0.1455      0.00  Q          |        |         |        V|
   3+10       0.1455      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 10/30/21 File: 2030upa24100.out

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

Program License Serial Number 6434

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

English Units used in output format

PRE-DEVELOPED AREA A
100-Year 24-Hour
AMC III

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.315 Hr.
Lag time = 18.90 Min.
25% of lag time = 4.72 Min.
40% of lag time = 7.56 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]
1.25	2.40	3.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	6.26	7.82

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.260(In)

Point rain (area averaged) = 6.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 6.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.250	86.70	0.100

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
86.7	94.7	0.069	0.100	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.031
(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
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	26.455	1.834	0.023
2	0.167	52.910	5.614	0.071
3	0.250	79.365	9.917	0.125
4	0.333	105.820	21.929	0.276
5	0.417	132.275	21.579	0.272
6	0.500	158.730	9.581	0.121
7	0.583	185.185	6.526	0.082
8	0.667	211.640	5.025	0.063
9	0.750	238.095	3.898	0.049
10	0.833	264.550	3.160	0.040
11	0.917	291.005	2.527	0.032
12	1.000	317.460	2.057	0.026
13	1.083	343.915	1.609	0.020
14	1.167	370.370	1.224	0.015
15	1.250	396.825	0.956	0.012
16	1.333	423.280	0.582	0.007
17	1.417	449.735	0.321	0.004
18	1.500	476.190	0.292	0.004
19	1.583	502.646	0.264	0.003
20	1.667	529.101	0.202	0.003
21	1.750	555.556	0.160	0.002
22	1.833	582.011	0.195	0.002
23	1.917	608.466	0.206	0.003
24	2.000	634.921	0.130	0.002
25	2.083	661.376	0.101	0.001
26	2.167	687.831	0.062	0.001
27	2.250	714.286	0.051	0.001
			Sum = 100.000 Sum=	1.260

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	0.050	(0.112)	0.045	0.005
2	0.17	0.07	0.050	(0.111)	0.045	0.005
3	0.25	0.07	0.050	(0.111)	0.045	0.005
4	0.33	0.10	0.075	(0.110)	0.068	0.008
5	0.42	0.10	0.075	(0.110)	0.068	0.008
6	0.50	0.10	0.075	(0.109)	0.068	0.008
7	0.58	0.10	0.075	(0.109)	0.068	0.008
8	0.67	0.10	0.075	(0.109)	0.068	0.008
9	0.75	0.10	0.075	(0.108)	0.068	0.008
10	0.83	0.13	0.100	(0.108)	0.090	0.010
11	0.92	0.13	0.100	(0.107)	0.090	0.010
12	1.00	0.13	0.100	(0.107)	0.090	0.010
13	1.08	0.10	0.075	(0.106)	0.068	0.008
14	1.17	0.10	0.075	(0.106)	0.068	0.008
15	1.25	0.10	0.075	(0.106)	0.068	0.008
16	1.33	0.10	0.075	(0.105)	0.068	0.008

17	1.42	0.10	0.075	(	0.105)	0.068		0.008
18	1.50	0.10	0.075	(	0.104)	0.068		0.008
19	1.58	0.10	0.075	(	0.104)	0.068		0.008
20	1.67	0.10	0.075	(	0.104)	0.068		0.008
21	1.75	0.10	0.075	(	0.103)	0.068		0.008
22	1.83	0.13	0.100	(	0.103)	0.090		0.010
23	1.92	0.13	0.100	(	0.102)	0.090		0.010
24	2.00	0.13	0.100	(	0.102)	0.090		0.010
25	2.08	0.13	0.100	(	0.101)	0.090		0.010
26	2.17	0.13	0.100	(	0.101)	0.090		0.010
27	2.25	0.13	0.100	(	0.101)	0.090		0.010
28	2.33	0.13	0.100	(	0.100)	0.090		0.010
29	2.42	0.13	0.100	(	0.100)	0.090		0.010
30	2.50	0.13	0.100	(	0.099)	0.090		0.010
31	2.58	0.17	0.125		0.099	(	0.113)	0.026
32	2.67	0.17	0.125		0.099	(	0.113)	0.027
33	2.75	0.17	0.125		0.098	(	0.113)	0.027
34	2.83	0.17	0.125		0.098	(	0.113)	0.027
35	2.92	0.17	0.125		0.097	(	0.113)	0.028
36	3.00	0.17	0.125		0.097	(	0.113)	0.028
37	3.08	0.17	0.125		0.097	(	0.113)	0.029
38	3.17	0.17	0.125		0.096	(	0.113)	0.029
39	3.25	0.17	0.125		0.096	(	0.113)	0.029
40	3.33	0.17	0.125		0.095	(	0.113)	0.030
41	3.42	0.17	0.125		0.095	(	0.113)	0.030
42	3.50	0.17	0.125		0.095	(	0.113)	0.031
43	3.58	0.17	0.125		0.094	(	0.113)	0.031
44	3.67	0.17	0.125		0.094	(	0.113)	0.031
45	3.75	0.17	0.125		0.093	(	0.113)	0.032
46	3.83	0.20	0.150		0.093	(	0.135)	0.057
47	3.92	0.20	0.150		0.093	(	0.135)	0.058
48	4.00	0.20	0.150		0.092	(	0.135)	0.058
49	4.08	0.20	0.150		0.092	(	0.135)	0.058
50	4.17	0.20	0.150		0.091	(	0.135)	0.059
51	4.25	0.20	0.150		0.091	(	0.135)	0.059
52	4.33	0.23	0.175		0.091	(	0.158)	0.085
53	4.42	0.23	0.175		0.090	(	0.158)	0.085
54	4.50	0.23	0.175		0.090	(	0.158)	0.085
55	4.58	0.23	0.175		0.089	(	0.158)	0.086
56	4.67	0.23	0.175		0.089	(	0.158)	0.086
57	4.75	0.23	0.175		0.089	(	0.158)	0.087
58	4.83	0.27	0.200		0.088	(	0.180)	0.112
59	4.92	0.27	0.200		0.088	(	0.180)	0.112
60	5.00	0.27	0.200		0.088	(	0.180)	0.113
61	5.08	0.20	0.150		0.087	(	0.135)	0.063
62	5.17	0.20	0.150		0.087	(	0.135)	0.063
63	5.25	0.20	0.150		0.086	(	0.135)	0.064
64	5.33	0.23	0.175		0.086	(	0.158)	0.089
65	5.42	0.23	0.175		0.086	(	0.158)	0.090
66	5.50	0.23	0.175		0.085	(	0.158)	0.090
67	5.58	0.27	0.200		0.085	(	0.180)	0.115
68	5.67	0.27	0.200		0.085	(	0.180)	0.116
69	5.75	0.27	0.200		0.084	(	0.180)	0.116
70	5.83	0.27	0.200		0.084	(	0.180)	0.117
71	5.92	0.27	0.200		0.083	(	0.180)	0.117
72	6.00	0.27	0.200		0.083	(	0.180)	0.117
73	6.08	0.30	0.225		0.083	(	0.203)	0.143
74	6.17	0.30	0.225		0.082	(	0.203)	0.143
75	6.25	0.30	0.225		0.082	(	0.203)	0.143
76	6.33	0.30	0.225		0.082	(	0.203)	0.144
77	6.42	0.30	0.225		0.081	(	0.203)	0.144
78	6.50	0.30	0.225		0.081	(	0.203)	0.144
79	6.58	0.33	0.250		0.081	(	0.225)	0.170
80	6.67	0.33	0.250		0.080	(	0.225)	0.170
81	6.75	0.33	0.250		0.080	(	0.225)	0.171
82	6.83	0.33	0.250		0.079	(	0.225)	0.171
83	6.92	0.33	0.250		0.079	(	0.225)	0.171
84	7.00	0.33	0.250		0.079	(	0.225)	0.172
85	7.08	0.33	0.250		0.078	(	0.225)	0.172
86	7.17	0.33	0.250		0.078	(	0.225)	0.172
87	7.25	0.33	0.250		0.078	(	0.225)	0.173

88	7.33	0.37	0.275	0.077	(0.248)	0.198
89	7.42	0.37	0.275	0.077	(0.248)	0.199
90	7.50	0.37	0.275	0.077	(0.248)	0.199
91	7.58	0.40	0.300	0.076	(0.270)	0.224
92	7.67	0.40	0.300	0.076	(0.270)	0.225
93	7.75	0.40	0.300	0.076	(0.270)	0.225
94	7.83	0.43	0.326	0.075	(0.293)	0.250
95	7.92	0.43	0.326	0.075	(0.293)	0.251
96	8.00	0.43	0.326	0.074	(0.293)	0.251
97	8.08	0.50	0.376	0.074	(0.338)	0.301
98	8.17	0.50	0.376	0.074	(0.338)	0.302
99	8.25	0.50	0.376	0.073	(0.338)	0.302
100	8.33	0.50	0.376	0.073	(0.338)	0.302
101	8.42	0.50	0.376	0.073	(0.338)	0.303
102	8.50	0.50	0.376	0.072	(0.338)	0.303
103	8.58	0.53	0.401	0.072	(0.361)	0.329
104	8.67	0.53	0.401	0.072	(0.361)	0.329
105	8.75	0.53	0.401	0.071	(0.361)	0.329
106	8.83	0.57	0.426	0.071	(0.383)	0.355
107	8.92	0.57	0.426	0.071	(0.383)	0.355
108	9.00	0.57	0.426	0.070	(0.383)	0.355
109	9.08	0.63	0.476	0.070	(0.428)	0.406
110	9.17	0.63	0.476	0.070	(0.428)	0.406
111	9.25	0.63	0.476	0.069	(0.428)	0.406
112	9.33	0.67	0.501	0.069	(0.451)	0.432
113	9.42	0.67	0.501	0.069	(0.451)	0.432
114	9.50	0.67	0.501	0.068	(0.451)	0.432
115	9.58	0.70	0.526	0.068	(0.473)	0.458
116	9.67	0.70	0.526	0.068	(0.473)	0.458
117	9.75	0.70	0.526	0.067	(0.473)	0.458
118	9.83	0.73	0.551	0.067	(0.496)	0.484
119	9.92	0.73	0.551	0.067	(0.496)	0.484
120	10.00	0.73	0.551	0.066	(0.496)	0.484
121	10.08	0.50	0.376	0.066	(0.338)	0.309
122	10.17	0.50	0.376	0.066	(0.338)	0.310
123	10.25	0.50	0.376	0.065	(0.338)	0.310
124	10.33	0.50	0.376	0.065	(0.338)	0.310
125	10.42	0.50	0.376	0.065	(0.338)	0.311
126	10.50	0.50	0.376	0.065	(0.338)	0.311
127	10.58	0.67	0.501	0.064	(0.451)	0.437
128	10.67	0.67	0.501	0.064	(0.451)	0.437
129	10.75	0.67	0.501	0.064	(0.451)	0.437
130	10.83	0.67	0.501	0.063	(0.451)	0.438
131	10.92	0.67	0.501	0.063	(0.451)	0.438
132	11.00	0.67	0.501	0.063	(0.451)	0.438
133	11.08	0.63	0.476	0.062	(0.428)	0.413
134	11.17	0.63	0.476	0.062	(0.428)	0.414
135	11.25	0.63	0.476	0.062	(0.428)	0.414
136	11.33	0.63	0.476	0.061	(0.428)	0.414
137	11.42	0.63	0.476	0.061	(0.428)	0.415
138	11.50	0.63	0.476	0.061	(0.428)	0.415
139	11.58	0.57	0.426	0.061	(0.383)	0.365
140	11.67	0.57	0.426	0.060	(0.383)	0.365
141	11.75	0.57	0.426	0.060	(0.383)	0.366
142	11.83	0.60	0.451	0.060	(0.406)	0.391
143	11.92	0.60	0.451	0.059	(0.406)	0.391
144	12.00	0.60	0.451	0.059	(0.406)	0.392
145	12.08	0.83	0.626	0.059	(0.563)	0.567
146	12.17	0.83	0.626	0.058	(0.563)	0.568
147	12.25	0.83	0.626	0.058	(0.563)	0.568
148	12.33	0.87	0.651	0.058	(0.586)	0.593
149	12.42	0.87	0.651	0.058	(0.586)	0.593
150	12.50	0.87	0.651	0.057	(0.586)	0.594
151	12.58	0.93	0.701	0.057	(0.631)	0.644
152	12.67	0.93	0.701	0.057	(0.631)	0.644
153	12.75	0.93	0.701	0.056	(0.631)	0.645
154	12.83	0.97	0.726	0.056	(0.654)	0.670
155	12.92	0.97	0.726	0.056	(0.654)	0.670
156	13.00	0.97	0.726	0.056	(0.654)	0.671
157	13.08	1.13	0.851	0.055	(0.766)	0.796
158	13.17	1.13	0.851	0.055	(0.766)	0.796

159	13.25	1.13	0.851	0.055	(0.766)	0.797
160	13.33	1.13	0.851	0.054	(0.766)	0.797
161	13.42	1.13	0.851	0.054	(0.766)	0.797
162	13.50	1.13	0.851	0.054	(0.766)	0.797
163	13.58	0.77	0.576	0.054	(0.518)	0.522
164	13.67	0.77	0.576	0.053	(0.518)	0.523
165	13.75	0.77	0.576	0.053	(0.518)	0.523
166	13.83	0.77	0.576	0.053	(0.518)	0.523
167	13.92	0.77	0.576	0.053	(0.518)	0.523
168	14.00	0.77	0.576	0.052	(0.518)	0.524
169	14.08	0.90	0.676	0.052	(0.608)	0.624
170	14.17	0.90	0.676	0.052	(0.608)	0.624
171	14.25	0.90	0.676	0.051	(0.608)	0.625
172	14.33	0.87	0.651	0.051	(0.586)	0.600
173	14.42	0.87	0.651	0.051	(0.586)	0.600
174	14.50	0.87	0.651	0.051	(0.586)	0.600
175	14.58	0.87	0.651	0.050	(0.586)	0.601
176	14.67	0.87	0.651	0.050	(0.586)	0.601
177	14.75	0.87	0.651	0.050	(0.586)	0.601
178	14.83	0.83	0.626	0.050	(0.563)	0.576
179	14.92	0.83	0.626	0.049	(0.563)	0.577
180	15.00	0.83	0.626	0.049	(0.563)	0.577
181	15.08	0.80	0.601	0.049	(0.541)	0.552
182	15.17	0.80	0.601	0.049	(0.541)	0.552
183	15.25	0.80	0.601	0.048	(0.541)	0.553
184	15.33	0.77	0.576	0.048	(0.518)	0.528
185	15.42	0.77	0.576	0.048	(0.518)	0.528
186	15.50	0.77	0.576	0.048	(0.518)	0.528
187	15.58	0.63	0.476	0.047	(0.428)	0.428
188	15.67	0.63	0.476	0.047	(0.428)	0.429
189	15.75	0.63	0.476	0.047	(0.428)	0.429
190	15.83	0.63	0.476	0.047	(0.428)	0.429
191	15.92	0.63	0.476	0.046	(0.428)	0.429
192	16.00	0.63	0.476	0.046	(0.428)	0.430
193	16.08	0.13	0.100	0.046	(0.090)	0.054
194	16.17	0.13	0.100	0.046	(0.090)	0.054
195	16.25	0.13	0.100	0.046	(0.090)	0.055
196	16.33	0.13	0.100	0.045	(0.090)	0.055
197	16.42	0.13	0.100	0.045	(0.090)	0.055
198	16.50	0.13	0.100	0.045	(0.090)	0.055
199	16.58	0.10	0.075	0.045	(0.068)	0.031
200	16.67	0.10	0.075	0.044	(0.068)	0.031
201	16.75	0.10	0.075	0.044	(0.068)	0.031
202	16.83	0.10	0.075	0.044	(0.068)	0.031
203	16.92	0.10	0.075	0.044	(0.068)	0.031
204	17.00	0.10	0.075	0.043	(0.068)	0.032
205	17.08	0.17	0.125	0.043	(0.113)	0.082
206	17.17	0.17	0.125	0.043	(0.113)	0.082
207	17.25	0.17	0.125	0.043	(0.113)	0.082
208	17.33	0.17	0.125	0.043	(0.113)	0.083
209	17.42	0.17	0.125	0.042	(0.113)	0.083
210	17.50	0.17	0.125	0.042	(0.113)	0.083
211	17.58	0.17	0.125	0.042	(0.113)	0.083
212	17.67	0.17	0.125	0.042	(0.113)	0.083
213	17.75	0.17	0.125	0.042	(0.113)	0.084
214	17.83	0.13	0.100	0.041	(0.090)	0.059
215	17.92	0.13	0.100	0.041	(0.090)	0.059
216	18.00	0.13	0.100	0.041	(0.090)	0.059
217	18.08	0.13	0.100	0.041	(0.090)	0.059
218	18.17	0.13	0.100	0.041	(0.090)	0.060
219	18.25	0.13	0.100	0.040	(0.090)	0.060
220	18.33	0.13	0.100	0.040	(0.090)	0.060
221	18.42	0.13	0.100	0.040	(0.090)	0.060
222	18.50	0.13	0.100	0.040	(0.090)	0.060
223	18.58	0.10	0.075	0.040	(0.068)	0.036
224	18.67	0.10	0.075	0.039	(0.068)	0.036
225	18.75	0.10	0.075	0.039	(0.068)	0.036
226	18.83	0.07	0.050	0.039	(0.045)	0.011
227	18.92	0.07	0.050	0.039	(0.045)	0.011
228	19.00	0.07	0.050	0.039	(0.045)	0.011
229	19.08	0.10	0.075	0.038	(0.068)	0.037

230	19.17	0.10	0.075	0.038	(	0.068)	0.037
231	19.25	0.10	0.075	0.038	(	0.068)	0.037
232	19.33	0.13	0.100	0.038	(	0.090)	0.062
233	19.42	0.13	0.100	0.038	(	0.090)	0.062
234	19.50	0.13	0.100	0.038	(	0.090)	0.063
235	19.58	0.10	0.075	0.037	(	0.068)	0.038
236	19.67	0.10	0.075	0.037	(	0.068)	0.038
237	19.75	0.10	0.075	0.037	(	0.068)	0.038
238	19.83	0.07	0.050	0.037	(	0.045)	0.013
239	19.92	0.07	0.050	0.037	(	0.045)	0.013
240	20.00	0.07	0.050	0.037	(	0.045)	0.014
241	20.08	0.10	0.075	0.036	(	0.068)	0.039
242	20.17	0.10	0.075	0.036	(	0.068)	0.039
243	20.25	0.10	0.075	0.036	(	0.068)	0.039
244	20.33	0.10	0.075	0.036	(	0.068)	0.039
245	20.42	0.10	0.075	0.036	(	0.068)	0.039
246	20.50	0.10	0.075	0.036	(	0.068)	0.040
247	20.58	0.10	0.075	0.035	(	0.068)	0.040
248	20.67	0.10	0.075	0.035	(	0.068)	0.040
249	20.75	0.10	0.075	0.035	(	0.068)	0.040
250	20.83	0.07	0.050	0.035	(	0.045)	0.015
251	20.92	0.07	0.050	0.035	(	0.045)	0.015
252	21.00	0.07	0.050	0.035	(	0.045)	0.015
253	21.08	0.10	0.075	0.035	(	0.068)	0.041
254	21.17	0.10	0.075	0.034	(	0.068)	0.041
255	21.25	0.10	0.075	0.034	(	0.068)	0.041
256	21.33	0.07	0.050	0.034	(	0.045)	0.016
257	21.42	0.07	0.050	0.034	(	0.045)	0.016
258	21.50	0.07	0.050	0.034	(	0.045)	0.016
259	21.58	0.10	0.075	0.034	(	0.068)	0.041
260	21.67	0.10	0.075	0.034	(	0.068)	0.041
261	21.75	0.10	0.075	0.034	(	0.068)	0.042
262	21.83	0.07	0.050	0.033	(	0.045)	0.017
263	21.92	0.07	0.050	0.033	(	0.045)	0.017
264	22.00	0.07	0.050	0.033	(	0.045)	0.017
265	22.08	0.10	0.075	0.033	(	0.068)	0.042
266	22.17	0.10	0.075	0.033	(	0.068)	0.042
267	22.25	0.10	0.075	0.033	(	0.068)	0.042
268	22.33	0.07	0.050	0.033	(	0.045)	0.017
269	22.42	0.07	0.050	0.033	(	0.045)	0.017
270	22.50	0.07	0.050	0.033	(	0.045)	0.017
271	22.58	0.07	0.050	0.033	(	0.045)	0.018
272	22.67	0.07	0.050	0.032	(	0.045)	0.018
273	22.75	0.07	0.050	0.032	(	0.045)	0.018
274	22.83	0.07	0.050	0.032	(	0.045)	0.018
275	22.92	0.07	0.050	0.032	(	0.045)	0.018
276	23.00	0.07	0.050	0.032	(	0.045)	0.018
277	23.08	0.07	0.050	0.032	(	0.045)	0.018
278	23.17	0.07	0.050	0.032	(	0.045)	0.018
279	23.25	0.07	0.050	0.032	(	0.045)	0.018
280	23.33	0.07	0.050	0.032	(	0.045)	0.018
281	23.42	0.07	0.050	0.032	(	0.045)	0.018
282	23.50	0.07	0.050	0.032	(	0.045)	0.018
283	23.58	0.07	0.050	0.032	(	0.045)	0.018
284	23.67	0.07	0.050	0.032	(	0.045)	0.018
285	23.75	0.07	0.050	0.032	(	0.045)	0.019
286	23.83	0.07	0.050	0.032	(	0.045)	0.019
287	23.92	0.07	0.050	0.031	(	0.045)	0.019
288	24.00	0.07	0.050	0.031	(	0.045)	0.019

(Loss Rate Not Used)

Sum = 100.0 Sum = 57.9

Flood volume = Effective rainfall 4.83(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 1.43(In)
Total soil loss = 0.149(Ac.Ft)
Total rainfall = 6.26(In)
Flood volume = 21900.2 Cubic Feet
Total soil loss = 6504.5 Cubic Feet

Peak flow rate of this hydrograph = 0.951(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	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0000	0.00	Q				
0+25	0.0001	0.00	Q				
0+30	0.0001	0.00	Q				
0+35	0.0001	0.01	Q				
0+40	0.0002	0.01	Q				
0+45	0.0002	0.01	Q				
0+50	0.0003	0.01	Q				
0+55	0.0004	0.01	Q				
1+ 0	0.0004	0.01	Q				
1+ 5	0.0005	0.01	Q				
1+10	0.0006	0.01	Q				
1+15	0.0006	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	0.0010	0.01	Q				
1+45	0.0010	0.01	Q				
1+50	0.0011	0.01	Q				
1+55	0.0012	0.01	Q				
2+ 0	0.0012	0.01	Q				
2+ 5	0.0013	0.01	Q				
2+10	0.0014	0.01	Q				
2+15	0.0015	0.01	Q				
2+20	0.0016	0.01	Q				
2+25	0.0016	0.01	Q				
2+30	0.0017	0.01	Q				
2+35	0.0018	0.01	Q				
2+40	0.0019	0.01	Q				
2+45	0.0020	0.02	Q				
2+50	0.0022	0.02	Q				
2+55	0.0023	0.03	Q				
3+ 0	0.0025	0.03	Q				
3+ 5	0.0027	0.03	Q				
3+10	0.0029	0.03	Q				
3+15	0.0032	0.03	Q				
3+20	0.0034	0.03	Q				
3+25	0.0036	0.03	Q				
3+30	0.0039	0.03	Q				
3+35	0.0041	0.04	Q				
3+40	0.0044	0.04	Q				
3+45	0.0046	0.04	Q				
3+50	0.0049	0.04	Q				
3+55	0.0052	0.04	Q				
4+ 0	0.0055	0.04	Q				
4+ 5	0.0058	0.05	Q				
4+10	0.0062	0.06	Q				
4+15	0.0067	0.06	Q				
4+20	0.0071	0.07	Q				
4+25	0.0076	0.07	Q				
4+30	0.0081	0.07	Q				
4+35	0.0087	0.08	Q				
4+40	0.0093	0.09	Q				
4+45	0.0100	0.10	Q				
4+50	0.0106	0.10	Q				
4+55	0.0113	0.10	Q				
5+ 0	0.0121	0.11	Q				
5+ 5	0.0129	0.12	QV				
5+10	0.0137	0.12	QV				

5+15	0.0145	0.12	QV	|	|	|	|
5+20	0.0153	0.11	QV	|	|	|	|
5+25	0.0160	0.10	QV	|	|	|	|
5+30	0.0166	0.10	QV	|	|	|	|
5+35	0.0174	0.10	QV	|	|	|	|
5+40	0.0181	0.11	QV	|	|	|	|
5+45	0.0189	0.11	QV	|	|	|	|
5+50	0.0197	0.12	QV	|	|	|	|
5+55	0.0206	0.13	QV	|	|	|	|
6+ 0	0.0216	0.13	QV	|	|	|	|
6+ 5	0.0225	0.14	QV	|	|	|	|
6+10	0.0235	0.14	QV	|	|	|	|
6+15	0.0245	0.15	QV	|	|	|	|
6+20	0.0256	0.16	Q V	|	|	|	|
6+25	0.0267	0.16	Q V	|	|	|	|
6+30	0.0279	0.17	Q V	|	|	|	|
6+35	0.0291	0.17	Q V	|	|	|	|
6+40	0.0303	0.18	Q V	|	|	|	|
6+45	0.0315	0.18	Q V	|	|	|	|
6+50	0.0328	0.19	Q V	|	|	|	|
6+55	0.0342	0.20	Q V	|	|	|	|
7+ 0	0.0356	0.20	Q V	|	|	|	|
7+ 5	0.0370	0.21	Q V	|	|	|	|
7+10	0.0384	0.21	Q V	|	|	|	|
7+15	0.0399	0.21	Q V	|	|	|	|
7+20	0.0413	0.21	Q V	|	|	|	|
7+25	0.0428	0.22	Q V	|	|	|	|
7+30	0.0443	0.22	Q V	|	|	|	|
7+35	0.0459	0.23	Q V	|	|	|	|
7+40	0.0475	0.24	Q V	|	|	|	|
7+45	0.0492	0.24	Q V	|	|	|	|
7+50	0.0510	0.26	|Q V	|	|	|	|
7+55	0.0528	0.27	|Q V	|	|	|	|
8+ 0	0.0547	0.27	|Q V	|	|	|	|
8+ 5	0.0567	0.29	|Q V	|	|	|	|
8+10	0.0587	0.30	|Q V	|	|	|	|
8+15	0.0609	0.31	|Q V	|	|	|	|
8+20	0.0631	0.33	|Q V	|	|	|	|
8+25	0.0655	0.35	|Q V	|	|	|	|
8+30	0.0679	0.35	|Q V	|	|	|	|
8+35	0.0704	0.36	|Q V	|	|	|	|
8+40	0.0730	0.37	|Q V	|	|	|	|
8+45	0.0755	0.37	|Q V	|	|	|	|
8+50	0.0782	0.39	|Q V	|	|	|	|
8+55	0.0809	0.40	|Q V	|	|	|	|
9+ 0	0.0837	0.40	|Q V	|	|	|	|
9+ 5	0.0866	0.42	|Q V	|	|	|	|
9+10	0.0895	0.43	|Q V	|	|	|	|
9+15	0.0926	0.44	|Q V	|	|	|	|
9+20	0.0958	0.46	|Q V	|	|	|	|
9+25	0.0991	0.48	|Q V	|	|	|	|
9+30	0.1024	0.49	|Q V |	|	|	|
9+35	0.1059	0.50	| Q V |	|	|	|
9+40	0.1095	0.52	| Q V |	|	|	|
9+45	0.1131	0.53	| Q V |	|	|	|
9+50	0.1168	0.54	| Q V|	|	|	|
9+55	0.1206	0.55	| Q V|	|	|	|
10+ 0	0.1245	0.56	| Q V|	|	|	|
10+ 5	0.1285	0.57	| Q V	|	|	|	|
10+10	0.1324	0.57	| Q V	|	|	|	|
10+15	0.1362	0.55	| Q V	|	|	|	|
10+20	0.1397	0.51	| Q |V	|	|	|	|
10+25	0.1429	0.47	|Q |V	|	|	|	|
10+30	0.1460	0.45	|Q |V	|	|	|	|
10+35	0.1490	0.44	|Q |V	|	|	|	|
10+40	0.1520	0.44	|Q | V	|	|	|	|
10+45	0.1551	0.45	|Q | V	|	|	|	|
10+50	0.1583	0.47	|Q | V	|	|	|	|
10+55	0.1618	0.50	| Q | V	|	|	|	|
11+ 0	0.1654	0.52	| Q | V	|	|	|	|
11+ 5	0.1690	0.52	| Q | V	|	|	|	|

11+10	0.1726	0.53	Q	V			
11+15	0.1763	0.53	Q	V			
11+20	0.1799	0.53	Q	V			
11+25	0.1835	0.52	Q	V			
11+30	0.1871	0.52	Q	V			
11+35	0.1907	0.52	Q	V			
11+40	0.1942	0.52	Q	V			
11+45	0.1978	0.51	Q	V			
11+50	0.2012	0.50	Q	V			
11+55	0.2046	0.49	Q	V			
12+ 0	0.2079	0.48	Q	V			
12+ 5	0.2113	0.49	Q	V			
12+10	0.2148	0.51	Q	V			
12+15	0.2185	0.53	Q	V			
12+20	0.2225	0.58	Q	V			
12+25	0.2268	0.63	Q	V			
12+30	0.2313	0.65	Q	V			
12+35	0.2360	0.68	Q	V			
12+40	0.2408	0.70	Q	V			
12+45	0.2457	0.72	Q	V			
12+50	0.2508	0.74	Q	V			
12+55	0.2561	0.76	Q	V			
13+ 0	0.2615	0.78	Q	V			
13+ 5	0.2670	0.80	Q	V			
13+10	0.2726	0.82	Q	V			
13+15	0.2785	0.85	Q	V			
13+20	0.2846	0.89	Q	V			
13+25	0.2910	0.93	Q	V			
13+30	0.2975	0.94	Q	V			
13+35	0.3040	0.95	Q	V			
13+40	0.3105	0.94	Q	V			
13+45	0.3168	0.92	Q	V			
13+50	0.3226	0.85	Q	V			
13+55	0.3280	0.78	Q	V			
14+ 0	0.3331	0.75	Q	V			
14+ 5	0.3382	0.73	Q	V			
14+10	0.3432	0.72	Q	V			
14+15	0.3482	0.73	Q	V			
14+20	0.3533	0.74	Q	V			
14+25	0.3585	0.76	Q	V			
14+30	0.3638	0.76	Q	V			
14+35	0.3690	0.76	Q	V			
14+40	0.3742	0.76	Q	V			
14+45	0.3794	0.76	Q	V			
14+50	0.3846	0.76	Q	V			
14+55	0.3898	0.75	Q	V			
15+ 0	0.3950	0.75	Q	V			
15+ 5	0.4001	0.75	Q	V			
15+10	0.4052	0.74	Q	V			
15+15	0.4102	0.73	Q	V			
15+20	0.4152	0.72	Q	V			
15+25	0.4201	0.71	Q	V			
15+30	0.4250	0.70	Q	V			
15+35	0.4297	0.69	Q	V			
15+40	0.4344	0.68	Q	V			
15+45	0.4389	0.66	Q	V			
15+50	0.4432	0.63	Q	V			
15+55	0.4474	0.60	Q	V			
16+ 0	0.4514	0.58	Q	V			
16+ 5	0.4553	0.57	Q	V			
16+10	0.4590	0.53	Q	V			
16+15	0.4623	0.48	Q	V			
16+20	0.4648	0.37	Q	V			
16+25	0.4666	0.27	Q	V			
16+30	0.4681	0.22	Q	V			
16+35	0.4694	0.18	Q	V			
16+40	0.4705	0.16	Q	V			
16+45	0.4714	0.13	Q	V			
16+50	0.4722	0.11	Q	V			
16+55	0.4728	0.09	Q	V			
17+ 0	0.4734	0.08	Q	V			

17+ 5	0.4739	0.07	Q	|	|	|	V |
17+10	0.4743	0.07	Q	|	|	|	V |
17+15	0.4748	0.07	Q	|	|	|	V |
17+20	0.4753	0.08	Q	|	|	|	V |
17+25	0.4760	0.09	Q	|	|	|	V |
17+30	0.4766	0.09	Q	|	|	|	V |
17+35	0.4773	0.10	Q	|	|	|	V |
17+40	0.4779	0.10	Q	|	|	|	V |
17+45	0.4786	0.10	Q	|	|	|	V |
17+50	0.4793	0.10	Q	|	|	|	V |
17+55	0.4800	0.10	Q	|	|	|	V |
18+ 0	0.4807	0.10	Q	|	|	|	V |
18+ 5	0.4813	0.09	Q	|	|	|	V |
18+10	0.4819	0.08	Q	|	|	|	V |
18+15	0.4824	0.08	Q	|	|	|	V |
18+20	0.4830	0.08	Q	|	|	|	V |
18+25	0.4835	0.08	Q	|	|	|	V |
18+30	0.4841	0.08	Q	|	|	|	V |
18+35	0.4846	0.08	Q	|	|	|	V |
18+40	0.4851	0.08	Q	|	|	|	V |
18+45	0.4856	0.07	Q	|	|	|	V |
18+50	0.4861	0.06	Q	|	|	|	V |
18+55	0.4864	0.06	Q	|	|	|	V |
19+ 0	0.4868	0.05	Q	|	|	|	V |
19+ 5	0.4871	0.04	Q	|	|	|	V |
19+10	0.4873	0.03	Q	|	|	|	V |
19+15	0.4875	0.03	Q	|	|	|	V |
19+20	0.4878	0.04	Q	|	|	|	V |
19+25	0.4881	0.04	Q	|	|	|	V |
19+30	0.4884	0.05	Q	|	|	|	V |
19+35	0.4888	0.06	Q	|	|	|	V |
19+40	0.4892	0.06	Q	|	|	|	V |
19+45	0.4897	0.06	Q	|	|	|	V |
19+50	0.4901	0.06	Q	|	|	|	V |
19+55	0.4904	0.05	Q	|	|	|	V|
20+ 0	0.4907	0.05	Q	|	|	|	V|
20+ 5	0.4910	0.04	Q	|	|	|	V|
20+10	0.4912	0.03	Q	|	|	|	V|
20+15	0.4915	0.03	Q	|	|	|	V|
20+20	0.4917	0.04	Q	|	|	|	V|
20+25	0.4920	0.04	Q	|	|	|	V|
20+30	0.4923	0.04	Q	|	|	|	V|
20+35	0.4927	0.05	Q	|	|	|	V|
20+40	0.4930	0.05	Q	|	|	|	V|
20+45	0.4933	0.05	Q	|	|	|	V|
20+50	0.4936	0.05	Q	|	|	|	V|
20+55	0.4939	0.05	Q	|	|	|	V|
21+ 0	0.4942	0.04	Q	|	|	|	V|
21+ 5	0.4945	0.04	Q	|	|	|	V|
21+10	0.4947	0.03	Q	|	|	|	V|
21+15	0.4950	0.03	Q	|	|	|	V|
21+20	0.4952	0.04	Q	|	|	|	V|
21+25	0.4955	0.04	Q	|	|	|	V|
21+30	0.4958	0.04	Q	|	|	|	V|
21+35	0.4960	0.04	Q	|	|	|	V|
21+40	0.4963	0.03	Q	|	|	|	V|
21+45	0.4965	0.03	Q	|	|	|	V|
21+50	0.4967	0.04	Q	|	|	|	V|
21+55	0.4970	0.04	Q	|	|	|	V|
22+ 0	0.4973	0.04	Q	|	|	|	V|
22+ 5	0.4975	0.04	Q	|	|	|	V|
22+10	0.4978	0.03	Q	|	|	|	V|
22+15	0.4980	0.03	Q	|	|	|	V|
22+20	0.4982	0.04	Q	|	|	|	V|
22+25	0.4985	0.04	Q	|	|	|	V|
22+30	0.4988	0.04	Q	|	|	|	V|
22+35	0.4991	0.04	Q	|	|	|	V|
22+40	0.4993	0.03	Q	|	|	|	V|
22+45	0.4995	0.03	Q	|	|	|	V|
22+50	0.4997	0.03	Q	|	|	|	V|
22+55	0.4998	0.03	Q	|	|	|	V|

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   23+ 0       0.5000      0.03  Q          |          |          |         V|
   23+ 5       0.5002      0.02  Q          |          |          |         V|
   23+10       0.5003      0.02  Q          |          |          |         V|
   23+15       0.5005      0.02  Q          |          |          |         V|
   23+20       0.5007      0.02  Q          |          |          |         V|
   23+25       0.5008      0.02  Q          |          |          |         V|
   23+30       0.5010      0.02  Q          |          |          |         V|
   23+35       0.5011      0.02  Q          |          |          |         V|
   23+40       0.5013      0.02  Q          |          |          |         V|
   23+45       0.5015      0.02  Q          |          |          |         V|
   23+50       0.5016      0.02  Q          |          |          |         V|
   23+55       0.5018      0.02  Q          |          |          |         V|
   24+ 0       0.5019      0.02  Q          |          |          |         V|
   24+ 5       0.5021      0.02  Q          |          |          |         V|
   24+10       0.5023      0.02  Q          |          |          |         V|
   24+15       0.5024      0.02  Q          |          |          |         V|
   24+20       0.5025      0.01  Q          |          |          |         V|
   24+25       0.5026      0.01  Q          |          |          |         V|
   24+30       0.5026      0.01  Q          |          |          |         V|
   24+35       0.5026      0.01  Q          |          |          |         V|
   24+40       0.5027      0.00  Q          |          |          |         V|
   24+45       0.5027      0.00  Q          |          |          |         V|
   24+50       0.5027      0.00  Q          |          |          |         V|
   24+55       0.5027      0.00  Q          |          |          |         V|
   25+ 0       0.5027      0.00  Q          |          |          |         V|
   25+ 5       0.5027      0.00  Q          |          |          |         V|
   25+10       0.5027      0.00  Q          |          |          |         V|
   25+15       0.5027      0.00  Q          |          |          |         V|
   25+20       0.5027      0.00  Q          |          |          |         V|
   25+25       0.5028      0.00  Q          |          |          |         V|
   25+30       0.5028      0.00  Q          |          |          |         V|
   25+35       0.5028      0.00  Q          |          |          |         V|
   25+40       0.5028      0.00  Q          |          |          |         V|
   25+45       0.5028      0.00  Q          |          |          |         V|
   25+50       0.5028      0.00  Q          |          |          |         V|
   25+55       0.5028      0.00  Q          |          |          |         V|
   26+ 0       0.5028      0.00  Q          |          |          |         V|
   26+ 5       0.5028      0.00  Q          |          |          |         V|
   26+10       0.5028      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 11/21/21 File: 2030UDA110.out

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

Program License Serial Number 6434

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

English Units used in output format

DEVELOPED BASIN A
10-YEAR 1-HOUR
AMC II

Drainage Area = 1.54(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.54(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.090 Hr.
Lag time = 5.39 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.54	0.53	0.82

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.54	1.46	2.25

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.531(In)
Area Averaged 100-Year Rainfall = 1.460(In)

Point rain (area averaged) = 0.913(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.913(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.540	75.00	0.900

Total Area Entered = 1.54(Ac.)

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

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.4800

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	92.730	12.023	0.187
2	0.167	185.459	54.430	0.845
3	0.250	278.189	20.014	0.311
4	0.333	370.919	8.262	0.128
5	0.417	463.648	3.302	0.051
6	0.500	556.378	1.001	0.016
7	0.583	649.107	0.638	0.010
8	0.667	741.837	0.330	0.005
			Sum = 100.000 Sum=	1.552

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	4.40	0.482	0.058	(0.087)	0.425
2	0.17	4.50	0.493	0.058	(0.089)	0.436
3	0.25	5.40	0.592	0.058	(0.107)	0.534
4	0.33	5.40	0.592	0.058	(0.107)	0.534
5	0.42	5.70	0.625	0.058	(0.112)	0.567
6	0.50	6.40	0.701	0.058	(0.126)	0.644
7	0.58	7.90	0.866	0.058	(0.156)	0.808
8	0.67	9.10	0.997	0.058	(0.179)	0.940
9	0.75	12.80	1.403	0.058	(0.252)	1.345
10	0.83	25.60	2.805	0.058	(0.505)	2.748
11	0.92	7.90	0.866	0.058	(0.156)	0.808
12	1.00	4.90	0.537	0.058	(0.097)	0.479
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	10.3

Flood volume = Effective rainfall 0.86(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.06(In)
Total soil loss = 0.007(Ac.Ft)
Total rainfall = 0.91(In)
Flood volume = 4783.1 Cubic Feet
Total soil loss = 321.8 Cubic Feet

Peak flow rate of this hydrograph = 3.072(CFS)

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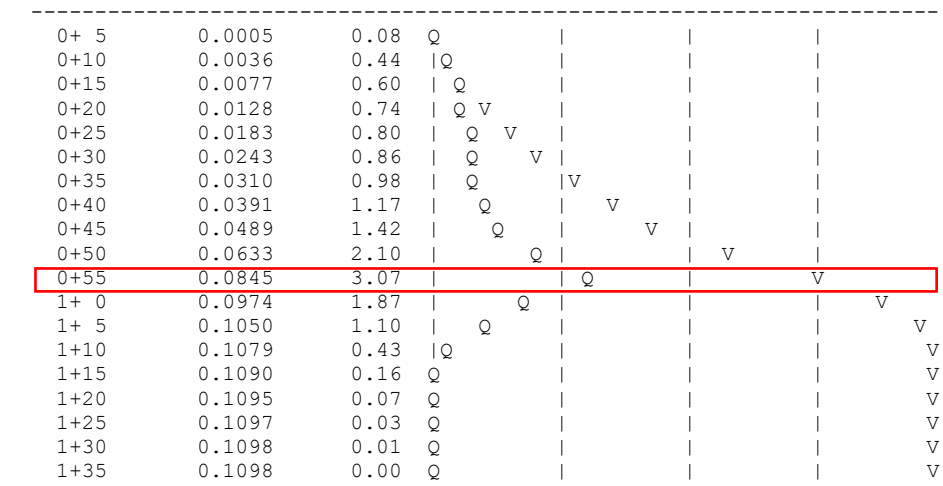
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

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



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

Study date 11/21/21 File: 2030UDA2410.out

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

Program License Serial Number 6434

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

English Units used in output format

DEVELOPED BASIN A
10-YEAR 24-HOUR
AMC II

Drainage Area = 1.54(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.54(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.090 Hr.
Lag time = 5.39 Min.
25% of lag time = 1.35 Min.
40% of lag time = 2.16 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]
1.54	2.40	3.70

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.54	6.26	9.64

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.260(In)

Point rain (area averaged) = 3.988(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.988(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.540	75.00	0.900

Total Area Entered = 1.54(Ac.)

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

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	92.730	12.023	0.187
2	0.167	185.459	54.430	0.845
3	0.250	278.189	20.014	0.311
4	0.333	370.919	8.262	0.128
5	0.417	463.648	3.302	0.051
6	0.500	556.378	1.001	0.016
7	0.583	649.107	0.638	0.010
8	0.667	741.837	0.330	0.005
			Sum = 100.000 Sum=	1.552

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	0.032	(0.102)	0.006	0.026
2	0.17	0.07	0.032	(0.102)	0.006	0.026
3	0.25	0.07	0.032	(0.101)	0.006	0.026
4	0.33	0.10	0.048	(0.101)	0.009	0.039
5	0.42	0.10	0.048	(0.100)	0.009	0.039
6	0.50	0.10	0.048	(0.100)	0.009	0.039
7	0.58	0.10	0.048	(0.100)	0.009	0.039
8	0.67	0.10	0.048	(0.099)	0.009	0.039
9	0.75	0.10	0.048	(0.099)	0.009	0.039
10	0.83	0.13	0.064	(0.099)	0.011	0.052
11	0.92	0.13	0.064	(0.098)	0.011	0.052
12	1.00	0.13	0.064	(0.098)	0.011	0.052
13	1.08	0.10	0.048	(0.097)	0.009	0.039
14	1.17	0.10	0.048	(0.097)	0.009	0.039
15	1.25	0.10	0.048	(0.097)	0.009	0.039
16	1.33	0.10	0.048	(0.096)	0.009	0.039
17	1.42	0.10	0.048	(0.096)	0.009	0.039
18	1.50	0.10	0.048	(0.095)	0.009	0.039
19	1.58	0.10	0.048	(0.095)	0.009	0.039
20	1.67	0.10	0.048	(0.095)	0.009	0.039
21	1.75	0.10	0.048	(0.094)	0.009	0.039
22	1.83	0.13	0.064	(0.094)	0.011	0.052
23	1.92	0.13	0.064	(0.094)	0.011	0.052
24	2.00	0.13	0.064	(0.093)	0.011	0.052
25	2.08	0.13	0.064	(0.093)	0.011	0.052
26	2.17	0.13	0.064	(0.092)	0.011	0.052
27	2.25	0.13	0.064	(0.092)	0.011	0.052
28	2.33	0.13	0.064	(0.092)	0.011	0.052
29	2.42	0.13	0.064	(0.091)	0.011	0.052
30	2.50	0.13	0.064	(0.091)	0.011	0.052
31	2.58	0.17	0.080	(0.091)	0.014	0.065
32	2.67	0.17	0.080	(0.090)	0.014	0.065
33	2.75	0.17	0.080	(0.090)	0.014	0.065
34	2.83	0.17	0.080	(0.089)	0.014	0.065

35	2.92	0.17	0.080	(0.089)	0.014	0.065
36	3.00	0.17	0.080	(0.089)	0.014	0.065
37	3.08	0.17	0.080	(0.088)	0.014	0.065
38	3.17	0.17	0.080	(0.088)	0.014	0.065
39	3.25	0.17	0.080	(0.088)	0.014	0.065
40	3.33	0.17	0.080	(0.087)	0.014	0.065
41	3.42	0.17	0.080	(0.087)	0.014	0.065
42	3.50	0.17	0.080	(0.087)	0.014	0.065
43	3.58	0.17	0.080	(0.086)	0.014	0.065
44	3.67	0.17	0.080	(0.086)	0.014	0.065
45	3.75	0.17	0.080	(0.085)	0.014	0.065
46	3.83	0.20	0.096	(0.085)	0.017	0.078
47	3.92	0.20	0.096	(0.085)	0.017	0.078
48	4.00	0.20	0.096	(0.084)	0.017	0.078
49	4.08	0.20	0.096	(0.084)	0.017	0.078
50	4.17	0.20	0.096	(0.084)	0.017	0.078
51	4.25	0.20	0.096	(0.083)	0.017	0.078
52	4.33	0.23	0.112	(0.083)	0.020	0.092
53	4.42	0.23	0.112	(0.083)	0.020	0.092
54	4.50	0.23	0.112	(0.082)	0.020	0.092
55	4.58	0.23	0.112	(0.082)	0.020	0.092
56	4.67	0.23	0.112	(0.082)	0.020	0.092
57	4.75	0.23	0.112	(0.081)	0.020	0.092
58	4.83	0.27	0.128	(0.081)	0.023	0.105
59	4.92	0.27	0.128	(0.080)	0.023	0.105
60	5.00	0.27	0.128	(0.080)	0.023	0.105
61	5.08	0.20	0.096	(0.080)	0.017	0.078
62	5.17	0.20	0.096	(0.079)	0.017	0.078
63	5.25	0.20	0.096	(0.079)	0.017	0.078
64	5.33	0.23	0.112	(0.079)	0.020	0.092
65	5.42	0.23	0.112	(0.078)	0.020	0.092
66	5.50	0.23	0.112	(0.078)	0.020	0.092
67	5.58	0.27	0.128	(0.078)	0.023	0.105
68	5.67	0.27	0.128	(0.077)	0.023	0.105
69	5.75	0.27	0.128	(0.077)	0.023	0.105
70	5.83	0.27	0.128	(0.077)	0.023	0.105
71	5.92	0.27	0.128	(0.076)	0.023	0.105
72	6.00	0.27	0.128	(0.076)	0.023	0.105
73	6.08	0.30	0.144	(0.076)	0.026	0.118
74	6.17	0.30	0.144	(0.075)	0.026	0.118
75	6.25	0.30	0.144	(0.075)	0.026	0.118
76	6.33	0.30	0.144	(0.075)	0.026	0.118
77	6.42	0.30	0.144	(0.074)	0.026	0.118
78	6.50	0.30	0.144	(0.074)	0.026	0.118
79	6.58	0.33	0.160	(0.074)	0.029	0.131
80	6.67	0.33	0.160	(0.073)	0.029	0.131
81	6.75	0.33	0.160	(0.073)	0.029	0.131
82	6.83	0.33	0.160	(0.073)	0.029	0.131
83	6.92	0.33	0.160	(0.072)	0.029	0.131
84	7.00	0.33	0.160	(0.072)	0.029	0.131
85	7.08	0.33	0.160	(0.072)	0.029	0.131
86	7.17	0.33	0.160	(0.071)	0.029	0.131
87	7.25	0.33	0.160	(0.071)	0.029	0.131
88	7.33	0.37	0.175	(0.071)	0.032	0.144
89	7.42	0.37	0.175	(0.070)	0.032	0.144
90	7.50	0.37	0.175	(0.070)	0.032	0.144
91	7.58	0.40	0.191	(0.070)	0.034	0.157
92	7.67	0.40	0.191	(0.069)	0.034	0.157
93	7.75	0.40	0.191	(0.069)	0.034	0.157
94	7.83	0.43	0.207	(0.069)	0.037	0.170
95	7.92	0.43	0.207	(0.068)	0.037	0.170
96	8.00	0.43	0.207	(0.068)	0.037	0.170
97	8.08	0.50	0.239	(0.068)	0.043	0.196
98	8.17	0.50	0.239	(0.067)	0.043	0.196
99	8.25	0.50	0.239	(0.067)	0.043	0.196
100	8.33	0.50	0.239	(0.067)	0.043	0.196
101	8.42	0.50	0.239	(0.067)	0.043	0.196
102	8.50	0.50	0.239	(0.066)	0.043	0.196
103	8.58	0.53	0.255	(0.066)	0.046	0.209
104	8.67	0.53	0.255	(0.066)	0.046	0.209
105	8.75	0.53	0.255	(0.065)	0.046	0.209

106	8.83	0.57	0.271	(0.065)	0.049	0.222
107	8.92	0.57	0.271	(0.065)	0.049	0.222
108	9.00	0.57	0.271	(0.064)	0.049	0.222
109	9.08	0.63	0.303	(0.064)	0.055	0.249
110	9.17	0.63	0.303	(0.064)	0.055	0.249
111	9.25	0.63	0.303	(0.063)	0.055	0.249
112	9.33	0.67	0.319	(0.063)	0.057	0.262
113	9.42	0.67	0.319	(0.063)	0.057	0.262
114	9.50	0.67	0.319	(0.063)	0.057	0.262
115	9.58	0.70	0.335	(0.062)	0.060	0.275
116	9.67	0.70	0.335	(0.062)	0.060	0.275
117	9.75	0.70	0.335	(0.062)	0.060	0.275
118	9.83	0.73	0.351	0.061	(0.063)	0.290
119	9.92	0.73	0.351	0.061	(0.063)	0.290
120	10.00	0.73	0.351	0.061	(0.063)	0.290
121	10.08	0.50	0.239	(0.060)	0.043	0.196
122	10.17	0.50	0.239	(0.060)	0.043	0.196
123	10.25	0.50	0.239	(0.060)	0.043	0.196
124	10.33	0.50	0.239	(0.060)	0.043	0.196
125	10.42	0.50	0.239	(0.059)	0.043	0.196
126	10.50	0.50	0.239	(0.059)	0.043	0.196
127	10.58	0.67	0.319	(0.059)	0.057	0.262
128	10.67	0.67	0.319	(0.058)	0.057	0.262
129	10.75	0.67	0.319	(0.058)	0.057	0.262
130	10.83	0.67	0.319	(0.058)	0.057	0.262
131	10.92	0.67	0.319	(0.058)	0.057	0.262
132	11.00	0.67	0.319	0.057	(0.057)	0.262
133	11.08	0.63	0.303	(0.057)	0.055	0.249
134	11.17	0.63	0.303	(0.057)	0.055	0.249
135	11.25	0.63	0.303	(0.056)	0.055	0.249
136	11.33	0.63	0.303	(0.056)	0.055	0.249
137	11.42	0.63	0.303	(0.056)	0.055	0.249
138	11.50	0.63	0.303	(0.056)	0.055	0.249
139	11.58	0.57	0.271	(0.055)	0.049	0.222
140	11.67	0.57	0.271	(0.055)	0.049	0.222
141	11.75	0.57	0.271	(0.055)	0.049	0.222
142	11.83	0.60	0.287	(0.055)	0.052	0.235
143	11.92	0.60	0.287	(0.054)	0.052	0.235
144	12.00	0.60	0.287	(0.054)	0.052	0.235
145	12.08	0.83	0.399	0.054	(0.072)	0.345
146	12.17	0.83	0.399	0.053	(0.072)	0.345
147	12.25	0.83	0.399	0.053	(0.072)	0.346
148	12.33	0.87	0.415	0.053	(0.075)	0.362
149	12.42	0.87	0.415	0.053	(0.075)	0.362
150	12.50	0.87	0.415	0.052	(0.075)	0.362
151	12.58	0.93	0.447	0.052	(0.080)	0.395
152	12.67	0.93	0.447	0.052	(0.080)	0.395
153	12.75	0.93	0.447	0.052	(0.080)	0.395
154	12.83	0.97	0.463	0.051	(0.083)	0.411
155	12.92	0.97	0.463	0.051	(0.083)	0.412
156	13.00	0.97	0.463	0.051	(0.083)	0.412
157	13.08	1.13	0.542	0.051	(0.098)	0.492
158	13.17	1.13	0.542	0.050	(0.098)	0.492
159	13.25	1.13	0.542	0.050	(0.098)	0.492
160	13.33	1.13	0.542	0.050	(0.098)	0.493
161	13.42	1.13	0.542	0.050	(0.098)	0.493
162	13.50	1.13	0.542	0.049	(0.098)	0.493
163	13.58	0.77	0.367	0.049	(0.066)	0.318
164	13.67	0.77	0.367	0.049	(0.066)	0.318
165	13.75	0.77	0.367	0.049	(0.066)	0.318
166	13.83	0.77	0.367	0.048	(0.066)	0.319
167	13.92	0.77	0.367	0.048	(0.066)	0.319
168	14.00	0.77	0.367	0.048	(0.066)	0.319
169	14.08	0.90	0.431	0.048	(0.078)	0.383
170	14.17	0.90	0.431	0.047	(0.078)	0.383
171	14.25	0.90	0.431	0.047	(0.078)	0.384
172	14.33	0.87	0.415	0.047	(0.075)	0.368
173	14.42	0.87	0.415	0.047	(0.075)	0.368
174	14.50	0.87	0.415	0.046	(0.075)	0.368
175	14.58	0.87	0.415	0.046	(0.075)	0.369
176	14.67	0.87	0.415	0.046	(0.075)	0.369

177	14.75	0.87	0.415	0.046	(0.075)	0.369
178	14.83	0.83	0.399	0.045	(0.072)	0.353
179	14.92	0.83	0.399	0.045	(0.072)	0.354
180	15.00	0.83	0.399	0.045	(0.072)	0.354
181	15.08	0.80	0.383	0.045	(0.069)	0.338
182	15.17	0.80	0.383	0.045	(0.069)	0.338
183	15.25	0.80	0.383	0.044	(0.069)	0.339
184	15.33	0.77	0.367	0.044	(0.066)	0.323
185	15.42	0.77	0.367	0.044	(0.066)	0.323
186	15.50	0.77	0.367	0.044	(0.066)	0.323
187	15.58	0.63	0.303	0.043	(0.055)	0.260
188	15.67	0.63	0.303	0.043	(0.055)	0.260
189	15.75	0.63	0.303	0.043	(0.055)	0.260
190	15.83	0.63	0.303	0.043	(0.055)	0.260
191	15.92	0.63	0.303	0.042	(0.055)	0.261
192	16.00	0.63	0.303	0.042	(0.055)	0.261
193	16.08	0.13	0.064	(0.042)	0.011	0.052
194	16.17	0.13	0.064	(0.042)	0.011	0.052
195	16.25	0.13	0.064	(0.042)	0.011	0.052
196	16.33	0.13	0.064	(0.041)	0.011	0.052
197	16.42	0.13	0.064	(0.041)	0.011	0.052
198	16.50	0.13	0.064	(0.041)	0.011	0.052
199	16.58	0.10	0.048	(0.041)	0.009	0.039
200	16.67	0.10	0.048	(0.041)	0.009	0.039
201	16.75	0.10	0.048	(0.040)	0.009	0.039
202	16.83	0.10	0.048	(0.040)	0.009	0.039
203	16.92	0.10	0.048	(0.040)	0.009	0.039
204	17.00	0.10	0.048	(0.040)	0.009	0.039
205	17.08	0.17	0.080	(0.040)	0.014	0.065
206	17.17	0.17	0.080	(0.039)	0.014	0.065
207	17.25	0.17	0.080	(0.039)	0.014	0.065
208	17.33	0.17	0.080	(0.039)	0.014	0.065
209	17.42	0.17	0.080	(0.039)	0.014	0.065
210	17.50	0.17	0.080	(0.039)	0.014	0.065
211	17.58	0.17	0.080	(0.038)	0.014	0.065
212	17.67	0.17	0.080	(0.038)	0.014	0.065
213	17.75	0.17	0.080	(0.038)	0.014	0.065
214	17.83	0.13	0.064	(0.038)	0.011	0.052
215	17.92	0.13	0.064	(0.038)	0.011	0.052
216	18.00	0.13	0.064	(0.037)	0.011	0.052
217	18.08	0.13	0.064	(0.037)	0.011	0.052
218	18.17	0.13	0.064	(0.037)	0.011	0.052
219	18.25	0.13	0.064	(0.037)	0.011	0.052
220	18.33	0.13	0.064	(0.037)	0.011	0.052
221	18.42	0.13	0.064	(0.037)	0.011	0.052
222	18.50	0.13	0.064	(0.036)	0.011	0.052
223	18.58	0.10	0.048	(0.036)	0.009	0.039
224	18.67	0.10	0.048	(0.036)	0.009	0.039
225	18.75	0.10	0.048	(0.036)	0.009	0.039
226	18.83	0.07	0.032	(0.036)	0.006	0.026
227	18.92	0.07	0.032	(0.035)	0.006	0.026
228	19.00	0.07	0.032	(0.035)	0.006	0.026
229	19.08	0.10	0.048	(0.035)	0.009	0.039
230	19.17	0.10	0.048	(0.035)	0.009	0.039
231	19.25	0.10	0.048	(0.035)	0.009	0.039
232	19.33	0.13	0.064	(0.035)	0.011	0.052
233	19.42	0.13	0.064	(0.035)	0.011	0.052
234	19.50	0.13	0.064	(0.034)	0.011	0.052
235	19.58	0.10	0.048	(0.034)	0.009	0.039
236	19.67	0.10	0.048	(0.034)	0.009	0.039
237	19.75	0.10	0.048	(0.034)	0.009	0.039
238	19.83	0.07	0.032	(0.034)	0.006	0.026
239	19.92	0.07	0.032	(0.034)	0.006	0.026
240	20.00	0.07	0.032	(0.033)	0.006	0.026
241	20.08	0.10	0.048	(0.033)	0.009	0.039
242	20.17	0.10	0.048	(0.033)	0.009	0.039
243	20.25	0.10	0.048	(0.033)	0.009	0.039
244	20.33	0.10	0.048	(0.033)	0.009	0.039
245	20.42	0.10	0.048	(0.033)	0.009	0.039
246	20.50	0.10	0.048	(0.033)	0.009	0.039
247	20.58	0.10	0.048	(0.032)	0.009	0.039

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248  20.67     0.10      0.048       (  0.032)       0.009        0.039
249  20.75     0.10      0.048       (  0.032)       0.009        0.039
250  20.83     0.07      0.032       (  0.032)       0.006        0.026
251  20.92     0.07      0.032       (  0.032)       0.006        0.026
252  21.00     0.07      0.032       (  0.032)       0.006        0.026
253  21.08     0.10      0.048       (  0.032)       0.009        0.039
254  21.17     0.10      0.048       (  0.032)       0.009        0.039
255  21.25     0.10      0.048       (  0.031)       0.009        0.039
256  21.33     0.07      0.032       (  0.031)       0.006        0.026
257  21.42     0.07      0.032       (  0.031)       0.006        0.026
258  21.50     0.07      0.032       (  0.031)       0.006        0.026
259  21.58     0.10      0.048       (  0.031)       0.009        0.039
260  21.67     0.10      0.048       (  0.031)       0.009        0.039
261  21.75     0.10      0.048       (  0.031)       0.009        0.039
262  21.83     0.07      0.032       (  0.031)       0.006        0.026
263  21.92     0.07      0.032       (  0.030)       0.006        0.026
264  22.00     0.07      0.032       (  0.030)       0.006        0.026
265  22.08     0.10      0.048       (  0.030)       0.009        0.039
266  22.17     0.10      0.048       (  0.030)       0.009        0.039
267  22.25     0.10      0.048       (  0.030)       0.009        0.039
268  22.33     0.07      0.032       (  0.030)       0.006        0.026
269  22.42     0.07      0.032       (  0.030)       0.006        0.026
270  22.50     0.07      0.032       (  0.030)       0.006        0.026
271  22.58     0.07      0.032       (  0.030)       0.006        0.026
272  22.67     0.07      0.032       (  0.030)       0.006        0.026
273  22.75     0.07      0.032       (  0.030)       0.006        0.026
274  22.83     0.07      0.032       (  0.029)       0.006        0.026
275  22.92     0.07      0.032       (  0.029)       0.006        0.026
276  23.00     0.07      0.032       (  0.029)       0.006        0.026
277  23.08     0.07      0.032       (  0.029)       0.006        0.026
278  23.17     0.07      0.032       (  0.029)       0.006        0.026
279  23.25     0.07      0.032       (  0.029)       0.006        0.026
280  23.33     0.07      0.032       (  0.029)       0.006        0.026
281  23.42     0.07      0.032       (  0.029)       0.006        0.026
282  23.50     0.07      0.032       (  0.029)       0.006        0.026
283  23.58     0.07      0.032       (  0.029)       0.006        0.026
284  23.67     0.07      0.032       (  0.029)       0.006        0.026
285  23.75     0.07      0.032       (  0.029)       0.006        0.026
286  23.83     0.07      0.032       (  0.029)       0.006        0.026
287  23.92     0.07      0.032       (  0.029)       0.006        0.026
288  24.00     0.07      0.032       (  0.029)       0.006        0.026
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    40.5
      Flood volume = Effective rainfall      3.37(In)
       times area       1.5(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
      Total soil loss =      0.61(In)
      Total soil loss =     0.079(Ac.Ft)
      Total rainfall =      3.99(In)
      Flood volume =       18864.2 Cubic Feet
      Total soil loss =        3429.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      0.764(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       0.0002      0.03  Q         |         |         |         |
   0+15       0.0005      0.04  Q         |         |         |         |
   0+20       0.0007      0.04  Q         |         |         |         |
   0+25       0.0011      0.05  Q         |         |         |         |
   0+30       0.0015      0.06  Q         |         |         |         |
   0+35       0.0019      0.06  Q         |         |         |         |
   0+40       0.0023      0.06  Q         |         |         |         |
   0+45       0.0028      0.06  Q         |         |         |         |
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0+50	0.0032	0.06	Q				
0+55	0.0037	0.07	Q				
1+ 0	0.0042	0.08	Q				
1+ 5	0.0048	0.08	Q				
1+10	0.0052	0.07	Q				
1+15	0.0057	0.06	Q				
1+20	0.0061	0.06	Q				
1+25	0.0065	0.06	Q				
1+30	0.0070	0.06	Q				
1+35	0.0074	0.06	Q				
1+40	0.0078	0.06	Q				
1+45	0.0082	0.06	Q				
1+50	0.0086	0.06	Q				
1+55	0.0092	0.07	Q				
2+ 0	0.0097	0.08	Q				
2+ 5	0.0103	0.08	Q				
2+10	0.0108	0.08	Q				
2+15	0.0114	0.08	QV				
2+20	0.0119	0.08	QV				
2+25	0.0125	0.08	QV				
2+30	0.0130	0.08	QV				
2+35	0.0136	0.08	QV				
2+40	0.0143	0.09	QV				
2+45	0.0150	0.10	QV				
2+50	0.0156	0.10	QV				
2+55	0.0163	0.10	QV				
3+ 0	0.0170	0.10	QV				
3+ 5	0.0177	0.10	QV				
3+10	0.0184	0.10	QV				
3+15	0.0191	0.10	QV				
3+20	0.0198	0.10	QV				
3+25	0.0205	0.10	QV				
3+30	0.0212	0.10	QV				
3+35	0.0219	0.10	Q V				
3+40	0.0226	0.10	Q V				
3+45	0.0233	0.10	Q V				
3+50	0.0241	0.10	Q V				
3+55	0.0248	0.12	Q V				
4+ 0	0.0257	0.12	Q V				
4+ 5	0.0265	0.12	Q V				
4+10	0.0273	0.12	Q V				
4+15	0.0282	0.12	Q V				
4+20	0.0290	0.12	Q V				
4+25	0.0300	0.14	Q V				
4+30	0.0309	0.14	Q V				
4+35	0.0319	0.14	Q V				
4+40	0.0329	0.14	Q V				
4+45	0.0338	0.14	Q V				
4+50	0.0348	0.14	Q V				
4+55	0.0359	0.16	Q V				
5+ 0	0.0370	0.16	Q V				
5+ 5	0.0381	0.16	Q V				
5+10	0.0390	0.14	Q V				
5+15	0.0399	0.13	Q V				
5+20	0.0408	0.13	Q V				
5+25	0.0417	0.14	Q V				
5+30	0.0427	0.14	Q V				
5+35	0.0437	0.14	Q V				
5+40	0.0447	0.16	Q V				
5+45	0.0458	0.16	Q V				
5+50	0.0469	0.16	Q V				
5+55	0.0481	0.16	Q V				
6+ 0	0.0492	0.16	Q V				
6+ 5	0.0503	0.16	Q V				
6+10	0.0515	0.18	Q V				
6+15	0.0528	0.18	Q V				
6+20	0.0540	0.18	Q V				
6+25	0.0553	0.18	Q V				
6+30	0.0565	0.18	Q V				
6+35	0.0578	0.19	Q V				
6+40	0.0592	0.20	Q V				

6+45	0.0605	0.20	Q V	|	|	|	|
6+50	0.0619	0.20	Q V	|	|	|	|
6+55	0.0633	0.20	Q V	|	|	|	|
7+ 0	0.0647	0.20	Q V	|	|	|	|
7+ 5	0.0661	0.20	Q V	|	|	|	|
7+10	0.0675	0.20	Q V	|	|	|	|
7+15	0.0689	0.20	Q V	|	|	|	|
7+20	0.0703	0.21	Q V	|	|	|	|
7+25	0.0718	0.22	Q V	|	|	|	|
7+30	0.0733	0.22	Q V	|	|	|	|
7+35	0.0749	0.22	Q V	|	|	|	|
7+40	0.0765	0.24	Q V	|	|	|	|
7+45	0.0782	0.24	Q V	|	|	|	|
7+50	0.0799	0.25	Q V	|	|	|	|
7+55	0.0816	0.26	|Q V	|	|	|	|
8+ 0	0.0834	0.26	|Q V	|	|	|	|
8+ 5	0.0853	0.27	|Q V	|	|	|	|
8+10	0.0873	0.29	|Q V	|	|	|	|
8+15	0.0893	0.30	|Q V	|	|	|	|
8+20	0.0914	0.30	|Q V	|	|	|	|
8+25	0.0935	0.30	|Q V	|	|	|	|
8+30	0.0956	0.30	|Q V	|	|	|	|
8+35	0.0977	0.31	|Q V|	|	|	|	|
8+40	0.0999	0.32	|Q V|	|	|	|	|
8+45	0.1021	0.32	|Q V|	|	|	|	|
8+50	0.1044	0.33	|Q V|	|	|	|	|
8+55	0.1067	0.34	|Q V|	|	|	|	|
9+ 0	0.1091	0.34	|Q V	|	|	|	|
9+ 5	0.1115	0.35	|Q V	|	|	|	|
9+10	0.1140	0.37	|Q V	|	|	|	|
9+15	0.1167	0.38	|Q V	|	|	|	|
9+20	0.1193	0.39	|Q |V	|	|	|	|
9+25	0.1221	0.40	|Q |V	|	|	|	|
9+30	0.1248	0.40	|Q |V	|	|	|	|
9+35	0.1276	0.41	|Q |V	|	|	|	|
9+40	0.1305	0.42	|Q | V	|	|	|	|
9+45	0.1334	0.42	|Q | V	|	|	|	|
9+50	0.1364	0.43	|Q | V	|	|	|	|
9+55	0.1394	0.44	|Q | V	|	|	|	|
10+ 0	0.1425	0.45	|Q | V	|	|	|	|
10+ 5	0.1455	0.43	|Q | V	|	|	|	|
10+10	0.1479	0.35	|Q | V	|	|	|	|
10+15	0.1501	0.32	|Q | V	|	|	|	|
10+20	0.1523	0.31	|Q | V	|	|	|	|
10+25	0.1544	0.31	|Q | V	|	|	|	|
10+30	0.1565	0.31	|Q | V	|	|	|	|
10+35	0.1587	0.32	|Q | V	|	|	|	|
10+40	0.1613	0.37	|Q | V	|	|	|	|
10+45	0.1640	0.39	|Q | V	|	|	|	|
10+50	0.1667	0.40	|Q | V	|	|	|	|
10+55	0.1695	0.40	|Q | V	|	|	|	|
11+ 0	0.1723	0.41	|Q | V	|	|	|	|
11+ 5	0.1751	0.40	|Q | V	|	|	|	|
11+10	0.1778	0.39	|Q | V	|	|	|	|
11+15	0.1805	0.39	|Q | V	|	|	|	|
11+20	0.1831	0.39	|Q | V	|	|	|	|
11+25	0.1858	0.39	|Q | V	|	|	|	|
11+30	0.1885	0.39	|Q | V	|	|	|	|
11+35	0.1911	0.38	|Q | V	|	|	|	|
11+40	0.1936	0.36	|Q | V	|	|	|	|
11+45	0.1960	0.35	|Q | V	|	|	|	|
11+50	0.1984	0.35	|Q | V	|	|	|	|
11+55	0.2009	0.36	|Q | V	|	|	|	|
12+ 0	0.2034	0.36	|Q | V	|	|	|	|
12+ 5	0.2060	0.39	|Q | V	|	|	|	|
12+10	0.2093	0.48	|Q | V	|	|	|	|
12+15	0.2128	0.51	| Q | V	|	|	|	|
12+20	0.2165	0.53	| Q | V	|	|	|	|
12+25	0.2203	0.55	| Q | V	|	|	|	|
12+30	0.2241	0.56	| Q | V	|	|	|	|
12+35	0.2280	0.57	| Q | V	|	|	|	|

12+40	0.2321	0.60	Q		V		
12+45	0.2363	0.61	Q		V		
12+50	0.2405	0.61	Q		V		
12+55	0.2449	0.63	Q		V		
13+ 0	0.2492	0.64	Q		V		
13+ 5	0.2537	0.65	Q		V		
13+10	0.2587	0.72	Q		V		
13+15	0.2638	0.75	Q		V		
13+20	0.2691	0.76	Q		V		
13+25	0.2743	0.76	Q		V		
13+30	0.2796	0.76	Q		V		
13+35	0.2846	0.73	Q		V		
13+40	0.2886	0.58	Q		V		
13+45	0.2923	0.53	Q		V		
13+50	0.2958	0.51	Q		V		
13+55	0.2992	0.50	Q		V		
14+ 0	0.3027	0.50	Q		V		
14+ 5	0.3062	0.51	Q		V		
14+10	0.3100	0.56	Q		V		
14+15	0.3140	0.58	Q		V		
14+20	0.3181	0.59	Q		V		
14+25	0.3221	0.58	Q		V		
14+30	0.3260	0.57	Q		V		
14+35	0.3300	0.57	Q		V		
14+40	0.3339	0.57	Q		V		
14+45	0.3378	0.57	Q		V		
14+50	0.3418	0.57	Q		V		
14+55	0.3456	0.56	Q		V		
15+ 0	0.3494	0.55	Q		V		
15+ 5	0.3532	0.55	Q		V		
15+10	0.3569	0.53	Q		V		
15+15	0.3605	0.53	Q		V		
15+20	0.3641	0.52	Q		V		
15+25	0.3676	0.51	Q		V		
15+30	0.3711	0.51	Q		V		
15+35	0.3745	0.49	Q		V		
15+40	0.3775	0.44	Q		V		
15+45	0.3804	0.42	Q		V		
15+50	0.3832	0.41	Q		V		
15+55	0.3860	0.41	Q		V		
16+ 0	0.3888	0.41	Q		V		
16+ 5	0.3913	0.37	Q		V		
16+10	0.3926	0.19	Q		V		
16+15	0.3935	0.13	Q		V		
16+20	0.3941	0.10	Q		V		
16+25	0.3947	0.09	Q		V		
16+30	0.3953	0.08	Q		V		
16+35	0.3959	0.08	Q		V		
16+40	0.3963	0.07	Q		V		
16+45	0.3968	0.06	Q		V		
16+50	0.3972	0.06	Q		V		
16+55	0.3976	0.06	Q		V		
17+ 0	0.3980	0.06	Q		V		
17+ 5	0.3985	0.07	Q		V		
17+10	0.3991	0.09	Q		V		
17+15	0.3998	0.10	Q		V		
17+20	0.4005	0.10	Q		V		
17+25	0.4011	0.10	Q		V		
17+30	0.4018	0.10	Q		V		
17+35	0.4025	0.10	Q		V		
17+40	0.4032	0.10	Q		V		
17+45	0.4039	0.10	Q		V		
17+50	0.4046	0.10	Q		V		
17+55	0.4052	0.09	Q		V		
18+ 0	0.4058	0.08	Q		V		
18+ 5	0.4064	0.08	Q		V		
18+10	0.4069	0.08	Q		V		
18+15	0.4075	0.08	Q		V		
18+20	0.4081	0.08	Q		V		
18+25	0.4086	0.08	Q		V		
18+30	0.4092	0.08	Q		V		

18+35	0.4097	0.08	Q	|	|	|	V |
18+40	0.4102	0.07	Q	|	|	|	V |
18+45	0.4106	0.06	Q	|	|	|	V |
18+50	0.4110	0.06	Q	|	|	|	V |
18+55	0.4114	0.05	Q	|	|	|	V |
19+ 0	0.4117	0.04	Q	|	|	|	V |
19+ 5	0.4120	0.04	Q	|	|	|	V |
19+10	0.4123	0.05	Q	|	|	|	V |
19+15	0.4127	0.06	Q	|	|	|	V |
19+20	0.4132	0.06	Q	|	|	|	V |
19+25	0.4137	0.07	Q	|	|	|	V |
19+30	0.4142	0.08	Q	|	|	|	V |
19+35	0.4148	0.08	Q	|	|	|	V |
19+40	0.4152	0.07	Q	|	|	|	V |
19+45	0.4157	0.06	Q	|	|	|	V |
19+50	0.4161	0.06	Q	|	|	|	V |
19+55	0.4164	0.05	Q	|	|	|	V |
20+ 0	0.4167	0.04	Q	|	|	|	V |
20+ 5	0.4170	0.04	Q	|	|	|	V |
20+10	0.4174	0.05	Q	|	|	|	V |
20+15	0.4178	0.06	Q	|	|	|	V |
20+20	0.4182	0.06	Q	|	|	|	V |
20+25	0.4186	0.06	Q	|	|	|	V |
20+30	0.4190	0.06	Q	|	|	|	V |
20+35	0.4195	0.06	Q	|	|	|	V |
20+40	0.4199	0.06	Q	|	|	|	V |
20+45	0.4203	0.06	Q	|	|	|	V |
20+50	0.4207	0.06	Q	|	|	|	V |
20+55	0.4210	0.05	Q	|	|	|	V |
21+ 0	0.4213	0.04	Q	|	|	|	V |
21+ 5	0.4216	0.04	Q	|	|	|	V |
21+10	0.4220	0.05	Q	|	|	|	V |
21+15	0.4224	0.06	Q	|	|	|	V|
21+20	0.4228	0.06	Q	|	|	|	V|
21+25	0.4231	0.05	Q	|	|	|	V|
21+30	0.4234	0.04	Q	|	|	|	V|
21+35	0.4237	0.04	Q	|	|	|	V|
21+40	0.4241	0.05	Q	|	|	|	V|
21+45	0.4245	0.06	Q	|	|	|	V|
21+50	0.4249	0.06	Q	|	|	|	V|
21+55	0.4252	0.05	Q	|	|	|	V|
22+ 0	0.4255	0.04	Q	|	|	|	V|
22+ 5	0.4258	0.04	Q	|	|	|	V|
22+10	0.4262	0.05	Q	|	|	|	V|
22+15	0.4266	0.06	Q	|	|	|	V|
22+20	0.4270	0.06	Q	|	|	|	V|
22+25	0.4273	0.05	Q	|	|	|	V|
22+30	0.4276	0.04	Q	|	|	|	V|
22+35	0.4279	0.04	Q	|	|	|	V|
22+40	0.4282	0.04	Q	|	|	|	V|
22+45	0.4285	0.04	Q	|	|	|	V|
22+50	0.4287	0.04	Q	|	|	|	V|
22+55	0.4290	0.04	Q	|	|	|	V|
23+ 0	0.4293	0.04	Q	|	|	|	V|
23+ 5	0.4296	0.04	Q	|	|	|	V|
23+10	0.4299	0.04	Q	|	|	|	V|
23+15	0.4301	0.04	Q	|	|	|	V|
23+20	0.4304	0.04	Q	|	|	|	V|
23+25	0.4307	0.04	Q	|	|	|	V|
23+30	0.4310	0.04	Q	|	|	|	V|
23+35	0.4313	0.04	Q	|	|	|	V|
23+40	0.4315	0.04	Q	|	|	|	V|
23+45	0.4318	0.04	Q	|	|	|	V|
23+50	0.4321	0.04	Q	|	|	|	V|
23+55	0.4324	0.04	Q	|	|	|	V|
24+ 0	0.4327	0.04	Q	|	|	|	V|
24+ 5	0.4329	0.04	Q	|	|	|	V|
24+10	0.4330	0.01	Q	|	|	|	V|
24+15	0.4330	0.01	Q	|	|	|	V|
24+20	0.4331	0.00	Q	|	|	|	V|
24+25	0.4331	0.00	Q	|	|	|	V|

24+30	0.4331	0.00	Q	|	|	|	V|
24+35	0.4331	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 11/21/21 File: 2030UDA1100.out

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

Program License Serial Number 6434

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

English Units used in output format

DEVELOPED AREA A
100-YEAR 1-HOUR
AMC III

Drainage Area = 1.54(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.54(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.087 Hr.
Lag time = 5.22 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.54	0.53	0.82

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.54	1.46	2.25

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.531(In)
Area Averaged 100-Year Rainfall = 1.460(In)

Point rain (area averaged) = 1.460(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.460(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.540	75.00	0.900

Total Area Entered = 1.54(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.900	0.029	1.000	0.029
					Sum (F) =	0.029

Area averaged mean soil loss (F) (In/Hr) = 0.029
Minimum soil loss rate ((In/Hr)) = 0.015
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.4800

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	95.785	12.976	0.201
2	0.167	191.571	55.143	0.856
3	0.250	287.356	19.274	0.299
4	0.333	383.142	7.917	0.123
5	0.417	478.927	2.930	0.045
6	0.500	574.713	0.918	0.014
7	0.583	670.498	0.615	0.010
8	0.667	766.284	0.227	0.004
			Sum = 100.000	Sum= 1.552

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	4.40	0.771	0.029	(0.139)	0.742
2	0.17	4.50	0.788	0.029	(0.142)	0.759
3	0.25	5.40	0.946	0.029	(0.170)	0.917
4	0.33	5.40	0.946	0.029	(0.170)	0.917
5	0.42	5.70	0.999	0.029	(0.180)	0.970
6	0.50	6.40	1.121	0.029	(0.202)	1.092
7	0.58	7.90	1.384	0.029	(0.249)	1.355
8	0.67	9.10	1.594	0.029	(0.287)	1.565
9	0.75	12.80	2.243	0.029	(0.404)	2.213
10	0.83	25.60	4.485	0.029	(0.807)	4.456
11	0.92	7.90	1.384	0.029	(0.249)	1.355
12	1.00	4.90	0.858	0.029	(0.155)	0.829
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	17.2

Flood volume = Effective rainfall 1.43(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.03(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.46(In)
Flood volume = 7999.3 Cubic Feet
Total soil loss = 162.3 Cubic Feet

Peak flow rate of this hydrograph = 5.033(CFS)

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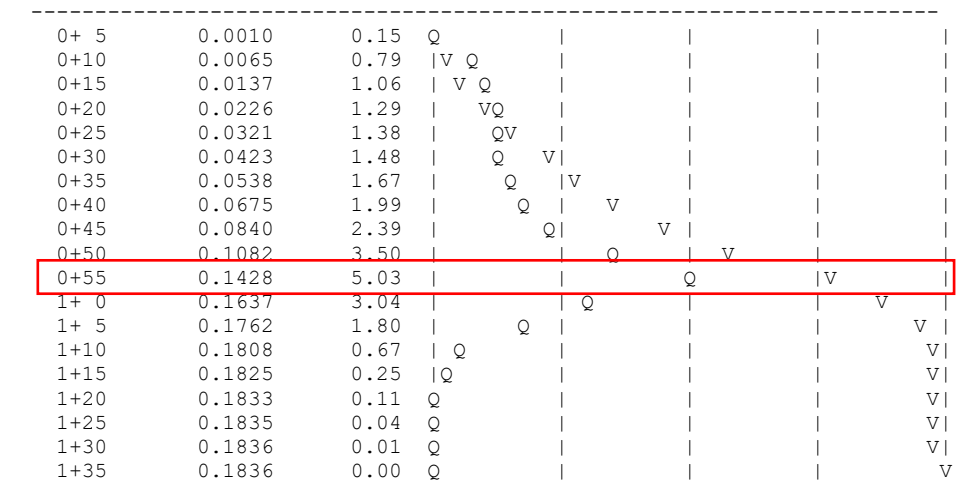
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

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


0+ 5 0.0010 0.15
0+10 0.0065 0.79
0+15 0.0137 1.06
0+20 0.0226 1.29
0+25 0.0321 1.38
0+30 0.0423 1.48
0+35 0.0538 1.67
0+40 0.0675 1.99
0+45 0.0840 2.39
0+50 0.1082 3.50
0+55 0.1428 5.03
1+ 0 0.1637 3.04
1+ 5 0.1762 1.80
1+10 0.1808 0.67
1+15 0.1825 0.25
1+20 0.1833 0.11
1+25 0.1835 0.04
1+30 0.1836 0.01
1+35 0.1836 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 11/02/21 File: 2030UDB24100.out

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

Program License Serial Number 6434

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

English Units used in output format

DEVELOPED AREA A
100-YEAR 24-HOUR
AMC III

Drainage Area = 1.54(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.54(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.087 Hr.
Lag time = 5.22 Min.
25% of lag time = 1.31 Min.
40% of lag time = 2.09 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]
1.54	2.40	3.70

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.54	6.26	9.64

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.260(In)

Point rain (area averaged) = 6.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 6.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.540	75.00	0.900

Total Area Entered = 1.54(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.900	0.029	1.000	0.029
					Sum (F) =	0.029

Area averaged mean soil loss (F) (In/Hr) = 0.029
Minimum soil loss rate ((In/Hr)) = 0.015
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.360

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	95.712	12.952	0.201
2	0.167	191.424	55.129	0.856
3	0.250	287.136	19.290	0.299
4	0.333	382.848	7.925	0.123
5	0.417	478.560	2.938	0.046
6	0.500	574.272	0.920	0.014
7	0.583	669.984	0.615	0.010
8	0.667	765.696	0.229	0.004
			Sum = 100.000 Sum=	1.552

Storm Event 2 Effective Rainfall = 2.254(In)

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	0.018	(0.051)	0.006	0.012
2	0.17	0.07	0.018	(0.051)	0.006	0.012
3	0.25	0.07	0.018	(0.051)	0.006	0.012
4	0.33	0.10	0.027	(0.051)	0.010	0.017
5	0.42	0.10	0.027	(0.051)	0.010	0.017
6	0.50	0.10	0.027	(0.050)	0.010	0.017
7	0.58	0.10	0.027	(0.050)	0.010	0.017
8	0.67	0.10	0.027	(0.050)	0.010	0.017
9	0.75	0.10	0.027	(0.050)	0.010	0.017
10	0.83	0.13	0.036	(0.050)	0.013	0.023
11	0.92	0.13	0.036	(0.049)	0.013	0.023
12	1.00	0.13	0.036	(0.049)	0.013	0.023
13	1.08	0.10	0.027	(0.049)	0.010	0.017
14	1.17	0.10	0.027	(0.049)	0.010	0.017
15	1.25	0.10	0.027	(0.049)	0.010	0.017
16	1.33	0.10	0.027	(0.049)	0.010	0.017
17	1.42	0.10	0.027	(0.048)	0.010	0.017
18	1.50	0.10	0.027	(0.048)	0.010	0.017
19	1.58	0.10	0.027	(0.048)	0.010	0.017
20	1.67	0.10	0.027	(0.048)	0.010	0.017
21	1.75	0.10	0.027	(0.048)	0.010	0.017
22	1.83	0.13	0.036	(0.047)	0.013	0.023
23	1.92	0.13	0.036	(0.047)	0.013	0.023
24	2.00	0.13	0.036	(0.047)	0.013	0.023
25	2.08	0.13	0.036	(0.047)	0.013	0.023
26	2.17	0.13	0.036	(0.047)	0.013	0.023
27	2.25	0.13	0.036	(0.046)	0.013	0.023
28	2.33	0.13	0.036	(0.046)	0.013	0.023
29	2.42	0.13	0.036	(0.046)	0.013	0.023

30	2.50	0.13	0.036	(0.046)	0.013	0.023
31	2.58	0.17	0.045	(0.046)	0.016	0.029
32	2.67	0.17	0.045	(0.045)	0.016	0.029
33	2.75	0.17	0.045	(0.045)	0.016	0.029
34	2.83	0.17	0.045	(0.045)	0.016	0.029
35	2.92	0.17	0.045	(0.045)	0.016	0.029
36	3.00	0.17	0.045	(0.045)	0.016	0.029
37	3.08	0.17	0.045	(0.045)	0.016	0.029
38	3.17	0.17	0.045	(0.044)	0.016	0.029
39	3.25	0.17	0.045	(0.044)	0.016	0.029
40	3.33	0.17	0.045	(0.044)	0.016	0.029
41	3.42	0.17	0.045	(0.044)	0.016	0.029
42	3.50	0.17	0.045	(0.044)	0.016	0.029
43	3.58	0.17	0.045	(0.043)	0.016	0.029
44	3.67	0.17	0.045	(0.043)	0.016	0.029
45	3.75	0.17	0.045	(0.043)	0.016	0.029
46	3.83	0.20	0.054	(0.043)	0.019	0.035
47	3.92	0.20	0.054	(0.043)	0.019	0.035
48	4.00	0.20	0.054	(0.043)	0.019	0.035
49	4.08	0.20	0.054	(0.042)	0.019	0.035
50	4.17	0.20	0.054	(0.042)	0.019	0.035
51	4.25	0.20	0.054	(0.042)	0.019	0.035
52	4.33	0.23	0.063	(0.042)	0.023	0.040
53	4.42	0.23	0.063	(0.042)	0.023	0.040
54	4.50	0.23	0.063	(0.041)	0.023	0.040
55	4.58	0.23	0.063	(0.041)	0.023	0.040
56	4.67	0.23	0.063	(0.041)	0.023	0.040
57	4.75	0.23	0.063	(0.041)	0.023	0.040
58	4.83	0.27	0.072	(0.041)	0.026	0.046
59	4.92	0.27	0.072	(0.041)	0.026	0.046
60	5.00	0.27	0.072	(0.040)	0.026	0.046
61	5.08	0.20	0.054	(0.040)	0.019	0.035
62	5.17	0.20	0.054	(0.040)	0.019	0.035
63	5.25	0.20	0.054	(0.040)	0.019	0.035
64	5.33	0.23	0.063	(0.040)	0.023	0.040
65	5.42	0.23	0.063	(0.040)	0.023	0.040
66	5.50	0.23	0.063	(0.039)	0.023	0.040
67	5.58	0.27	0.072	(0.039)	0.026	0.046
68	5.67	0.27	0.072	(0.039)	0.026	0.046
69	5.75	0.27	0.072	(0.039)	0.026	0.046
70	5.83	0.27	0.072	(0.039)	0.026	0.046
71	5.92	0.27	0.072	(0.038)	0.026	0.046
72	6.00	0.27	0.072	(0.038)	0.026	0.046
73	6.08	0.30	0.081	(0.038)	0.029	0.052
74	6.17	0.30	0.081	(0.038)	0.029	0.052
75	6.25	0.30	0.081	(0.038)	0.029	0.052
76	6.33	0.30	0.081	(0.038)	0.029	0.052
77	6.42	0.30	0.081	(0.037)	0.029	0.052
78	6.50	0.30	0.081	(0.037)	0.029	0.052
79	6.58	0.33	0.090	(0.037)	0.032	0.058
80	6.67	0.33	0.090	(0.037)	0.032	0.058
81	6.75	0.33	0.090	(0.037)	0.032	0.058
82	6.83	0.33	0.090	(0.037)	0.032	0.058
83	6.92	0.33	0.090	(0.036)	0.032	0.058
84	7.00	0.33	0.090	(0.036)	0.032	0.058
85	7.08	0.33	0.090	(0.036)	0.032	0.058
86	7.17	0.33	0.090	(0.036)	0.032	0.058
87	7.25	0.33	0.090	(0.036)	0.032	0.058
88	7.33	0.37	0.099	0.036	(0.036)	0.064
89	7.42	0.37	0.099	0.035	(0.036)	0.064
90	7.50	0.37	0.099	0.035	(0.036)	0.064
91	7.58	0.40	0.108	0.035	(0.039)	0.073
92	7.67	0.40	0.108	0.035	(0.039)	0.073
93	7.75	0.40	0.108	0.035	(0.039)	0.073
94	7.83	0.43	0.117	0.035	(0.042)	0.083
95	7.92	0.43	0.117	0.035	(0.042)	0.083
96	8.00	0.43	0.117	0.034	(0.042)	0.083
97	8.08	0.50	0.135	0.034	(0.049)	0.101
98	8.17	0.50	0.135	0.034	(0.049)	0.101
99	8.25	0.50	0.135	0.034	(0.049)	0.101
100	8.33	0.50	0.135	0.034	(0.049)	0.101

101	8.42	0.50	0.135	0.034	(0.049)	0.102
102	8.50	0.50	0.135	0.033	(0.049)	0.102
103	8.58	0.53	0.144	0.033	(0.052)	0.111
104	8.67	0.53	0.144	0.033	(0.052)	0.111
105	8.75	0.53	0.144	0.033	(0.052)	0.111
106	8.83	0.57	0.153	0.033	(0.055)	0.120
107	8.92	0.57	0.153	0.033	(0.055)	0.121
108	9.00	0.57	0.153	0.032	(0.055)	0.121
109	9.08	0.63	0.171	0.032	(0.062)	0.139
110	9.17	0.63	0.171	0.032	(0.062)	0.139
111	9.25	0.63	0.171	0.032	(0.062)	0.139
112	9.33	0.67	0.180	0.032	(0.065)	0.148
113	9.42	0.67	0.180	0.032	(0.065)	0.149
114	9.50	0.67	0.180	0.032	(0.065)	0.149
115	9.58	0.70	0.189	0.031	(0.068)	0.158
116	9.67	0.70	0.189	0.031	(0.068)	0.158
117	9.75	0.70	0.189	0.031	(0.068)	0.158
118	9.83	0.73	0.198	0.031	(0.071)	0.167
119	9.92	0.73	0.198	0.031	(0.071)	0.168
120	10.00	0.73	0.198	0.031	(0.071)	0.168
121	10.08	0.50	0.135	0.031	(0.049)	0.105
122	10.17	0.50	0.135	0.030	(0.049)	0.105
123	10.25	0.50	0.135	0.030	(0.049)	0.105
124	10.33	0.50	0.135	0.030	(0.049)	0.105
125	10.42	0.50	0.135	0.030	(0.049)	0.105
126	10.50	0.50	0.135	0.030	(0.049)	0.105
127	10.58	0.67	0.180	0.030	(0.065)	0.151
128	10.67	0.67	0.180	0.029	(0.065)	0.151
129	10.75	0.67	0.180	0.029	(0.065)	0.151
130	10.83	0.67	0.180	0.029	(0.065)	0.151
131	10.92	0.67	0.180	0.029	(0.065)	0.151
132	11.00	0.67	0.180	0.029	(0.065)	0.151
133	11.08	0.63	0.171	0.029	(0.062)	0.143
134	11.17	0.63	0.171	0.029	(0.062)	0.143
135	11.25	0.63	0.171	0.028	(0.062)	0.143
136	11.33	0.63	0.171	0.028	(0.062)	0.143
137	11.42	0.63	0.171	0.028	(0.062)	0.143
138	11.50	0.63	0.171	0.028	(0.062)	0.143
139	11.58	0.57	0.153	0.028	(0.055)	0.125
140	11.67	0.57	0.153	0.028	(0.055)	0.125
141	11.75	0.57	0.153	0.028	(0.055)	0.126
142	11.83	0.60	0.162	0.028	(0.058)	0.135
143	11.92	0.60	0.162	0.027	(0.058)	0.135
144	12.00	0.60	0.162	0.027	(0.058)	0.135
145	12.08	0.83	0.225	0.027	(0.081)	0.198
146	12.17	0.83	0.225	0.027	(0.081)	0.198
147	12.25	0.83	0.225	0.027	(0.081)	0.199
148	12.33	0.87	0.234	0.027	(0.084)	0.208
149	12.42	0.87	0.234	0.027	(0.084)	0.208
150	12.50	0.87	0.234	0.026	(0.084)	0.208
151	12.58	0.93	0.252	0.026	(0.091)	0.226
152	12.67	0.93	0.252	0.026	(0.091)	0.226
153	12.75	0.93	0.252	0.026	(0.091)	0.226
154	12.83	0.97	0.261	0.026	(0.094)	0.236
155	12.92	0.97	0.261	0.026	(0.094)	0.236
156	13.00	0.97	0.261	0.026	(0.094)	0.236
157	13.08	1.13	0.306	0.026	(0.110)	0.281
158	13.17	1.13	0.306	0.025	(0.110)	0.281
159	13.25	1.13	0.306	0.025	(0.110)	0.281
160	13.33	1.13	0.306	0.025	(0.110)	0.281
161	13.42	1.13	0.306	0.025	(0.110)	0.281
162	13.50	1.13	0.306	0.025	(0.110)	0.282
163	13.58	0.77	0.207	0.025	(0.075)	0.183
164	13.67	0.77	0.207	0.025	(0.075)	0.183
165	13.75	0.77	0.207	0.024	(0.075)	0.183
166	13.83	0.77	0.207	0.024	(0.075)	0.183
167	13.92	0.77	0.207	0.024	(0.075)	0.183
168	14.00	0.77	0.207	0.024	(0.075)	0.183
169	14.08	0.90	0.243	0.024	(0.088)	0.219
170	14.17	0.90	0.243	0.024	(0.088)	0.220
171	14.25	0.90	0.243	0.024	(0.088)	0.220

172	14.33	0.87	0.234	0.024	(0.084)	0.211
173	14.42	0.87	0.234	0.024	(0.084)	0.211
174	14.50	0.87	0.234	0.023	(0.084)	0.211
175	14.58	0.87	0.234	0.023	(0.084)	0.211
176	14.67	0.87	0.234	0.023	(0.084)	0.211
177	14.75	0.87	0.234	0.023	(0.084)	0.211
178	14.83	0.83	0.225	0.023	(0.081)	0.202
179	14.92	0.83	0.225	0.023	(0.081)	0.203
180	15.00	0.83	0.225	0.023	(0.081)	0.203
181	15.08	0.80	0.216	0.023	(0.078)	0.194
182	15.17	0.80	0.216	0.022	(0.078)	0.194
183	15.25	0.80	0.216	0.022	(0.078)	0.194
184	15.33	0.77	0.207	0.022	(0.075)	0.185
185	15.42	0.77	0.207	0.022	(0.075)	0.185
186	15.50	0.77	0.207	0.022	(0.075)	0.185
187	15.58	0.63	0.171	0.022	(0.062)	0.149
188	15.67	0.63	0.171	0.022	(0.062)	0.150
189	15.75	0.63	0.171	0.022	(0.062)	0.150
190	15.83	0.63	0.171	0.022	(0.062)	0.150
191	15.92	0.63	0.171	0.021	(0.062)	0.150
192	16.00	0.63	0.171	0.021	(0.062)	0.150
193	16.08	0.13	0.036	(0.021)	0.013	0.023
194	16.17	0.13	0.036	(0.021)	0.013	0.023
195	16.25	0.13	0.036	(0.021)	0.013	0.023
196	16.33	0.13	0.036	(0.021)	0.013	0.023
197	16.42	0.13	0.036	(0.021)	0.013	0.023
198	16.50	0.13	0.036	(0.021)	0.013	0.023
199	16.58	0.10	0.027	(0.021)	0.010	0.017
200	16.67	0.10	0.027	(0.020)	0.010	0.017
201	16.75	0.10	0.027	(0.020)	0.010	0.017
202	16.83	0.10	0.027	(0.020)	0.010	0.017
203	16.92	0.10	0.027	(0.020)	0.010	0.017
204	17.00	0.10	0.027	(0.020)	0.010	0.017
205	17.08	0.17	0.045	(0.020)	0.016	0.029
206	17.17	0.17	0.045	(0.020)	0.016	0.029
207	17.25	0.17	0.045	(0.020)	0.016	0.029
208	17.33	0.17	0.045	(0.020)	0.016	0.029
209	17.42	0.17	0.045	(0.020)	0.016	0.029
210	17.50	0.17	0.045	(0.019)	0.016	0.029
211	17.58	0.17	0.045	(0.019)	0.016	0.029
212	17.67	0.17	0.045	(0.019)	0.016	0.029
213	17.75	0.17	0.045	(0.019)	0.016	0.029
214	17.83	0.13	0.036	(0.019)	0.013	0.023
215	17.92	0.13	0.036	(0.019)	0.013	0.023
216	18.00	0.13	0.036	(0.019)	0.013	0.023
217	18.08	0.13	0.036	(0.019)	0.013	0.023
218	18.17	0.13	0.036	(0.019)	0.013	0.023
219	18.25	0.13	0.036	(0.019)	0.013	0.023
220	18.33	0.13	0.036	(0.019)	0.013	0.023
221	18.42	0.13	0.036	(0.018)	0.013	0.023
222	18.50	0.13	0.036	(0.018)	0.013	0.023
223	18.58	0.10	0.027	(0.018)	0.010	0.017
224	18.67	0.10	0.027	(0.018)	0.010	0.017
225	18.75	0.10	0.027	(0.018)	0.010	0.017
226	18.83	0.07	0.018	(0.018)	0.006	0.012
227	18.92	0.07	0.018	(0.018)	0.006	0.012
228	19.00	0.07	0.018	(0.018)	0.006	0.012
229	19.08	0.10	0.027	(0.018)	0.010	0.017
230	19.17	0.10	0.027	(0.018)	0.010	0.017
231	19.25	0.10	0.027	(0.018)	0.010	0.017
232	19.33	0.13	0.036	(0.017)	0.013	0.023
233	19.42	0.13	0.036	(0.017)	0.013	0.023
234	19.50	0.13	0.036	(0.017)	0.013	0.023
235	19.58	0.10	0.027	(0.017)	0.010	0.017
236	19.67	0.10	0.027	(0.017)	0.010	0.017
237	19.75	0.10	0.027	(0.017)	0.010	0.017
238	19.83	0.07	0.018	(0.017)	0.006	0.012
239	19.92	0.07	0.018	(0.017)	0.006	0.012
240	20.00	0.07	0.018	(0.017)	0.006	0.012
241	20.08	0.10	0.027	(0.017)	0.010	0.017
242	20.17	0.10	0.027	(0.017)	0.010	0.017

243	20.25	0.10	0.027	(	0.017)	0.010	0.017
244	20.33	0.10	0.027	(	0.017)	0.010	0.017
245	20.42	0.10	0.027	(	0.016)	0.010	0.017
246	20.50	0.10	0.027	(	0.016)	0.010	0.017
247	20.58	0.10	0.027	(	0.016)	0.010	0.017
248	20.67	0.10	0.027	(	0.016)	0.010	0.017
249	20.75	0.10	0.027	(	0.016)	0.010	0.017
250	20.83	0.07	0.018	(	0.016)	0.006	0.012
251	20.92	0.07	0.018	(	0.016)	0.006	0.012
252	21.00	0.07	0.018	(	0.016)	0.006	0.012
253	21.08	0.10	0.027	(	0.016)	0.010	0.017
254	21.17	0.10	0.027	(	0.016)	0.010	0.017
255	21.25	0.10	0.027	(	0.016)	0.010	0.017
256	21.33	0.07	0.018	(	0.016)	0.006	0.012
257	21.42	0.07	0.018	(	0.016)	0.006	0.012
258	21.50	0.07	0.018	(	0.016)	0.006	0.012
259	21.58	0.10	0.027	(	0.016)	0.010	0.017
260	21.67	0.10	0.027	(	0.016)	0.010	0.017
261	21.75	0.10	0.027	(	0.015)	0.010	0.017
262	21.83	0.07	0.018	(	0.015)	0.006	0.012
263	21.92	0.07	0.018	(	0.015)	0.006	0.012
264	22.00	0.07	0.018	(	0.015)	0.006	0.012
265	22.08	0.10	0.027	(	0.015)	0.010	0.017
266	22.17	0.10	0.027	(	0.015)	0.010	0.017
267	22.25	0.10	0.027	(	0.015)	0.010	0.017
268	22.33	0.07	0.018	(	0.015)	0.006	0.012
269	22.42	0.07	0.018	(	0.015)	0.006	0.012
270	22.50	0.07	0.018	(	0.015)	0.006	0.012
271	22.58	0.07	0.018	(	0.015)	0.006	0.012
272	22.67	0.07	0.018	(	0.015)	0.006	0.012
273	22.75	0.07	0.018	(	0.015)	0.006	0.012
274	22.83	0.07	0.018	(	0.015)	0.006	0.012
275	22.92	0.07	0.018	(	0.015)	0.006	0.012
276	23.00	0.07	0.018	(	0.015)	0.006	0.012
277	23.08	0.07	0.018	(	0.015)	0.006	0.012
278	23.17	0.07	0.018	(	0.015)	0.006	0.012
279	23.25	0.07	0.018	(	0.015)	0.006	0.012
280	23.33	0.07	0.018	(	0.015)	0.006	0.012
281	23.42	0.07	0.018	(	0.015)	0.006	0.012
282	23.50	0.07	0.018	(	0.015)	0.006	0.012
283	23.58	0.07	0.018	(	0.015)	0.006	0.012
284	23.67	0.07	0.018	(	0.015)	0.006	0.012
285	23.75	0.07	0.018	(	0.015)	0.006	0.012
286	23.83	0.07	0.018	(	0.015)	0.006	0.012
287	23.92	0.07	0.018	(	0.015)	0.006	0.012
288	24.00	0.07	0.018	(	0.015)	0.006	0.012

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.5

Flood volume = Effective rainfall 1.79(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.46(In)
Total soil loss = 0.059(Ac.Ft)
Total rainfall = 2.25(In)
Flood volume = 10025.4 Cubic Feet
Total soil loss = 2572.6 Cubic Feet

Storm Event 1 Effective Rainfall = 6.260(In)

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	0.050	(	0.051)	0.018	0.032
2	0.17	0.07	0.050	(	0.051)	0.018	0.032
3	0.25	0.07	0.050	(	0.051)	0.018	0.032
4	0.33	0.10	0.075	(	0.051)	0.027	0.048
5	0.42	0.10	0.075	(	0.051)	0.027	0.048
6	0.50	0.10	0.075	(	0.050)	0.027	0.048
7	0.58	0.10	0.075	(	0.050)	0.027	0.048

8	0.67	0.10	0.075	(	0.050)	0.027	0.048
9	0.75	0.10	0.075	(	0.050)	0.027	0.048
10	0.83	0.13	0.100	(	0.050)	0.036	0.064
11	0.92	0.13	0.100	(	0.049)	0.036	0.064
12	1.00	0.13	0.100	(	0.049)	0.036	0.064
13	1.08	0.10	0.075	(	0.049)	0.027	0.048
14	1.17	0.10	0.075	(	0.049)	0.027	0.048
15	1.25	0.10	0.075	(	0.049)	0.027	0.048
16	1.33	0.10	0.075	(	0.049)	0.027	0.048
17	1.42	0.10	0.075	(	0.048)	0.027	0.048
18	1.50	0.10	0.075	(	0.048)	0.027	0.048
19	1.58	0.10	0.075	(	0.048)	0.027	0.048
20	1.67	0.10	0.075	(	0.048)	0.027	0.048
21	1.75	0.10	0.075	(	0.048)	0.027	0.048
22	1.83	0.13	0.100	(	0.047)	0.036	0.064
23	1.92	0.13	0.100	(	0.047)	0.036	0.064
24	2.00	0.13	0.100	(	0.047)	0.036	0.064
25	2.08	0.13	0.100	(	0.047)	0.036	0.064
26	2.17	0.13	0.100	(	0.047)	0.036	0.064
27	2.25	0.13	0.100	(	0.046)	0.036	0.064
28	2.33	0.13	0.100	(	0.046)	0.036	0.064
29	2.42	0.13	0.100	(	0.046)	0.036	0.064
30	2.50	0.13	0.100	(	0.046)	0.036	0.064
31	2.58	0.17	0.125	(	0.046)	0.045	0.080
32	2.67	0.17	0.125	(	0.045)	0.045	0.080
33	2.75	0.17	0.125	(	0.045)	0.045	0.080
34	2.83	0.17	0.125	(	0.045)	0.045	0.080
35	2.92	0.17	0.125		0.045	(0.045)	0.080
36	3.00	0.17	0.125		0.045	(0.045)	0.080
37	3.08	0.17	0.125		0.045	(0.045)	0.081
38	3.17	0.17	0.125		0.044	(0.045)	0.081
39	3.25	0.17	0.125		0.044	(0.045)	0.081
40	3.33	0.17	0.125		0.044	(0.045)	0.081
41	3.42	0.17	0.125		0.044	(0.045)	0.081
42	3.50	0.17	0.125		0.044	(0.045)	0.082
43	3.58	0.17	0.125		0.043	(0.045)	0.082
44	3.67	0.17	0.125		0.043	(0.045)	0.082
45	3.75	0.17	0.125		0.043	(0.045)	0.082
46	3.83	0.20	0.150		0.043	(0.054)	0.107
47	3.92	0.20	0.150		0.043	(0.054)	0.108
48	4.00	0.20	0.150		0.043	(0.054)	0.108
49	4.08	0.20	0.150		0.042	(0.054)	0.108
50	4.17	0.20	0.150		0.042	(0.054)	0.108
51	4.25	0.20	0.150		0.042	(0.054)	0.108
52	4.33	0.23	0.175		0.042	(0.063)	0.133
53	4.42	0.23	0.175		0.042	(0.063)	0.134
54	4.50	0.23	0.175		0.041	(0.063)	0.134
55	4.58	0.23	0.175		0.041	(0.063)	0.134
56	4.67	0.23	0.175		0.041	(0.063)	0.134
57	4.75	0.23	0.175		0.041	(0.063)	0.134
58	4.83	0.27	0.200		0.041	(0.072)	0.160
59	4.92	0.27	0.200		0.041	(0.072)	0.160
60	5.00	0.27	0.200		0.040	(0.072)	0.160
61	5.08	0.20	0.150		0.040	(0.054)	0.110
62	5.17	0.20	0.150		0.040	(0.054)	0.110
63	5.25	0.20	0.150		0.040	(0.054)	0.110
64	5.33	0.23	0.175		0.040	(0.063)	0.136
65	5.42	0.23	0.175		0.040	(0.063)	0.136
66	5.50	0.23	0.175		0.039	(0.063)	0.136
67	5.58	0.27	0.200		0.039	(0.072)	0.161
68	5.67	0.27	0.200		0.039	(0.072)	0.161
69	5.75	0.27	0.200		0.039	(0.072)	0.161
70	5.83	0.27	0.200		0.039	(0.072)	0.162
71	5.92	0.27	0.200		0.038	(0.072)	0.162
72	6.00	0.27	0.200		0.038	(0.072)	0.162
73	6.08	0.30	0.225		0.038	(0.081)	0.187
74	6.17	0.30	0.225		0.038	(0.081)	0.187
75	6.25	0.30	0.225		0.038	(0.081)	0.188
76	6.33	0.30	0.225		0.038	(0.081)	0.188
77	6.42	0.30	0.225		0.037	(0.081)	0.188
78	6.50	0.30	0.225		0.037	(0.081)	0.188

79	6.58	0.33	0.250	0.037	(0.090)	0.213
80	6.67	0.33	0.250	0.037	(0.090)	0.213
81	6.75	0.33	0.250	0.037	(0.090)	0.214
82	6.83	0.33	0.250	0.037	(0.090)	0.214
83	6.92	0.33	0.250	0.036	(0.090)	0.214
84	7.00	0.33	0.250	0.036	(0.090)	0.214
85	7.08	0.33	0.250	0.036	(0.090)	0.214
86	7.17	0.33	0.250	0.036	(0.090)	0.214
87	7.25	0.33	0.250	0.036	(0.090)	0.215
88	7.33	0.37	0.275	0.036	(0.099)	0.240
89	7.42	0.37	0.275	0.035	(0.099)	0.240
90	7.50	0.37	0.275	0.035	(0.099)	0.240
91	7.58	0.40	0.300	0.035	(0.108)	0.265
92	7.67	0.40	0.300	0.035	(0.108)	0.265
93	7.75	0.40	0.300	0.035	(0.108)	0.266
94	7.83	0.43	0.326	0.035	(0.117)	0.291
95	7.92	0.43	0.326	0.035	(0.117)	0.291
96	8.00	0.43	0.326	0.034	(0.117)	0.291
97	8.08	0.50	0.376	0.034	(0.135)	0.341
98	8.17	0.50	0.376	0.034	(0.135)	0.342
99	8.25	0.50	0.376	0.034	(0.135)	0.342
100	8.33	0.50	0.376	0.034	(0.135)	0.342
101	8.42	0.50	0.376	0.034	(0.135)	0.342
102	8.50	0.50	0.376	0.033	(0.135)	0.342
103	8.58	0.53	0.401	0.033	(0.144)	0.367
104	8.67	0.53	0.401	0.033	(0.144)	0.368
105	8.75	0.53	0.401	0.033	(0.144)	0.368
106	8.83	0.57	0.426	0.033	(0.153)	0.393
107	8.92	0.57	0.426	0.033	(0.153)	0.393
108	9.00	0.57	0.426	0.032	(0.153)	0.393
109	9.08	0.63	0.476	0.032	(0.171)	0.443
110	9.17	0.63	0.476	0.032	(0.171)	0.444
111	9.25	0.63	0.476	0.032	(0.171)	0.444
112	9.33	0.67	0.501	0.032	(0.180)	0.469
113	9.42	0.67	0.501	0.032	(0.180)	0.469
114	9.50	0.67	0.501	0.032	(0.180)	0.469
115	9.58	0.70	0.526	0.031	(0.189)	0.494
116	9.67	0.70	0.526	0.031	(0.189)	0.495
117	9.75	0.70	0.526	0.031	(0.189)	0.495
118	9.83	0.73	0.551	0.031	(0.198)	0.520
119	9.92	0.73	0.551	0.031	(0.198)	0.520
120	10.00	0.73	0.551	0.031	(0.198)	0.520
121	10.08	0.50	0.376	0.031	(0.135)	0.345
122	10.17	0.50	0.376	0.030	(0.135)	0.345
123	10.25	0.50	0.376	0.030	(0.135)	0.345
124	10.33	0.50	0.376	0.030	(0.135)	0.346
125	10.42	0.50	0.376	0.030	(0.135)	0.346
126	10.50	0.50	0.376	0.030	(0.135)	0.346
127	10.58	0.67	0.501	0.030	(0.180)	0.471
128	10.67	0.67	0.501	0.029	(0.180)	0.471
129	10.75	0.67	0.501	0.029	(0.180)	0.471
130	10.83	0.67	0.501	0.029	(0.180)	0.472
131	10.92	0.67	0.501	0.029	(0.180)	0.472
132	11.00	0.67	0.501	0.029	(0.180)	0.472
133	11.08	0.63	0.476	0.029	(0.171)	0.447
134	11.17	0.63	0.476	0.029	(0.171)	0.447
135	11.25	0.63	0.476	0.028	(0.171)	0.447
136	11.33	0.63	0.476	0.028	(0.171)	0.447
137	11.42	0.63	0.476	0.028	(0.171)	0.448
138	11.50	0.63	0.476	0.028	(0.171)	0.448
139	11.58	0.57	0.426	0.028	(0.153)	0.398
140	11.67	0.57	0.426	0.028	(0.153)	0.398
141	11.75	0.57	0.426	0.028	(0.153)	0.398
142	11.83	0.60	0.451	0.028	(0.162)	0.423
143	11.92	0.60	0.451	0.027	(0.162)	0.423
144	12.00	0.60	0.451	0.027	(0.162)	0.423
145	12.08	0.83	0.626	0.027	(0.225)	0.599
146	12.17	0.83	0.626	0.027	(0.225)	0.599
147	12.25	0.83	0.626	0.027	(0.225)	0.599
148	12.33	0.87	0.651	0.027	(0.234)	0.624
149	12.42	0.87	0.651	0.027	(0.234)	0.624

150	12.50	0.87	0.651	0.026	(0.234)	0.625
151	12.58	0.93	0.701	0.026	(0.252)	0.675
152	12.67	0.93	0.701	0.026	(0.252)	0.675
153	12.75	0.93	0.701	0.026	(0.252)	0.675
154	12.83	0.97	0.726	0.026	(0.261)	0.700
155	12.92	0.97	0.726	0.026	(0.261)	0.700
156	13.00	0.97	0.726	0.026	(0.261)	0.701
157	13.08	1.13	0.851	0.026	(0.306)	0.826
158	13.17	1.13	0.851	0.025	(0.306)	0.826
159	13.25	1.13	0.851	0.025	(0.306)	0.826
160	13.33	1.13	0.851	0.025	(0.306)	0.826
161	13.42	1.13	0.851	0.025	(0.306)	0.826
162	13.50	1.13	0.851	0.025	(0.306)	0.826
163	13.58	0.77	0.576	0.025	(0.207)	0.551
164	13.67	0.77	0.576	0.025	(0.207)	0.551
165	13.75	0.77	0.576	0.024	(0.207)	0.551
166	13.83	0.77	0.576	0.024	(0.207)	0.552
167	13.92	0.77	0.576	0.024	(0.207)	0.552
168	14.00	0.77	0.576	0.024	(0.207)	0.552
169	14.08	0.90	0.676	0.024	(0.243)	0.652
170	14.17	0.90	0.676	0.024	(0.243)	0.652
171	14.25	0.90	0.676	0.024	(0.243)	0.652
172	14.33	0.87	0.651	0.024	(0.234)	0.627
173	14.42	0.87	0.651	0.024	(0.234)	0.628
174	14.50	0.87	0.651	0.023	(0.234)	0.628
175	14.58	0.87	0.651	0.023	(0.234)	0.628
176	14.67	0.87	0.651	0.023	(0.234)	0.628
177	14.75	0.87	0.651	0.023	(0.234)	0.628
178	14.83	0.83	0.626	0.023	(0.225)	0.603
179	14.92	0.83	0.626	0.023	(0.225)	0.603
180	15.00	0.83	0.626	0.023	(0.225)	0.603
181	15.08	0.80	0.601	0.023	(0.216)	0.578
182	15.17	0.80	0.601	0.022	(0.216)	0.579
183	15.25	0.80	0.601	0.022	(0.216)	0.579
184	15.33	0.77	0.576	0.022	(0.207)	0.554
185	15.42	0.77	0.576	0.022	(0.207)	0.554
186	15.50	0.77	0.576	0.022	(0.207)	0.554
187	15.58	0.63	0.476	0.022	(0.171)	0.454
188	15.67	0.63	0.476	0.022	(0.171)	0.454
189	15.75	0.63	0.476	0.022	(0.171)	0.454
190	15.83	0.63	0.476	0.022	(0.171)	0.454
191	15.92	0.63	0.476	0.021	(0.171)	0.454
192	16.00	0.63	0.476	0.021	(0.171)	0.454
193	16.08	0.13	0.100	0.021	(0.036)	0.079
194	16.17	0.13	0.100	0.021	(0.036)	0.079
195	16.25	0.13	0.100	0.021	(0.036)	0.079
196	16.33	0.13	0.100	0.021	(0.036)	0.079
197	16.42	0.13	0.100	0.021	(0.036)	0.079
198	16.50	0.13	0.100	0.021	(0.036)	0.079
199	16.58	0.10	0.075	0.021	(0.027)	0.055
200	16.67	0.10	0.075	0.020	(0.027)	0.055
201	16.75	0.10	0.075	0.020	(0.027)	0.055
202	16.83	0.10	0.075	0.020	(0.027)	0.055
203	16.92	0.10	0.075	0.020	(0.027)	0.055
204	17.00	0.10	0.075	0.020	(0.027)	0.055
205	17.08	0.17	0.125	0.020	(0.045)	0.105
206	17.17	0.17	0.125	0.020	(0.045)	0.105
207	17.25	0.17	0.125	0.020	(0.045)	0.105
208	17.33	0.17	0.125	0.020	(0.045)	0.106
209	17.42	0.17	0.125	0.020	(0.045)	0.106
210	17.50	0.17	0.125	0.019	(0.045)	0.106
211	17.58	0.17	0.125	0.019	(0.045)	0.106
212	17.67	0.17	0.125	0.019	(0.045)	0.106
213	17.75	0.17	0.125	0.019	(0.045)	0.106
214	17.83	0.13	0.100	0.019	(0.036)	0.081
215	17.92	0.13	0.100	0.019	(0.036)	0.081
216	18.00	0.13	0.100	0.019	(0.036)	0.081
217	18.08	0.13	0.100	0.019	(0.036)	0.081
218	18.17	0.13	0.100	0.019	(0.036)	0.081
219	18.25	0.13	0.100	0.019	(0.036)	0.082
220	18.33	0.13	0.100	0.019	(0.036)	0.082

221	18.42	0.13	0.100	0.018	(0.036)	0.082
222	18.50	0.13	0.100	0.018	(0.036)	0.082
223	18.58	0.10	0.075	0.018	(0.027)	0.057
224	18.67	0.10	0.075	0.018	(0.027)	0.057
225	18.75	0.10	0.075	0.018	(0.027)	0.057
226	18.83	0.07	0.050	0.018	(0.018)	0.032
227	18.92	0.07	0.050	0.018	(0.018)	0.032
228	19.00	0.07	0.050	0.018	(0.018)	0.032
229	19.08	0.10	0.075	0.018	(0.027)	0.057
230	19.17	0.10	0.075	0.018	(0.027)	0.057
231	19.25	0.10	0.075	0.018	(0.027)	0.058
232	19.33	0.13	0.100	0.017	(0.036)	0.083
233	19.42	0.13	0.100	0.017	(0.036)	0.083
234	19.50	0.13	0.100	0.017	(0.036)	0.083
235	19.58	0.10	0.075	0.017	(0.027)	0.058
236	19.67	0.10	0.075	0.017	(0.027)	0.058
237	19.75	0.10	0.075	0.017	(0.027)	0.058
238	19.83	0.07	0.050	0.017	(0.018)	0.033
239	19.92	0.07	0.050	0.017	(0.018)	0.033
240	20.00	0.07	0.050	0.017	(0.018)	0.033
241	20.08	0.10	0.075	0.017	(0.027)	0.058
242	20.17	0.10	0.075	0.017	(0.027)	0.058
243	20.25	0.10	0.075	0.017	(0.027)	0.058
244	20.33	0.10	0.075	0.017	(0.027)	0.059
245	20.42	0.10	0.075	0.016	(0.027)	0.059
246	20.50	0.10	0.075	0.016	(0.027)	0.059
247	20.58	0.10	0.075	0.016	(0.027)	0.059
248	20.67	0.10	0.075	0.016	(0.027)	0.059
249	20.75	0.10	0.075	0.016	(0.027)	0.059
250	20.83	0.07	0.050	0.016	(0.018)	0.034
251	20.92	0.07	0.050	0.016	(0.018)	0.034
252	21.00	0.07	0.050	0.016	(0.018)	0.034
253	21.08	0.10	0.075	0.016	(0.027)	0.059
254	21.17	0.10	0.075	0.016	(0.027)	0.059
255	21.25	0.10	0.075	0.016	(0.027)	0.059
256	21.33	0.07	0.050	0.016	(0.018)	0.034
257	21.42	0.07	0.050	0.016	(0.018)	0.034
258	21.50	0.07	0.050	0.016	(0.018)	0.034
259	21.58	0.10	0.075	0.016	(0.027)	0.060
260	21.67	0.10	0.075	0.016	(0.027)	0.060
261	21.75	0.10	0.075	0.015	(0.027)	0.060
262	21.83	0.07	0.050	0.015	(0.018)	0.035
263	21.92	0.07	0.050	0.015	(0.018)	0.035
264	22.00	0.07	0.050	0.015	(0.018)	0.035
265	22.08	0.10	0.075	0.015	(0.027)	0.060
266	22.17	0.10	0.075	0.015	(0.027)	0.060
267	22.25	0.10	0.075	0.015	(0.027)	0.060
268	22.33	0.07	0.050	0.015	(0.018)	0.035
269	22.42	0.07	0.050	0.015	(0.018)	0.035
270	22.50	0.07	0.050	0.015	(0.018)	0.035
271	22.58	0.07	0.050	0.015	(0.018)	0.035
272	22.67	0.07	0.050	0.015	(0.018)	0.035
273	22.75	0.07	0.050	0.015	(0.018)	0.035
274	22.83	0.07	0.050	0.015	(0.018)	0.035
275	22.92	0.07	0.050	0.015	(0.018)	0.035
276	23.00	0.07	0.050	0.015	(0.018)	0.035
277	23.08	0.07	0.050	0.015	(0.018)	0.035
278	23.17	0.07	0.050	0.015	(0.018)	0.035
279	23.25	0.07	0.050	0.015	(0.018)	0.035
280	23.33	0.07	0.050	0.015	(0.018)	0.035
281	23.42	0.07	0.050	0.015	(0.018)	0.035
282	23.50	0.07	0.050	0.015	(0.018)	0.035
283	23.58	0.07	0.050	0.015	(0.018)	0.035
284	23.67	0.07	0.050	0.015	(0.018)	0.036
285	23.75	0.07	0.050	0.015	(0.018)	0.036
286	23.83	0.07	0.050	0.015	(0.018)	0.036
287	23.92	0.07	0.050	0.015	(0.018)	0.036
288	24.00	0.07	0.050	0.015	(0.018)	0.036

(Loss Rate Not Used)

Sum = 100.0 Sum = 67.3

Flood volume = Effective rainfall 5.61(In)

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 times area       1.5(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
Total soil loss =      0.65(In)
Total soil loss =     0.083(Ac.Ft)
Total rainfall =      6.26(In)
Flood volume =       31362.2 Cubic Feet
Total soil loss =        3632.3 Cubic Feet
--------------------------------------------------------------------------
 Peak flow rate of this hydrograph =      1.281(CFS)
--------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
  TOTAL OF: 2       24 - H O U R    S T O R M  E V E N T S
               R u n o f f      H y d r o g r a p h
--------------------------------------------------------------------------
            Hydrograph in   5   Minute intervals ((CFS))

--------------------------------------------------------------------------
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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	0.0002	0.02	Q				
0+20	0.0003	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0007	0.03	Q				
0+35	0.0009	0.03	Q				
0+40	0.0010	0.03	Q				
0+45	0.0012	0.03	Q				
0+50	0.0014	0.03	Q				
0+55	0.0016	0.03	Q				
1+ 0	0.0019	0.03	Q				
1+ 5	0.0021	0.03	Q				
1+10	0.0023	0.03	Q				
1+15	0.0025	0.03	Q				
1+20	0.0027	0.03	Q				
1+25	0.0029	0.03	Q				
1+30	0.0031	0.03	Q				
1+35	0.0033	0.03	Q				
1+40	0.0034	0.03	Q				
1+45	0.0036	0.03	Q				
1+50	0.0038	0.03	Q				
1+55	0.0040	0.03	Q				
2+ 0	0.0043	0.03	Q				
2+ 5	0.0045	0.04	Q				
2+10	0.0048	0.04	Q				
2+15	0.0050	0.04	Q				
2+20	0.0053	0.04	Q				
2+25	0.0055	0.04	Q				
2+30	0.0058	0.04	Q				
2+35	0.0060	0.04	Q				
2+40	0.0063	0.04	Q				
2+45	0.0066	0.04	Q				
2+50	0.0069	0.04	Q				
2+55	0.0072	0.04	Q				
3+ 0	0.0075	0.04	Q				
3+ 5	0.0078	0.04	Q				
3+10	0.0081	0.04	Q				
3+15	0.0085	0.04	Q				
3+20	0.0088	0.04	Q				
3+25	0.0091	0.04	Q				
3+30	0.0094	0.04	Q				
3+35	0.0097	0.04	Q				
3+40	0.0100	0.04	Q				
3+45	0.0103	0.04	Q				
3+50	0.0106	0.05	Q				
3+55	0.0110	0.05	Q				
4+ 0	0.0113	0.05	Q				
4+ 5	0.0117	0.05	Q				
4+10	0.0121	0.05	Q				
4+15	0.0124	0.05	Q				
4+20	0.0128	0.05	Q				
4+25	0.0132	0.06	Q				

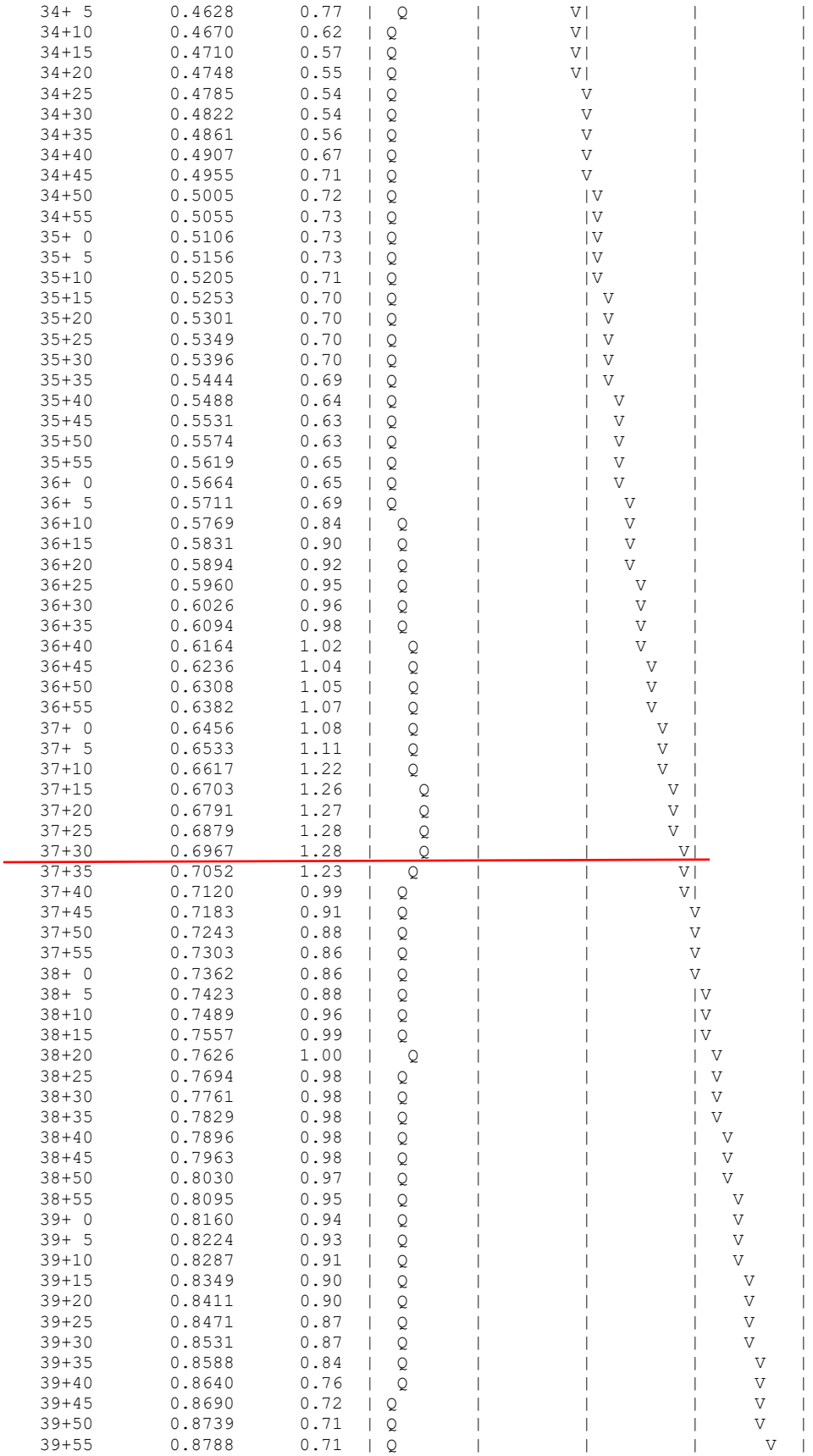
4+30	0.0137	0.06	Q				
4+35	0.0141	0.06	Q				
4+40	0.0145	0.06	Q				
4+45	0.0149	0.06	Q				
4+50	0.0154	0.06	Q				
4+55	0.0159	0.07	Q				
5+ 0	0.0163	0.07	Q				
5+ 5	0.0168	0.07	Q				
5+10	0.0172	0.06	Q				
5+15	0.0176	0.06	Q				
5+20	0.0180	0.06	Q				
5+25	0.0184	0.06	Q				
5+30	0.0188	0.06	Q				
5+35	0.0193	0.06	Q				
5+40	0.0197	0.07	Q				
5+45	0.0202	0.07	Q				
5+50	0.0207	0.07	Q				
5+55	0.0212	0.07	Q				
6+ 0	0.0217	0.07	Q				
6+ 5	0.0222	0.07	Q				
6+10	0.0227	0.08	Q				
6+15	0.0233	0.08	Q				
6+20	0.0238	0.08	QV				
6+25	0.0244	0.08	QV				
6+30	0.0250	0.08	QV				
6+35	0.0255	0.08	QV				
6+40	0.0261	0.09	QV				
6+45	0.0267	0.09	QV				
6+50	0.0273	0.09	QV				
6+55	0.0280	0.09	QV				
7+ 0	0.0286	0.09	QV				
7+ 5	0.0292	0.09	QV				
7+10	0.0298	0.09	QV				
7+15	0.0304	0.09	QV				
7+20	0.0310	0.09	QV				
7+25	0.0317	0.10	QV				
7+30	0.0324	0.10	QV				
7+35	0.0331	0.10	QV				
7+40	0.0338	0.11	QV				
7+45	0.0346	0.11	QV				
7+50	0.0354	0.11	QV				
7+55	0.0362	0.12	QV				
8+ 0	0.0371	0.13	QV				
8+ 5	0.0380	0.13	QV				
8+10	0.0390	0.15	QV				
8+15	0.0401	0.15	QV				
8+20	0.0412	0.16	QV				
8+25	0.0422	0.16	QV				
8+30	0.0433	0.16	QV				
8+35	0.0444	0.16	QV				
8+40	0.0456	0.17	QV				
8+45	0.0467	0.17	QV				
8+50	0.0479	0.17	Q V				
8+55	0.0492	0.18	Q V				
9+ 0	0.0505	0.19	Q V				
9+ 5	0.0518	0.19	Q V				
9+10	0.0532	0.21	Q V				
9+15	0.0547	0.21	Q V				
9+20	0.0562	0.22	Q V				
9+25	0.0577	0.23	Q V				
9+30	0.0593	0.23	Q V				
9+35	0.0609	0.23	Q V				
9+40	0.0625	0.24	Q V				
9+45	0.0642	0.24	Q V				
9+50	0.0659	0.25	Q V				
9+55	0.0677	0.26	|QV				
10+ 0	0.0695	0.26	|QV				
10+ 5	0.0712	0.25	Q V				
10+10	0.0725	0.19	Q V				
10+15	0.0737	0.17	Q V				
10+20	0.0748	0.17	Q V				

10+25	0.0760	0.16	Q V	|	|	|	|
10+30	0.0771	0.16	Q V	|	|	|	|
10+35	0.0783	0.17	Q V	|	|	|	|
10+40	0.0798	0.21	Q V	|	|	|	|
10+45	0.0813	0.23	Q V	|	|	|	|
10+50	0.0829	0.23	Q V	|	|	|	|
10+55	0.0845	0.23	Q V	|	|	|	|
11+ 0	0.0861	0.23	Q V	|	|	|	|
11+ 5	0.0877	0.23	Q V	|	|	|	|
11+10	0.0893	0.23	Q V	|	|	|	|
11+15	0.0908	0.22	Q V	|	|	|	|
11+20	0.0924	0.22	Q V	|	|	|	|
11+25	0.0939	0.22	Q V	|	|	|	|
11+30	0.0954	0.22	Q V	|	|	|	|
11+35	0.0969	0.22	Q V	|	|	|	|
11+40	0.0983	0.20	Q V	|	|	|	|
11+45	0.0997	0.20	Q V	|	|	|	|
11+50	0.1010	0.20	Q V	|	|	|	|
11+55	0.1025	0.21	Q V	|	|	|	|
12+ 0	0.1039	0.21	Q V	|	|	|	|
12+ 5	0.1054	0.22	Q V	|	|	|	|
12+10	0.1073	0.28	|Q V	|	|	|	|
12+15	0.1094	0.30	|Q V	|	|	|	|
12+20	0.1115	0.31	|Q V	|	|	|	|
12+25	0.1136	0.32	|Q V	|	|	|	|
12+30	0.1158	0.32	|Q V	|	|	|	|
12+35	0.1181	0.33	|Q V	|	|	|	|
12+40	0.1204	0.34	|Q V	|	|	|	|
12+45	0.1228	0.35	|Q V	|	|	|	|
12+50	0.1253	0.35	|Q V	|	|	|	|
12+55	0.1277	0.36	|Q V	|	|	|	|
13+ 0	0.1302	0.36	|Q V	|	|	|	|
13+ 5	0.1328	0.37	|Q V	|	|	|	|
13+10	0.1357	0.41	|Q V	|	|	|	|
13+15	0.1386	0.43	|Q V	|	|	|	|
13+20	0.1416	0.43	|Q V	|	|	|	|
13+25	0.1446	0.44	|Q V	|	|	|	|
13+30	0.1476	0.44	|Q V	|	|	|	|
13+35	0.1505	0.42	|Q V	|	|	|	|
13+40	0.1528	0.33	|Q V	|	|	|	|
13+45	0.1549	0.30	|Q V	|	|	|	|
13+50	0.1569	0.29	|Q V	|	|	|	|
13+55	0.1588	0.29	|Q V	|	|	|	|
14+ 0	0.1608	0.29	|Q V	|	|	|	|
14+ 5	0.1628	0.29	|Q V	|	|	|	|
14+10	0.1650	0.32	|Q V	|	|	|	|
14+15	0.1673	0.33	|Q V	|	|	|	|
14+20	0.1697	0.34	|Q V	|	|	|	|
14+25	0.1719	0.33	|Q V	|	|	|	|
14+30	0.1742	0.33	|Q V	|	|	|	|
14+35	0.1765	0.33	|Q V	|	|	|	|
14+40	0.1787	0.33	|Q V	|	|	|	|
14+45	0.1810	0.33	|Q V	|	|	|	|
14+50	0.1832	0.33	|Q V	|	|	|	|
14+55	0.1854	0.32	|Q V	|	|	|	|
15+ 0	0.1876	0.32	|Q V	|	|	|	|
15+ 5	0.1898	0.31	|Q V	|	|	|	|
15+10	0.1919	0.31	|Q V	|	|	|	|
15+15	0.1939	0.30	|Q V	|	|	|	|
15+20	0.1960	0.30	|Q V	|	|	|	|
15+25	0.1980	0.29	|Q V	|	|	|	|
15+30	0.2000	0.29	|Q V	|	|	|	|
15+35	0.2020	0.28	|Q V	|	|	|	|
15+40	0.2037	0.25	|Q V	|	|	|	|
15+45	0.2053	0.24	Q V	|	|	|	|
15+50	0.2069	0.23	Q V	|	|	|	|
15+55	0.2085	0.23	Q V	|	|	|	|
16+ 0	0.2102	0.23	Q V	|	|	|	|
16+ 5	0.2116	0.21	Q V	|	|	|	|
16+10	0.2123	0.10	Q V	|	|	|	|
16+15	0.2127	0.06	Q V	|	|	|	|

16+20	0.2130	0.05	Q	V				
16+25	0.2133	0.04	Q	V				
16+30	0.2135	0.04	Q	V				
16+35	0.2138	0.04	Q	V				
16+40	0.2140	0.03	Q	V				
16+45	0.2142	0.03	Q	V				
16+50	0.2143	0.03	Q	V				
16+55	0.2145	0.03	Q	V				
17+ 0	0.2147	0.03	Q	V				
17+ 5	0.2149	0.03	Q	V				
17+10	0.2152	0.04	Q	V				
17+15	0.2155	0.04	Q	V				
17+20	0.2158	0.04	Q	V				
17+25	0.2161	0.04	Q	V				
17+30	0.2164	0.04	Q	V				
17+35	0.2167	0.04	Q	V				
17+40	0.2170	0.04	Q	V				
17+45	0.2173	0.04	Q	V				
17+50	0.2176	0.04	Q	V				
17+55	0.2179	0.04	Q	V				
18+ 0	0.2181	0.04	Q	V				
18+ 5	0.2184	0.04	Q	V				
18+10	0.2186	0.04	Q	V				
18+15	0.2189	0.04	Q	V				
18+20	0.2191	0.04	Q	V				
18+25	0.2194	0.04	Q	V				
18+30	0.2196	0.04	Q	V				
18+35	0.2199	0.03	Q	V				
18+40	0.2201	0.03	Q	V				
18+45	0.2203	0.03	Q	V				
18+50	0.2204	0.03	Q	V				
18+55	0.2206	0.02	Q	V				
19+ 0	0.2207	0.02	Q	V				
19+ 5	0.2209	0.02	Q	V				
19+10	0.2210	0.02	Q	V				
19+15	0.2212	0.03	Q	V				
19+20	0.2214	0.03	Q	V				
19+25	0.2216	0.03	Q	V				
19+30	0.2219	0.03	Q	V				
19+35	0.2221	0.03	Q	V				
19+40	0.2223	0.03	Q	V				
19+45	0.2225	0.03	Q	V				
19+50	0.2227	0.03	Q	V				
19+55	0.2228	0.02	Q	V				
20+ 0	0.2229	0.02	Q	V				
20+ 5	0.2231	0.02	Q	V				
20+10	0.2232	0.02	Q	V				
20+15	0.2234	0.03	Q	V				
20+20	0.2236	0.03	Q	V				
20+25	0.2238	0.03	Q	V				
20+30	0.2240	0.03	Q	V				
20+35	0.2242	0.03	Q	V				
20+40	0.2243	0.03	Q	V				
20+45	0.2245	0.03	Q	V				
20+50	0.2247	0.03	Q	V				
20+55	0.2248	0.02	Q	V				
21+ 0	0.2250	0.02	Q	V				
21+ 5	0.2251	0.02	Q	V				
21+10	0.2253	0.02	Q	V				
21+15	0.2255	0.03	Q	V				
21+20	0.2256	0.03	Q	V				
21+25	0.2258	0.02	Q	V				
21+30	0.2259	0.02	Q	V				
21+35	0.2260	0.02	Q	V				
21+40	0.2262	0.02	Q	V				
21+45	0.2264	0.03	Q	V				
21+50	0.2266	0.03	Q	V				
21+55	0.2267	0.02	Q	V				
22+ 0	0.2268	0.02	Q	V				
22+ 5	0.2270	0.02	Q	V				
22+10	0.2271	0.02	Q	V				

22+15	0.2273	0.03	Q	V|			
22+20	0.2275	0.03	Q	V|			
22+25	0.2276	0.02	Q	V|			
22+30	0.2278	0.02	Q	V|			
22+35	0.2279	0.02	Q	V|			
22+40	0.2280	0.02	Q	V|			
22+45	0.2281	0.02	Q	V|			
22+50	0.2283	0.02	Q	V|			
22+55	0.2284	0.02	Q	V|			
23+ 0	0.2285	0.02	Q	V|			
23+ 5	0.2286	0.02	Q	V|			
23+10	0.2287	0.02	Q	V|			
23+15	0.2289	0.02	Q	V|			
23+20	0.2290	0.02	Q	V|			
23+25	0.2291	0.02	Q	V|			
23+30	0.2292	0.02	Q	V|			
23+35	0.2294	0.02	Q	V|			
23+40	0.2295	0.02	Q	V|			
23+45	0.2296	0.02	Q	V|			
23+50	0.2297	0.02	Q	V|			
23+55	0.2299	0.02	Q	V|			
24+ 0	0.2300	0.02	Q	V|			
24+ 5	0.2300	0.01	Q	V|			
24+10	0.2303	0.03	Q	V|			
24+15	0.2306	0.04	Q	V|			
24+20	0.2309	0.05	Q	V|			
24+25	0.2314	0.07	Q	V|			
24+30	0.2318	0.07	Q	V|			
24+35	0.2324	0.07	Q	V|			
24+40	0.2329	0.07	Q	V|			
24+45	0.2334	0.07	Q	V|			
24+50	0.2339	0.08	Q	V|			
24+55	0.2345	0.09	Q	V|			
25+ 0	0.2352	0.10	Q	V|			
25+ 5	0.2359	0.10	Q	V|			
25+10	0.2364	0.08	Q	V|			
25+15	0.2370	0.08	Q	V|			
25+20	0.2375	0.08	Q	V|			
25+25	0.2380	0.08	Q	V			
25+30	0.2385	0.07	Q	V			
25+35	0.2390	0.07	Q	V			
25+40	0.2395	0.07	Q	V			
25+45	0.2401	0.07	Q	V			
25+50	0.2406	0.08	Q	V			
25+55	0.2412	0.09	Q	V			
26+ 0	0.2419	0.10	Q	V			
26+ 5	0.2426	0.10	Q	V			
26+10	0.2433	0.10	Q	V			
26+15	0.2439	0.10	Q	V			
26+20	0.2446	0.10	Q	V			
26+25	0.2453	0.10	Q	V			
26+30	0.2460	0.10	Q	V			
26+35	0.2467	0.10	Q	V			
26+40	0.2475	0.12	Q	V			
26+45	0.2483	0.12	Q	V			
26+50	0.2492	0.12	Q	V			
26+55	0.2500	0.12	Q	V			
27+ 0	0.2509	0.12	Q	V			
27+ 5	0.2518	0.12	Q	V			
27+10	0.2526	0.13	Q	V			
27+15	0.2535	0.13	Q	V			
27+20	0.2543	0.13	Q	V			
27+25	0.2552	0.13	Q	V			
27+30	0.2561	0.13	Q	V			
27+35	0.2570	0.13	Q	V			
27+40	0.2578	0.13	Q	V			
27+45	0.2587	0.13	Q	V			
27+50	0.2596	0.13	Q	V			
27+55	0.2607	0.15	Q	V			
28+ 0	0.2618	0.16	Q	|V			
28+ 5	0.2629	0.17	Q	|V			

28+10	0.2641	0.17	Q	V			
28+15	0.2652	0.17	Q	V			
28+20	0.2664	0.17	Q	V			
28+25	0.2678	0.19	Q	V			
28+30	0.2692	0.20	Q	V			
28+35	0.2706	0.21	Q	V			
28+40	0.2720	0.21	Q	V			
28+45	0.2734	0.21	Q	V			
28+50	0.2749	0.21	Q	V			
28+55	0.2765	0.24	Q	V			
29+ 0	0.2782	0.24	Q	V			
29+ 5	0.2798	0.24	Q	V			
29+10	0.2812	0.19	Q	V			
29+15	0.2824	0.18	Q	V			
29+20	0.2837	0.18	Q	V			
29+25	0.2850	0.20	Q	V			
29+30	0.2865	0.21	Q	V			
29+35	0.2879	0.21	Q	V			
29+40	0.2896	0.24	Q	V			
29+45	0.2912	0.25	Q	V			
29+50	0.2930	0.25	Q	V			
29+55	0.2947	0.25	Q	V			
30+ 0	0.2964	0.25	Q	V			
30+ 5	0.2982	0.26	Q	V			
30+10	0.3001	0.28	Q	V			
30+15	0.3021	0.29	Q	V			
30+20	0.3041	0.29	Q	V			
30+25	0.3061	0.29	Q	V			
30+30	0.3081	0.29	Q	V			
30+35	0.3101	0.30	Q	V			
30+40	0.3123	0.32	Q	V			
30+45	0.3146	0.33	Q	V			
30+50	0.3168	0.33	Q	V			
30+55	0.3191	0.33	Q	V			
31+ 0	0.3214	0.33	Q	V			
31+ 5	0.3237	0.33	Q	V			
31+10	0.3260	0.33	Q	V			
31+15	0.3283	0.33	Q	V			
31+20	0.3306	0.34	Q	V			
31+25	0.3331	0.36	Q	V			
31+30	0.3356	0.37	Q	V			
31+35	0.3382	0.38	Q	V			
31+40	0.3409	0.40	Q	V			
31+45	0.3437	0.41	Q	V			
31+50	0.3466	0.42	Q	V			
31+55	0.3496	0.44	Q	V			
32+ 0	0.3527	0.45	Q	V			
32+ 5	0.3559	0.46	Q	V			
32+10	0.3593	0.50	Q	V			
32+15	0.3629	0.52	Q	V			
32+20	0.3665	0.53	Q	V			
32+25	0.3702	0.53	Q	V			
32+30	0.3738	0.53	Q	V			
32+35	0.3775	0.54	Q	V			
32+40	0.3814	0.56	Q	V			
32+45	0.3853	0.57	Q	V			
32+50	0.3892	0.57	Q	V			
32+55	0.3933	0.60	Q	V			
33+ 0	0.3975	0.61	Q	V			
33+ 5	0.4018	0.62	Q	V			
33+10	0.4063	0.66	Q	V			
33+15	0.4110	0.68	Q	V			
33+20	0.4158	0.69	Q	V			
33+25	0.4207	0.71	Q	V			
33+30	0.4257	0.72	Q	V			
33+35	0.4307	0.73	Q	V			
33+40	0.4359	0.75	Q	V			
33+45	0.4411	0.76	Q	V			
33+50	0.4465	0.77	Q	V			
33+55	0.4519	0.79	Q	V			
34+ 0	0.4575	0.80	Q	V			



40+ 0	0.8837	0.71	| Q	|	|	|	V |
40+ 5	0.8880	0.63	| Q	|	|	|	V |
40+10	0.8902	0.31	|Q	|	|	|	V |
40+15	0.8915	0.20	Q	|	|	|	V |
40+20	0.8925	0.15	Q	|	|	|	V |
40+25	0.8935	0.13	Q	|	|	|	V |
40+30	0.8943	0.13	Q	|	|	|	V |
40+35	0.8952	0.12	Q	|	|	|	V |
40+40	0.8958	0.10	Q	|	|	|	V |
40+45	0.8965	0.09	Q	|	|	|	V |
40+50	0.8971	0.09	Q	|	|	|	V |
40+55	0.8976	0.09	Q	|	|	|	V |
41+ 0	0.8982	0.09	Q	|	|	|	V |
41+ 5	0.8989	0.10	Q	|	|	|	V |
41+10	0.8998	0.14	Q	|	|	|	V |
41+15	0.9009	0.15	Q	|	|	|	V |
41+20	0.9020	0.16	Q	|	|	|	V |
41+25	0.9031	0.16	Q	|	|	|	V |
41+30	0.9043	0.16	Q	|	|	|	V |
41+35	0.9054	0.16	Q	|	|	|	V |
41+40	0.9065	0.16	Q	|	|	|	V |
41+45	0.9076	0.16	Q	|	|	|	V |
41+50	0.9087	0.16	Q	|	|	|	V |
41+55	0.9097	0.14	Q	|	|	|	V |
42+ 0	0.9106	0.13	Q	|	|	|	V |
42+ 5	0.9115	0.13	Q	|	|	|	V |
42+10	0.9124	0.13	Q	|	|	|	V |
42+15	0.9132	0.13	Q	|	|	|	V |
42+20	0.9141	0.13	Q	|	|	|	V |
42+25	0.9150	0.13	Q	|	|	|	V |
42+30	0.9158	0.13	Q	|	|	|	V |
42+35	0.9167	0.12	Q	|	|	|	V |
42+40	0.9174	0.10	Q	|	|	|	V |
42+45	0.9180	0.09	Q	|	|	|	V |
42+50	0.9186	0.09	Q	|	|	|	V |
42+55	0.9190	0.06	Q	|	|	|	V |
43+ 0	0.9194	0.06	Q	|	|	|	V |
43+ 5	0.9198	0.06	Q	|	|	|	V |
43+10	0.9203	0.08	Q	|	|	|	V |
43+15	0.9209	0.08	Q	|	|	|	V |
43+20	0.9216	0.09	Q	|	|	|	V |
43+25	0.9224	0.12	Q	|	|	|	V |
43+30	0.9232	0.12	Q	|	|	|	V |
43+35	0.9240	0.12	Q	|	|	|	V |
43+40	0.9247	0.10	Q	|	|	|	V |
43+45	0.9254	0.09	Q	|	|	|	V |
43+50	0.9260	0.09	Q	|	|	|	V |
43+55	0.9264	0.06	Q	|	|	|	V|
44+ 0	0.9268	0.06	Q	|	|	|	V|
44+ 5	0.9272	0.06	Q	|	|	|	V|
44+10	0.9278	0.08	Q	|	|	|	V|
44+15	0.9284	0.09	Q	|	|	|	V|
44+20	0.9290	0.09	Q	|	|	|	V|
44+25	0.9296	0.09	Q	|	|	|	V|
44+30	0.9302	0.09	Q	|	|	|	V|
44+35	0.9309	0.09	Q	|	|	|	V|
44+40	0.9315	0.09	Q	|	|	|	V|
44+45	0.9321	0.09	Q	|	|	|	V|
44+50	0.9327	0.09	Q	|	|	|	V|
44+55	0.9332	0.07	Q	|	|	|	V|
45+ 0	0.9336	0.06	Q	|	|	|	V|
45+ 5	0.9340	0.06	Q	|	|	|	V|
45+10	0.9345	0.08	Q	|	|	|	V|
45+15	0.9351	0.09	Q	|	|	|	V|
45+20	0.9357	0.09	Q	|	|	|	V|
45+25	0.9362	0.06	Q	|	|	|	V|
45+30	0.9365	0.06	Q	|	|	|	V|
45+35	0.9370	0.06	Q	|	|	|	V|
45+40	0.9375	0.08	Q	|	|	|	V|
45+45	0.9381	0.09	Q	|	|	|	V|
45+50	0.9387	0.09	Q	|	|	|	V|

45+55	0.9392	0.07	Q	|	|	|	V|
46+ 0	0.9396	0.06	Q	|	|	|	V|
46+ 5	0.9400	0.06	Q	|	|	|	V|
46+10	0.9405	0.08	Q	|	|	|	V|
46+15	0.9412	0.09	Q	|	|	|	V|
46+20	0.9417	0.09	Q	|	|	|	V|
46+25	0.9422	0.07	Q	|	|	|	V|
46+30	0.9426	0.06	Q	|	|	|	V|
46+35	0.9430	0.06	Q	|	|	|	V|
46+40	0.9434	0.06	Q	|	|	|	V|
46+45	0.9438	0.05	Q	|	|	|	V|
46+50	0.9441	0.05	Q	|	|	|	V|
46+55	0.9445	0.05	Q	|	|	|	V|
47+ 0	0.9449	0.05	Q	|	|	|	V|
47+ 5	0.9453	0.05	Q	|	|	|	V|
47+10	0.9456	0.05	Q	|	|	|	V|
47+15	0.9460	0.05	Q	|	|	|	V|
47+20	0.9464	0.05	Q	|	|	|	V|
47+25	0.9468	0.05	Q	|	|	|	V|
47+30	0.9472	0.06	Q	|	|	|	V|
47+35	0.9475	0.06	Q	|	|	|	V|
47+40	0.9479	0.06	Q	|	|	|	V|
47+45	0.9483	0.06	Q	|	|	|	V|
47+50	0.9487	0.06	Q	|	|	|	V|
47+55	0.9490	0.06	Q	|	|	|	V|
48+ 0	0.9494	0.06	Q	|	|	|	V|
48+ 5	0.9498	0.05	Q	|	|	|	V|
48+10	0.9499	0.02	Q	|	|	|	V|
48+15	0.9499	0.01	Q	|	|	|	V|
48+20	0.9499	0.00	Q	|	|	|	V|
48+25	0.9500	0.00	Q	|	|	|	V|
48+30	0.9500	0.00	Q	|	|	|	V|
48+35	0.9500	0.00	Q	|	|	|	V|

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 11/21/21

ROUTE BASIN A
10-YEAR 1-HOUR

Program License Serial Number 6434

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

From study/file name: 2030UDA110.rte
**********HYDROGRAPH DATA**********
Number of intervals = 19
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.072 (CFS)
Total volume = 0.110 (Ac.Ft)
Status of hydrographs being held in storage

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

****

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Process from Point/Station 0.000 to Point/Station 1.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 19
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.031	0.140	0.031	0.031
1.000	0.066	0.280	0.065	0.067
1.500	0.108	0.400	0.107	0.109
2.000	0.156	0.490	0.154	0.158
2.500	0.211	0.850	0.208	0.214
3.000	0.273	1.120	0.269	0.277
3.500	0.343	3.920	0.330	0.356
4.000	0.422	15.000	0.370	0.474

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.8	1.54	2.30	3.07	Depth (Ft.)
0.083	0.08	0.00	0.000	O					0.00
0.167	0.44	0.01	0.002	O I					0.03
0.250	0.60	0.02	0.005	O I					0.09
0.333	0.74	0.04	0.010	O I					0.16
0.417	0.80	0.07	0.015	O I					0.24
0.500	0.86	0.09	0.020	O I					0.32
0.583	0.98	0.12	0.026	O I					0.41
0.667	1.17	0.14	0.032	O I					0.52
0.750	1.42	0.18	0.040	O I					0.63
0.833	2.10	0.22	0.051	O I					0.78
0.917	3.07	0.28	0.067	O I				I	1.01
1.000	1.87	0.32	0.082	O I					1.19
1.083	1.10	0.35	0.090	O I					1.28
1.167	0.43	0.36	0.092	OI					1.32
1.250	0.16	0.35	0.092	O I					1.31
1.333	0.07	0.35	0.090	O I					1.29
1.417	0.03	0.34	0.088	O I					1.27
1.500	0.01	0.34	0.086	O I					1.24
1.583	0.00	0.33	0.084	O I					1.21
1.667	0.00	0.32	0.082	O I					1.19
1.750	0.00	0.32	0.079	O I					1.16
1.833	0.00	0.31	0.077	O I					1.13
1.917	0.00	0.31	0.075	O I					1.11
2.000	0.00	0.30	0.073	O I					1.08
2.083	0.00	0.29	0.071	O I					1.06
2.167	0.00	0.29	0.069	O I					1.04
2.250	0.00	0.28	0.067	O I					1.01
2.333	0.00	0.28	0.065	O I					0.99
2.417	0.00	0.27	0.063	O I					0.96
2.500	0.00	0.26	0.061	O I					0.93
2.583	0.00	0.25	0.060	O I					0.91
2.667	0.00	0.25	0.058	O I					0.88
2.750	0.00	0.24	0.056	O I					0.86
2.833	0.00	0.23	0.055	O I					0.84
2.917	0.00	0.23	0.053	O I					0.81
3.000	0.00	0.22	0.051	O I					0.79
3.083	0.00	0.22	0.050	O I					0.77
3.167	0.00	0.21	0.048	O I					0.75
3.250	0.00	0.20	0.047	O I					0.73
3.333	0.00	0.20	0.046	O I					0.71
3.417	0.00	0.19	0.044	O I					0.69
3.500	0.00	0.19	0.043	OI					0.67
3.583	0.00	0.18	0.042	OI					0.65
3.667	0.00	0.18	0.040	OI					0.64
3.750	0.00	0.17	0.039	OI					0.62
3.833	0.00	0.17	0.038	OI					0.60
3.917	0.00	0.16	0.037	OI					0.59
4.000	0.00	0.16	0.036	OI					0.57
4.083	0.00	0.16	0.035	OI					0.55
4.167	0.00	0.15	0.034	OI					0.54
4.250	0.00	0.15	0.033	OI					0.52
4.333	0.00	0.14	0.032	OI					0.51
4.417	0.00	0.14	0.031	OI					0.50
4.500	0.00	0.13	0.030	OI					0.48
4.583	0.00	0.13	0.029	OI					0.47
4.667	0.00	0.13	0.028	OI					0.45
4.750	0.00	0.12	0.027	OI					0.44
4.833	0.00	0.12	0.026	OI					0.42
4.917	0.00	0.12	0.025	OI					0.41
5.000	0.00	0.11	0.025	OI					0.40
5.083	0.00	0.11	0.024	OI					0.39
5.167	0.00	0.10	0.023	OI					0.37
5.250	0.00	0.10	0.023	OI					0.36

5.333	0.00	0.10	0.022	IO	|	|	|	|	0.35
5.417	0.00	0.10	0.021	O	|	|	|	|	0.34
5.500	0.00	0.09	0.021	O	|	|	|	|	0.33
5.583	0.00	0.09	0.020	O	|	|	|	|	0.32
5.667	0.00	0.09	0.019	O	|	|	|	|	0.31
5.750	0.00	0.08	0.019	O	|	|	|	|	0.30
5.833	0.00	0.08	0.018	O	|	|	|	|	0.29
5.917	0.00	0.08	0.018	O	|	|	|	|	0.28
6.000	0.00	0.08	0.017	O	|	|	|	|	0.27
6.083	0.00	0.07	0.016	O	|	|	|	|	0.27
6.167	0.00	0.07	0.016	O	|	|	|	|	0.26
6.250	0.00	0.07	0.015	O	|	|	|	|	0.25
6.333	0.00	0.07	0.015	O	|	|	|	|	0.24
6.417	0.00	0.07	0.015	O	|	|	|	|	0.23
6.500	0.00	0.06	0.014	O	|	|	|	|	0.23
6.583	0.00	0.06	0.014	O	|	|	|	|	0.22
6.667	0.00	0.06	0.013	O	|	|	|	|	0.21
6.750	0.00	0.06	0.013	O	|	|	|	|	0.21
6.833	0.00	0.06	0.012	O	|	|	|	|	0.20
6.917	0.00	0.05	0.012	O	|	|	|	|	0.19
7.000	0.00	0.05	0.012	O	|	|	|	|	0.19
7.083	0.00	0.05	0.011	O	|	|	|	|	0.18
7.167	0.00	0.05	0.011	O	|	|	|	|	0.18
7.250	0.00	0.05	0.011	O	|	|	|	|	0.17
7.333	0.00	0.05	0.010	O	|	|	|	|	0.17
7.417	0.00	0.05	0.010	O	|	|	|	|	0.16
7.500	0.00	0.04	0.010	O	|	|	|	|	0.16
7.583	0.00	0.04	0.009	O	|	|	|	|	0.15
7.667	0.00	0.04	0.009	O	|	|	|	|	0.15
7.750	0.00	0.04	0.009	O	|	|	|	|	0.14
7.833	0.00	0.04	0.009	O	|	|	|	|	0.14
7.917	0.00	0.04	0.008	O	|	|	|	|	0.13
8.000	0.00	0.04	0.008	O	|	|	|	|	0.13
8.083	0.00	0.04	0.008	O	|	|	|	|	0.13
8.167	0.00	0.03	0.008	O	|	|	|	|	0.12
8.250	0.00	0.03	0.007	O	|	|	|	|	0.12
8.333	0.00	0.03	0.007	O	|	|	|	|	0.11
8.417	0.00	0.03	0.007	O	|	|	|	|	0.11
8.500	0.00	0.03	0.007	O	|	|	|	|	0.11
8.583	0.00	0.03	0.006	O	|	|	|	|	0.10
8.667	0.00	0.03	0.006	O	|	|	|	|	0.10
8.750	0.00	0.03	0.006	O	|	|	|	|	0.10
8.833	0.00	0.03	0.006	O	|	|	|	|	0.10
8.917	0.00	0.03	0.006	O	|	|	|	|	0.09
9.000	0.00	0.03	0.006	O	|	|	|	|	0.09
9.083	0.00	0.02	0.005	O	|	|	|	|	0.09
9.167	0.00	0.02	0.005	O	|	|	|	|	0.08
9.250	0.00	0.02	0.005	O	|	|	|	|	0.08
9.333	0.00	0.02	0.005	O	|	|	|	|	0.08
9.417	0.00	0.02	0.005	O	|	|	|	|	0.08
9.500	0.00	0.02	0.005	O	|	|	|	|	0.07
9.583	0.00	0.02	0.004	O	|	|	|	|	0.07
9.667	0.00	0.02	0.004	O	|	|	|	|	0.07
9.750	0.00	0.02	0.004	O	|	|	|	|	0.07
9.833	0.00	0.02	0.004	O	|	|	|	|	0.07
9.917	0.00	0.02	0.004	O	|	|	|	|	0.06
10.000	0.00	0.02	0.004	O	|	|	|	|	0.06
10.083	0.00	0.02	0.004	O	|	|	|	|	0.06
10.167	0.00	0.02	0.004	O	|	|	|	|	0.06
10.250	0.00	0.02	0.003	O	|	|	|	|	0.06
10.333	0.00	0.02	0.003	O	|	|	|	|	0.05
10.417	0.00	0.01	0.003	O	|	|	|	|	0.05
10.500	0.00	0.01	0.003	O	|	|	|	|	0.05
10.583	0.00	0.01	0.003	O	|	|	|	|	0.05
10.667	0.00	0.01	0.003	O	|	|	|	|	0.05
10.750	0.00	0.01	0.003	O	|	|	|	|	0.05
10.833	0.00	0.01	0.003	O	|	|	|	|	0.05
10.917	0.00	0.01	0.003	O	|	|	|	|	0.04
11.000	0.00	0.01	0.003	O	|	|	|	|	0.04
11.083	0.00	0.01	0.003	O	|	|	|	|	0.04
11.167	0.00	0.01	0.002	O	|	|	|	|	0.04

11.250	0.00	0.01	0.002	O	|	|	|	|	0.04
11.333	0.00	0.01	0.002	O	|	|	|	|	0.04
11.417	0.00	0.01	0.002	O	|	|	|	|	0.04
11.500	0.00	0.01	0.002	O	|	|	|	|	0.04
11.583	0.00	0.01	0.002	O	|	|	|	|	0.03
11.667	0.00	0.01	0.002	O	|	|	|	|	0.03
11.750	0.00	0.01	0.002	O	|	|	|	|	0.03
11.833	0.00	0.01	0.002	O	|	|	|	|	0.03
11.917	0.00	0.01	0.002	O	|	|	|	|	0.03
12.000	0.00	0.01	0.002	O	|	|	|	|	0.03
12.083	0.00	0.01	0.002	O	|	|	|	|	0.03
12.167	0.00	0.01	0.002	O	|	|	|	|	0.03
12.250	0.00	0.01	0.002	O	|	|	|	|	0.03
12.333	0.00	0.01	0.002	O	|	|	|	|	0.03
12.417	0.00	0.01	0.002	O	|	|	|	|	0.03
12.500	0.00	0.01	0.002	O	|	|	|	|	0.02
12.583	0.00	0.01	0.001	O	|	|	|	|	0.02
12.667	0.00	0.01	0.001	O	|	|	|	|	0.02
12.750	0.00	0.01	0.001	O	|	|	|	|	0.02
12.833	0.00	0.01	0.001	O	|	|	|	|	0.02
12.917	0.00	0.01	0.001	O	|	|	|	|	0.02
13.000	0.00	0.01	0.001	O	|	|	|	|	0.02
13.083	0.00	0.01	0.001	O	|	|	|	|	0.02
13.167	0.00	0.01	0.001	O	|	|	|	|	0.02
13.250	0.00	0.01	0.001	O	|	|	|	|	0.02
13.333	0.00	0.00	0.001	O	|	|	|	|	0.02
13.417	0.00	0.00	0.001	O	|	|	|	|	0.02
13.500	0.00	0.00	0.001	O	|	|	|	|	0.02
13.583	0.00	0.00	0.001	O	|	|	|	|	0.02
13.667	0.00	0.00	0.001	O	|	|	|	|	0.02
13.750	0.00	0.00	0.001	O	|	|	|	|	0.02
13.833	0.00	0.00	0.001	O	|	|	|	|	0.01
13.917	0.00	0.00	0.001	O	|	|	|	|	0.01
14.000	0.00	0.00	0.001	O	|	|	|	|	0.01
14.083	0.00	0.00	0.001	O	|	|	|	|	0.01
14.167	0.00	0.00	0.001	O	|	|	|	|	0.01
14.250	0.00	0.00	0.001	O	|	|	|	|	0.01
14.333	0.00	0.00	0.001	O	|	|	|	|	0.01
14.417	0.00	0.00	0.001	O	|	|	|	|	0.01
14.500	0.00	0.00	0.001	O	|	|	|	|	0.01
14.583	0.00	0.00	0.001	O	|	|	|	|	0.01
14.667	0.00	0.00	0.001	O	|	|	|	|	0.01
14.750	0.00	0.00	0.001	O	|	|	|	|	0.01
14.833	0.00	0.00	0.001	O	|	|	|	|	0.01
14.917	0.00	0.00	0.001	O	|	|	|	|	0.01
15.000	0.00	0.00	0.001	O	|	|	|	|	0.01
15.083	0.00	0.00	0.001	O	|	|	|	|	0.01
15.167	0.00	0.00	0.001	O	|	|	|	|	0.01
15.250	0.00	0.00	0.001	O	|	|	|	|	0.01
15.333	0.00	0.00	0.001	O	|	|	|	|	0.01
15.417	0.00	0.00	0.001	O	|	|	|	|	0.01
15.500	0.00	0.00	0.000	O	|	|	|	|	0.01
15.583	0.00	0.00	0.000	O	|	|	|	|	0.01
15.667	0.00	0.00	0.000	O	|	|	|	|	0.01
15.750	0.00	0.00	0.000	O	|	|	|	|	0.01
15.833	0.00	0.00	0.000	O	|	|	|	|	0.01
15.917	0.00	0.00	0.000	O	|	|	|	|	0.01
16.000	0.00	0.00	0.000	O	|	|	|	|	0.01
16.083	0.00	0.00	0.000	O	|	|	|	|	0.01
16.167	0.00	0.00	0.000	O	|	|	|	|	0.01
16.250	0.00	0.00	0.000	O	|	|	|	|	0.01
16.333	0.00	0.00	0.000	O	|	|	|	|	0.01
16.417	0.00	0.00	0.000	O	|	|	|	|	0.01
16.500	0.00	0.00	0.000	O	|	|	|	|	0.01
16.583	0.00	0.00	0.000	O	|	|	|	|	0.01
16.667	0.00	0.00	0.000	O	|	|	|	|	0.01
16.750	0.00	0.00	0.000	O	|	|	|	|	0.00
16.833	0.00	0.00	0.000	O	|	|	|	|	0.00
16.917	0.00	0.00	0.000	O	|	|	|	|	0.00
17.000	0.00	0.00	0.000	O	|	|	|	|	0.00
17.083	0.00	0.00	0.000	O	|	|	|	|	0.00

17.167	0.00	0.00	0.000	O	|	|	|	0.00
17.250	0.00	0.00	0.000	O	|	|	|	0.00
17.333	0.00	0.00	0.000	O	|	|	|	0.00
17.417	0.00	0.00	0.000	O	|	|	|	0.00
17.500	0.00	0.00	0.000	O	|	|	|	0.00
17.583	0.00	0.00	0.000	O	|	|	|	0.00
17.667	0.00	0.00	0.000	O	|	|	|	0.00

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

Number of intervals = 212
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.356 (CFS)
Total volume = 0.110 (Ac.Ft)

Status of hydrographs being held in storage

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

****

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 11/21/21

ROUTE BASIN A
10-YEAR 24-HOUR

Program License Serial Number 6434

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

From study/file name: 2030UDA2410.rte

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

Number of intervals = 295
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.764 (CFS)
Total volume = 0.433 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 0.000 to Point/Station 1.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 295
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.031	0.140	0.031	0.031
1.000	0.066	0.280	0.065	0.067
1.500	0.108	0.400	0.107	0.109
2.000	0.156	0.490	0.154	0.158
2.500	0.211	0.850	0.208	0.214
3.000	0.273	1.120	0.269	0.277
3.500	0.343	3.920	0.330	0.356
4.000	0.422	15.000	0.370	0.474

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.2	0.38	0.57	0.76	Depth (Ft.)
0.083	0.00	0.00	0.000	O					0.00
0.167	0.03	0.00	0.000	OI					0.00
0.250	0.04	0.00	0.000	OI					0.01
0.333	0.04	0.00	0.001	OI					0.01
0.417	0.05	0.00	0.001	O I					0.01
0.500	0.06	0.01	0.001	O I					0.02
0.583	0.06	0.01	0.002	O I					0.03
0.667	0.06	0.01	0.002	O I					0.03
0.750	0.06	0.01	0.002	O I					0.04
0.833	0.06	0.01	0.003	O I					0.04
0.917	0.07	0.01	0.003	O I					0.05
1.000	0.08	0.02	0.003	O I					0.06
1.083	0.08	0.02	0.004	O I					0.06
1.167	0.07	0.02	0.004	O I					0.07
1.250	0.06	0.02	0.005	O I					0.07
1.333	0.06	0.02	0.005	O I					0.08
1.417	0.06	0.02	0.005	O I					0.08
1.500	0.06	0.02	0.005	|OI					0.09
1.583	0.06	0.03	0.006	|OI					0.09
1.667	0.06	0.03	0.006	|OI					0.09
1.750	0.06	0.03	0.006	|OI					0.10
1.833	0.06	0.03	0.006	|OI					0.10
1.917	0.07	0.03	0.007	|O I					0.11
2.000	0.08	0.03	0.007	|O I					0.11
2.083	0.08	0.03	0.007	|O I					0.12
2.167	0.08	0.03	0.008	|O I					0.12
2.250	0.08	0.04	0.008	|O I					0.13
2.333	0.08	0.04	0.008	|O I					0.13
2.417	0.08	0.04	0.009	|O I					0.14
2.500	0.08	0.04	0.009	|O I					0.14
2.583	0.08	0.04	0.009	|O I					0.15
2.667	0.09	0.04	0.009	|O I					0.15
2.750	0.10	0.04	0.010	|O I					0.16
2.833	0.10	0.05	0.010	|O I					0.16
2.917	0.10	0.05	0.011	|O I					0.17
3.000	0.10	0.05	0.011	| O I					0.18
3.083	0.10	0.05	0.011	| O I					0.18
3.167	0.10	0.05	0.012	| O I					0.19
3.250	0.10	0.05	0.012	| O I					0.19
3.333	0.10	0.06	0.012	| O I					0.20
3.417	0.10	0.06	0.013	| O I					0.20
3.500	0.10	0.06	0.013	| O I					0.21
3.583	0.10	0.06	0.013	| O I					0.21
3.667	0.10	0.06	0.013	| O I					0.22
3.750	0.10	0.06	0.014	| O I					0.22
3.833	0.10	0.06	0.014	| O I					0.23
3.917	0.12	0.06	0.014	| O I					0.23
4.000	0.12	0.07	0.015	| O I					0.24
4.083	0.12	0.07	0.015	| O I					0.24
4.167	0.12	0.07	0.015	| O I					0.25
4.250	0.12	0.07	0.016	| O I					0.25
4.333	0.12	0.07	0.016	| O I					0.26
4.417	0.14	0.07	0.016	| O I					0.27
4.500	0.14	0.08	0.017	| O I					0.27
4.583	0.14	0.08	0.017	| O I					0.28
4.667	0.14	0.08	0.018	| O I					0.29
4.750	0.14	0.08	0.018	| O I					0.29
4.833	0.14	0.08	0.019	| O I					0.30
4.917	0.16	0.09	0.019	| O I					0.31
5.000	0.16	0.09	0.020	| O I					0.32
5.083	0.16	0.09	0.020	| O I					0.32
5.167	0.14	0.09	0.020	| O I					0.33
5.250	0.13	0.09	0.021	| O I					0.33

5.333	0.13	0.09	0.021	O I				0.34
5.417	0.14	0.10	0.021	O I				0.34
5.500	0.14	0.10	0.021	OI				0.35
5.583	0.14	0.10	0.022	O I				0.35
5.667	0.16	0.10	0.022	O I				0.36
5.750	0.16	0.10	0.022	O I				0.36
5.833	0.16	0.10	0.023	O I				0.37
5.917	0.16	0.11	0.023	O I				0.38
6.000	0.16	0.11	0.024	O I				0.38
6.083	0.16	0.11	0.024	O I				0.39
6.167	0.18	0.11	0.024	O I				0.39
6.250	0.18	0.11	0.025	O I				0.40
6.333	0.18	0.11	0.025	O I				0.41
6.417	0.18	0.12	0.026	O I				0.42
6.500	0.18	0.12	0.026	O I				0.42
6.583	0.19	0.12	0.027	O I				0.43
6.667	0.20	0.12	0.027	O I				0.44
6.750	0.20	0.13	0.028	O I				0.45
6.833	0.20	0.13	0.028	O I				0.46
6.917	0.20	0.13	0.029	O I				0.46
7.000	0.20	0.13	0.029	O I				0.47
7.083	0.20	0.13	0.030	O I				0.48
7.167	0.20	0.14	0.030	O I				0.49
7.250	0.20	0.14	0.031	O I				0.49
7.333	0.21	0.14	0.031	O I				0.50
7.417	0.22	0.14	0.032	O I				0.51
7.500	0.22	0.14	0.032	O I				0.52
7.583	0.22	0.15	0.033	O I				0.52
7.667	0.24	0.15	0.033	O I				0.53
7.750	0.24	0.15	0.034	O I				0.54
7.833	0.25	0.15	0.034	O I				0.55
7.917	0.26	0.16	0.035	O I				0.56
8.000	0.26	0.16	0.036	O I				0.57
8.083	0.27	0.16	0.036	O I				0.58
8.167	0.29	0.17	0.037	O I				0.59
8.250	0.30	0.17	0.038	O I				0.60
8.333	0.30	0.17	0.039	O I				0.62
8.417	0.30	0.18	0.040	O I				0.63
8.500	0.30	0.18	0.041	O I				0.64
8.583	0.31	0.18	0.042	O I				0.65
8.667	0.32	0.19	0.043	O I				0.67
8.750	0.32	0.19	0.043	O I				0.68
8.833	0.33	0.19	0.044	O I				0.69
8.917	0.34	0.20	0.045	O I				0.70
9.000	0.34	0.20	0.046	O I				0.72
9.083	0.35	0.21	0.047	O I				0.73
9.167	0.37	0.21	0.048	O I				0.75
9.250	0.38	0.21	0.049	O I				0.76
9.333	0.39	0.22	0.051	O I				0.78
9.417	0.40	0.22	0.052	O I				0.80
9.500	0.40	0.23	0.053	O I				0.81
9.583	0.41	0.23	0.054	O I				0.83
9.667	0.42	0.24	0.055	O I				0.85
9.750	0.42	0.24	0.057	O I				0.87
9.833	0.43	0.25	0.058	O I				0.88
9.917	0.44	0.25	0.059	O I				0.90
10.000	0.45	0.26	0.061	O I				0.92
10.083	0.43	0.26	0.062	O I				0.94
10.167	0.35	0.27	0.063	O I				0.95
10.250	0.32	0.27	0.063	O I				0.96
10.333	0.31	0.27	0.063	O I				0.96
10.417	0.31	0.27	0.064	OI				0.97
10.500	0.31	0.27	0.064	OI				0.97
10.583	0.32	0.27	0.064	O I				0.97
10.667	0.37	0.27	0.065	O I				0.98
10.750	0.39	0.28	0.065	O I				0.99
10.833	0.40	0.28	0.066	O I				1.00
10.917	0.40	0.28	0.067	O I				1.01
11.000	0.41	0.29	0.068	O I				1.02
11.083	0.40	0.29	0.069	O I				1.03
11.167	0.39	0.29	0.069	O I				1.04

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11.250    0.39    0.29      0.070  |       |   O   I       |       |     1.05
11.333    0.39    0.29      0.071  |       |   O   I       |       |     1.06
11.417    0.39    0.30      0.071  |       |   O   I       |       |     1.06
11.500    0.39    0.30      0.072  |       |   O   I       |       |     1.07
11.583    0.38    0.30      0.073  |       |   O  I|       |       |     1.08
11.667    0.36    0.30      0.073  |       |   O  I|       |       |     1.09
11.750    0.35    0.30      0.074  |       |   O I |       |       |     1.09
11.833    0.35    0.30      0.074  |       |   O I |       |       |     1.09
11.917    0.36    0.30      0.074  |       |   O  I|       |       |     1.10
12.000    0.36    0.30      0.075  |       |   O  I|       |       |     1.10
12.083    0.39    0.31      0.075  |       |   O   I       |       |     1.11
12.167    0.48    0.31      0.076  |       |   O   |   I   |       |     1.12
12.250    0.51    0.31      0.077  |       |    O  |    I  |       |     1.13
12.333    0.53    0.32      0.079  |       |    O  |     I |       |     1.15
12.417    0.55    0.32      0.080  |       |    O  |      I|       |     1.17
12.500    0.56    0.33      0.082  |       |    O  |      I|       |     1.19
12.583    0.57    0.33      0.083  |       |    O  |      I|       |     1.21
12.667    0.60    0.33      0.085  |       |     O |       I       |     1.23
12.750    0.61    0.34      0.087  |       |     O |       |I      |     1.25
12.833    0.61    0.34      0.089  |       |     O |       |I      |     1.27
12.917    0.63    0.35      0.091  |       |     O |       | I     |     1.29
13.000    0.64    0.36      0.093  |       |     O |       | I     |     1.32
13.083    0.65    0.36      0.095  |       |      O|       |  I    |     1.34
13.167    0.72    0.37      0.097  |       |      O|       |     I |     1.37
13.250    0.75    0.37      0.099  |       |      O|       |      I|     1.40
13.333    0.76    0.38      0.102  |       |       O       |      I|     1.43
13.417    0.76    0.39      0.104  |       |       O       |      I|     1.46
13.500    0.76    0.40      0.107  |       |       O       |       I     1.49
13.583    0.73    0.40      0.109  |       |       O       |     I |     1.51
13.667    0.58    0.41      0.111  |       |       O       I       |     1.53
13.750    0.53    0.41      0.112  |       |       |O    I |       |     1.54
13.833    0.51    0.41      0.113  |       |       |O   I  |       |     1.55
13.917    0.50    0.41      0.114  |       |       |O  I   |       |     1.56
14.000    0.50    0.41      0.114  |       |       |O  I   |       |     1.56
14.083    0.51    0.41      0.115  |       |       |O   I  |       |     1.57
14.167    0.56    0.41      0.116  |       |       |O     I|       |     1.58
14.250    0.58    0.42      0.117  |       |       |O      I       |     1.59
14.333    0.59    0.42      0.118  |       |       |O      I       |     1.60
14.417    0.58    0.42      0.119  |       |       |O      I       |     1.61
14.500    0.57    0.42      0.120  |       |       |O      I       |     1.63
14.583    0.57    0.42      0.121  |       |       |O     I|       |     1.64
14.667    0.57    0.43      0.122  |       |       |O     I|       |     1.65
14.750    0.57    0.43      0.123  |       |       |O     I|       |     1.66
14.833    0.57    0.43      0.124  |       |       | O    I|       |     1.67
14.917    0.56    0.43      0.125  |       |       | O    I|       |     1.68
15.000    0.55    0.43      0.126  |       |       | O    I|       |     1.69
15.083    0.55    0.43      0.127  |       |       | O   I |       |     1.69
15.167    0.53    0.44      0.127  |       |       | O   I |       |     1.70
15.250    0.53    0.44      0.128  |       |       | O   I |       |     1.71
15.333    0.52    0.44      0.129  |       |       | O  I  |       |     1.71
15.417    0.51    0.44      0.129  |       |       | O  I  |       |     1.72
15.500    0.51    0.44      0.130  |       |       | O  I  |       |     1.72
15.583    0.49    0.44      0.130  |       |       | O I   |       |     1.73
15.667    0.44    0.44      0.130  |       |       | O     |       |     1.73
15.750    0.42    0.44      0.130  |       |       |IO     |       |     1.73
15.833    0.41    0.44      0.130  |       |       |IO     |       |     1.73
15.917    0.41    0.44      0.130  |       |       |IO     |       |     1.73
16.000    0.41    0.44      0.129  |       |       I O     |       |     1.72
16.083    0.37    0.44      0.129  |       |      I| O     |       |     1.72
16.167    0.19    0.44      0.128  |      I|       | O     |       |     1.71
16.250    0.13    0.43      0.126  |    I  |       | O     |       |     1.69
16.333    0.10    0.43      0.124  |   I   |       |O      |       |     1.66
16.417    0.09    0.43      0.121  |  I    |       |O      |       |     1.64
16.500    0.08    0.42      0.119  |  I    |       |O      |       |     1.62
16.583    0.08    0.42      0.117  |  I    |       |O      |       |     1.59
16.667    0.07    0.41      0.114  | I     |       |O      |       |     1.57
16.750    0.06    0.41      0.112  | I     |       |O      |       |     1.54
16.833    0.06    0.40      0.110  | I     |       O       |       |     1.52
16.917    0.06    0.40      0.107  | I     |       O       |       |     1.49
17.000    0.06    0.39      0.105  | I     |       O       |       |     1.47
17.083    0.07    0.39      0.103  | I     |       O       |       |     1.44
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17.167	0.09	0.38	0.101	| I |	O|	|	|	1.41
17.250	0.10	0.37	0.099	| I |	O|	|	|	1.39
17.333	0.10	0.37	0.097	| I |	O|	|	|	1.37
17.417	0.10	0.36	0.095	| I |	O|	|	|	1.35
17.500	0.10	0.36	0.093	| I |	O |	|	|	1.33
17.583	0.10	0.35	0.092	| I |	O |	|	|	1.30
17.667	0.10	0.35	0.090	| I |	O |	|	|	1.28
17.750	0.10	0.34	0.088	| I |	O |	|	|	1.26
17.833	0.10	0.34	0.087	| I |	O |	|	|	1.24
17.917	0.09	0.33	0.085	| I |	O |	|	|	1.22
18.000	0.08	0.33	0.083	| I |	O |	|	|	1.20
18.083	0.08	0.32	0.081	| I |	O |	|	|	1.18
18.167	0.08	0.32	0.080	| I |	O |	|	|	1.16
18.250	0.08	0.31	0.078	| I |	O |	|	|	1.15
18.333	0.08	0.31	0.077	| I |	O |	|	|	1.13
18.417	0.08	0.31	0.075	| I |	O |	|	|	1.11
18.500	0.08	0.30	0.074	| I |	O |	|	|	1.09
18.583	0.08	0.30	0.072	| I |	O |	|	|	1.07
18.667	0.07	0.29	0.070	| I |	O |	|	|	1.05
18.750	0.06	0.29	0.069	| I |	O |	|	|	1.03
18.833	0.06	0.28	0.067	| I |	O |	|	|	1.02
18.917	0.05	0.28	0.066	| I |	O |	|	|	1.00
19.000	0.04	0.27	0.064	|I |	O |	|	|	0.97
19.083	0.04	0.27	0.063	|I |	O |	|	|	0.95
19.167	0.05	0.26	0.061	| I |	O |	|	|	0.93
19.250	0.06	0.26	0.060	| I |	O |	|	|	0.91
19.333	0.06	0.25	0.058	| I |	O |	|	|	0.89
19.417	0.07	0.24	0.057	| I |	O |	|	|	0.87
19.500	0.08	0.24	0.056	| I |	O |	|	|	0.86
19.583	0.08	0.24	0.055	| I |	O |	|	|	0.84
19.667	0.07	0.23	0.054	| I |	O |	|	|	0.83
19.750	0.06	0.23	0.053	| I |	O |	|	|	0.81
19.833	0.06	0.22	0.052	| I |	O |	|	|	0.79
19.917	0.05	0.22	0.050	| I |	O |	|	|	0.78
20.000	0.04	0.21	0.049	|I |	O |	|	|	0.76
20.083	0.04	0.21	0.048	|I |	O |	|	|	0.75
20.167	0.05	0.20	0.047	| I |	O |	|	|	0.73
20.250	0.06	0.20	0.046	| I |	O |	|	|	0.72
20.333	0.06	0.20	0.045	| I |	O |	|	|	0.70
20.417	0.06	0.19	0.044	| I |	O |	|	|	0.69
20.500	0.06	0.19	0.043	| I |	O|	|	|	0.68
20.583	0.06	0.19	0.042	| I |	O|	|	|	0.66
20.667	0.06	0.18	0.042	| I |	O|	|	|	0.65
20.750	0.06	0.18	0.041	| I |	O|	|	|	0.64
20.833	0.06	0.18	0.040	| I |	O|	|	|	0.63
20.917	0.05	0.17	0.039	|I |	O|	|	|	0.62
21.000	0.04	0.17	0.038	|I |	O|	|	|	0.60
21.083	0.04	0.17	0.037	|I |	O |	|	|	0.59
21.167	0.05	0.16	0.037	| I |	O |	|	|	0.58
21.250	0.06	0.16	0.036	| I |	O |	|	|	0.57
21.333	0.06	0.16	0.035	| I |	O |	|	|	0.56
21.417	0.05	0.15	0.034	|I |	O |	|	|	0.55
21.500	0.04	0.15	0.034	|I |	O |	|	|	0.54
21.583	0.04	0.15	0.033	|I |	O |	|	|	0.53
21.667	0.05	0.15	0.032	| I |	O |	|	|	0.52
21.750	0.06	0.14	0.032	| I |	O |	|	|	0.51
21.833	0.06	0.14	0.031	| I |	O |	|	|	0.50
21.917	0.05	0.14	0.031	|I |	O |	|	|	0.49
22.000	0.04	0.14	0.030	|I |	O |	|	|	0.48
22.083	0.04	0.13	0.029	|I |	O |	|	|	0.47
22.167	0.05	0.13	0.029	| I |	O |	|	|	0.46
22.250	0.06	0.13	0.028	| I |	O |	|	|	0.46
22.333	0.06	0.13	0.028	| I |	O |	|	|	0.45
22.417	0.05	0.12	0.027	|I |	O |	|	|	0.44
22.500	0.04	0.12	0.027	|I |	O |	|	|	0.43
22.583	0.04	0.12	0.026	|I |	O |	|	|	0.42
22.667	0.04	0.12	0.026	|I |	O |	|	|	0.41
22.750	0.04	0.11	0.025	|I |	O |	|	|	0.41
22.833	0.04	0.11	0.025	|I |	O |	|	|	0.40
22.917	0.04	0.11	0.024	|I |	O |	|	|	0.39
23.000	0.04	0.11	0.024	|I |	O |	|	|	0.38

23.083	0.04	0.11	0.023	|I O	|	|	|	0.38
23.167	0.04	0.10	0.023	|I O	|	|	|	0.37
23.250	0.04	0.10	0.022	|I O	|	|	|	0.36
23.333	0.04	0.10	0.022	|I O	|	|	|	0.36
23.417	0.04	0.10	0.022	|I O	|	|	|	0.35
23.500	0.04	0.10	0.021	|I O	|	|	|	0.34
23.583	0.04	0.09	0.021	|I O	|	|	|	0.34
23.667	0.04	0.09	0.020	|I O	|	|	|	0.33
23.750	0.04	0.09	0.020	|I O	|	|	|	0.32
23.833	0.04	0.09	0.020	|I O	|	|	|	0.32
23.917	0.04	0.09	0.019	|I O	|	|	|	0.31
24.000	0.04	0.09	0.019	|I O	|	|	|	0.31
24.083	0.04	0.09	0.019	|I O	|	|	|	0.30
24.167	0.01	0.08	0.018	I O	|	|	|	0.30
24.250	0.01	0.08	0.018	I O	|	|	|	0.29
24.333	0.00	0.08	0.017	I O	|	|	|	0.28
24.417	0.00	0.08	0.017	I O	|	|	|	0.27
24.500	0.00	0.07	0.016	I O	|	|	|	0.26
24.583	0.00	0.07	0.016	I O	|	|	|	0.26
24.667	0.00	0.07	0.015	I O	|	|	|	0.25
24.750	0.00	0.07	0.015	I O	|	|	|	0.24
24.833	0.00	0.07	0.014	I O	|	|	|	0.23
24.917	0.00	0.06	0.014	I O	|	|	|	0.23
25.000	0.00	0.06	0.014	I O	|	|	|	0.22
25.083	0.00	0.06	0.013	I O	|	|	|	0.21
25.167	0.00	0.06	0.013	I O	|	|	|	0.21
25.250	0.00	0.06	0.012	I O	|	|	|	0.20
25.333	0.00	0.05	0.012	I O	|	|	|	0.19
25.417	0.00	0.05	0.012	I O	|	|	|	0.19
25.500	0.00	0.05	0.011	I O	|	|	|	0.18
25.583	0.00	0.05	0.011	I O	|	|	|	0.18
25.667	0.00	0.05	0.011	I O	|	|	|	0.17
25.750	0.00	0.05	0.010	IO	|	|	|	0.17
25.833	0.00	0.04	0.010	IO	|	|	|	0.16
25.917	0.00	0.04	0.010	IO	|	|	|	0.16
26.000	0.00	0.04	0.009	IO	|	|	|	0.15
26.083	0.00	0.04	0.009	IO	|	|	|	0.15
26.167	0.00	0.04	0.009	IO	|	|	|	0.14
26.250	0.00	0.04	0.009	IO	|	|	|	0.14
26.333	0.00	0.04	0.008	IO	|	|	|	0.13
26.417	0.00	0.04	0.008	IO	|	|	|	0.13
26.500	0.00	0.04	0.008	IO	|	|	|	0.13
26.583	0.00	0.03	0.008	IO	|	|	|	0.12
26.667	0.00	0.03	0.007	IO	|	|	|	0.12
26.750	0.00	0.03	0.007	IO	|	|	|	0.11
26.833	0.00	0.03	0.007	IO	|	|	|	0.11
26.917	0.00	0.03	0.007	IO	|	|	|	0.11
27.000	0.00	0.03	0.006	IO	|	|	|	0.10
27.083	0.00	0.03	0.006	IO	|	|	|	0.10
27.167	0.00	0.03	0.006	IO	|	|	|	0.10
27.250	0.00	0.03	0.006	IO	|	|	|	0.09
27.333	0.00	0.03	0.006	IO	|	|	|	0.09
27.417	0.00	0.02	0.006	IO	|	|	|	0.09
27.500	0.00	0.02	0.005	IO	|	|	|	0.09
27.583	0.00	0.02	0.005	O	|	|	|	0.08
27.667	0.00	0.02	0.005	O	|	|	|	0.08
27.750	0.00	0.02	0.005	O	|	|	|	0.08
27.833	0.00	0.02	0.005	O	|	|	|	0.08
27.917	0.00	0.02	0.005	O	|	|	|	0.07
28.000	0.00	0.02	0.004	O	|	|	|	0.07
28.083	0.00	0.02	0.004	O	|	|	|	0.07
28.167	0.00	0.02	0.004	O	|	|	|	0.07
28.250	0.00	0.02	0.004	O	|	|	|	0.07
28.333	0.00	0.02	0.004	O	|	|	|	0.06
28.417	0.00	0.02	0.004	O	|	|	|	0.06
28.500	0.00	0.02	0.004	O	|	|	|	0.06
28.583	0.00	0.02	0.004	O	|	|	|	0.06
28.667	0.00	0.02	0.003	O	|	|	|	0.06
28.750	0.00	0.02	0.003	O	|	|	|	0.05
28.833	0.00	0.01	0.003	O	|	|	|	0.05
28.917	0.00	0.01	0.003	O	|	|	|	0.05

29.000	0.00	0.01	0.003	O					0.05
29.083	0.00	0.01	0.003	O					0.05
29.167	0.00	0.01	0.003	O					0.05
29.250	0.00	0.01	0.003	O					0.04
29.333	0.00	0.01	0.003	O					0.04
29.417	0.00	0.01	0.003	O					0.04
29.500	0.00	0.01	0.003	O					0.04
29.583	0.00	0.01	0.002	O					0.04
29.667	0.00	0.01	0.002	O					0.04
29.750	0.00	0.01	0.002	O					0.04
29.833	0.00	0.01	0.002	O					0.04
29.917	0.00	0.01	0.002	O					0.03
30.000	0.00	0.01	0.002	O					0.03
30.083	0.00	0.01	0.002	O					0.03
30.167	0.00	0.01	0.002	O					0.03
30.250	0.00	0.01	0.002	O					0.03
30.333	0.00	0.01	0.002	O					0.03
30.417	0.00	0.01	0.002	O					0.03
30.500	0.00	0.01	0.002	O					0.03
30.583	0.00	0.01	0.002	O					0.03
30.667	0.00	0.01	0.002	O					0.03
30.750	0.00	0.01	0.002	O					0.03
30.833	0.00	0.01	0.002	O					0.02
30.917	0.00	0.01	0.001	O					0.02
31.000	0.00	0.01	0.001	O					0.02
31.083	0.00	0.01	0.001	O					0.02
31.167	0.00	0.01	0.001	O					0.02
31.250	0.00	0.01	0.001	O					0.02
31.333	0.00	0.01	0.001	O					0.02
31.417	0.00	0.01	0.001	O					0.02
31.500	0.00	0.01	0.001	O					0.02
31.583	0.00	0.01	0.001	O					0.02
31.667	0.00	0.01	0.001	O					0.02
31.750	0.00	0.00	0.001	O					0.02
31.833	0.00	0.00	0.001	O					0.02
31.917	0.00	0.00	0.001	O					0.02
32.000	0.00	0.00	0.001	O					0.02
32.083	0.00	0.00	0.001	O					0.02
32.167	0.00	0.00	0.001	O					0.02
32.250	0.00	0.00	0.001	O					0.01
32.333	0.00	0.00	0.001	O					0.01
32.417	0.00	0.00	0.001	O					0.01
32.500	0.00	0.00	0.001	O					0.01
32.583	0.00	0.00	0.001	O					0.01
32.667	0.00	0.00	0.001	O					0.01
32.750	0.00	0.00	0.001	O					0.01
32.833	0.00	0.00	0.001	O					0.01
32.917	0.00	0.00	0.001	O					0.01
33.000	0.00	0.00	0.001	O					0.01
33.083	0.00	0.00	0.001	O					0.01
33.167	0.00	0.00	0.001	O					0.01
33.250	0.00	0.00	0.001	O					0.01
33.333	0.00	0.00	0.001	O					0.01
33.417	0.00	0.00	0.001	O					0.01
33.500	0.00	0.00	0.001	O					0.01
33.583	0.00	0.00	0.001	O					0.01
33.667	0.00	0.00	0.001	O					0.01
33.750	0.00	0.00	0.001	O					0.01
33.833	0.00	0.00	0.001	O					0.01
33.917	0.00	0.00	0.000	O					0.01
34.000	0.00	0.00	0.000	O					0.01
34.083	0.00	0.00	0.000	O					0.01
34.167	0.00	0.00	0.000	O					0.01
34.250	0.00	0.00	0.000	O					0.01
34.333	0.00	0.00	0.000	O					0.01
34.417	0.00	0.00	0.000	O					0.01
34.500	0.00	0.00	0.000	O					0.01
34.583	0.00	0.00	0.000	O					0.01
34.667	0.00	0.00	0.000	O					0.01
34.750	0.00	0.00	0.000	O					0.01
34.833	0.00	0.00	0.000	O					0.01

34.917	0.00	0.00	0.000	O	|	|	|	|	0.01
35.000	0.00	0.00	0.000	O	|	|	|	|	0.01
35.083	0.00	0.00	0.000	O	|	|	|	|	0.01
35.167	0.00	0.00	0.000	O	|	|	|	|	0.00
35.250	0.00	0.00	0.000	O	|	|	|	|	0.00
35.333	0.00	0.00	0.000	O	|	|	|	|	0.00
35.417	0.00	0.00	0.000	O	|	|	|	|	0.00
35.500	0.00	0.00	0.000	O	|	|	|	|	0.00
35.583	0.00	0.00	0.000	O	|	|	|	|	0.00
35.667	0.00	0.00	0.000	O	|	|	|	|	0.00
35.750	0.00	0.00	0.000	O	|	|	|	|	0.00
35.833	0.00	0.00	0.000	O	|	|	|	|	0.00
35.917	0.00	0.00	0.000	O	|	|	|	|	0.00
36.000	0.00	0.00	0.000	O	|	|	|	|	0.00
36.083	0.00	0.00	0.000	O	|	|	|	|	0.00

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

Number of intervals = 433
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.441 (CFS)
Total volume = 0.433 (Ac.Ft)

Status of hydrographs being held in storage

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

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 11/21/21

ROUTE BASIN A
100-YEAR 1-HOUR

Program License Serial Number 6434

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

From study/file name: 2030UDA1100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 19
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5.033 (CFS)
Total volume = 0.184 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 0.000 to Point/Station 1.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 19
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.031	0.140	0.031	0.031
1.000	0.066	0.280	0.065	0.067
1.500	0.108	0.400	0.107	0.109
2.000	0.156	0.490	0.154	0.158
2.500	0.211	0.850	0.208	0.214
3.000	0.273	1.120	0.269	0.277
3.500	0.343	3.920	0.330	0.356
4.000	0.422	15.000	0.370	0.474

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	1.3	2.52	3.77	5.03	Depth (Ft.)
0.083	0.15	0.00	0.001	O					0.01
0.167	0.79	0.02	0.004	O I					0.06
0.250	1.06	0.04	0.010	O I					0.16
0.333	1.29	0.08	0.017	O I					0.28
0.417	1.38	0.12	0.026	O I					0.42
0.500	1.48	0.16	0.035	O I					0.56
0.583	1.67	0.19	0.045	O I					0.69
0.667	1.99	0.24	0.056	O I					0.85
0.750	2.39	0.29	0.069	O I					1.04
0.833	3.50	0.34	0.087	O I					1.25
0.917	5.03	0.41	0.114	O I				I	1.56
1.000	3.04	0.46	0.139	O I					1.82
1.083	1.80	0.48	0.152	O I					1.96
1.167	0.67	0.50	0.157	OI					2.01
1.250	0.25	0.50	0.157	O I					2.01
1.333	0.11	0.49	0.155	O I					1.99
1.417	0.04	0.48	0.152	O I					1.96
1.500	0.01	0.48	0.149	O I					1.93
1.583	0.00	0.47	0.146	O I					1.89
1.667	0.00	0.46	0.142	O I					1.86
1.750	0.00	0.46	0.139	O I					1.83
1.833	0.00	0.45	0.136	O I					1.79
1.917	0.00	0.45	0.133	O I					1.76
2.000	0.00	0.44	0.130	O I					1.73
2.083	0.00	0.44	0.127	O I					1.70
2.167	0.00	0.43	0.124	O I					1.67
2.250	0.00	0.42	0.121	O I					1.64
2.333	0.00	0.42	0.118	O I					1.61
2.417	0.00	0.41	0.115	O I					1.58
2.500	0.00	0.41	0.112	O I					1.55
2.583	0.00	0.40	0.110	O I					1.52
2.667	0.00	0.40	0.107	O I					1.49
2.750	0.00	0.39	0.104	O I					1.45
2.833	0.00	0.38	0.102	O I					1.42
2.917	0.00	0.37	0.099	O I					1.39
3.000	0.00	0.37	0.096	O I					1.36
3.083	0.00	0.36	0.094	O I					1.33
3.167	0.00	0.35	0.091	O I					1.30
3.250	0.00	0.35	0.089	O I					1.27
3.333	0.00	0.34	0.087	O I					1.25
3.417	0.00	0.33	0.084	O I					1.22
3.500	0.00	0.33	0.082	O I					1.19
3.583	0.00	0.32	0.080	O I					1.17
3.667	0.00	0.31	0.078	IO					1.14
3.750	0.00	0.31	0.076	IO					1.11
3.833	0.00	0.30	0.073	IO					1.09
3.917	0.00	0.30	0.071	IO					1.06
4.000	0.00	0.29	0.069	IO					1.04
4.083	0.00	0.28	0.067	IO					1.02
4.167	0.00	0.28	0.065	IO					0.99
4.250	0.00	0.27	0.064	IO					0.97
4.333	0.00	0.26	0.062	IO					0.94
4.417	0.00	0.26	0.060	IO					0.91
4.500	0.00	0.25	0.058	IO					0.89
4.583	0.00	0.24	0.057	IO					0.86
4.667	0.00	0.24	0.055	IO					0.84
4.750	0.00	0.23	0.053	IO					0.82
4.833	0.00	0.22	0.052	IO					0.80
4.917	0.00	0.22	0.050	IO					0.77
5.000	0.00	0.21	0.049	IO					0.75
5.083	0.00	0.21	0.047	IO					0.73
5.167	0.00	0.20	0.046	IO					0.71
5.250	0.00	0.19	0.045	IO					0.69

5.333	0.00	0.19	0.043	IO					0.68
5.417	0.00	0.18	0.042	IO					0.66
5.500	0.00	0.18	0.041	IO					0.64
5.583	0.00	0.17	0.040	IO					0.62
5.667	0.00	0.17	0.038	IO					0.60
5.750	0.00	0.16	0.037	IO					0.59
5.833	0.00	0.16	0.036	IO					0.57
5.917	0.00	0.16	0.035	O					0.56
6.000	0.00	0.15	0.034	O					0.54
6.083	0.00	0.15	0.033	O					0.53
6.167	0.00	0.14	0.032	O					0.51
6.250	0.00	0.14	0.031	O					0.50
6.333	0.00	0.14	0.030	O					0.48
6.417	0.00	0.13	0.029	O					0.47
6.500	0.00	0.13	0.028	O					0.45
6.583	0.00	0.12	0.027	O					0.44
6.667	0.00	0.12	0.026	O					0.43
6.750	0.00	0.12	0.026	O					0.41
6.833	0.00	0.11	0.025	O					0.40
6.917	0.00	0.11	0.024	O					0.39
7.000	0.00	0.11	0.023	O					0.38
7.083	0.00	0.10	0.023	O					0.37
7.167	0.00	0.10	0.022	O					0.35
7.250	0.00	0.10	0.021	O					0.34
7.333	0.00	0.09	0.021	O					0.33
7.417	0.00	0.09	0.020	O					0.32
7.500	0.00	0.09	0.019	O					0.31
7.583	0.00	0.08	0.019	O					0.30
7.667	0.00	0.08	0.018	O					0.29
7.750	0.00	0.08	0.018	O					0.28
7.833	0.00	0.08	0.017	O					0.28
7.917	0.00	0.07	0.017	O					0.27
8.000	0.00	0.07	0.016	O					0.26
8.083	0.00	0.07	0.016	O					0.25
8.167	0.00	0.07	0.015	O					0.24
8.250	0.00	0.07	0.015	O					0.24
8.333	0.00	0.06	0.014	O					0.23
8.417	0.00	0.06	0.014	O					0.22
8.500	0.00	0.06	0.013	O					0.22
8.583	0.00	0.06	0.013	O					0.21
8.667	0.00	0.06	0.013	O					0.20
8.750	0.00	0.05	0.012	O					0.20
8.833	0.00	0.05	0.012	O					0.19
8.917	0.00	0.05	0.011	O					0.18
9.000	0.00	0.05	0.011	O					0.18
9.083	0.00	0.05	0.011	O					0.17
9.167	0.00	0.05	0.010	O					0.17
9.250	0.00	0.05	0.010	O					0.16
9.333	0.00	0.04	0.010	O					0.16
9.417	0.00	0.04	0.009	O					0.15
9.500	0.00	0.04	0.009	O					0.15
9.583	0.00	0.04	0.009	O					0.14
9.667	0.00	0.04	0.009	O					0.14
9.750	0.00	0.04	0.008	O					0.13
9.833	0.00	0.04	0.008	O					0.13
9.917	0.00	0.04	0.008	O					0.13
10.000	0.00	0.03	0.008	O					0.12
10.083	0.00	0.03	0.007	O					0.12
10.167	0.00	0.03	0.007	O					0.12
10.250	0.00	0.03	0.007	O					0.11
10.333	0.00	0.03	0.007	O					0.11
10.417	0.00	0.03	0.007	O					0.11
10.500	0.00	0.03	0.006	O					0.10
10.583	0.00	0.03	0.006	O					0.10
10.667	0.00	0.03	0.006	O					0.10
10.750	0.00	0.03	0.006	O					0.09
10.833	0.00	0.03	0.006	O					0.09
10.917	0.00	0.02	0.005	O					0.09
11.000	0.00	0.02	0.005	O					0.08
11.083	0.00	0.02	0.005	O					0.08
11.167	0.00	0.02	0.005	O					0.08

11.250	0.00	0.02	0.005	O					0.08
11.333	0.00	0.02	0.005	O					0.07
11.417	0.00	0.02	0.004	O					0.07
11.500	0.00	0.02	0.004	O					0.07
11.583	0.00	0.02	0.004	O					0.07
11.667	0.00	0.02	0.004	O					0.07
11.750	0.00	0.02	0.004	O					0.06
11.833	0.00	0.02	0.004	O					0.06
11.917	0.00	0.02	0.004	O					0.06
12.000	0.00	0.02	0.004	O					0.06
12.083	0.00	0.02	0.004	O					0.06
12.167	0.00	0.02	0.003	O					0.05
12.250	0.00	0.01	0.003	O					0.05
12.333	0.00	0.01	0.003	O					0.05
12.417	0.00	0.01	0.003	O					0.05
12.500	0.00	0.01	0.003	O					0.05
12.583	0.00	0.01	0.003	O					0.05
12.667	0.00	0.01	0.003	O					0.05
12.750	0.00	0.01	0.003	O					0.04
12.833	0.00	0.01	0.003	O					0.04
12.917	0.00	0.01	0.003	O					0.04
13.000	0.00	0.01	0.002	O					0.04
13.083	0.00	0.01	0.002	O					0.04
13.167	0.00	0.01	0.002	O					0.04
13.250	0.00	0.01	0.002	O					0.04
13.333	0.00	0.01	0.002	O					0.04
13.417	0.00	0.01	0.002	O					0.03
13.500	0.00	0.01	0.002	O					0.03
13.583	0.00	0.01	0.002	O					0.03
13.667	0.00	0.01	0.002	O					0.03
13.750	0.00	0.01	0.002	O					0.03
13.833	0.00	0.01	0.002	O					0.03
13.917	0.00	0.01	0.002	O					0.03
14.000	0.00	0.01	0.002	O					0.03
14.083	0.00	0.01	0.002	O					0.03
14.167	0.00	0.01	0.002	O					0.03
14.250	0.00	0.01	0.002	O					0.03
14.333	0.00	0.01	0.002	O					0.02
14.417	0.00	0.01	0.001	O					0.02
14.500	0.00	0.01	0.001	O					0.02
14.583	0.00	0.01	0.001	O					0.02
14.667	0.00	0.01	0.001	O					0.02
14.750	0.00	0.01	0.001	O					0.02
14.833	0.00	0.01	0.001	O					0.02
14.917	0.00	0.01	0.001	O					0.02
15.000	0.00	0.01	0.001	O					0.02
15.083	0.00	0.01	0.001	O					0.02
15.167	0.00	0.01	0.001	O					0.02
15.250	0.00	0.00	0.001	O					0.02
15.333	0.00	0.00	0.001	O					0.02
15.417	0.00	0.00	0.001	O					0.02
15.500	0.00	0.00	0.001	O					0.02
15.583	0.00	0.00	0.001	O					0.02
15.667	0.00	0.00	0.001	O					0.01
15.750	0.00	0.00	0.001	O					0.01
15.833	0.00	0.00	0.001	O					0.01
15.917	0.00	0.00	0.001	O					0.01
16.000	0.00	0.00	0.001	O					0.01
16.083	0.00	0.00	0.001	O					0.01
16.167	0.00	0.00	0.001	O					0.01
16.250	0.00	0.00	0.001	O					0.01
16.333	0.00	0.00	0.001	O					0.01
16.417	0.00	0.00	0.001	O					0.01
16.500	0.00	0.00	0.001	O					0.01
16.583	0.00	0.00	0.001	O					0.01
16.667	0.00	0.00	0.001	O					0.01
16.750	0.00	0.00	0.001	O					0.01
16.833	0.00	0.00	0.001	O					0.01
16.917	0.00	0.00	0.001	O					0.01
17.000	0.00	0.00	0.001	O					0.01
17.083	0.00	0.00	0.001	O					0.01

17.167	0.00	0.00	0.001	O	|	|	|	|	0.01
17.250	0.00	0.00	0.001	O	|	|	|	|	0.01
17.333	0.00	0.00	0.000	O	|	|	|	|	0.01
17.417	0.00	0.00	0.000	O	|	|	|	|	0.01
17.500	0.00	0.00	0.000	O	|	|	|	|	0.01
17.583	0.00	0.00	0.000	O	|	|	|	|	0.01
17.667	0.00	0.00	0.000	O	|	|	|	|	0.01
17.750	0.00	0.00	0.000	O	|	|	|	|	0.01
17.833	0.00	0.00	0.000	O	|	|	|	|	0.01
17.917	0.00	0.00	0.000	O	|	|	|	|	0.01
18.000	0.00	0.00	0.000	O	|	|	|	|	0.01
18.083	0.00	0.00	0.000	O	|	|	|	|	0.01
18.167	0.00	0.00	0.000	O	|	|	|	|	0.01
18.250	0.00	0.00	0.000	O	|	|	|	|	0.01
18.333	0.00	0.00	0.000	O	|	|	|	|	0.01
18.417	0.00	0.00	0.000	O	|	|	|	|	0.01
18.500	0.00	0.00	0.000	O	|	|	|	|	0.01
18.583	0.00	0.00	0.000	O	|	|	|	|	0.00
18.667	0.00	0.00	0.000	O	|	|	|	|	0.00
18.750	0.00	0.00	0.000	O	|	|	|	|	0.00
18.833	0.00	0.00	0.000	O	|	|	|	|	0.00
18.917	0.00	0.00	0.000	O	|	|	|	|	0.00
19.000	0.00	0.00	0.000	O	|	|	|	|	0.00
19.083	0.00	0.00	0.000	O	|	|	|	|	0.00
19.167	0.00	0.00	0.000	O	|	|	|	|	0.00
19.250	0.00	0.00	0.000	O	|	|	|	|	0.00
19.333	0.00	0.00	0.000	O	|	|	|	|	0.00
19.417	0.00	0.00	0.000	O	|	|	|	|	0.00
19.500	0.00	0.00	0.000	O	|	|	|	|	0.00

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

Number of intervals = 234
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.498 (CFS)
Total volume = 0.183 (Ac.Ft)

Status of hydrographs being held in storage

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

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FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 11/21/21

ROUTE BASIN A
100-YEAR 24-HOUR

Program License Serial Number 6434

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

From study/file name: 2030UDA24100.rte

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

Number of intervals = 583
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.281 (CFS)
Total volume = 0.950 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 0.000 to Point/Station 1.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 583
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.031	0.140	0.031	0.031
1.000	0.066	0.280	0.065	0.067
1.500	0.108	0.400	0.107	0.109
2.000	0.156	0.490	0.154	0.158
2.500	0.211	0.850	0.208	0.214
3.000	0.273	1.120	0.269	0.277
3.500	0.343	3.920	0.330	0.356
4.000	0.422	15.000	0.370	0.474

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.3	0.64	0.96	1.28	Depth (Ft.)
0.083	0.00	0.00	0.000	O	|	|	|	|	0.00
0.167	0.01	0.00	0.000	O	|	|	|	|	0.00
0.250	0.02	0.00	0.000	O	|	|	|	|	0.00
0.333	0.02	0.00	0.000	O	|	|	|	|	0.00
0.417	0.02	0.00	0.000	O	|	|	|	|	0.01
0.500	0.03	0.00	0.001	O	|	|	|	|	0.01
0.583	0.03	0.00	0.001	O	|	|	|	|	0.01
0.667	0.03	0.00	0.001	O	|	|	|	|	0.01
0.750	0.03	0.00	0.001	O	|	|	|	|	0.02
0.833	0.03	0.01	0.001	O	|	|	|	|	0.02
0.917	0.03	0.01	0.001	O	|	|	|	|	0.02
1.000	0.03	0.01	0.002	O	|	|	|	|	0.02
1.083	0.03	0.01	0.002	O	|	|	|	|	0.03
1.167	0.03	0.01	0.002	O	|	|	|	|	0.03
1.250	0.03	0.01	0.002	O	|	|	|	|	0.03
1.333	0.03	0.01	0.002	O	|	|	|	|	0.03
1.417	0.03	0.01	0.002	O	|	|	|	|	0.04
1.500	0.03	0.01	0.002	O	|	|	|	|	0.04
1.583	0.03	0.01	0.002	O	|	|	|	|	0.04
1.667	0.03	0.01	0.003	O	|	|	|	|	0.04
1.750	0.03	0.01	0.003	O	|	|	|	|	0.04
1.833	0.03	0.01	0.003	O	|	|	|	|	0.05
1.917	0.03	0.01	0.003	O	|	|	|	|	0.05
2.000	0.03	0.01	0.003	O	|	|	|	|	0.05
2.083	0.04	0.01	0.003	O	|	|	|	|	0.05
2.167	0.04	0.02	0.003	O	|	|	|	|	0.05
2.250	0.04	0.02	0.003	O	|	|	|	|	0.06
2.333	0.04	0.02	0.004	O	|	|	|	|	0.06
2.417	0.04	0.02	0.004	O	|	|	|	|	0.06
2.500	0.04	0.02	0.004	O	|	|	|	|	0.06
2.583	0.04	0.02	0.004	O	|	|	|	|	0.06
2.667	0.04	0.02	0.004	OI	|	|	|	|	0.07
2.750	0.04	0.02	0.004	OI	|	|	|	|	0.07
2.833	0.04	0.02	0.004	OI	|	|	|	|	0.07
2.917	0.04	0.02	0.005	OI	|	|	|	|	0.08
3.000	0.04	0.02	0.005	OI	|	|	|	|	0.08
3.083	0.04	0.02	0.005	OI	|	|	|	|	0.08
3.167	0.04	0.02	0.005	OI	|	|	|	|	0.08
3.250	0.04	0.02	0.005	OI	|	|	|	|	0.08
3.333	0.04	0.02	0.005	OI	|	|	|	|	0.09
3.417	0.04	0.03	0.006	OI	|	|	|	|	0.09
3.500	0.04	0.03	0.006	OI	|	|	|	|	0.09
3.583	0.04	0.03	0.006	OI	|	|	|	|	0.09
3.667	0.04	0.03	0.006	OI	|	|	|	|	0.10
3.750	0.04	0.03	0.006	OI	|	|	|	|	0.10
3.833	0.05	0.03	0.006	OI	|	|	|	|	0.10
3.917	0.05	0.03	0.006	OI	|	|	|	|	0.10
4.000	0.05	0.03	0.006	OI	|	|	|	|	0.10
4.083	0.05	0.03	0.007	OI	|	|	|	|	0.11
4.167	0.05	0.03	0.007	OI	|	|	|	|	0.11
4.250	0.05	0.03	0.007	OI	|	|	|	|	0.11
4.333	0.05	0.03	0.007	OI	|	|	|	|	0.11
4.417	0.06	0.03	0.007	OI	|	|	|	|	0.12
4.500	0.06	0.03	0.007	OI	|	|	|	|	0.12
4.583	0.06	0.03	0.008	OI	|	|	|	|	0.12
4.667	0.06	0.04	0.008	OI	|	|	|	|	0.13
4.750	0.06	0.04	0.008	OI	|	|	|	|	0.13
4.833	0.06	0.04	0.008	OI	|	|	|	|	0.13
4.917	0.07	0.04	0.008	OI	|	|	|	|	0.14
5.000	0.07	0.04	0.009	OI	|	|	|	|	0.14
5.083	0.07	0.04	0.009	OI	|	|	|	|	0.14
5.167	0.06	0.04	0.009	|O	|	|	|	|	0.15
5.250	0.06	0.04	0.009	|O	|	|	|	|	0.15

5.333	0.06	0.04	0.009	O				0.15
5.417	0.06	0.04	0.009	O				0.15
5.500	0.06	0.04	0.009	O				0.15
5.583	0.06	0.04	0.010	O				0.15
5.667	0.07	0.04	0.010	O				0.16
5.750	0.07	0.04	0.010	O				0.16
5.833	0.07	0.05	0.010	O				0.16
5.917	0.07	0.05	0.010	O				0.17
6.000	0.07	0.05	0.010	O				0.17
6.083	0.07	0.05	0.011	O				0.17
6.167	0.08	0.05	0.011	O				0.17
6.250	0.08	0.05	0.011	O				0.18
6.333	0.08	0.05	0.011	OI				0.18
6.417	0.08	0.05	0.011	OI				0.18
6.500	0.08	0.05	0.012	OI				0.19
6.583	0.08	0.05	0.012	OI				0.19
6.667	0.09	0.05	0.012	OI				0.19
6.750	0.09	0.06	0.012	OI				0.20
6.833	0.09	0.06	0.012	OI				0.20
6.917	0.09	0.06	0.013	OI				0.20
7.000	0.09	0.06	0.013	OI				0.21
7.083	0.09	0.06	0.013	OI				0.21
7.167	0.09	0.06	0.013	OI				0.21
7.250	0.09	0.06	0.014	OI				0.22
7.333	0.09	0.06	0.014	OI				0.22
7.417	0.10	0.06	0.014	OI				0.22
7.500	0.10	0.06	0.014	OI				0.23
7.583	0.10	0.07	0.014	OI				0.23
7.667	0.11	0.07	0.015	OI				0.24
7.750	0.11	0.07	0.015	OI				0.24
7.833	0.11	0.07	0.015	OI				0.25
7.917	0.12	0.07	0.016	O I				0.25
8.000	0.13	0.07	0.016	O I				0.26
8.083	0.13	0.07	0.016	O I				0.26
8.167	0.15	0.08	0.017	O I				0.27
8.250	0.15	0.08	0.017	O I				0.28
8.333	0.16	0.08	0.018	OI				0.29
8.417	0.16	0.08	0.018	OI				0.30
8.500	0.16	0.09	0.019	OI				0.30
8.583	0.16	0.09	0.019	OI				0.31
8.667	0.17	0.09	0.020	O I				0.32
8.750	0.17	0.09	0.020	O I				0.33
8.833	0.17	0.09	0.021	O I				0.34
8.917	0.18	0.10	0.022	O I				0.35
9.000	0.19	0.10	0.022	O I				0.36
9.083	0.19	0.10	0.023	O I				0.37
9.167	0.21	0.11	0.023	O I				0.38
9.250	0.21	0.11	0.024	O I				0.39
9.333	0.22	0.11	0.025	O I				0.40
9.417	0.23	0.12	0.026	O I				0.41
9.500	0.23	0.12	0.026	O I				0.42
9.583	0.23	0.12	0.027	O I				0.44
9.667	0.24	0.13	0.028	O I				0.45
9.750	0.24	0.13	0.029	O I				0.46
9.833	0.25	0.13	0.029	O I				0.47
9.917	0.26	0.14	0.030	O I				0.49
10.000	0.26	0.14	0.031	O I				0.50
10.083	0.25	0.14	0.032	O I				0.51
10.167	0.19	0.15	0.032	OI				0.52
10.250	0.17	0.15	0.033	OI				0.52
10.333	0.17	0.15	0.033	OI				0.52
10.417	0.16	0.15	0.033	OI				0.53
10.500	0.16	0.15	0.033	OI				0.53
10.583	0.17	0.15	0.033	OI				0.53
10.667	0.21	0.15	0.033	O I				0.53
10.750	0.23	0.15	0.034	O I				0.54
10.833	0.23	0.15	0.034	O I				0.55
10.917	0.23	0.16	0.035	O I				0.56
11.000	0.23	0.16	0.035	O I				0.56
11.083	0.23	0.16	0.036	O I				0.57
11.167	0.23	0.16	0.036	OI				0.58

11.250	0.22	0.16	0.037	OI				0.58
11.333	0.22	0.17	0.037	OI				0.59
11.417	0.22	0.17	0.038	OI				0.60
11.500	0.22	0.17	0.038	OI				0.60
11.583	0.22	0.17	0.038	OI				0.61
11.667	0.20	0.17	0.039	OI				0.61
11.750	0.20	0.17	0.039	O				0.61
11.833	0.20	0.17	0.039	O				0.62
11.917	0.21	0.17	0.039	OI				0.62
12.000	0.21	0.17	0.039	OI				0.62
12.083	0.22	0.18	0.040	OI				0.63
12.167	0.28	0.18	0.040	O I				0.63
12.250	0.30	0.18	0.041	O I				0.64
12.333	0.31	0.18	0.042	O I				0.65
12.417	0.32	0.19	0.043	O I				0.67
12.500	0.32	0.19	0.044	O I				0.68
12.583	0.33	0.19	0.044	O I				0.69
12.667	0.34	0.20	0.045	O I				0.71
12.750	0.35	0.20	0.046	O I				0.72
12.833	0.35	0.21	0.047	O I				0.73
12.917	0.36	0.21	0.048	O I				0.75
13.000	0.36	0.21	0.049	O I				0.76
13.083	0.37	0.22	0.051	O I				0.78
13.167	0.41	0.22	0.052	O I				0.80
13.250	0.43	0.23	0.053	O I				0.82
13.333	0.43	0.23	0.054	O I				0.84
13.417	0.44	0.24	0.056	O I				0.85
13.500	0.44	0.24	0.057	O I				0.87
13.583	0.42	0.25	0.058	O I				0.89
13.667	0.33	0.25	0.059	O I				0.90
13.750	0.30	0.25	0.060	OI				0.91
13.833	0.29	0.26	0.060	OI				0.91
13.917	0.29	0.26	0.060	OI				0.92
14.000	0.29	0.26	0.060	OI				0.92
14.083	0.29	0.26	0.061	OI				0.92
14.167	0.32	0.26	0.061	O I				0.93
14.250	0.33	0.26	0.061	O I				0.93
14.333	0.34	0.26	0.062	O I				0.94
14.417	0.33	0.27	0.062	O I				0.95
14.500	0.33	0.27	0.063	O I				0.95
14.583	0.33	0.27	0.063	O I				0.96
14.667	0.33	0.27	0.064	O I				0.97
14.750	0.33	0.27	0.064	O I				0.97
14.833	0.33	0.27	0.064	O I				0.98
14.917	0.32	0.27	0.065	OI				0.98
15.000	0.32	0.28	0.065	OI				0.99
15.083	0.31	0.28	0.065	OI				0.99
15.167	0.31	0.28	0.066	OI				0.99
15.250	0.30	0.28	0.066	OI				1.00
15.333	0.30	0.28	0.066	OI				1.00
15.417	0.29	0.28	0.066	OI				1.00
15.500	0.29	0.28	0.066	OI				1.00
15.583	0.28	0.28	0.066	OI				1.00
15.667	0.25	0.28	0.066	O				1.00
15.750	0.24	0.28	0.066	IO				1.00
15.833	0.23	0.28	0.065	IO				0.99
15.917	0.23	0.28	0.065	IO				0.99
16.000	0.23	0.28	0.065	IO				0.98
16.083	0.21	0.27	0.064	IO				0.98
16.167	0.10	0.27	0.064	I O				0.97
16.250	0.06	0.27	0.062	I O				0.95
16.333	0.05	0.26	0.061	I O				0.93
16.417	0.04	0.25	0.059	I O				0.91
16.500	0.04	0.25	0.058	I O				0.89
16.583	0.04	0.24	0.057	I O				0.86
16.667	0.03	0.24	0.055	I O				0.84
16.750	0.03	0.23	0.054	I O				0.82
16.833	0.03	0.23	0.052	I O				0.80
16.917	0.03	0.22	0.051	I O				0.79
17.000	0.03	0.21	0.050	I O				0.77
17.083	0.03	0.21	0.048	I O				0.75

17.167	0.04	0.20	0.047	I O	|	|	|	0.73
17.250	0.04	0.20	0.046	|I O	|	|	|	0.72
17.333	0.04	0.20	0.045	|I O	|	|	|	0.70
17.417	0.04	0.19	0.044	|I O	|	|	|	0.69
17.500	0.04	0.19	0.043	|I O	|	|	|	0.67
17.583	0.04	0.18	0.042	|I O	|	|	|	0.66
17.667	0.04	0.18	0.041	|I O	|	|	|	0.64
17.750	0.04	0.18	0.040	|I O	|	|	|	0.63
17.833	0.04	0.17	0.039	|I O	|	|	|	0.62
17.917	0.04	0.17	0.038	I O	|	|	|	0.61
18.000	0.04	0.17	0.037	I O	|	|	|	0.59
18.083	0.04	0.16	0.037	I O	|	|	|	0.58
18.167	0.04	0.16	0.036	I O	|	|	|	0.57
18.250	0.04	0.16	0.035	I O	|	|	|	0.56
18.333	0.04	0.15	0.034	I O	|	|	|	0.54
18.417	0.04	0.15	0.033	I O	|	|	|	0.53
18.500	0.04	0.15	0.033	I O	|	|	|	0.52
18.583	0.03	0.14	0.032	I O	|	|	|	0.51
18.667	0.03	0.14	0.031	I O	|	|	|	0.50
18.750	0.03	0.14	0.030	I O	|	|	|	0.49
18.833	0.03	0.13	0.030	I O	|	|	|	0.48
18.917	0.02	0.13	0.029	I O	|	|	|	0.46
19.000	0.02	0.13	0.028	I O	|	|	|	0.45
19.083	0.02	0.12	0.027	I O	|	|	|	0.44
19.167	0.02	0.12	0.027	I O	|	|	|	0.43
19.250	0.03	0.12	0.026	I O	|	|	|	0.42
19.333	0.03	0.11	0.025	I O	|	|	|	0.41
19.417	0.03	0.11	0.025	I O	|	|	|	0.40
19.500	0.03	0.11	0.024	I O	|	|	|	0.39
19.583	0.03	0.11	0.024	I O	|	|	|	0.38
19.667	0.03	0.10	0.023	I O	|	|	|	0.37
19.750	0.03	0.10	0.023	I O	|	|	|	0.37
19.833	0.03	0.10	0.022	I O	|	|	|	0.36
19.917	0.02	0.10	0.022	I O	|	|	|	0.35
20.000	0.02	0.10	0.021	I O	|	|	|	0.34
20.083	0.02	0.09	0.021	I O	|	|	|	0.33
20.167	0.02	0.09	0.020	I O	|	|	|	0.33
20.250	0.03	0.09	0.020	I O	|	|	|	0.32
20.333	0.03	0.09	0.019	I O	|	|	|	0.31
20.417	0.03	0.09	0.019	I O	|	|	|	0.30
20.500	0.03	0.08	0.018	I O	|	|	|	0.30
20.583	0.03	0.08	0.018	I O	|	|	|	0.29
20.667	0.03	0.08	0.018	IO	|	|	|	0.29
20.750	0.03	0.08	0.017	IO	|	|	|	0.28
20.833	0.03	0.08	0.017	IO	|	|	|	0.27
20.917	0.02	0.08	0.017	IO	|	|	|	0.27
21.000	0.02	0.07	0.016	IO	|	|	|	0.26
21.083	0.02	0.07	0.016	IO	|	|	|	0.26
21.167	0.02	0.07	0.016	IO	|	|	|	0.25
21.250	0.03	0.07	0.015	IO	|	|	|	0.25
21.333	0.03	0.07	0.015	IO	|	|	|	0.24
21.417	0.02	0.07	0.015	IO	|	|	|	0.24
21.500	0.02	0.06	0.014	IO	|	|	|	0.23
21.583	0.02	0.06	0.014	IO	|	|	|	0.23
21.667	0.02	0.06	0.014	IO	|	|	|	0.22
21.750	0.03	0.06	0.013	IO	|	|	|	0.22
21.833	0.03	0.06	0.013	IO	|	|	|	0.21
21.917	0.02	0.06	0.013	IO	|	|	|	0.21
22.000	0.02	0.06	0.013	IO	|	|	|	0.21
22.083	0.02	0.06	0.012	IO	|	|	|	0.20
22.167	0.02	0.06	0.012	IO	|	|	|	0.20
22.250	0.03	0.05	0.012	IO	|	|	|	0.19
22.333	0.03	0.05	0.012	IO	|	|	|	0.19
22.417	0.02	0.05	0.012	IO	|	|	|	0.19
22.500	0.02	0.05	0.011	IO	|	|	|	0.18
22.583	0.02	0.05	0.011	IO	|	|	|	0.18
22.667	0.02	0.05	0.011	IO	|	|	|	0.18
22.750	0.02	0.05	0.011	IO	|	|	|	0.17
22.833	0.02	0.05	0.011	IO	|	|	|	0.17
22.917	0.02	0.05	0.010	IO	|	|	|	0.17
23.000	0.02	0.05	0.010	IO	|	|	|	0.16

23.083	0.02	0.05	0.010	IO				0.16
23.167	0.02	0.04	0.010	IO				0.16
23.250	0.02	0.04	0.010	IO				0.15
23.333	0.02	0.04	0.009	IO				0.15
23.417	0.02	0.04	0.009	IO				0.15
23.500	0.02	0.04	0.009	IO				0.15
23.583	0.02	0.04	0.009	IO				0.14
23.667	0.02	0.04	0.009	O				0.14
23.750	0.02	0.04	0.009	O				0.14
23.833	0.02	0.04	0.009	O				0.14
23.917	0.02	0.04	0.008	O				0.13
24.000	0.02	0.04	0.008	O				0.13
24.083	0.01	0.04	0.008	O				0.13
24.167	0.03	0.04	0.008	O				0.13
24.250	0.04	0.04	0.008	OI				0.13
24.333	0.05	0.04	0.008	OI				0.13
24.417	0.07	0.04	0.008	OI				0.13
24.500	0.07	0.04	0.008	OI				0.14
24.583	0.07	0.04	0.009	OI				0.14
24.667	0.07	0.04	0.009	|O				0.14
24.750	0.07	0.04	0.009	|O				0.15
24.833	0.08	0.04	0.009	|O				0.15
24.917	0.09	0.04	0.010	|OI				0.16
25.000	0.10	0.05	0.010	|OI				0.16
25.083	0.10	0.05	0.010	|OI				0.17
25.167	0.08	0.05	0.011	|OI				0.17
25.250	0.08	0.05	0.011	|O				0.17
25.333	0.08	0.05	0.011	|O				0.18
25.417	0.08	0.05	0.011	|O				0.18
25.500	0.07	0.05	0.011	|O				0.18
25.583	0.07	0.05	0.012	|O				0.19
25.667	0.07	0.05	0.012	|O				0.19
25.750	0.07	0.05	0.012	|O				0.19
25.833	0.08	0.05	0.012	|O				0.19
25.917	0.09	0.05	0.012	|OI				0.20
26.000	0.10	0.06	0.012	|OI				0.20
26.083	0.10	0.06	0.013	|OI				0.21
26.167	0.10	0.06	0.013	|OI				0.21
26.250	0.10	0.06	0.013	|OI				0.21
26.333	0.10	0.06	0.014	|OI				0.22
26.417	0.10	0.06	0.014	|OI				0.22
26.500	0.10	0.06	0.014	|OI				0.23
26.583	0.10	0.06	0.014	|OI				0.23
26.667	0.12	0.07	0.015	|OI				0.24
26.750	0.12	0.07	0.015	|O I				0.24
26.833	0.12	0.07	0.015	|O I				0.25
26.917	0.12	0.07	0.016	|O I				0.25
27.000	0.12	0.07	0.016	|O I				0.26
27.083	0.12	0.07	0.016	|O I				0.26
27.167	0.13	0.08	0.017	|O I				0.27
27.250	0.13	0.08	0.017	|O I				0.28
27.333	0.13	0.08	0.017	|O I				0.28
27.417	0.13	0.08	0.018	| OI				0.29
27.500	0.13	0.08	0.018	| OI				0.29
27.583	0.13	0.08	0.018	| OI				0.30
27.667	0.13	0.08	0.019	| OI				0.30
27.750	0.13	0.09	0.019	| OI				0.31
27.833	0.13	0.09	0.019	| OI				0.31
27.917	0.15	0.09	0.020	| OI				0.32
28.000	0.16	0.09	0.020	| O I				0.32
28.083	0.17	0.09	0.021	| O I				0.33
28.167	0.17	0.10	0.021	| O I				0.34
28.250	0.17	0.10	0.022	| O I				0.35
28.333	0.17	0.10	0.022	| O I				0.36
28.417	0.19	0.10	0.023	| O I				0.37
28.500	0.20	0.11	0.023	| O I				0.38
28.583	0.21	0.11	0.024	| O I				0.39
28.667	0.21	0.11	0.025	| O I				0.40
28.750	0.21	0.11	0.025	| O I				0.41
28.833	0.21	0.12	0.026	| O I				0.42
28.917	0.24	0.12	0.027	| O I				0.43

29.000	0.24	0.12	0.027	O I				0.44
29.083	0.24	0.13	0.028	O I				0.46
29.167	0.19	0.13	0.029	OI				0.47
29.250	0.18	0.13	0.029	OI				0.47
29.333	0.18	0.13	0.030	OI				0.48
29.417	0.20	0.14	0.030	OI				0.48
29.500	0.21	0.14	0.030	O I				0.49
29.583	0.21	0.14	0.031	O I				0.50
29.667	0.24	0.14	0.031	O I				0.51
29.750	0.25	0.14	0.032	O I				0.52
29.833	0.25	0.15	0.033	O I				0.53
29.917	0.25	0.15	0.034	O I				0.54
30.000	0.25	0.15	0.034	O I				0.55
30.083	0.26	0.16	0.035	O I				0.56
30.167	0.28	0.16	0.036	O I				0.57
30.250	0.29	0.16	0.037	O I				0.58
30.333	0.29	0.17	0.037	O I				0.59
30.417	0.29	0.17	0.038	O I				0.60
30.500	0.29	0.17	0.039	O I				0.61
30.583	0.30	0.18	0.040	O I				0.63
30.667	0.32	0.18	0.041	O I				0.64
30.750	0.33	0.18	0.042	O I				0.65
30.833	0.33	0.19	0.043	O I				0.67
30.917	0.33	0.19	0.044	O I				0.68
31.000	0.33	0.19	0.045	O I				0.70
31.083	0.33	0.20	0.046	O I				0.71
31.167	0.33	0.20	0.047	O I				0.72
31.250	0.33	0.21	0.047	O I				0.73
31.333	0.34	0.21	0.048	O I				0.75
31.417	0.36	0.21	0.049	O I				0.76
31.500	0.37	0.22	0.050	O I				0.78
31.583	0.38	0.22	0.051	O I				0.79
31.667	0.40	0.23	0.052	O I				0.81
31.750	0.41	0.23	0.054	O I				0.82
31.833	0.42	0.24	0.055	O I				0.84
31.917	0.44	0.24	0.056	O I				0.86
32.000	0.45	0.25	0.058	O I				0.88
32.083	0.46	0.25	0.059	O I				0.90
32.167	0.50	0.26	0.061	O I				0.92
32.250	0.52	0.26	0.062	O I				0.95
32.333	0.53	0.27	0.064	O I				0.97
32.417	0.53	0.28	0.066	O I				1.00
32.500	0.53	0.28	0.067	O I				1.02
32.583	0.54	0.29	0.069	O I				1.04
32.667	0.56	0.29	0.071	O I				1.06
32.750	0.57	0.30	0.073	O I				1.08
32.833	0.57	0.30	0.075	O I				1.10
32.917	0.60	0.31	0.076	O I				1.12
33.000	0.61	0.32	0.078	O I				1.15
33.083	0.62	0.32	0.080	O I				1.17
33.167	0.66	0.33	0.083	O I				1.20
33.250	0.68	0.33	0.085	O I				1.23
33.333	0.69	0.34	0.087	O I				1.25
33.417	0.71	0.35	0.090	O I				1.28
33.500	0.72	0.36	0.092	O I				1.31
33.583	0.73	0.36	0.095	O I				1.34
33.667	0.75	0.37	0.098	O I				1.38
33.750	0.76	0.38	0.100	O I				1.41
33.833	0.77	0.39	0.103	O I				1.44
33.917	0.79	0.39	0.106	O I				1.47
34.000	0.80	0.40	0.108	O I				1.50
34.083	0.77	0.41	0.111	O I				1.53
34.167	0.62	0.41	0.113	O I				1.55
34.250	0.57	0.41	0.114	O I				1.56
34.333	0.55	0.41	0.115	O I				1.58
34.417	0.54	0.42	0.116	O I				1.58
34.500	0.54	0.42	0.117	O I				1.59
34.583	0.56	0.42	0.118	O I				1.60
34.667	0.67	0.42	0.119	O I				1.62
34.750	0.71	0.42	0.121	O I				1.64
34.833	0.72	0.43	0.123	O I				1.66

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34.917    0.73    0.43      0.125  |       | O     | I     |       |     1.68
35.000    0.73    0.44      0.127  |       | O     | I     |       |     1.70
35.083    0.73    0.44      0.129  |       | O     | I     |       |     1.72
35.167    0.71    0.44      0.131  |       |  O    |I      |       |     1.74
35.250    0.70    0.45      0.133  |       |  O    |I      |       |     1.76
35.333    0.70    0.45      0.135  |       |  O    |I      |       |     1.78
35.417    0.70    0.45      0.136  |       |  O    |I      |       |     1.79
35.500    0.70    0.46      0.138  |       |  O    |I      |       |     1.81
35.583    0.69    0.46      0.139  |       |  O    |I      |       |     1.83
35.667    0.64    0.46      0.141  |       |  O    I       |       |     1.84
35.750    0.63    0.46      0.142  |       |  O   I|       |       |     1.85
35.833    0.63    0.47      0.143  |       |  O   I|       |       |     1.87
35.917    0.65    0.47      0.144  |       |  O    I       |       |     1.88
36.000    0.65    0.47      0.146  |       |  O    I       |       |     1.89
36.083    0.69    0.47      0.147  |       |  O    |I      |       |     1.91
36.167    0.84    0.48      0.149  |       |  O    |    I  |       |     1.93
36.250    0.90    0.48      0.152  |       |   O   |     I |       |     1.95
36.333    0.92    0.49      0.155  |       |   O   |      I|       |     1.99
36.417    0.95    0.50      0.158  |       |   O   |      I|       |     2.01
36.500    0.96    0.52      0.161  |       |    O  |       I       |     2.04
36.583    0.98    0.54      0.164  |       |    O  |       I       |     2.07
36.667    1.02    0.56      0.167  |       |     O |       |I      |     2.10
36.750    1.04    0.58      0.170  |       |     O |       |I      |     2.13
36.833    1.05    0.60      0.173  |       |      O|       | I     |     2.16
36.917    1.07    0.62      0.176  |       |      O|       | I     |     2.18
37.000    1.08    0.64      0.179  |       |       O       |  I    |     2.21
37.083    1.11    0.66      0.182  |       |       O       |  I    |     2.24
37.167    1.22    0.68      0.186  |       |       |O      |     I |     2.27
37.250    1.26    0.71      0.189  |       |       |O      |      I|     2.30
37.333    1.27    0.73      0.193  |       |       | O     |      I|     2.34
37.417    1.28    0.76      0.197  |       |       | O     |      I|     2.37
37.500    1.28    0.78      0.200  |       |       |  O    |       I     2.40
37.583    1.23    0.80      0.204  |       |       |   O   |     I |     2.43
37.667    0.99    0.81      0.206  |       |       |   O   I       |     2.45
37.750    0.91    0.82      0.207  |       |       |   O I |       |     2.46
37.833    0.88    0.82      0.207  |       |       |   OI  |       |     2.46
37.917    0.86    0.83      0.207  |       |       |   OI  |       |     2.47
38.000    0.86    0.83      0.208  |       |       |   OI  |       |     2.47
38.083    0.88    0.83      0.208  |       |       |   OI  |       |     2.47
38.167    0.96    0.83      0.208  |       |       |   O   I       |     2.48
38.250    0.99    0.84      0.209  |       |       |   O   I       |     2.49
38.333    1.00    0.85      0.211  |       |       |    O  I       |     2.50
38.417    0.98    0.85      0.212  |       |       |    O  I       |     2.50
38.500    0.98    0.86      0.212  |       |       |    O  I       |     2.51
38.583    0.98    0.86      0.213  |       |       |    O  I       |     2.52
38.667    0.98    0.86      0.214  |       |       |    O  I       |     2.52
38.750    0.98    0.87      0.215  |       |       |    O  I       |     2.53
38.833    0.97    0.87      0.215  |       |       |    O  I       |     2.54
38.917    0.95    0.87      0.216  |       |       |    O I|       |     2.54
39.000    0.94    0.87      0.217  |       |       |    O I|       |     2.54
39.083    0.93    0.88      0.217  |       |       |    O I|       |     2.55
39.167    0.91    0.88      0.217  |       |       |    OI |       |     2.55
39.250    0.90    0.88      0.218  |       |       |    OI |       |     2.55
39.333    0.90    0.88      0.218  |       |       |    OI |       |     2.55
39.417    0.87    0.88      0.218  |       |       |    O  |       |     2.55
39.500    0.87    0.88      0.218  |       |       |    O  |       |     2.55
39.583    0.84    0.88      0.217  |       |       |    O  |       |     2.55
39.667    0.76    0.88      0.217  |       |       | I  O  |       |     2.55
39.750    0.72    0.87      0.216  |       |       | I  O  |       |     2.54
39.833    0.71    0.87      0.215  |       |       |I   O  |       |     2.53
39.917    0.71    0.86      0.214  |       |       |I   O  |       |     2.52
40.000    0.71    0.86      0.213  |       |       |I   O  |       |     2.51
40.083    0.63    0.85      0.212  |       |      I|    O  |       |     2.50
40.167    0.31    0.84      0.209  |      I|       |   O   |       |     2.48
40.250    0.20    0.81      0.205  |   I   |       |   O   |       |     2.45
40.333    0.15    0.78      0.201  |  I    |       |  O    |       |     2.41
40.417    0.13    0.75      0.196  |  I    |       | O     |       |     2.37
40.500    0.13    0.73      0.192  |  I    |       | O     |       |     2.33
40.583    0.12    0.70      0.188  | I     |       |O      |       |     2.29
40.667    0.10    0.67      0.184  | I     |       O       |       |     2.26
40.750    0.09    0.65      0.180  | I     |       O       |       |     2.22
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40.833	0.09	0.62	0.176	I		O		2.19
40.917	0.09	0.60	0.173	I		O		2.15
41.000	0.09	0.58	0.169	I		O		2.12
41.083	0.10	0.56	0.166	I		O		2.09
41.167	0.14	0.54	0.163	I		O		2.07
41.250	0.15	0.52	0.161	I		O		2.04
41.333	0.16	0.50	0.158	I		O		2.02
41.417	0.16	0.49	0.156	I		O		2.00
41.500	0.16	0.49	0.154	I		O		1.97
41.583	0.16	0.48	0.151	I		O		1.95
41.667	0.16	0.48	0.149	I	O			1.93
41.750	0.16	0.47	0.147	I	O			1.91
41.833	0.16	0.47	0.145	I	O			1.88
41.917	0.14	0.47	0.143	I	O			1.86
42.000	0.13	0.46	0.140	I	O			1.84
42.083	0.13	0.46	0.138	I	O			1.81
42.167	0.13	0.45	0.136	I	O			1.79
42.250	0.13	0.45	0.134	I	O			1.77
42.333	0.13	0.44	0.131	I	O			1.74
42.417	0.13	0.44	0.129	I	O			1.72
42.500	0.13	0.44	0.127	I	O			1.70
42.583	0.12	0.43	0.125	I	O			1.68
42.667	0.10	0.43	0.123	I	O			1.65
42.750	0.09	0.42	0.121	I	O			1.63
42.833	0.09	0.42	0.118	I	O			1.61
42.917	0.06	0.41	0.116	I	O			1.58
43.000	0.06	0.41	0.114	I	O			1.56
43.083	0.06	0.41	0.111	I	O			1.53
43.167	0.08	0.40	0.109	I	O			1.51
43.250	0.08	0.40	0.107	I	O			1.48
43.333	0.09	0.39	0.104	I	O			1.46
43.417	0.12	0.38	0.103	I	O			1.43
43.500	0.12	0.38	0.101	I	O			1.41
43.583	0.12	0.37	0.099	I	O			1.39
43.667	0.10	0.37	0.097	I	O			1.37
43.750	0.09	0.36	0.095	I	O			1.35
43.833	0.09	0.36	0.093	I	O			1.33
43.917	0.06	0.35	0.092	I	O			1.30
44.000	0.06	0.35	0.090	I	O			1.28
44.083	0.06	0.34	0.088	I	O			1.26
44.167	0.08	0.34	0.086	I	O			1.23
44.250	0.09	0.33	0.084	I	O			1.21
44.333	0.09	0.33	0.082	I	O			1.19
44.417	0.09	0.32	0.081	I	O			1.17
44.500	0.09	0.32	0.079	I	O			1.16
44.583	0.09	0.31	0.078	I	O			1.14
44.667	0.09	0.31	0.076	I	O			1.12
44.750	0.09	0.30	0.075	I	O			1.10
44.833	0.09	0.30	0.073	I	O			1.08
44.917	0.07	0.30	0.072	I	O			1.07
45.000	0.06	0.29	0.070	I	O			1.05
45.083	0.06	0.29	0.068	I	O			1.03
45.167	0.08	0.28	0.067	I	O			1.01
45.250	0.09	0.28	0.066	I	O			0.99
45.333	0.09	0.27	0.064	I	O			0.97
45.417	0.06	0.27	0.063	I	O			0.96
45.500	0.06	0.26	0.062	I	O			0.94
45.583	0.06	0.26	0.060	I	O			0.92
45.667	0.08	0.25	0.059	I	O			0.90
45.750	0.09	0.25	0.058	I	O			0.88
45.833	0.09	0.24	0.057	I	O			0.87
45.917	0.07	0.24	0.056	I	O			0.85
46.000	0.06	0.23	0.054	I	O			0.83
46.083	0.06	0.23	0.053	I	O			0.82
46.167	0.08	0.22	0.052	I	O			0.80
46.250	0.09	0.22	0.051	I	O			0.79
46.333	0.09	0.22	0.050	I	O			0.77
46.417	0.07	0.21	0.049	I	O			0.76
46.500	0.06	0.21	0.048	I	O			0.75
46.583	0.06	0.20	0.047	I	O			0.73
46.667	0.06	0.20	0.046	I	O			0.72

46.750	0.05	0.20	0.045	|I O	|	|	|	0.70
46.833	0.05	0.19	0.044	|I O	|	|	|	0.69
46.917	0.05	0.19	0.043	|I O	|	|	|	0.68
47.000	0.05	0.19	0.042	|I O	|	|	|	0.66
47.083	0.05	0.18	0.041	|I O	|	|	|	0.65
47.167	0.05	0.18	0.041	|I O	|	|	|	0.64
47.250	0.05	0.18	0.040	|I O	|	|	|	0.63
47.333	0.05	0.17	0.039	|I O	|	|	|	0.61
47.417	0.05	0.17	0.038	|I O	|	|	|	0.60
47.500	0.06	0.17	0.037	|I O	|	|	|	0.59
47.583	0.06	0.16	0.037	|I O	|	|	|	0.58
47.667	0.06	0.16	0.036	|I O	|	|	|	0.57
47.750	0.06	0.16	0.035	|I O	|	|	|	0.56
47.833	0.06	0.15	0.035	|I O	|	|	|	0.55
47.917	0.06	0.15	0.034	|I O	|	|	|	0.54
48.000	0.06	0.15	0.033	|I O	|	|	|	0.53
48.083	0.05	0.15	0.033	|I O	|	|	|	0.52
48.167	0.02	0.14	0.032	I O	|	|	|	0.51
48.250	0.01	0.14	0.031	I O	|	|	|	0.50
48.333	0.00	0.14	0.030	I O	|	|	|	0.48
48.417	0.00	0.13	0.029	I O	|	|	|	0.47
48.500	0.00	0.13	0.028	I O	|	|	|	0.45
48.583	0.00	0.12	0.027	I O	|	|	|	0.44
48.667	0.00	0.12	0.026	I O	|	|	|	0.43
48.750	0.00	0.12	0.026	I O	|	|	|	0.41
48.833	0.00	0.11	0.025	I O	|	|	|	0.40
48.917	0.00	0.11	0.024	I O	|	|	|	0.39
49.000	0.00	0.11	0.023	I O	|	|	|	0.38
49.083	0.00	0.10	0.023	I O	|	|	|	0.37
49.167	0.00	0.10	0.022	I O	|	|	|	0.35
49.250	0.00	0.10	0.021	I O	|	|	|	0.34
49.333	0.00	0.09	0.021	I O	|	|	|	0.33
49.417	0.00	0.09	0.020	I O	|	|	|	0.32
49.500	0.00	0.09	0.019	I O	|	|	|	0.31
49.583	0.00	0.08	0.019	I O	|	|	|	0.30
49.667	0.00	0.08	0.018	I O	|	|	|	0.29
49.750	0.00	0.08	0.018	IO	|	|	|	0.28
49.833	0.00	0.08	0.017	IO	|	|	|	0.28
49.917	0.00	0.07	0.017	IO	|	|	|	0.27
50.000	0.00	0.07	0.016	IO	|	|	|	0.26
50.083	0.00	0.07	0.016	IO	|	|	|	0.25
50.167	0.00	0.07	0.015	IO	|	|	|	0.24
50.250	0.00	0.07	0.015	IO	|	|	|	0.24
50.333	0.00	0.06	0.014	IO	|	|	|	0.23
50.417	0.00	0.06	0.014	IO	|	|	|	0.22
50.500	0.00	0.06	0.013	IO	|	|	|	0.22
50.583	0.00	0.06	0.013	IO	|	|	|	0.21
50.667	0.00	0.06	0.013	IO	|	|	|	0.20
50.750	0.00	0.05	0.012	IO	|	|	|	0.20
50.833	0.00	0.05	0.012	IO	|	|	|	0.19
50.917	0.00	0.05	0.011	IO	|	|	|	0.18
51.000	0.00	0.05	0.011	IO	|	|	|	0.18
51.083	0.00	0.05	0.011	IO	|	|	|	0.17
51.167	0.00	0.05	0.010	IO	|	|	|	0.17
51.250	0.00	0.05	0.010	IO	|	|	|	0.16
51.333	0.00	0.04	0.010	IO	|	|	|	0.16
51.417	0.00	0.04	0.009	IO	|	|	|	0.15
51.500	0.00	0.04	0.009	IO	|	|	|	0.15
51.583	0.00	0.04	0.009	IO	|	|	|	0.14
51.667	0.00	0.04	0.009	O	|	|	|	0.14
51.750	0.00	0.04	0.008	O	|	|	|	0.14
51.833	0.00	0.04	0.008	O	|	|	|	0.13
51.917	0.00	0.04	0.008	O	|	|	|	0.13
52.000	0.00	0.03	0.008	O	|	|	|	0.12
52.083	0.00	0.03	0.007	O	|	|	|	0.12
52.167	0.00	0.03	0.007	O	|	|	|	0.12
52.250	0.00	0.03	0.007	O	|	|	|	0.11
52.333	0.00	0.03	0.007	O	|	|	|	0.11
52.417	0.00	0.03	0.007	O	|	|	|	0.11
52.500	0.00	0.03	0.006	O	|	|	|	0.10
52.583	0.00	0.03	0.006	O	|	|	|	0.10

52.667	0.00	0.03	0.006	O					0.10
52.750	0.00	0.03	0.006	O					0.09
52.833	0.00	0.03	0.006	O					0.09
52.917	0.00	0.02	0.005	O					0.09
53.000	0.00	0.02	0.005	O					0.08
53.083	0.00	0.02	0.005	O					0.08
53.167	0.00	0.02	0.005	O					0.08
53.250	0.00	0.02	0.005	O					0.08
53.333	0.00	0.02	0.005	O					0.07
53.417	0.00	0.02	0.004	O					0.07
53.500	0.00	0.02	0.004	O					0.07
53.583	0.00	0.02	0.004	O					0.07
53.667	0.00	0.02	0.004	O					0.07
53.750	0.00	0.02	0.004	O					0.06
53.833	0.00	0.02	0.004	O					0.06
53.917	0.00	0.02	0.004	O					0.06
54.000	0.00	0.02	0.004	O					0.06
54.083	0.00	0.02	0.004	O					0.06
54.167	0.00	0.02	0.003	O					0.05
54.250	0.00	0.01	0.003	O					0.05
54.333	0.00	0.01	0.003	O					0.05
54.417	0.00	0.01	0.003	O					0.05
54.500	0.00	0.01	0.003	O					0.05
54.583	0.00	0.01	0.003	O					0.05
54.667	0.00	0.01	0.003	O					0.05
54.750	0.00	0.01	0.003	O					0.04
54.833	0.00	0.01	0.003	O					0.04
54.917	0.00	0.01	0.003	O					0.04
55.000	0.00	0.01	0.002	O					0.04
55.083	0.00	0.01	0.002	O					0.04
55.167	0.00	0.01	0.002	O					0.04
55.250	0.00	0.01	0.002	O					0.04
55.333	0.00	0.01	0.002	O					0.04
55.417	0.00	0.01	0.002	O					0.03
55.500	0.00	0.01	0.002	O					0.03
55.583	0.00	0.01	0.002	O					0.03
55.667	0.00	0.01	0.002	O					0.03
55.750	0.00	0.01	0.002	O					0.03
55.833	0.00	0.01	0.002	O					0.03
55.917	0.00	0.01	0.002	O					0.03
56.000	0.00	0.01	0.002	O					0.03
56.083	0.00	0.01	0.002	O					0.03
56.167	0.00	0.01	0.002	O					0.03
56.250	0.00	0.01	0.002	O					0.03
56.333	0.00	0.01	0.002	O					0.02
56.417	0.00	0.01	0.001	O					0.02
56.500	0.00	0.01	0.001	O					0.02
56.583	0.00	0.01	0.001	O					0.02
56.667	0.00	0.01	0.001	O					0.02
56.750	0.00	0.01	0.001	O					0.02
56.833	0.00	0.01	0.001	O					0.02
56.917	0.00	0.01	0.001	O					0.02
57.000	0.00	0.01	0.001	O					0.02
57.083	0.00	0.01	0.001	O					0.02
57.167	0.00	0.01	0.001	O					0.02
57.250	0.00	0.00	0.001	O					0.02
57.333	0.00	0.00	0.001	O					0.02
57.417	0.00	0.00	0.001	O					0.02
57.500	0.00	0.00	0.001	O					0.02
57.583	0.00	0.00	0.001	O					0.02
57.667	0.00	0.00	0.001	O					0.01
57.750	0.00	0.00	0.001	O					0.01
57.833	0.00	0.00	0.001	O					0.01
57.917	0.00	0.00	0.001	O					0.01
58.000	0.00	0.00	0.001	O					0.01
58.083	0.00	0.00	0.001	O					0.01
58.167	0.00	0.00	0.001	O					0.01
58.250	0.00	0.00	0.001	O					0.01
58.333	0.00	0.00	0.001	O					0.01
58.417	0.00	0.00	0.001	O					0.01
58.500	0.00	0.00	0.001	O					0.01

58.583	0.00	0.00	0.001	O	|	|	|	|	0.01
58.667	0.00	0.00	0.001	O	|	|	|	|	0.01
58.750	0.00	0.00	0.001	O	|	|	|	|	0.01
58.833	0.00	0.00	0.001	O	|	|	|	|	0.01
58.917	0.00	0.00	0.001	O	|	|	|	|	0.01
59.000	0.00	0.00	0.001	O	|	|	|	|	0.01
59.083	0.00	0.00	0.001	O	|	|	|	|	0.01
59.167	0.00	0.00	0.001	O	|	|	|	|	0.01
59.250	0.00	0.00	0.001	O	|	|	|	|	0.01
59.333	0.00	0.00	0.000	O	|	|	|	|	0.01
59.417	0.00	0.00	0.000	O	|	|	|	|	0.01
59.500	0.00	0.00	0.000	O	|	|	|	|	0.01
59.583	0.00	0.00	0.000	O	|	|	|	|	0.01
59.667	0.00	0.00	0.000	O	|	|	|	|	0.01
59.750	0.00	0.00	0.000	O	|	|	|	|	0.01
59.833	0.00	0.00	0.000	O	|	|	|	|	0.01
59.917	0.00	0.00	0.000	O	|	|	|	|	0.01
60.000	0.00	0.00	0.000	O	|	|	|	|	0.01
60.083	0.00	0.00	0.000	O	|	|	|	|	0.01
60.167	0.00	0.00	0.000	O	|	|	|	|	0.01
60.250	0.00	0.00	0.000	O	|	|	|	|	0.01
60.333	0.00	0.00	0.000	O	|	|	|	|	0.01
60.417	0.00	0.00	0.000	O	|	|	|	|	0.01
60.500	0.00	0.00	0.000	O	|	|	|	|	0.01
60.583	0.00	0.00	0.000	O	|	|	|	|	0.00
60.667	0.00	0.00	0.000	O	|	|	|	|	0.00
60.750	0.00	0.00	0.000	O	|	|	|	|	0.00
60.833	0.00	0.00	0.000	O	|	|	|	|	0.00
60.917	0.00	0.00	0.000	O	|	|	|	|	0.00
61.000	0.00	0.00	0.000	O	|	|	|	|	0.00
61.083	0.00	0.00	0.000	O	|	|	|	|	0.00
61.167	0.00	0.00	0.000	O	|	|	|	|	0.00
61.250	0.00	0.00	0.000	O	|	|	|	|	0.00
61.333	0.00	0.00	0.000	O	|	|	|	|	0.00
61.417	0.00	0.00	0.000	O	|	|	|	|	0.00
61.500	0.00	0.00	0.000	O	|	|	|	|	0.00

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

Number of intervals = 738
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.879 (CFS)
Total volume = 0.950 (Ac.Ft)

Status of hydrographs being held in storage

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

****

APPENDIX C

BASIN B

Pre-Developed – Rational Method

- 10-year 1-hour
- 100-year 1-hour

Post-Developed – Rational Method

- 2-year -1 hour
- 10-year 1-hour
- 100-year 1-hour

Pre-Developed – Unit Hydrograph Method

- 10-year 1-hour; 24-hour
- 100-year 1-hour; 24-hour

Post-Developed – Unit Hydrograph Method

- 10-year 1-hour; 24-hour
- 100-year 1-hour; 24-hour

Route

- 10-year 1-hour; 24-hour
- 100-year 1-hour; 24-hour

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 10/29/21 File:2030RPB.out

BASIN B
PRE-DEVELOPED
2-YEAR 1-HOUR
AMC I

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.531(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 315.000(Ft.)
Top (of initial area) elevation = 1313.000(Ft.)
Bottom (of initial area) elevation = 1285.000(Ft.)
Difference in elevation = 28.000(Ft.)
Slope = 0.08889 s(percent)= 8.89
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.587 min.
Rainfall intensity = 1.350(In/Hr) for a 2.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.690
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 1) = 76.40
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 0.717(CFS)
Total initial stream area = 0.770(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 1.000 to Point/Station 2.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1285.000(Ft.)
Downstream point elevation = 1267.000(Ft.)
Channel length thru subarea = 185.000(Ft.)
Channel base width = 10.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 1.307(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 1.307(CFS)
Depth of flow = 0.059(Ft.), Average velocity = 1.988(Ft/s)
Channel flow top width = 12.354(Ft.)
Flow Velocity = 1.99(Ft/s)
Travel time = 1.55 min.
Time of concentration = 10.14 min.

Sub-Channel No. 1 Critical depth = 0.077(Ft.)
' ' ' Critical flow top width = 13.086(Ft.)
' ' ' Critical flow velocity= 1.468(Ft/s)
' ' ' Critical flow area = 0.891(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.514
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 1) = 58.80
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 1.247(In/Hr) for a 2.0 year storm
Subarea runoff = 1.116(CFS) for 1.740(Ac.)
Total runoff = 1.833(CFS) Total area = 2.510(Ac.)
Depth of flow = 0.072(Ft.), Average velocity = 2.239(Ft/s)

Sub-Channel No. 1 Critical depth = 0.095(Ft.)
' ' ' Critical flow top width = 13.789(Ft.)
' ' ' Critical flow velocity= 1.627(Ft/s)
' ' ' Critical flow area = 1.127(Sq.Ft)

++
Process from Point/Station 2.000 to Point/Station 3.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1267.000(Ft.)
Downstream point elevation = 1261.000(Ft.)
Channel length thru subarea = 244.000(Ft.)
Channel base width = 10.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 2.646(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 2.646(CFS)
Depth of flow = 0.131(Ft.), Average velocity = 1.604(Ft/s)
Channel flow top width = 15.230(Ft.)
Flow Velocity = 1.60(Ft/s)
Travel time = 2.54 min.
Time of concentration = 12.67 min.

Sub-Channel No. 1 Critical depth = 0.119(Ft.)
' ' ' Critical flow top width = 14.766(Ft.)
' ' ' Critical flow velocity= 1.793(Ft/s)
' ' ' Critical flow area = 1.475(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.532
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.800
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.200
RI index for soil(AMC 1) = 63.28
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 1.120(In/Hr) for a 2.0 year storm
Subarea runoff = 1.538(CFS) for 2.580(Ac.)
Total runoff = 3.371(CFS) Total area = 5.090(Ac.)
Depth of flow = 0.150(Ft.), Average velocity = 1.733(Ft/s)

Sub-Channel No. 1 Critical depth = 0.139(Ft.)
' ' ' Critical flow top width = 15.547(Ft.)
' ' ' Critical flow velocity= 1.903(Ft/s)
' ' ' Critical flow area = 1.771(Sq.Ft)

++
Process from Point/Station 2.000 to Point/Station 3.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 1
Stream flow area = 5.090(Ac.)
Runoff from this stream = 3.371(CFS)
Time of concentration = 12.67 min.
Rainfall intensity = 1.120(In/Hr)

++
Process from Point/Station 4.000 to Point/Station 5.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 206.000(Ft.)
Top (of initial area) elevation = 1299.000(Ft.)
Bottom (of initial area) elevation = 1270.000(Ft.)
Difference in elevation = 29.000(Ft.)
Slope = 0.14078 s(percent)= 14.08
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 6.609 min.
Rainfall intensity = 1.531(In/Hr) for a 2.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.575
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 60.60
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 0.387(CFS)
Total initial stream area = 0.440(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 5.000 to Point/Station 6.000
**** IMPROVED CHANNEL TRAVEL TIME ****
_____

Upstream point elevation = 1270.000(Ft.)
Downstream point elevation = 1262.000(Ft.)
Channel length thru subarea = 123.000(Ft.)
Channel base width = 10.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 0.737(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 0.737(CFS)
Depth of flow = 0.047(Ft.), Average velocity = 1.422(Ft/s)
Channel flow top width = 11.894(Ft.)
Flow Velocity = 1.42(Ft/s)
Travel time = 1.44 min.
Time of concentration = 8.05 min.

Sub-Channel No. 1 Critical depth = 0.053(Ft.)
' ' ' Critical flow top width = 12.129(Ft.)
' ' ' Critical flow velocity= 1.251(Ft/s)
' ' ' Critical flow area = 0.589(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.458
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 49.80
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 1.393(In/Hr) for a 2.0 year storm
Subarea runoff = 0.638(CFS) for 1.000(Ac.)
Total runoff = 1.025(CFS) Total area = 1.440(Ac.)
Depth of flow = 0.057(Ft.), Average velocity = 1.601(Ft/s)

Sub-Channel No. 1 Critical depth = 0.065(Ft.)
' ' ' Critical flow top width = 12.617(Ft.)
' ' ' Critical flow velocity= 1.385(Ft/s)
' ' ' Critical flow area = 0.740(Sq.Ft)

++
Process from Point/Station 5.000 to Point/Station 6.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 2
Stream flow area = 1.440(Ac.)
Runoff from this stream = 1.025(CFS)
Time of concentration = 8.05 min.
Rainfall intensity = 1.393(In/Hr)

++
Process from Point/Station 7.000 to Point/Station 8.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 204.000(Ft.)
Top (of initial area) elevation = 1314.000(Ft.)
Bottom (of initial area) elevation = 1308.000(Ft.)
Difference in elevation = 6.000(Ft.)
Slope = 0.02941 s(percent)= 2.94
TC = k(0.940)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.969 min.
Rainfall intensity = 1.002(In/Hr) for a 2.0 year storm
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.309
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 41.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 0.062(CFS)
Total initial stream area = 0.200(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 8.000 to Point/Station 9.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1308.000(Ft.)
Downstream point elevation = 1295.000(Ft.)
Channel length thru subarea = 198.000(Ft.)
Channel base width = 20.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 0.171(CFS)
Manning's 'N' = 0.330
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 0.171(CFS)
Depth of flow = 0.052(Ft.), Average velocity = 0.156(Ft/s)
Channel flow top width = 22.087(Ft.)
Flow Velocity = 0.16(Ft/s)
Travel time = 21.16 min.
Time of concentration = 37.13 min.

Sub-Channel No. 1 Critical depth = 0.013(Ft.)
' ' ' Critical flow top width = 20.527(Ft.)
' ' ' Critical flow velocity= 0.641(Ft/s)
' ' ' Critical flow area = 0.267(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.233
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 41.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 0.669(In/Hr) for a 2.0 year storm
Subarea runoff = 0.145(CFS) for 0.930(Ac.)
Total runoff = 0.207(CFS) Total area = 1.130(Ac.)
Depth of flow = 0.058(Ft.), Average velocity = 0.167(Ft/s)

Sub-Channel No. 1 Critical depth = 0.015(Ft.)
' ' ' Critical flow top width = 20.596(Ft.)
' ' ' Critical flow velocity= 0.683(Ft/s)
' ' ' Critical flow area = 0.302(Sq.Ft)

++
Process from Point/Station 8.000 to Point/Station 9.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 3
Stream flow area = 1.130(Ac.)
Runoff from this stream = 0.207(CFS)
Time of concentration = 37.13 min.
Rainfall intensity = 0.669(In/Hr)
Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	3.371	12.67	1.120
2	1.025	8.05	1.393
3	0.207	37.13	0.669

Largest stream flow has longer or shorter time of concentration
Qp = 3.371 + sum of

Qb	Ia/Ib		
1.025	* 0.804	=	0.824
Qa	Tb/Ta		
0.207	* 0.341	=	0.070

Qp = 4.266

Total of 3 streams to confluence:
Flow rates before confluence point:
3.371 1.025 0.207
Area of streams before confluence:
5.090 1.440 1.130
Results of confluence:
Total flow rate = 4.266(CFS)
Time of concentration = 12.673 min.
Effective stream area after confluence = 7.660(Ac.)
End of computations, total study area = 7.66 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number = 75.8

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 10/29/21 File:2030rpb.out

BASIN B
PRE-DEVELOPED
10-YEAR 1-HOUR
AMC III

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.913(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 315.000(Ft.)
Top (of initial area) elevation = 1313.000(Ft.)
Bottom (of initial area) elevation = 1285.000(Ft.)
Difference in elevation = 28.000(Ft.)
Slope = 0.08889 s(percent)= 8.89
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.587 min.
Rainfall intensity = 2.322(In/Hr) for a 10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.840
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 89.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 1.502(CFS)
Total initial stream area = 0.770(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 1.000 to Point/Station 2.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1285.000(Ft.)
Downstream point elevation = 1267.000(Ft.)
Channel length thru subarea = 185.000(Ft.)
Channel base width = 10.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 2.975(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 2.975(CFS)
Depth of flow = 0.095(Ft.), Average velocity = 2.643(Ft/s)
Channel flow top width = 13.786(Ft.)
Flow Velocity = 2.64(Ft/s)
Travel time = 1.17 min.
Time of concentration = 9.75 min.

Sub-Channel No. 1 Critical depth = 0.128(Ft.)
' ' ' Critical flow top width = 15.117(Ft.)
' ' ' Critical flow velocity= 1.852(Ft/s)
' ' ' Critical flow area = 1.607(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.758
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 2) = 76.50
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 2.184(In/Hr) for a 10.0 year storm
Subarea runoff = 2.880(CFS) for 1.740(Ac.)
Total runoff = 4.383(CFS) Total area = 2.510(Ac.)
Depth of flow = 0.118(Ft.), Average velocity = 3.006(Ft/s)

Sub-Channel No. 1 Critical depth = 0.162(Ft.)
' ' ' Critical flow top width = 16.484(Ft.)
' ' ' Critical flow velocity= 2.042(Ft/s)
' ' ' Critical flow area = 2.147(Sq.Ft)

++
Process from Point/Station 2.000 to Point/Station 3.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1267.000(Ft.)
Downstream point elevation = 1261.000(Ft.)
Channel length thru subarea = 244.000(Ft.)
Channel base width = 10.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 6.413(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 6.413(CFS)
Depth of flow = 0.213(Ft.), Average velocity = 2.114(Ft/s)
Channel flow top width = 18.512(Ft.)
Flow Velocity = 2.11(Ft/s)
Travel time = 1.92 min.
Time of concentration = 11.68 min.

Sub-Channel No. 1 Critical depth = 0.203(Ft.)
' ' ' Critical flow top width = 18.125(Ft.)
' ' ' Critical flow velocity= 2.245(Ft/s)
' ' ' Critical flow area = 2.856(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.773
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.800
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.200
RI index for soil(AMC 2) = 80.20
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 2.003(In/Hr) for a 10.0 year storm
Subarea runoff = 3.995(CFS) for 2.580(Ac.)
Total runoff = 8.378(CFS) Total area = 5.090(Ac.)
Depth of flow = 0.245(Ft.), Average velocity = 2.289(Ft/s)

Sub-Channel No. 1 Critical depth = 0.236(Ft.)
' ' ' Critical flow top width = 19.453(Ft.)
' ' ' Critical flow velocity= 2.407(Ft/s)
' ' ' Critical flow area = 3.480(Sq.Ft)

++
Process from Point/Station 2.000 to Point/Station 3.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 1
Stream flow area = 5.090(Ac.)
Runoff from this stream = 8.378(CFS)
Time of concentration = 11.68 min.
Rainfall intensity = 2.003(In/Hr)

++
Process from Point/Station 4.000 to Point/Station 5.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 206.000(Ft.)
Top (of initial area) elevation = 1299.000(Ft.)
Bottom (of initial area) elevation = 1270.000(Ft.)
Difference in elevation = 29.000(Ft.)
Slope = 0.14078 s(percent)= 14.08
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 6.609 min.
Rainfall intensity = 2.633(In/Hr) for a 10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.788
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 78.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 0.912(CFS)
Total initial stream area = 0.440(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 5.000 to Point/Station 6.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1270.000(Ft.)
Downstream point elevation = 1262.000(Ft.)
Channel length thru subarea = 123.000(Ft.)
Channel base width = 10.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 1.838(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 1.838(CFS)
Depth of flow = 0.081(Ft.), Average velocity = 1.964(Ft/s)
Channel flow top width = 13.223(Ft.)
Flow Velocity = 1.96(Ft/s)
Travel time = 1.04 min.
Time of concentration = 7.65 min.

Sub-Channel No. 1 Critical depth = 0.095(Ft.)
' ' ' Critical flow top width = 13.789(Ft.)
' ' ' Critical flow velocity= 1.631(Ft/s)
' ' ' Critical flow area = 1.127(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.723
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 69.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 2.454(In/Hr) for a 10.0 year storm
Subarea runoff = 1.775(CFS) for 1.000(Ac.)
Total runoff = 2.687(CFS) Total area = 1.440(Ac.)
Depth of flow = 0.100(Ft.), Average velocity = 2.235(Ft/s)

Sub-Channel No. 1 Critical depth = 0.120(Ft.)
' ' ' Critical flow top width = 14.805(Ft.)
' ' ' Critical flow velocity= 1.804(Ft/s)
' ' ' Critical flow area = 1.490(Sq.Ft)

++
Process from Point/Station 5.000 to Point/Station 6.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 2
Stream flow area = 1.440(Ac.)
Runoff from this stream = 2.687(CFS)
Time of concentration = 7.65 min.
Rainfall intensity = 2.454(In/Hr)

++
Process from Point/Station 7.000 to Point/Station 8.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 204.000(Ft.)
Top (of initial area) elevation = 1314.000(Ft.)
Bottom (of initial area) elevation = 1308.000(Ft.)
Difference in elevation = 6.000(Ft.)
Slope = 0.02941 s(percent)= 2.94
TC = k(0.940)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.969 min.
Rainfall intensity = 1.724(In/Hr) for a 10.0 year storm
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.602
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 61.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 0.208(CFS)
Total initial stream area = 0.200(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 8.000 to Point/Station 9.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1308.000(Ft.)
Downstream point elevation = 1295.000(Ft.)
Channel length thru subarea = 198.000(Ft.)
Channel base width = 20.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 0.573(CFS)
Manning's 'N' = 0.330
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 0.573(CFS)
Depth of flow = 0.106(Ft.), Average velocity = 0.244(Ft/s)
Channel flow top width = 24.254(Ft.)
Flow Velocity = 0.24(Ft/s)
Travel time = 13.55 min.
Time of concentration = 29.52 min.

Sub-Channel No. 1 Critical depth = 0.029(Ft.)
' ' ' Critical flow top width = 21.172(Ft.)
' ' ' Critical flow velocity= 0.951(Ft/s)
' ' ' Critical flow area = 0.603(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.541
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 61.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 1.284(In/Hr) for a 10.0 year storm
Subarea runoff = 0.646(CFS) for 0.930(Ac.)
Total runoff = 0.853(CFS) Total area = 1.130(Ac.)
Depth of flow = 0.134(Ft.), Average velocity = 0.281(Ft/s)

Sub-Channel No. 1 Critical depth = 0.038(Ft.)
' ' ' Critical flow top width = 21.523(Ft.)
' ' ' Critical flow velocity= 1.079(Ft/s)
' ' ' Critical flow area = 0.791(Sq.Ft)

++
Process from Point/Station 8.000 to Point/Station 9.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 3
Stream flow area = 1.130(Ac.)
Runoff from this stream = 0.853(CFS)
Time of concentration = 29.52 min.
Rainfall intensity = 1.284(In/Hr)
Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	8.378	11.68	2.003
2	2.687	7.65	2.454
3	0.853	29.52	1.284

Largest stream flow has longer or shorter time of concentration
Qp = 8.378 + sum of

Qb	Ia/Ib		
2.687 *	0.816 =	2.194	
Qa	Tb/Ta		
0.853 *	0.396 =	0.338	

Qp = 10.910

Total of 3 streams to confluence:
Flow rates before confluence point:
8.378 2.687 0.853
Area of streams before confluence:
5.090 1.440 1.130
Results of confluence:
Total flow rate = 10.910(CFS)
Time of concentration = 11.677 min.
Effective stream area after confluence = 7.660(Ac.)
End of computations, total study area = 7.66 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number = 75.8

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 10/29/21 File:2030rpb.out

BASIN B
PRE-DEVELOPED
100-YEAR 1-HOUR
AMC III

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.460(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 315.000(Ft.)
Top (of initial area) elevation = 1313.000(Ft.)
Bottom (of initial area) elevation = 1285.000(Ft.)
Difference in elevation = 28.000(Ft.)
Slope = 0.08889 s(percent)= 8.89
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.587 min.
Rainfall intensity = 3.712(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3) = 95.60
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 2.531(CFS)
Total initial stream area = 0.770(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 1.000 to Point/Station 2.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1285.000(Ft.)
Downstream point elevation = 1267.000(Ft.)
Channel length thru subarea = 185.000(Ft.)
Channel base width = 10.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 5.196(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 5.196(CFS)
Depth of flow = 0.130(Ft.), Average velocity = 3.177(Ft/s)
Channel flow top width = 15.193(Ft.)
Flow Velocity = 3.18(Ft/s)
Travel time = 0.97 min.
Time of concentration = 9.56 min.

Sub-Channel No. 1 Critical depth = 0.180(Ft.)
' ' ' Critical flow top width = 17.188(Ft.)
' ' ' Critical flow velocity= 2.127(Ft/s)
' ' ' Critical flow area = 2.443(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.859
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 3) = 88.90
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 3.526(In/Hr) for a 100.0 year storm
Subarea runoff = 5.273(CFS) for 1.740(Ac.)
Total runoff = 7.804(CFS) Total area = 2.510(Ac.)
Depth of flow = 0.163(Ft.), Average velocity = 3.616(Ft/s)

Sub-Channel No. 1 Critical depth = 0.227(Ft.)
' ' ' Critical flow top width = 19.063(Ft.)
' ' ' Critical flow velocity= 2.370(Ft/s)
' ' ' Critical flow area = 3.292(Sq.Ft)

++
Process from Point/Station 2.000 to Point/Station 3.000
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1267.000(Ft.)
Downstream point elevation = 1261.000(Ft.)
Channel length thru subarea = 244.000(Ft.)
Channel base width = 10.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 11.502(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 11.502(CFS)
Depth of flow = 0.290(Ft.), Average velocity = 2.510(Ft/s)
Channel flow top width = 21.599(Ft.)
Flow Velocity = 2.51(Ft/s)
Travel time = 1.62 min.
Time of concentration = 11.18 min.

Sub-Channel No. 1 Critical depth = 0.283(Ft.)
' ' ' Critical flow top width = 21.328(Ft.)
' ' ' Critical flow velocity= 2.593(Ft/s)
' ' ' Critical flow area = 4.436(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.866
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.800
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.200
RI index for soil(AMC 3) = 91.12
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 3.271(In/Hr) for a 100.0 year storm
Subarea runoff = 7.305(CFS) for 2.580(Ac.)
Total runoff = 15.109(CFS) Total area = 5.090(Ac.)
Depth of flow = 0.334(Ft.), Average velocity = 2.714(Ft/s)

Sub-Channel No. 1 Critical depth = 0.330(Ft.)
' ' ' Critical flow top width = 23.203(Ft.)
' ' ' Critical flow velocity= 2.757(Ft/s)
' ' ' Critical flow area = 5.480(Sq.Ft)

++
Process from Point/Station 2.000 to Point/Station 3.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 1
Stream flow area = 5.090(Ac.)
Runoff from this stream = 15.109(CFS)
Time of concentration = 11.18 min.
Rainfall intensity = 3.271(In/Hr)

++
Process from Point/Station 4.000 to Point/Station 5.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 206.000(Ft.)
Top (of initial area) elevation = 1299.000(Ft.)
Bottom (of initial area) elevation = 1270.000(Ft.)
Difference in elevation = 29.000(Ft.)
Slope = 0.14078 s(percent)= 14.08
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 6.609 min.
Rainfall intensity = 4.209(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.869
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3) = 89.80
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 1.609(CFS)
Total initial stream area = 0.440(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 5.000 to Point/Station 6.000
**** IMPROVED CHANNEL TRAVEL TIME ****
_____

Upstream point elevation = 1270.000(Ft.)
Downstream point elevation = 1262.000(Ft.)
Channel length thru subarea = 123.000(Ft.)
Channel base width = 10.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 3.328(CFS)
Manning's 'N' = 0.033
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 3.328(CFS)
Depth of flow = 0.113(Ft.), Average velocity = 2.399(Ft/s)
Channel flow top width = 14.526(Ft.)
Flow Velocity = 2.40(Ft/s)
Travel time = 0.85 min.
Time of concentration = 7.46 min.

Sub-Channel No. 1 Critical depth = 0.137(Ft.)
' ' ' Critical flow top width = 15.469(Ft.)
' ' ' Critical flow velocity= 1.912(Ft/s)
' ' ' Critical flow area = 1.741(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.847
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3) = 84.40
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 3.971(In/Hr) for a 100.0 year storm
Subarea runoff = 3.365(CFS) for 1.000(Ac.)
Total runoff = 4.974(CFS) Total area = 1.440(Ac.)
Depth of flow = 0.142(Ft.), Average velocity = 2.733(Ft/s)

Sub-Channel No. 1 Critical depth = 0.174(Ft.)
' ' ' Critical flow top width = 16.953(Ft.)
' ' ' Critical flow velocity= 2.123(Ft/s)
' ' ' Critical flow area = 2.343(Sq.Ft)

++
Process from Point/Station 5.000 to Point/Station 6.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 2
Stream flow area = 1.440(Ac.)
Runoff from this stream = 4.974(CFS)
Time of concentration = 7.46 min.
Rainfall intensity = 3.971(In/Hr)

++
Process from Point/Station 7.000 to Point/Station 8.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 204.000(Ft.)
Top (of initial area) elevation = 1314.000(Ft.)
Bottom (of initial area) elevation = 1308.000(Ft.)
Difference in elevation = 6.000(Ft.)
Slope = 0.02941 s(percent)= 2.94
TC = k(0.940)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.969 min.
Rainfall intensity = 2.756(In/Hr) for a 100.0 year storm
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.796
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3) = 78.80
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 0.439(CFS)
Total initial stream area = 0.200(Ac.)
Pervious area fraction = 1.000

++
Process from Point/Station 8.000 to Point/Station 9.000
**** IMPROVED CHANNEL TRAVEL TIME ****
_____

Upstream point elevation = 1308.000(Ft.)
Downstream point elevation = 1295.000(Ft.)
Channel length thru subarea = 198.000(Ft.)
Channel base width = 20.000(Ft.)
Slope or 'Z' of left channel bank = 20.000
Slope or 'Z' of right channel bank = 20.000
Estimated mean flow rate at midpoint of channel = 1.251(CFS)
Manning's 'N' = 0.330
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 1.251(CFS)
Depth of flow = 0.167(Ft.), Average velocity = 0.320(Ft/s)
Channel flow top width = 26.693(Ft.)
Flow Velocity = 0.32(Ft/s)
Travel time = 10.30 min.
Time of concentration = 26.27 min.

Sub-Channel No. 1 Critical depth = 0.049(Ft.)
' ' ' Critical flow top width = 21.953(Ft.)
' ' ' Critical flow velocity= 1.222(Ft/s)
' ' ' Critical flow area = 1.024(Sq.Ft)

Adding area flow to channel
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.772
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3) = 78.80
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 2.170(In/Hr) for a 100.0 year storm
Subarea runoff = 1.559(CFS) for 0.930(Ac.)
Total runoff = 1.998(CFS) Total area = 1.130(Ac.)
Depth of flow = 0.219(Ft.), Average velocity = 0.375(Ft/s)

Sub-Channel No. 1 Critical depth = 0.066(Ft.)
' ' ' Critical flow top width = 22.656(Ft.)
' ' ' Critical flow velocity= 1.411(Ft/s)
' ' ' Critical flow area = 1.416(Sq.Ft)

++
Process from Point/Station 8.000 to Point/Station 9.000
**** CONFLUENCE OF MINOR STREAMS ****
_____
Along Main Stream number: 1 in normal stream number 3
Stream flow area = 1.130(Ac.)
Runoff from this stream = 1.998(CFS)
Time of concentration = 26.27 min.
Rainfall intensity = 2.170(In/Hr)
Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	15.109	11.18	3.271
2	4.974	7.46	3.971
3	1.998	26.27	2.170

Largest stream flow has longer or shorter time of concentration
Qp = 15.109 + sum of
Qb Ia/Ib
4.974 * 0.824 = 4.097
Qa Tb/Ta
1.998 * 0.425 = 0.850
Qp = 20.056

Total of 3 streams to confluence:
Flow rates before confluence point:
15.109 4.974 1.998
Area of streams before confluence:
5.090 1.440 1.130
Results of confluence:
Total flow rate = 20.056(CFS)
Time of concentration = 11.177 min.
Effective stream area after confluence = 7.660(Ac.)
End of computations, total study area = 7.66 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number = 75.8

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 11/01/21 File:2030db100.out

AREA B - DEVELOPED
2-YEAR 1-HOUR
AMC I

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 2.00 Antecedent Moisture Condition = 1

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 2.0
Calculated rainfall intensity data:
1 hour intensity = 0.531(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 4.000 to Point/Station 5.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 106.000(Ft.)
Top (of initial area) elevation = 102.600(Ft.)
Bottom (of initial area) elevation = 97.450(Ft.)
Difference in elevation = 5.150(Ft.)
Slope = 0.04858 s(percent)= 4.86
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Warning: TC computed to be less than 5 min.; program is assuming the
time of concentration is 5 minutes.
Initial area time of concentration = 5.000 min.
Rainfall intensity = 1.750(In/Hr) for a 2.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.848
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 0.401(CFS)
Total initial stream area = 0.270(Ac.)
Pervious area fraction = 0.100

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        5.000 to Point/Station        6.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    97.450(Ft.)
Downstream point elevation =    96.600(Ft.)
Channel length thru subarea  =   234.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      1.365(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      1.365(CFS)
Depth of flow =   0.124(Ft.), Average velocity =   1.081(Ft/s)
Channel flow top width =   16.387(Ft.)
Flow Velocity =    1.08(Ft/s)
Travel time  =    3.61 min.
Time of concentration =    8.61 min.

Sub-Channel No. 1 Critical depth =      0.103(Ft.)
  '     '       '     Critical flow top width =     14.254(Ft.)
  '     '       '     Critical flow velocity=    1.459(Ft/s)
  '     '       '     Critical flow area =      0.936(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.843
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      1.349(In/Hr) for a     2.0 year storm
Subarea runoff =      1.852(CFS) for      1.630(Ac.)
Total runoff =      2.253(CFS)        Total area =       1.900(Ac.)
Depth of flow =   0.155(Ft.), Average velocity =   1.231(Ft/s)

Sub-Channel No. 1 Critical depth =      0.132(Ft.)
  '     '       '     Critical flow top width =     17.184(Ft.)
  '     '       '     Critical flow velocity=    1.614(Ft/s)
  '     '       '     Critical flow area =      1.396(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    96.600(Ft.)
Downstream point elevation =    95.190(Ft.)
Channel length thru subarea  =   128.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      2.633(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      2.633(CFS)
Depth of flow =   0.130(Ft.), Average velocity =   1.933(Ft/s)
Channel flow top width =   16.980(Ft.)
Flow Velocity =    1.93(Ft/s)
Travel time  =    1.10 min.
Time of concentration =    9.71 min.

Sub-Channel No. 1 Critical depth =      0.143(Ft.)
  '     '       '     Critical flow top width =     18.258(Ft.)
  '     '       '     Critical flow velocity=    1.659(Ft/s)
  '     '       '     Critical flow area =      1.587(Sq.Ft)
```

```
 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.841
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      1.273(In/Hr) for a     2.0 year storm
Subarea runoff =      0.685(CFS) for      0.640(Ac.)
Total runoff =      2.938(CFS)        Total area =       2.540(Ac.)
Depth of flow =   0.136(Ft.), Average velocity =   1.989(Ft/s)

Sub-Channel No. 1 Critical depth =      0.150(Ft.)
  '     '       '     Critical flow top width =     19.039(Ft.)
  '     '       '     Critical flow velocity=    1.696(Ft/s)
  '     '       '     Critical flow area =      1.732(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      2.540(Ac.)
Runoff from this stream =      2.938(CFS)
Time of concentration =    9.71 min.
Rainfall intensity =     1.273(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        2.938      9.71                 1.273
Largest stream flow has longer time of concentration
Qp =      2.938 + sum of
Qp =      2.938

Total of 1 streams to confluence:
Flow rates before confluence point:
       2.938
Area of streams before confluence:
        2.540
Results of confluence:
Total flow rate =      2.938(CFS)
Time of concentration =     9.711 min.
Effective stream area after confluence =      2.540(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        9.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   218.000(Ft.)
Top (of initial area) elevation =    99.880(Ft.)
Bottom (of initial area) elevation =    97.200(Ft.)
Difference in elevation =     2.680(Ft.)
Slope =    0.01229  s(percent)=       1.23
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.231 min.
Rainfall intensity =      1.575(In/Hr) for a     2.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.846
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
```

```
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      0.733(CFS)
Total initial stream area =        0.550(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station       10.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    97.200(Ft.)
Downstream point elevation =    95.190(Ft.)
Channel length thru subarea  =   342.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      1.193(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      1.193(CFS)
Depth of flow =   0.104(Ft.), Average velocity =   1.246(Ft/s)
Channel flow top width =   14.406(Ft.)
Flow Velocity =    1.25(Ft/s)
Travel time  =    4.57 min.
Time of concentration =   10.81 min.

Sub-Channel No. 1 Critical depth =      0.096(Ft.)
  '     '       '     Critical flow top width =     13.570(Ft.)
  '     '       '     Critical flow velocity=    1.419(Ft/s)
  '     '       '     Critical flow area =      0.841(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.840
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      1.209(In/Hr) for a     2.0 year storm
Subarea runoff =      0.854(CFS) for      0.840(Ac.)
Total runoff =      1.586(CFS)        Total area =       1.390(Ac.)
Depth of flow =   0.119(Ft.), Average velocity =   1.343(Ft/s)

Sub-Channel No. 1 Critical depth =      0.110(Ft.)
  '     '       '     Critical flow top width =     15.035(Ft.)
  '     '       '     Critical flow velocity=    1.510(Ft/s)
  '     '       '     Critical flow area =      1.050(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station       10.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      1.390(Ac.)
Runoff from this stream =      1.586(CFS)
Time of concentration =   10.81 min.
Rainfall intensity =     1.209(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        2.938      9.71                1.273
2        1.586     10.81                1.209
Largest stream flow has longer or shorter time of concentration
Qp =      2.938 + sum of
```

```
          Qa          Tb/Ta
           1.586 *    0.899 =      1.426
Qp =      4.364

Total of 2 streams to confluence:
Flow rates before confluence point:
       2.938       1.586
Area of streams before confluence:
        2.540        1.390
Results of confluence:
Total flow rate =      4.364(CFS)
Time of concentration =     9.711 min.
Effective stream area after confluence =      3.930(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       10.000 to Point/Station       11.000
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =    95.190(Ft.)
Downstream point elevation =    94.550(Ft.)
Channel length thru subarea  =   124.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      4.653(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      4.653(CFS)
Depth of flow =   0.198(Ft.), Average velocity =   1.689(Ft/s)
Channel flow top width =   23.807(Ft.)
Flow Velocity =    1.69(Ft/s)
Travel time  =    1.22 min.
Time of concentration =   10.93 min.

Sub-Channel No. 1 Critical depth =      0.186(Ft.)
  '     '       '     Critical flow top width =     22.555(Ft.)
  '     '       '     Critical flow velocity=    1.889(Ft/s)
  '     '       '     Critical flow area =      2.464(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.840
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      1.202(In/Hr) for a     2.0 year storm
Subarea runoff =      0.525(CFS) for      0.520(Ac.)
Total runoff =      4.889(CFS)        Total area =       4.450(Ac.)
Depth of flow =   0.202(Ft.), Average velocity =   1.711(Ft/s)

Sub-Channel No. 1 Critical depth =      0.191(Ft.)
  '     '       '     Critical flow top width =     23.141(Ft.)
  '     '       '     Critical flow velocity=    1.882(Ft/s)
  '     '       '     Critical flow area =      2.597(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       11.000 to Point/Station       12.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    94.550(Ft.)
Downstream point/station elevation =    91.260(Ft.)
Pipe length  =   136.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.889(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     4.889(CFS)
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```
Normal flow depth in pipe =    8.75(In.)
Flow top width inside pipe =   10.66(In.)
Critical Depth =   10.92(In.)
Pipe flow velocity =      7.96(Ft/s)
Travel time through pipe =    0.28 min.
Time of concentration (TC) =    11.22 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       11.000 to Point/Station       12.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      4.450(Ac.)
Runoff from this stream =      4.889(CFS)
Time of concentration =   11.22 min.
Rainfall intensity =     1.187(In/Hr)


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Process from Point/Station       13.000 to Point/Station       14.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   148.000(Ft.)
Top (of initial area) elevation =    96.690(Ft.)
Bottom (of initial area) elevation =    95.950(Ft.)
Difference in elevation =     0.740(Ft.)
Slope =    0.00500  s(percent)=       0.50
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.389 min.
Rainfall intensity =      1.556(In/Hr) for a     2.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.846
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      0.592(CFS)
Total initial stream area =        0.450(Ac.)
Pervious area fraction = 0.100


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Process from Point/Station       14.000 to Point/Station       15.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    95.950(Ft.)
Downstream point elevation =    92.000(Ft.)
Channel length thru subarea  =   175.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      0.875(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      0.875(CFS)
Depth of flow =   0.065(Ft.), Average velocity =   1.873(Ft/s)
Channel flow top width =   10.461(Ft.)
Flow Velocity =    1.87(Ft/s)
Travel time  =    1.56 min.
Time of concentration =    7.95 min.

Sub-Channel No. 1 Critical depth =      0.082(Ft.)
  '     '       '     Critical flow top width =     12.203(Ft.)
  '     '       '     Critical flow velocity=    1.317(Ft/s)
  '     '       '     Critical flow area =      0.665(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
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Runoff Coefficient = 0.843
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      1.401(In/Hr) for a     2.0 year storm
Subarea runoff =      0.508(CFS) for      0.430(Ac.)
Total runoff =      1.100(CFS)       Total area =       0.880(Ac.)
Depth of flow =   0.072(Ft.), Average velocity =   1.995(Ft/s)

Sub-Channel No. 1 Critical depth =      0.092(Ft.)
  '     '       '     Critical flow top width =     13.180(Ft.)
  '     '       '     Critical flow velocity=    1.396(Ft/s)
  '     '       '     Critical flow area =      0.789(Sq.Ft)



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Process from Point/Station       14.000 to Point/Station       15.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.880(Ac.)
Runoff from this stream =      1.100(CFS)
Time of concentration =    7.95 min.
Rainfall intensity =     1.401(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        4.889     11.22                 1.187
2        1.100      7.95                 1.401
Largest stream flow has longer time of concentration
Qp =      4.889 + sum of
          Qb         Ia/Ib
           1.100 *    0.847 =      0.932
Qp =      5.822

Total of 2 streams to confluence:
Flow rates before confluence point:
       4.889       1.100
Area of streams before confluence:
        4.450        0.880
Results of confluence:
Total flow rate =      5.822(CFS)
Time of concentration =    11.219 min.
Effective stream area after confluence =      5.330(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       15.000 to Point/Station       16.000
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =    91.290(Ft.)
Downstream point elevation =    79.720(Ft.)
Channel length thru subarea  =   202.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      6.563(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      6.563(CFS)
Depth of flow =   0.135(Ft.), Average velocity =   4.512(Ft/s)
Channel flow top width =   17.519(Ft.)
Flow Velocity =    4.51(Ft/s)
Travel time  =    0.75 min.
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Time of concentration =   11.97 min.

Sub-Channel No. 1 Critical depth =      0.219(Ft.)
  '     '       '     Critical flow top width =     25.875(Ft.)
  '     '       '     Critical flow velocity=    2.009(Ft/s)
  '     '       '     Critical flow area =      3.268(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.839
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      1.151(In/Hr) for a     2.0 year storm
Subarea runoff =      1.392(CFS) for      1.440(Ac.)
Total runoff =      7.214(CFS)        Total area =       6.770(Ac.)
Depth of flow =   0.141(Ft.), Average velocity =   4.624(Ft/s)

Sub-Channel No. 1 Critical depth =      0.229(Ft.)
  '     '       '     Critical flow top width =     26.852(Ft.)
  '     '       '     Critical flow velocity=    2.046(Ft/s)
  '     '       '     Critical flow area =      3.525(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       15.000 to Point/Station       16.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      6.770(Ac.)
Runoff from this stream =      7.214(CFS)
Time of concentration =   11.97 min.
Rainfall intensity =     1.151(In/Hr)


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Process from Point/Station       17.000 to Point/Station       18.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   147.000(Ft.)
Top (of initial area) elevation =    78.500(Ft.)
Bottom (of initial area) elevation =    77.970(Ft.)
Difference in elevation =     0.530(Ft.)
Slope =    0.00361  s(percent)=       0.36
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.802 min.
Rainfall intensity =      1.510(In/Hr) for a     2.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.845
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      0.396(CFS)
Total initial stream area =        0.310(Ac.)
Pervious area fraction = 0.100


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Process from Point/Station       18.000 to Point/Station       19.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    77.970(Ft.)
Downstream point elevation =    76.850(Ft.)
Channel length thru subarea  =    60.000(Ft.)
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Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      0.561(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      0.561(CFS)
Depth of flow =   0.054(Ft.), Average velocity =   1.545(Ft/s)
Channel flow top width =    9.416(Ft.)
Flow Velocity =    1.55(Ft/s)
Travel time  =    0.65 min.
Time of concentration =    7.45 min.

Sub-Channel No. 1 Critical depth =      0.064(Ft.)
  '     '       '     Critical flow top width =     10.445(Ft.)
  '     '       '     Critical flow velocity=    1.206(Ft/s)
  '     '       '     Critical flow area =      0.466(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.844
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1)  =  36.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      1.445(In/Hr) for a     2.0 year storm
Subarea runoff =      0.317(CFS) for      0.260(Ac.)
Total runoff =      0.713(CFS)        Total area =       0.570(Ac.)
Depth of flow =   0.061(Ft.), Average velocity =   1.652(Ft/s)

Sub-Channel No. 1 Critical depth =      0.073(Ft.)
  '     '       '     Critical flow top width =     11.324(Ft.)
  '     '       '     Critical flow velocity=    1.270(Ft/s)
  '     '       '     Critical flow area =      0.561(Sq.Ft)



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Process from Point/Station       18.000 to Point/Station       19.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.570(Ac.)
Runoff from this stream =      0.713(CFS)
Time of concentration =    7.45 min.
Rainfall intensity =     1.445(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        7.214     11.97                1.151
2        0.713      7.45                1.445
Largest stream flow has longer time of concentration
Qp =      7.214 + sum of
          Qb         Ia/Ib
           0.713 *    0.797 =      0.568
Qp =      7.781

Total of 2 streams to confluence:
Flow rates before confluence point:
       7.214       0.713
Area of streams before confluence:
        6.770        0.570
Results of confluence:
Total flow rate =      7.781(CFS)
Time of concentration =    11.965 min.
Effective stream area after confluence =      7.340(Ac.)
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Process from Point/Station       19.000 to Point/Station       20.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
_____________________________________________________________________________
Upstream point/station elevation =    76.850(Ft.)
Downstream point/station elevation =    60.000(Ft.)
Pipe length  =   160.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.781(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     7.781(CFS)
Normal flow depth in pipe =    7.21(In.)
Flow top width inside pipe =   11.75(In.)
Critical depth could not be calculated.
Pipe flow velocity =     15.79(Ft/s)
Travel time through pipe =    0.17 min.
Time of concentration (TC) =    12.13 min.
End of computations, total study area =            7.34 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  56.0
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Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 11/01/21 File:2030db100.out

AREA B - DEVELOPED
10-YEAR 1-HOUR
AMCI II

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.913(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 4.000 to Point/Station 5.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 106.000(Ft.)
Top (of initial area) elevation = 102.600(Ft.)
Bottom (of initial area) elevation = 97.450(Ft.)
Difference in elevation = 5.150(Ft.)
Slope = 0.04858 s(percent)= 4.86
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Warning: TC computed to be less than 5 min.; program is assuming the
time of concentration is 5 minutes.
Initial area time of concentration = 5.000 min.
Rainfall intensity = 3.010(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.877
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 0.713(CFS)
Total initial stream area = 0.270(Ac.)
Pervious area fraction = 0.100

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        5.000 to Point/Station        6.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    97.450(Ft.)
Downstream point elevation =    96.600(Ft.)
Channel length thru subarea  =   234.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      2.441(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      2.441(CFS)
Depth of flow =   0.161(Ft.), Average velocity =   1.257(Ft/s)
Channel flow top width =   20.113(Ft.)
Flow Velocity =    1.26(Ft/s)
Travel time  =    3.10 min.
Time of concentration =    8.10 min.

Sub-Channel No. 1 Critical depth =      0.137(Ft.)
  '     '       '     Critical flow top width =     17.672(Ft.)
  '     '       '     Critical flow velocity=    1.648(Ft/s)
  '     '       '     Critical flow area =      1.481(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.873
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      2.387(In/Hr) for a    10.0 year storm
Subarea runoff =      3.395(CFS) for      1.630(Ac.)
Total runoff =      4.108(CFS)        Total area =       1.900(Ac.)
Depth of flow =   0.203(Ft.), Average velocity =   1.436(Ft/s)

Sub-Channel No. 1 Critical depth =      0.176(Ft.)
  '     '       '     Critical flow top width =     21.578(Ft.)
  '     '       '     Critical flow velocity=    1.827(Ft/s)
  '     '       '     Critical flow area =      2.248(Sq.Ft)



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Process from Point/Station        6.000 to Point/Station        7.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    96.600(Ft.)
Downstream point elevation =    95.190(Ft.)
Channel length thru subarea  =   128.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      4.770(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      4.770(CFS)
Depth of flow =   0.170(Ft.), Average velocity =   2.254(Ft/s)
Channel flow top width =   20.957(Ft.)
Flow Velocity =    2.25(Ft/s)
Travel time  =    0.95 min.
Time of concentration =    9.05 min.

Sub-Channel No. 1 Critical depth =      0.188(Ft.)
  '     '       '     Critical flow top width =     22.750(Ft.)
  '     '       '     Critical flow velocity=    1.902(Ft/s)
  '     '       '     Critical flow area =      2.508(Sq.Ft)
```

```
 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.872
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      2.264(In/Hr) for a    10.0 year storm
Subarea runoff =      1.263(CFS) for      0.640(Ac.)
Total runoff =      5.371(CFS)        Total area =       2.540(Ac.)
Depth of flow =   0.179(Ft.), Average velocity =   2.324(Ft/s)

Sub-Channel No. 1 Critical depth =      0.199(Ft.)
  '     '       '     Critical flow top width =     23.922(Ft.)
  '     '       '     Critical flow velocity=    1.931(Ft/s)
  '     '       '     Critical flow area =      2.781(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      2.540(Ac.)
Runoff from this stream =      5.371(CFS)
Time of concentration =    9.05 min.
Rainfall intensity =     2.264(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        5.371      9.05                2.264
Largest stream flow has longer time of concentration
Qp =      5.371 + sum of
Qp =      5.371

Total of 1 streams to confluence:
Flow rates before confluence point:
       5.371
Area of streams before confluence:
        2.540
Results of confluence:
Total flow rate =      5.371(CFS)
Time of concentration =     9.050 min.
Effective stream area after confluence =      2.540(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        9.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   218.000(Ft.)
Top (of initial area) elevation =    99.880(Ft.)
Bottom (of initial area) elevation =    97.200(Ft.)
Difference in elevation =     2.680(Ft.)
Slope =    0.01229  s(percent)=       1.23
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.231 min.
Rainfall intensity =      2.708(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.875
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
```

```
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      1.303(CFS)
Total initial stream area =        0.550(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station       10.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    97.200(Ft.)
Downstream point elevation =    95.190(Ft.)
Channel length thru subarea  =   342.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      2.113(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      2.113(CFS)
Depth of flow =   0.136(Ft.), Average velocity =   1.447(Ft/s)
Channel flow top width =   17.552(Ft.)
Flow Velocity =    1.45(Ft/s)
Travel time  =    3.94 min.
Time of concentration =   10.17 min.

Sub-Channel No. 1 Critical depth =      0.128(Ft.)
  '     '       '     Critical flow top width =     16.793(Ft.)
  '     '       '     Critical flow velocity=    1.589(Ft/s)
  '     '       '     Critical flow area =      1.330(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.870
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      2.141(In/Hr) for a    10.0 year storm
Subarea runoff =      1.565(CFS) for      0.840(Ac.)
Total runoff =      2.868(CFS)        Total area =       1.390(Ac.)
Depth of flow =   0.156(Ft.), Average velocity =   1.566(Ft/s)

Sub-Channel No. 1 Critical depth =      0.148(Ft.)
  '     '       '     Critical flow top width =     18.844(Ft.)
  '     '       '     Critical flow velocity=    1.692(Ft/s)
  '     '       '     Critical flow area =      1.695(Sq.Ft)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station       10.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      1.390(Ac.)
Runoff from this stream =      2.868(CFS)
Time of concentration =   10.17 min.
Rainfall intensity =     2.141(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        5.371      9.05                2.264
2        2.868     10.17                2.141
Largest stream flow has longer or shorter time of concentration
Qp =      5.371 + sum of
```

```
         Qa          Tb/Ta
          2.868 *    0.890 =      2.552
Qp =      7.923

Total of 2 streams to confluence:
Flow rates before confluence point:
       5.371       2.868
Area of streams before confluence:
        2.540        1.390
Results of confluence:
Total flow rate =      7.923(CFS)
Time of concentration =     9.050 min.
Effective stream area after confluence =      3.930(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       10.000 to Point/Station       11.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    95.190(Ft.)
Downstream point elevation =    94.550(Ft.)
Channel length thru subarea  =   124.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      8.448(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      8.448(CFS)
Depth of flow =   0.256(Ft.), Average velocity =   1.966(Ft/s)
Channel flow top width =   29.586(Ft.)
Flow Velocity =    1.97(Ft/s)
Travel time  =    1.05 min.
Time of concentration =   10.10 min.

Sub-Channel No. 1 Critical depth =      0.246(Ft.)
  '     '       '     Critical flow top width =     28.609(Ft.)
  '     '       '     Critical flow velocity=    2.105(Ft/s)
  '     '       '     Critical flow area =      4.012(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.870
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      2.148(In/Hr) for a    10.0 year storm
Subarea runoff =      0.972(CFS) for      0.520(Ac.)
Total runoff =      8.896(CFS)        Total area =       4.450(Ac.)
Depth of flow =   0.262(Ft.), Average velocity =   1.992(Ft/s)

Sub-Channel No. 1 Critical depth =      0.250(Ft.)
  '     '       '     Critical flow top width =     29.000(Ft.)
  '     '       '     Critical flow velocity=    2.157(Ft/s)
  '     '       '     Critical flow area =      4.125(Sq.Ft)



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Process from Point/Station       11.000 to Point/Station       12.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =    94.550(Ft.)
Downstream point/station elevation =    91.260(Ft.)
Pipe length  =   136.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     8.896(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     8.896(CFS)
```

```
Normal flow depth in pipe =   10.97(In.)
Flow top width inside pipe =   13.30(In.)
Critical Depth =   13.82(In.)
Pipe flow velocity =      9.24(Ft/s)
Travel time through pipe =    0.25 min.
Time of concentration (TC) =    10.35 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       11.000 to Point/Station       12.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      4.450(Ac.)
Runoff from this stream =      8.896(CFS)
Time of concentration =   10.35 min.
Rainfall intensity =     2.123(In/Hr)


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Process from Point/Station       13.000 to Point/Station       14.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   148.000(Ft.)
Top (of initial area) elevation =    96.690(Ft.)
Bottom (of initial area) elevation =    95.950(Ft.)
Difference in elevation =     0.740(Ft.)
Slope =    0.00500  s(percent)=       0.50
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.389 min.
Rainfall intensity =      2.676(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.875
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      1.053(CFS)
Total initial stream area =        0.450(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       14.000 to Point/Station       15.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    95.950(Ft.)
Downstream point elevation =    92.000(Ft.)
Channel length thru subarea  =   175.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      1.556(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      1.556(CFS)
Depth of flow =   0.086(Ft.), Average velocity =   2.191(Ft/s)
Channel flow top width =   12.572(Ft.)
Flow Velocity =    2.19(Ft/s)
Travel time  =    1.33 min.
Time of concentration =    7.72 min.

Sub-Channel No. 1 Critical depth =      0.109(Ft.)
  '     '       '     Critical flow top width =     14.938(Ft.)
  '     '       '     Critical flow velocity=    1.503(Ft/s)
  '     '       '     Critical flow area =      1.036(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
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```
Runoff Coefficient = 0.873
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      2.444(In/Hr) for a    10.0 year storm
Subarea runoff =      0.917(CFS) for      0.430(Ac.)
Total runoff =      1.971(CFS)       Total area =       0.880(Ac.)
Depth of flow =   0.096(Ft.), Average velocity =   2.334(Ft/s)

Sub-Channel No. 1 Critical depth =      0.123(Ft.)
  '     '       '     Critical flow top width =     16.305(Ft.)
  '     '       '     Critical flow velocity=    1.577(Ft/s)
  '     '       '     Critical flow area =      1.249(Sq.Ft)



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Process from Point/Station       14.000 to Point/Station       15.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.880(Ac.)
Runoff from this stream =      1.971(CFS)
Time of concentration =    7.72 min.
Rainfall intensity =     2.444(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        8.896     10.35                2.123
2        1.971      7.72                2.444
Largest stream flow has longer time of concentration
Qp =      8.896 + sum of
          Qb         Ia/Ib
           1.971 *    0.869 =      1.712
Qp =     10.608

Total of 2 streams to confluence:
Flow rates before confluence point:
       8.896       1.971
Area of streams before confluence:
        4.450        0.880
Results of confluence:
Total flow rate =     10.608(CFS)
Time of concentration =    10.346 min.
Effective stream area after confluence =      5.330(Ac.)


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Process from Point/Station       15.000 to Point/Station       16.000
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =    91.290(Ft.)
Downstream point elevation =    79.720(Ft.)
Channel length thru subarea  =   202.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =     11.935(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     11.935(CFS)
Depth of flow =   0.177(Ft.), Average velocity =   5.264(Ft/s)
Channel flow top width =   21.666(Ft.)
Flow Velocity =    5.26(Ft/s)
Travel time  =    0.64 min.
```

```
Time of concentration =   10.99 min.

Sub-Channel No. 1 Critical depth =      0.285(Ft.)
  '     '       '     Critical flow top width =     32.516(Ft.)
  '     '       '     Critical flow velocity=    2.292(Ft/s)
  '     '       '     Critical flow area =      5.206(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.870
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      2.063(In/Hr) for a    10.0 year storm
Subarea runoff =      2.584(CFS) for      1.440(Ac.)
Total runoff =     13.191(CFS)        Total area =       6.770(Ac.)
Depth of flow =   0.185(Ft.), Average velocity =   5.401(Ft/s)

Sub-Channel No. 1 Critical depth =      0.301(Ft.)
  '     '       '     Critical flow top width =     34.078(Ft.)
  '     '       '     Critical flow velocity=    2.304(Ft/s)
  '     '       '     Critical flow area =      5.727(Sq.Ft)



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Process from Point/Station       15.000 to Point/Station       16.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      6.770(Ac.)
Runoff from this stream =     13.191(CFS)
Time of concentration =   10.99 min.
Rainfall intensity =     2.063(In/Hr)


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Process from Point/Station       17.000 to Point/Station       18.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   147.000(Ft.)
Top (of initial area) elevation =    78.500(Ft.)
Bottom (of initial area) elevation =    77.970(Ft.)
Difference in elevation =     0.530(Ft.)
Slope =    0.00361  s(percent)=       0.36
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.802 min.
Rainfall intensity =      2.597(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.874
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      0.704(CFS)
Total initial stream area =        0.310(Ac.)
Pervious area fraction = 0.100


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Process from Point/Station       18.000 to Point/Station       19.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    77.970(Ft.)
Downstream point elevation =    76.850(Ft.)
Channel length thru subarea  =    60.000(Ft.)
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Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      0.999(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      0.999(CFS)
Depth of flow =   0.072(Ft.), Average velocity =   1.813(Ft/s)
Channel flow top width =   11.232(Ft.)
Flow Velocity =    1.81(Ft/s)
Travel time  =    0.55 min.
Time of concentration =    7.35 min.

Sub-Channel No. 1 Critical depth =      0.088(Ft.)
  '     '       '     Critical flow top width =     12.789(Ft.)
  '     '       '     Critical flow velocity=    1.354(Ft/s)
  '     '       '     Critical flow area =      0.738(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.873
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      2.501(In/Hr) for a    10.0 year storm
Subarea runoff =      0.568(CFS) for      0.260(Ac.)
Total runoff =      1.272(CFS)        Total area =       0.570(Ac.)
Depth of flow =   0.081(Ft.), Average velocity =   1.936(Ft/s)

Sub-Channel No. 1 Critical depth =      0.099(Ft.)
  '     '       '     Critical flow top width =     13.863(Ft.)
  '     '       '     Critical flow velocity=    1.444(Ft/s)
  '     '       '     Critical flow area =      0.881(Sq.Ft)



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Process from Point/Station       18.000 to Point/Station       19.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.570(Ac.)
Runoff from this stream =      1.272(CFS)
Time of concentration =    7.35 min.
Rainfall intensity =     2.501(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       13.191     10.99                2.063
2        1.272      7.35                2.501
Largest stream flow has longer time of concentration
Qp =     13.191 + sum of
          Qb         Ia/Ib
           1.272 *    0.825 =      1.049
Qp =     14.240

Total of 2 streams to confluence:
Flow rates before confluence point:
      13.191       1.272
Area of streams before confluence:
        6.770        0.570
Results of confluence:
Total flow rate =     14.240(CFS)
Time of concentration =    10.985 min.
Effective stream area after confluence =      7.340(Ac.)
```

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Process from Point/Station       19.000 to Point/Station       20.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =    76.850(Ft.)
Downstream point/station elevation =    60.000(Ft.)
Pipe length  =   160.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    14.240(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =    14.240(CFS)
Normal flow depth in pipe =    9.07(In.)
Flow top width inside pipe =   14.67(In.)
Critical depth could not be calculated.
Pipe flow velocity =     18.37(Ft/s)
Travel time through pipe =    0.15 min.
Time of concentration (TC) =    11.13 min.
End of computations, total study area =            7.34 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  56.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 11/01/21 File:2030db100.out

AREA B - DEVELOPED
100-YEAR 1-HOUR
AMC III

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6434

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

2 year, 1 hour precipitation = 0.531(In.)
100 year, 1 hour precipitation = 1.460(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.460(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 4.000 to Point/Station 5.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 106.000(Ft.)
Top (of initial area) elevation = 102.600(Ft.)
Bottom (of initial area) elevation = 97.450(Ft.)
Difference in elevation = 5.150(Ft.)
Slope = 0.04858 s(percent)= 4.86
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Warning: TC computed to be less than 5 min.; program is assuming the
time of concentration is 5 minutes.
Initial area time of concentration = 5.000 min.
Rainfall intensity = 4.812(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.892
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3) = 74.80
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 1.159(CFS)
Total initial stream area = 0.270(Ac.)
Pervious area fraction = 0.100

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        5.000 to Point/Station        6.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    97.450(Ft.)
Downstream point elevation =    96.600(Ft.)
Channel length thru subarea  =   234.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      4.039(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      4.039(CFS)
Depth of flow =   0.201(Ft.), Average velocity =   1.430(Ft/s)
Channel flow top width =   24.105(Ft.)
Flow Velocity =    1.43(Ft/s)
Travel time  =    2.73 min.
Time of concentration =    7.73 min.

Sub-Channel No. 1 Critical depth =      0.174(Ft.)
  '     '       '     Critical flow top width =     21.383(Ft.)
  '     '       '     Critical flow velocity=    1.831(Ft/s)
  '     '       '     Critical flow area =      2.206(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.891
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      3.905(In/Hr) for a   100.0 year storm
Subarea runoff =      5.669(CFS) for      1.630(Ac.)
Total runoff =      6.829(CFS)        Total area =       1.900(Ac.)
Depth of flow =   0.252(Ft.), Average velocity =   1.634(Ft/s)

Sub-Channel No. 1 Critical depth =      0.223(Ft.)
  '     '       '     Critical flow top width =     26.266(Ft.)
  '     '       '     Critical flow velocity=    2.027(Ft/s)
  '     '       '     Critical flow area =      3.369(Sq.Ft)
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** IMPROVED CHANNEL TRAVEL TIME ****
_____________________________________________________________________________
Upstream point elevation =    96.600(Ft.)
Downstream point elevation =    95.190(Ft.)
Channel length thru subarea  =   128.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      7.933(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      7.933(CFS)
Depth of flow =   0.212(Ft.), Average velocity =   2.567(Ft/s)
Channel flow top width =   25.180(Ft.)
Flow Velocity =    2.57(Ft/s)
Travel time  =    0.83 min.
Time of concentration =    8.56 min.

Sub-Channel No. 1 Critical depth =      0.238(Ft.)
  '     '       '     Critical flow top width =     27.828(Ft.)
  '     '       '     Critical flow velocity=    2.092(Ft/s)
  '     '       '     Critical flow area =      3.792(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.890
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      3.718(In/Hr) for a   100.0 year storm
Subarea runoff =      2.118(CFS) for      0.640(Ac.)
Total runoff =      8.947(CFS)        Total area =       2.540(Ac.)
Depth of flow =   0.223(Ft.), Average velocity =   2.647(Ft/s)

Sub-Channel No. 1 Critical depth =      0.252(Ft.)
  '     '       '     Critical flow top width =     29.195(Ft.)
  '     '       '     Critical flow velocity=    2.140(Ft/s)
  '     '       '     Critical flow area =      4.182(Sq.Ft)
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      2.540(Ac.)
Runoff from this stream =      8.947(CFS)
Time of concentration =    8.56 min.
Rainfall intensity =     3.718(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        8.947      8.56                 3.718
Largest stream flow has longer time of concentration
Qp =      8.947 + sum of
Qp =      8.947

Total of 1 streams to confluence:
Flow rates before confluence point:
       8.947
Area of streams before confluence:
        2.540
Results of confluence:
Total flow rate =      8.947(CFS)
Time of concentration =     8.559 min.
Effective stream area after confluence =      2.540(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        9.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
Initial area flow distance =   218.000(Ft.)
Top (of initial area) elevation =    99.880(Ft.)
Bottom (of initial area) elevation =    97.200(Ft.)
Difference in elevation =     2.680(Ft.)
Slope =    0.01229  s(percent)=       1.23
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.231 min.
Rainfall intensity =      4.330(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.892
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      2.123(CFS)
Total initial stream area =        0.550(Ac.)
Pervious area fraction = 0.100
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station       10.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    97.200(Ft.)
Downstream point elevation =    95.190(Ft.)
Channel length thru subarea  =   342.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      3.472(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      3.472(CFS)
Depth of flow =   0.169(Ft.), Average velocity =   1.645(Ft/s)
Channel flow top width =   20.931(Ft.)
Flow Velocity =    1.65(Ft/s)
Travel time  =    3.46 min.
Time of concentration =    9.70 min.

Sub-Channel No. 1 Critical depth =      0.162(Ft.)
  '     '       '     Critical flow top width =     20.211(Ft.)
  '     '       '     Critical flow velocity=    1.769(Ft/s)
  '     '       '     Critical flow area =      1.962(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.890
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      3.502(In/Hr) for a   100.0 year storm
Subarea runoff =      2.617(CFS) for      0.840(Ac.)
Total runoff =      4.740(CFS)        Total area =       1.390(Ac.)
Depth of flow =   0.194(Ft.), Average velocity =   1.782(Ft/s)

Sub-Channel No. 1 Critical depth =      0.188(Ft.)
  '     '       '     Critical flow top width =     22.750(Ft.)
  '     '       '     Critical flow velocity=    1.890(Ft/s)
  '     '       '     Critical flow area =      2.508(Sq.Ft)
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station       10.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      1.390(Ac.)
Runoff from this stream =      4.740(CFS)
Time of concentration =    9.70 min.
Rainfall intensity =     3.502(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        8.947      8.56                3.718
2        4.740      9.70                3.502
Largest stream flow has longer or shorter time of concentration
Qp =      8.947 + sum of
          Qa          Tb/Ta
           4.740 *    0.883 =      4.184
Qp =     13.132

Total of 2 streams to confluence:
Flow rates before confluence point:
       8.947       4.740
Area of streams before confluence:
        2.540        1.390
Results of confluence:
Total flow rate =     13.132(CFS)
Time of concentration =     8.559 min.
Effective stream area after confluence =      3.930(Ac.)
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       10.000 to Point/Station       11.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    95.190(Ft.)
Downstream point elevation =    94.550(Ft.)
Channel length thru subarea  =   124.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =     14.000(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     14.000(CFS)
Depth of flow =   0.316(Ft.), Average velocity =   2.234(Ft/s)
Channel flow top width =   35.628(Ft.)
Flow Velocity =    2.23(Ft/s)
Travel time  =    0.93 min.
Time of concentration =    9.48 min.

Sub-Channel No. 1 Critical depth =      0.309(Ft.)
  '     '       '     Critical flow top width =     34.859(Ft.)
  '     '       '     Critical flow velocity=    2.335(Ft/s)
  '     '       '     Critical flow area =      5.996(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.890
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      3.539(In/Hr) for a   100.0 year storm
Subarea runoff =      1.638(CFS) for      0.520(Ac.)
Total runoff =     14.769(CFS)       Total area =       4.450(Ac.)
Depth of flow =   0.323(Ft.), Average velocity =   2.264(Ft/s)

Sub-Channel No. 1 Critical depth =      0.314(Ft.)
  '     '       '     Critical flow top width =     35.445(Ft.)
  '     '       '     Critical flow velocity=    2.381(Ft/s)
  '     '       '     Critical flow area =      6.202(Sq.Ft)
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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       11.000 to Point/Station       12.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =    94.550(Ft.)
Downstream point/station elevation =    91.260(Ft.)
Pipe length  =   136.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    14.769(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    14.769(CFS)
Normal flow depth in pipe =   13.41(In.)
Flow top width inside pipe =   15.70(In.)
Critical Depth =   16.80(In.)
Pipe flow velocity =     10.47(Ft/s)
Travel time through pipe =    0.22 min.
Time of concentration (TC) =     9.70 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       11.000 to Point/Station       12.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      4.450(Ac.)
Runoff from this stream =     14.769(CFS)
Time of concentration =    9.70 min.
Rainfall intensity =     3.501(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       13.000 to Point/Station       14.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   148.000(Ft.)
Top (of initial area) elevation =    96.690(Ft.)
Bottom (of initial area) elevation =    95.950(Ft.)
Difference in elevation =     0.740(Ft.)
Slope =    0.00500  s(percent)=       0.50
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.389 min.
Rainfall intensity =      4.278(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.891
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      1.716(CFS)
Total initial stream area =        0.450(Ac.)
Pervious area fraction = 0.100
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       14.000 to Point/Station       15.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    95.950(Ft.)
Downstream point elevation =    92.000(Ft.)
Channel length thru subarea  =   175.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      2.504(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      2.504(CFS)
Depth of flow =   0.107(Ft.), Average velocity =   2.487(Ft/s)
Channel flow top width =   14.745(Ft.)
Flow Velocity =    2.49(Ft/s)
Travel time  =    1.17 min.
Time of concentration =    7.56 min.

Sub-Channel No. 1 Critical depth =      0.139(Ft.)
  '     '       '     Critical flow top width =     17.867(Ft.)
  '     '       '     Critical flow velocity=    1.652(Ft/s)
  '     '       '     Critical flow area =      1.516(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.891
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      3.946(In/Hr) for a   100.0 year storm
Subarea runoff =      1.511(CFS) for      0.430(Ac.)
Total runoff =      3.228(CFS)       Total area =       0.880(Ac.)
Depth of flow =   0.121(Ft.), Average velocity =   2.658(Ft/s)

Sub-Channel No. 1 Critical depth =      0.156(Ft.)
  '     '       '     Critical flow top width =     19.625(Ft.)
  '     '       '     Critical flow velocity=    1.749(Ft/s)
  '     '       '     Critical flow area =      1.846(Sq.Ft)
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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       14.000 to Point/Station       15.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.880(Ac.)
Runoff from this stream =      3.228(CFS)
Time of concentration =    7.56 min.
Rainfall intensity =     3.946(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                  (In/Hr)


1       14.769      9.70                 3.501
2        3.228      7.56                 3.946
Largest stream flow has longer time of concentration
Qp =     14.769 + sum of
          Qb         Ia/Ib
           3.228 *    0.887 =      2.864
Qp =     17.633

Total of 2 streams to confluence:
Flow rates before confluence point:
      14.769       3.228
Area of streams before confluence:
        4.450        0.880
Results of confluence:
Total flow rate =     17.633(CFS)
Time of concentration =     9.700 min.
Effective stream area after confluence =      5.330(Ac.)
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       15.000 to Point/Station       16.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =    91.290(Ft.)
Downstream point elevation =    79.720(Ft.)
Channel length thru subarea  =   202.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =     19.866(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     19.866(CFS)
Depth of flow =   0.221(Ft.), Average velocity =   5.996(Ft/s)
Channel flow top width =   26.052(Ft.)
Flow Velocity =    6.00(Ft/s)
Travel time  =    0.56 min.
Time of concentration =   10.26 min.

Sub-Channel No. 1 Critical depth =      0.359(Ft.)
  '     '       '     Critical flow top width =     39.938(Ft.)
  '     '       '     Critical flow velocity=    2.516(Ft/s)
  '     '       '     Critical flow area =      7.895(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.890
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      3.408(In/Hr) for a   100.0 year storm
Subarea runoff =      4.365(CFS) for      1.440(Ac.)
Total runoff =     21.998(CFS)        Total area =       6.770(Ac.)
Depth of flow =   0.230(Ft.), Average velocity =   6.153(Ft/s)

Sub-Channel No. 1 Critical depth =      0.375(Ft.)
  '     '       '     Critical flow top width =     41.500(Ft.)
  '     '       '     Critical flow velocity=    2.579(Ft/s)
  '     '       '     Critical flow area =      8.531(Sq.Ft)




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       15.000 to Point/Station       16.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      6.770(Ac.)
Runoff from this stream =     21.998(CFS)
Time of concentration =   10.26 min.
Rainfall intensity =     3.408(In/Hr)
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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       17.000 to Point/Station       18.000
**** INITIAL AREA EVALUATION ****
_____________________________________________________________________________
Initial area flow distance =   147.000(Ft.)
Top (of initial area) elevation =    78.500(Ft.)
Bottom (of initial area) elevation =    77.970(Ft.)
Difference in elevation =     0.530(Ft.)
Slope =    0.00361  s(percent)=       0.36
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.802 min.
Rainfall intensity =      4.151(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.891
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      1.147(CFS)
Total initial stream area =        0.310(Ac.)
Pervious area fraction = 0.100

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       18.000 to Point/Station       19.000
**** IMPROVED CHANNEL TRAVEL TIME ****
_____________________________________________________________________________
Upstream point elevation =    77.970(Ft.)
Downstream point elevation =    76.850(Ft.)
Channel length thru subarea  =    60.000(Ft.)
Channel base width     =    4.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =      1.628(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      1.628(CFS)
Depth of flow =   0.092(Ft.), Average velocity =   2.069(Ft/s)
Channel flow top width =   13.167(Ft.)
Flow Velocity =    2.07(Ft/s)
Travel time  =    0.48 min.
Time of concentration =    7.29 min.

Sub-Channel No. 1 Critical depth =      0.112(Ft.)
  '     '       '     Critical flow top width =     15.230(Ft.)
  '     '       '     Critical flow velocity=    1.508(Ft/s)
  '     '       '     Critical flow area =      1.080(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.891
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      4.017(In/Hr) for a   100.0 year storm
Subarea runoff =      0.930(CFS) for      0.260(Ac.)
Total runoff =      2.077(CFS)       Total area =       0.570(Ac.)
Depth of flow =   0.103(Ft.), Average velocity =   2.207(Ft/s)

Sub-Channel No. 1 Critical depth =      0.127(Ft.)
  '     '       '     Critical flow top width =     16.695(Ft.)
  '     '       '     Critical flow velocity=    1.581(Ft/s)
  '     '       '     Critical flow area =      1.314(Sq.Ft)
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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       18.000 to Point/Station       19.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.570(Ac.)
Runoff from this stream =      2.077(CFS)
Time of concentration =    7.29 min.
Rainfall intensity =     4.017(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       21.998     10.26                 3.408
2        2.077      7.29                 4.017
Largest stream flow has longer time of concentration
Qp =     21.998 + sum of
          Qb         Ia/Ib
           2.077 *    0.848 =      1.762
Qp =     23.761

Total of 2 streams to confluence:
Flow rates before confluence point:
      21.998       2.077
Area of streams before confluence:
        6.770        0.570
Results of confluence:
Total flow rate =     23.761(CFS)
Time of concentration =    10.262 min.
Effective stream area after confluence =      7.340(Ac.)



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       19.000 to Point/Station       20.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
____________________________________________________________________________
Upstream point/station elevation =    76.850(Ft.)
Downstream point/station elevation =    60.000(Ft.)
Pipe length  =   160.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    23.761(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    23.761(CFS)
Normal flow depth in pipe =   11.06(In.)
Flow top width inside pipe =   17.52(In.)
Critical depth could not be calculated.
Pipe flow velocity =     20.85(Ft/s)
Travel time through pipe =    0.13 min.
Time of concentration (TC) =    10.39 min.
End of computations, total study area =            7.34 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  56.0
```

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

Study date 11/01/21 File: 2030upb110.out

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

Program License Serial Number 6434

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

English Units used in output format

PRE-DEVELOPED AREA B
10-YEAR 1-HOUR
AMC II

Drainage Area = 7.66(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.66(Ac.) = 0.012 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.156 Hr.
Lag time = 9.36 Min.
25% of lag time = 2.34 Min.
40% of lag time = 3.74 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	0.53	4.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	1.46	11.18

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.531(In)
Area Averaged 100-Year Rainfall = 1.460(In)

Point rain (area averaged) = 0.913(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.913(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.660	75.80	0.100

Total Area Entered = 7.66(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.8	75.8	0.294	0.100	0.267	1.000	0.267
					Sum (F) =	0.267

Area averaged mean soil loss (F) (In/Hr) = 0.267
Minimum soil loss rate ((In/Hr)) = 0.134
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.419	4.706	0.363
2	0.167	106.838	24.280	1.874
3	0.250	160.256	37.135	2.867
4	0.333	213.675	13.705	1.058
5	0.417	267.094	7.926	0.612
6	0.500	320.513	5.080	0.392
7	0.583	373.932	3.189	0.246
8	0.667	427.350	1.785	0.138
9	0.750	480.769	0.725	0.056
10	0.833	534.188	0.500	0.039
11	0.917	587.607	0.361	0.028
12	1.000	641.026	0.360	0.028
13	1.083	694.444	0.182	0.014
14	1.167	747.863	0.066	0.005
			Sum = 100.000	Sum= 7.720

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	4.40	0.482	0.267	(0.434)	0.215
2	0.17	4.50	0.493	0.267	(0.444)	0.226
3	0.25	5.40	0.592	0.267	(0.533)	0.325
4	0.33	5.40	0.592	0.267	(0.533)	0.325
5	0.42	5.70	0.625	0.267	(0.562)	0.357
6	0.50	6.40	0.701	0.267	(0.631)	0.434
7	0.58	7.90	0.866	0.267	(0.779)	0.599
8	0.67	9.10	0.997	0.267	(0.897)	0.730
9	0.75	12.80	1.403	0.267	(1.262)	1.135
10	0.83	25.60	2.805	0.267	(2.525)	2.538
11	0.92	7.90	0.866	0.267	(0.779)	0.599
12	1.00	4.90	0.537	0.267	(0.483)	0.270
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	7.8

Flood volume = Effective rainfall 0.65(In)
times area 7.7(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.171(Ac.Ft)
Total rainfall = 0.91(In)
Flood volume = 17962.4 Cubic Feet
Total soil loss = 7428.0 Cubic Feet

Peak flow rate of this hydrograph = 10.583(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0005	0.08	Q				
0+10	0.0039	0.49	Q				
0+15	0.0119	1.16	VQ				
0+20	0.0229	1.60	VQ				
0+25	0.0369	2.04	VQ				
0+30	0.0530	2.33	QV				
0+35	0.0718	2.74	QV				
0+40	0.0954	3.42	Q V				
0+45	0.1259	4.43	Q	V			
0+50	0.1695	6.33		Q V			
0+55	0.2364	9.71		Q	V		
1+ 0	0.3093	10.58			Q V		
1+ 5	0.3516	6.15		Q		V	
1+10	0.3773	3.73	Q			V	
1+15	0.3918	2.10	Q			V	
1+20	0.4005	1.27	Q			V	
1+25	0.4056	0.73	Q			V	
1+30	0.4082	0.38	Q			V	
1+35	0.4098	0.23	Q			V	
1+40	0.4108	0.15	Q			V	
1+45	0.4117	0.12	Q			V	
1+50	0.4121	0.07	Q			V	
1+55	0.4123	0.03	Q			V	
2+ 0	0.4124	0.01	Q			V	
2+ 5	0.4124	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 11/01/21 File: 2030upb2410.out

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

Program License Serial Number 6434

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

English Units used in output format

PRE-DEVELOPED AREA B
10-YEAR 24-HOUR
AMCII

Drainage Area = 7.66(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.66(Ac.) = 0.012 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.156 Hr.
Lag time = 9.36 Min.
25% of lag time = 2.34 Min.
40% of lag time = 3.74 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]
7.66	2.40	18.38

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	6.26	47.95

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.260(In)

Point rain (area averaged) = 3.988(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.988(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.660	75.80	0.100

Total Area Entered = 7.66(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.8	75.8	0.294	0.100	0.267	1.000	0.267
					Sum (F) =	0.267

Area averaged mean soil loss (F) (In/Hr) = 0.267
Minimum soil loss rate ((In/Hr)) = 0.134
(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
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.419	4.706	0.363
2	0.167	106.838	24.280	1.874
3	0.250	160.256	37.135	2.867
4	0.333	213.675	13.705	1.058
5	0.417	267.094	7.926	0.612
6	0.500	320.513	5.080	0.392
7	0.583	373.932	3.189	0.246
8	0.667	427.350	1.785	0.138
9	0.750	480.769	0.725	0.056
10	0.833	534.188	0.500	0.039
11	0.917	587.607	0.361	0.028
12	1.000	641.026	0.360	0.028
13	1.083	694.444	0.182	0.014
14	1.167	747.863	0.066	0.005
			Sum = 100.000	Sum= 7.720

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	0.032	(0.474)	0.029	0.003
2	0.17	0.07	0.032	(0.472)	0.029	0.003
3	0.25	0.07	0.032	(0.470)	0.029	0.003
4	0.33	0.10	0.048	(0.468)	0.043	0.005
5	0.42	0.10	0.048	(0.466)	0.043	0.005
6	0.50	0.10	0.048	(0.464)	0.043	0.005
7	0.58	0.10	0.048	(0.463)	0.043	0.005
8	0.67	0.10	0.048	(0.461)	0.043	0.005
9	0.75	0.10	0.048	(0.459)	0.043	0.005
10	0.83	0.13	0.064	(0.457)	0.057	0.006
11	0.92	0.13	0.064	(0.455)	0.057	0.006
12	1.00	0.13	0.064	(0.454)	0.057	0.006
13	1.08	0.10	0.048	(0.452)	0.043	0.005
14	1.17	0.10	0.048	(0.450)	0.043	0.005
15	1.25	0.10	0.048	(0.448)	0.043	0.005
16	1.33	0.10	0.048	(0.446)	0.043	0.005
17	1.42	0.10	0.048	(0.445)	0.043	0.005
18	1.50	0.10	0.048	(0.443)	0.043	0.005
19	1.58	0.10	0.048	(0.441)	0.043	0.005
20	1.67	0.10	0.048	(0.439)	0.043	0.005
21	1.75	0.10	0.048	(0.438)	0.043	0.005
22	1.83	0.13	0.064	(0.436)	0.057	0.006
23	1.92	0.13	0.064	(0.434)	0.057	0.006
24	2.00	0.13	0.064	(0.432)	0.057	0.006
25	2.08	0.13	0.064	(0.431)	0.057	0.006
26	2.17	0.13	0.064	(0.429)	0.057	0.006
27	2.25	0.13	0.064	(0.427)	0.057	0.006
28	2.33	0.13	0.064	(0.425)	0.057	0.006
29	2.42	0.13	0.064	(0.424)	0.057	0.006

30	2.50	0.13	0.064	(0.422)	0.057	0.006
31	2.58	0.17	0.080	(0.420)	0.072	0.008
32	2.67	0.17	0.080	(0.418)	0.072	0.008
33	2.75	0.17	0.080	(0.417)	0.072	0.008
34	2.83	0.17	0.080	(0.415)	0.072	0.008
35	2.92	0.17	0.080	(0.413)	0.072	0.008
36	3.00	0.17	0.080	(0.412)	0.072	0.008
37	3.08	0.17	0.080	(0.410)	0.072	0.008
38	3.17	0.17	0.080	(0.408)	0.072	0.008
39	3.25	0.17	0.080	(0.406)	0.072	0.008
40	3.33	0.17	0.080	(0.405)	0.072	0.008
41	3.42	0.17	0.080	(0.403)	0.072	0.008
42	3.50	0.17	0.080	(0.401)	0.072	0.008
43	3.58	0.17	0.080	(0.400)	0.072	0.008
44	3.67	0.17	0.080	(0.398)	0.072	0.008
45	3.75	0.17	0.080	(0.396)	0.072	0.008
46	3.83	0.20	0.096	(0.395)	0.086	0.010
47	3.92	0.20	0.096	(0.393)	0.086	0.010
48	4.00	0.20	0.096	(0.391)	0.086	0.010
49	4.08	0.20	0.096	(0.390)	0.086	0.010
50	4.17	0.20	0.096	(0.388)	0.086	0.010
51	4.25	0.20	0.096	(0.386)	0.086	0.010
52	4.33	0.23	0.112	(0.385)	0.100	0.011
53	4.42	0.23	0.112	(0.383)	0.100	0.011
54	4.50	0.23	0.112	(0.381)	0.100	0.011
55	4.58	0.23	0.112	(0.380)	0.100	0.011
56	4.67	0.23	0.112	(0.378)	0.100	0.011
57	4.75	0.23	0.112	(0.377)	0.100	0.011
58	4.83	0.27	0.128	(0.375)	0.115	0.013
59	4.92	0.27	0.128	(0.373)	0.115	0.013
60	5.00	0.27	0.128	(0.372)	0.115	0.013
61	5.08	0.20	0.096	(0.370)	0.086	0.010
62	5.17	0.20	0.096	(0.369)	0.086	0.010
63	5.25	0.20	0.096	(0.367)	0.086	0.010
64	5.33	0.23	0.112	(0.365)	0.100	0.011
65	5.42	0.23	0.112	(0.364)	0.100	0.011
66	5.50	0.23	0.112	(0.362)	0.100	0.011
67	5.58	0.27	0.128	(0.361)	0.115	0.013
68	5.67	0.27	0.128	(0.359)	0.115	0.013
69	5.75	0.27	0.128	(0.357)	0.115	0.013
70	5.83	0.27	0.128	(0.356)	0.115	0.013
71	5.92	0.27	0.128	(0.354)	0.115	0.013
72	6.00	0.27	0.128	(0.353)	0.115	0.013
73	6.08	0.30	0.144	(0.351)	0.129	0.014
74	6.17	0.30	0.144	(0.349)	0.129	0.014
75	6.25	0.30	0.144	(0.348)	0.129	0.014
76	6.33	0.30	0.144	(0.346)	0.129	0.014
77	6.42	0.30	0.144	(0.345)	0.129	0.014
78	6.50	0.30	0.144	(0.343)	0.129	0.014
79	6.58	0.33	0.160	(0.342)	0.144	0.016
80	6.67	0.33	0.160	(0.340)	0.144	0.016
81	6.75	0.33	0.160	(0.339)	0.144	0.016
82	6.83	0.33	0.160	(0.337)	0.144	0.016
83	6.92	0.33	0.160	(0.336)	0.144	0.016
84	7.00	0.33	0.160	(0.334)	0.144	0.016
85	7.08	0.33	0.160	(0.333)	0.144	0.016
86	7.17	0.33	0.160	(0.331)	0.144	0.016
87	7.25	0.33	0.160	(0.330)	0.144	0.016
88	7.33	0.37	0.175	(0.328)	0.158	0.018
89	7.42	0.37	0.175	(0.327)	0.158	0.018
90	7.50	0.37	0.175	(0.325)	0.158	0.018
91	7.58	0.40	0.191	(0.324)	0.172	0.019
92	7.67	0.40	0.191	(0.322)	0.172	0.019
93	7.75	0.40	0.191	(0.321)	0.172	0.019
94	7.83	0.43	0.207	(0.319)	0.187	0.021
95	7.92	0.43	0.207	(0.318)	0.187	0.021
96	8.00	0.43	0.207	(0.316)	0.187	0.021
97	8.08	0.50	0.239	(0.315)	0.215	0.024
98	8.17	0.50	0.239	(0.313)	0.215	0.024
99	8.25	0.50	0.239	(0.312)	0.215	0.024
100	8.33	0.50	0.239	(0.310)	0.215	0.024

101	8.42	0.50	0.239	(	0.309)		0.215		0.024
102	8.50	0.50	0.239	(	0.307)		0.215		0.024
103	8.58	0.53	0.255	(	0.306)		0.230		0.026
104	8.67	0.53	0.255	(	0.305)		0.230		0.026
105	8.75	0.53	0.255	(	0.303)		0.230		0.026
106	8.83	0.57	0.271	(	0.302)		0.244		0.027
107	8.92	0.57	0.271	(	0.300)		0.244		0.027
108	9.00	0.57	0.271	(	0.299)		0.244		0.027
109	9.08	0.63	0.303	(	0.297)		0.273		0.030
110	9.17	0.63	0.303	(	0.296)		0.273		0.030
111	9.25	0.63	0.303	(	0.295)		0.273		0.030
112	9.33	0.67	0.319	(	0.293)		0.287		0.032
113	9.42	0.67	0.319	(	0.292)		0.287		0.032
114	9.50	0.67	0.319	(	0.290)		0.287		0.032
115	9.58	0.70	0.335		0.289	(	0.301)		0.046
116	9.67	0.70	0.335		0.288	(	0.301)		0.047
117	9.75	0.70	0.335		0.286	(	0.301)		0.049
118	9.83	0.73	0.351		0.285	(	0.316)		0.066
119	9.92	0.73	0.351		0.283	(	0.316)		0.067
120	10.00	0.73	0.351		0.282	(	0.316)		0.069
121	10.08	0.50	0.239	(	0.281)		0.215		0.024
122	10.17	0.50	0.239	(	0.279)		0.215		0.024
123	10.25	0.50	0.239	(	0.278)		0.215		0.024
124	10.33	0.50	0.239	(	0.277)		0.215		0.024
125	10.42	0.50	0.239	(	0.275)		0.215		0.024
126	10.50	0.50	0.239	(	0.274)		0.215		0.024
127	10.58	0.67	0.319		0.273	(	0.287)		0.046
128	10.67	0.67	0.319		0.271	(	0.287)		0.048
129	10.75	0.67	0.319		0.270	(	0.287)		0.049
130	10.83	0.67	0.319		0.269	(	0.287)		0.050
131	10.92	0.67	0.319		0.267	(	0.287)		0.052
132	11.00	0.67	0.319		0.266	(	0.287)		0.053
133	11.08	0.63	0.303		0.265	(	0.273)		0.038
134	11.17	0.63	0.303		0.263	(	0.273)		0.040
135	11.25	0.63	0.303		0.262	(	0.273)		0.041
136	11.33	0.63	0.303		0.261	(	0.273)		0.042
137	11.42	0.63	0.303		0.260	(	0.273)		0.044
138	11.50	0.63	0.303		0.258	(	0.273)		0.045
139	11.58	0.57	0.271	(	0.257)		0.244		0.027
140	11.67	0.57	0.271	(	0.256)		0.244		0.027
141	11.75	0.57	0.271	(	0.254)		0.244		0.027
142	11.83	0.60	0.287		0.253	(	0.258)		0.034
143	11.92	0.60	0.287		0.252	(	0.258)		0.035
144	12.00	0.60	0.287		0.251	(	0.258)		0.037
145	12.08	0.83	0.399		0.249	(	0.359)		0.149
146	12.17	0.83	0.399		0.248	(	0.359)		0.151
147	12.25	0.83	0.399		0.247	(	0.359)		0.152
148	12.33	0.87	0.415		0.246	(	0.373)		0.169
149	12.42	0.87	0.415		0.244	(	0.373)		0.170
150	12.50	0.87	0.415		0.243	(	0.373)		0.172
151	12.58	0.93	0.447		0.242	(	0.402)		0.205
152	12.67	0.93	0.447		0.241	(	0.402)		0.206
153	12.75	0.93	0.447		0.240	(	0.402)		0.207
154	12.83	0.97	0.463		0.238	(	0.416)		0.224
155	12.92	0.97	0.463		0.237	(	0.416)		0.226
156	13.00	0.97	0.463		0.236	(	0.416)		0.227
157	13.08	1.13	0.542		0.235	(	0.488)		0.308
158	13.17	1.13	0.542		0.234	(	0.488)		0.309
159	13.25	1.13	0.542		0.232	(	0.488)		0.310
160	13.33	1.13	0.542		0.231	(	0.488)		0.311
161	13.42	1.13	0.542		0.230	(	0.488)		0.312
162	13.50	1.13	0.542		0.229	(	0.488)		0.314
163	13.58	0.77	0.367		0.228	(	0.330)		0.139
164	13.67	0.77	0.367		0.226	(	0.330)		0.140
165	13.75	0.77	0.367		0.225	(	0.330)		0.142
166	13.83	0.77	0.367		0.224	(	0.330)		0.143
167	13.92	0.77	0.367		0.223	(	0.330)		0.144
168	14.00	0.77	0.367		0.222	(	0.330)		0.145
169	14.08	0.90	0.431		0.221	(	0.388)		0.210
170	14.17	0.90	0.431		0.220	(	0.388)		0.211
171	14.25	0.90	0.431		0.219	(	0.388)		0.212

172	14.33	0.87	0.415		0.217	(	0.373)	0.197
173	14.42	0.87	0.415		0.216	(	0.373)	0.198
174	14.50	0.87	0.415		0.215	(	0.373)	0.200
175	14.58	0.87	0.415		0.214	(	0.373)	0.201
176	14.67	0.87	0.415		0.213	(	0.373)	0.202
177	14.75	0.87	0.415		0.212	(	0.373)	0.203
178	14.83	0.83	0.399		0.211	(	0.359)	0.188
179	14.92	0.83	0.399		0.210	(	0.359)	0.189
180	15.00	0.83	0.399		0.209	(	0.359)	0.190
181	15.08	0.80	0.383		0.208	(	0.345)	0.175
182	15.17	0.80	0.383		0.207	(	0.345)	0.176
183	15.25	0.80	0.383		0.205	(	0.345)	0.177
184	15.33	0.77	0.367		0.204	(	0.330)	0.162
185	15.42	0.77	0.367		0.203	(	0.330)	0.164
186	15.50	0.77	0.367		0.202	(	0.330)	0.165
187	15.58	0.63	0.303		0.201	(	0.273)	0.102
188	15.67	0.63	0.303		0.200	(	0.273)	0.103
189	15.75	0.63	0.303		0.199	(	0.273)	0.104
190	15.83	0.63	0.303		0.198	(	0.273)	0.105
191	15.92	0.63	0.303		0.197	(	0.273)	0.106
192	16.00	0.63	0.303		0.196	(	0.273)	0.107
193	16.08	0.13	0.064	(	0.195)		0.057	0.006
194	16.17	0.13	0.064	(	0.194)		0.057	0.006
195	16.25	0.13	0.064	(	0.193)		0.057	0.006
196	16.33	0.13	0.064	(	0.192)		0.057	0.006
197	16.42	0.13	0.064	(	0.191)		0.057	0.006
198	16.50	0.13	0.064	(	0.190)		0.057	0.006
199	16.58	0.10	0.048	(	0.189)		0.043	0.005
200	16.67	0.10	0.048	(	0.188)		0.043	0.005
201	16.75	0.10	0.048	(	0.187)		0.043	0.005
202	16.83	0.10	0.048	(	0.186)		0.043	0.005
203	16.92	0.10	0.048	(	0.185)		0.043	0.005
204	17.00	0.10	0.048	(	0.185)		0.043	0.005
205	17.08	0.17	0.080	(	0.184)		0.072	0.008
206	17.17	0.17	0.080	(	0.183)		0.072	0.008
207	17.25	0.17	0.080	(	0.182)		0.072	0.008
208	17.33	0.17	0.080	(	0.181)		0.072	0.008
209	17.42	0.17	0.080	(	0.180)		0.072	0.008
210	17.50	0.17	0.080	(	0.179)		0.072	0.008
211	17.58	0.17	0.080	(	0.178)		0.072	0.008
212	17.67	0.17	0.080	(	0.177)		0.072	0.008
213	17.75	0.17	0.080	(	0.176)		0.072	0.008
214	17.83	0.13	0.064	(	0.175)		0.057	0.006
215	17.92	0.13	0.064	(	0.175)		0.057	0.006
216	18.00	0.13	0.064	(	0.174)		0.057	0.006
217	18.08	0.13	0.064	(	0.173)		0.057	0.006
218	18.17	0.13	0.064	(	0.172)		0.057	0.006
219	18.25	0.13	0.064	(	0.171)		0.057	0.006
220	18.33	0.13	0.064	(	0.170)		0.057	0.006
221	18.42	0.13	0.064	(	0.170)		0.057	0.006
222	18.50	0.13	0.064	(	0.169)		0.057	0.006
223	18.58	0.10	0.048	(	0.168)		0.043	0.005
224	18.67	0.10	0.048	(	0.167)		0.043	0.005
225	18.75	0.10	0.048	(	0.166)		0.043	0.005
226	18.83	0.07	0.032	(	0.165)		0.029	0.003
227	18.92	0.07	0.032	(	0.165)		0.029	0.003
228	19.00	0.07	0.032	(	0.164)		0.029	0.003
229	19.08	0.10	0.048	(	0.163)		0.043	0.005
230	19.17	0.10	0.048	(	0.162)		0.043	0.005
231	19.25	0.10	0.048	(	0.162)		0.043	0.005
232	19.33	0.13	0.064	(	0.161)		0.057	0.006
233	19.42	0.13	0.064	(	0.160)		0.057	0.006
234	19.50	0.13	0.064	(	0.159)		0.057	0.006
235	19.58	0.10	0.048	(	0.159)		0.043	0.005
236	19.67	0.10	0.048	(	0.158)		0.043	0.005
237	19.75	0.10	0.048	(	0.157)		0.043	0.005
238	19.83	0.07	0.032	(	0.157)		0.029	0.003
239	19.92	0.07	0.032	(	0.156)		0.029	0.003
240	20.00	0.07	0.032	(	0.155)		0.029	0.003
241	20.08	0.10	0.048	(	0.154)		0.043	0.005
242	20.17	0.10	0.048	(	0.154)		0.043	0.005

```
243  20.25     0.10      0.048       (  0.153)       0.043        0.005
244  20.33     0.10      0.048       (  0.152)       0.043        0.005
245  20.42     0.10      0.048       (  0.152)       0.043        0.005
246  20.50     0.10      0.048       (  0.151)       0.043        0.005
247  20.58     0.10      0.048       (  0.150)       0.043        0.005
248  20.67     0.10      0.048       (  0.150)       0.043        0.005
249  20.75     0.10      0.048       (  0.149)       0.043        0.005
250  20.83     0.07      0.032       (  0.149)       0.029        0.003
251  20.92     0.07      0.032       (  0.148)       0.029        0.003
252  21.00     0.07      0.032       (  0.147)       0.029        0.003
253  21.08     0.10      0.048       (  0.147)       0.043        0.005
254  21.17     0.10      0.048       (  0.146)       0.043        0.005
255  21.25     0.10      0.048       (  0.146)       0.043        0.005
256  21.33     0.07      0.032       (  0.145)       0.029        0.003
257  21.42     0.07      0.032       (  0.145)       0.029        0.003
258  21.50     0.07      0.032       (  0.144)       0.029        0.003
259  21.58     0.10      0.048       (  0.144)       0.043        0.005
260  21.67     0.10      0.048       (  0.143)       0.043        0.005
261  21.75     0.10      0.048       (  0.143)       0.043        0.005
262  21.83     0.07      0.032       (  0.142)       0.029        0.003
263  21.92     0.07      0.032       (  0.142)       0.029        0.003
264  22.00     0.07      0.032       (  0.141)       0.029        0.003
265  22.08     0.10      0.048       (  0.141)       0.043        0.005
266  22.17     0.10      0.048       (  0.140)       0.043        0.005
267  22.25     0.10      0.048       (  0.140)       0.043        0.005
268  22.33     0.07      0.032       (  0.139)       0.029        0.003
269  22.42     0.07      0.032       (  0.139)       0.029        0.003
270  22.50     0.07      0.032       (  0.138)       0.029        0.003
271  22.58     0.07      0.032       (  0.138)       0.029        0.003
272  22.67     0.07      0.032       (  0.138)       0.029        0.003
273  22.75     0.07      0.032       (  0.137)       0.029        0.003
274  22.83     0.07      0.032       (  0.137)       0.029        0.003
275  22.92     0.07      0.032       (  0.137)       0.029        0.003
276  23.00     0.07      0.032       (  0.136)       0.029        0.003
277  23.08     0.07      0.032       (  0.136)       0.029        0.003
278  23.17     0.07      0.032       (  0.136)       0.029        0.003
279  23.25     0.07      0.032       (  0.135)       0.029        0.003
280  23.33     0.07      0.032       (  0.135)       0.029        0.003
281  23.42     0.07      0.032       (  0.135)       0.029        0.003
282  23.50     0.07      0.032       (  0.135)       0.029        0.003
283  23.58     0.07      0.032       (  0.134)       0.029        0.003
284  23.67     0.07      0.032       (  0.134)       0.029        0.003
285  23.75     0.07      0.032       (  0.134)       0.029        0.003
286  23.83     0.07      0.032       (  0.134)       0.029        0.003
287  23.92     0.07      0.032       (  0.134)       0.029        0.003
288  24.00     0.07      0.032       (  0.134)       0.029        0.003
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    12.2
      Flood volume = Effective rainfall      1.01(In)
       times area       7.7(Ac.)/[(In)/(Ft.)] =       0.6(Ac.Ft)
      Total soil loss =      2.97(In)
      Total soil loss =     1.898(Ac.Ft)
      Total rainfall =      3.99(In)
      Flood volume =       28205.5 Cubic Feet
      Total soil loss =       82683.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.353(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       0.0002      0.02  Q         |         |         |         |
   0+20       0.0003      0.02  Q         |         |         |         |
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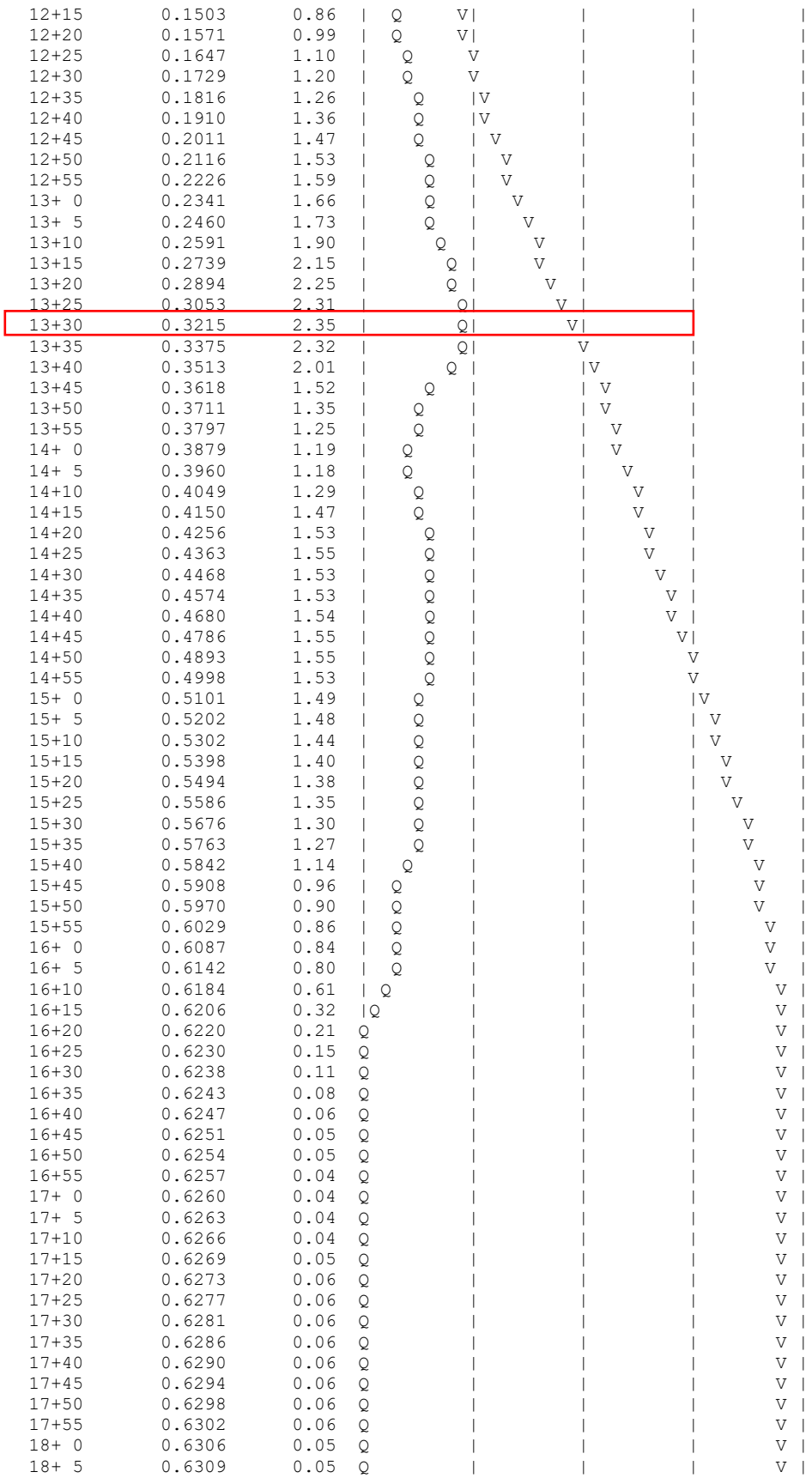
0+25	0.0005	0.03	Q				
0+30	0.0007	0.03	Q				
0+35	0.0009	0.03	Q				
0+40	0.0012	0.03	Q				
0+45	0.0014	0.04	Q				
0+50	0.0017	0.04	Q				
0+55	0.0019	0.04	Q				
1+ 0	0.0023	0.04	Q				
1+ 5	0.0026	0.05	Q				
1+10	0.0029	0.04	Q				
1+15	0.0032	0.04	Q				
1+20	0.0034	0.04	Q				
1+25	0.0037	0.04	Q				
1+30	0.0039	0.04	Q				
1+35	0.0042	0.04	Q				
1+40	0.0045	0.04	Q				
1+45	0.0047	0.04	Q				
1+50	0.0050	0.04	Q				
1+55	0.0052	0.04	Q				
2+ 0	0.0056	0.05	Q				
2+ 5	0.0059	0.05	Q				
2+10	0.0062	0.05	Q				
2+15	0.0065	0.05	Q				
2+20	0.0069	0.05	Q				
2+25	0.0072	0.05	Q				
2+30	0.0076	0.05	Q				
2+35	0.0079	0.05	Q				
2+40	0.0083	0.05	Q				
2+45	0.0087	0.06	Q				
2+50	0.0091	0.06	Q				
2+55	0.0095	0.06	Q				
3+ 0	0.0099	0.06	Q				
3+ 5	0.0103	0.06	Q				
3+10	0.0107	0.06	Q				
3+15	0.0112	0.06	Q				
3+20	0.0116	0.06	Q				
3+25	0.0120	0.06	Q				
3+30	0.0124	0.06	Q				
3+35	0.0129	0.06	Q				
3+40	0.0133	0.06	Q				
3+45	0.0137	0.06	Q				
3+50	0.0141	0.06	Q				
3+55	0.0146	0.07	Q				
4+ 0	0.0151	0.07	Q				
4+ 5	0.0156	0.07	Q				
4+10	0.0161	0.07	Q				
4+15	0.0166	0.07	QV				
4+20	0.0171	0.07	QV				
4+25	0.0176	0.08	QV				
4+30	0.0182	0.08	QV				
4+35	0.0187	0.08	QV				
4+40	0.0193	0.08	QV				
4+45	0.0199	0.09	QV				
4+50	0.0205	0.09	QV				
4+55	0.0211	0.09	QV				
5+ 0	0.0218	0.09	QV				
5+ 5	0.0224	0.09	QV				
5+10	0.0230	0.09	QV				
5+15	0.0236	0.08	QV				
5+20	0.0241	0.08	QV				
5+25	0.0247	0.08	QV				
5+30	0.0253	0.08	QV				
5+35	0.0259	0.09	QV				
5+40	0.0265	0.09	QV				
5+45	0.0271	0.09	QV				
5+50	0.0278	0.10	QV				
5+55	0.0284	0.10	QV				
6+ 0	0.0291	0.10	QV				
6+ 5	0.0298	0.10	QV				
6+10	0.0305	0.10	QV				
6+15	0.0312	0.11	QV				

6+20	0.0320	0.11	QV			
6+25	0.0327	0.11	Q V			
6+30	0.0335	0.11	Q V			
6+35	0.0343	0.11	Q V			
6+40	0.0350	0.11	Q V			
6+45	0.0359	0.12	Q V			
6+50	0.0367	0.12	Q V			
6+55	0.0375	0.12	Q V			
7+ 0	0.0384	0.12	Q V			
7+ 5	0.0392	0.12	Q V			
7+10	0.0401	0.12	Q V			
7+15	0.0409	0.12	Q V			
7+20	0.0418	0.12	Q V			
7+25	0.0426	0.13	Q V			
7+30	0.0435	0.13	Q V			
7+35	0.0445	0.13	Q V			
7+40	0.0454	0.14	Q V			
7+45	0.0464	0.14	Q V			
7+50	0.0474	0.15	Q V			
7+55	0.0484	0.15	Q V			
8+ 0	0.0495	0.15	Q V			
8+ 5	0.0506	0.16	Q V			
8+10	0.0517	0.17	Q V			
8+15	0.0529	0.18	Q V			
8+20	0.0542	0.18	Q V			
8+25	0.0554	0.18	Q V			
8+30	0.0567	0.18	Q V			
8+35	0.0579	0.18	Q V			
8+40	0.0592	0.19	Q V			
8+45	0.0606	0.19	Q V			
8+50	0.0619	0.19	Q V			
8+55	0.0633	0.20	Q V			
9+ 0	0.0647	0.20	Q V			
9+ 5	0.0661	0.21	Q V			
9+10	0.0676	0.21	Q V			
9+15	0.0691	0.22	Q V			
9+20	0.0707	0.23	Q V			
9+25	0.0723	0.23	Q V			
9+30	0.0740	0.24	Q V			
9+35	0.0757	0.25	Q V			
9+40	0.0776	0.28	|Q V			
9+45	0.0798	0.32	|Q V			
9+50	0.0822	0.35	|Q V			
9+55	0.0849	0.40	|Q V			
10+ 0	0.0881	0.46	|Q V			
10+ 5	0.0913	0.47	|Q V			
10+10	0.0941	0.41	|Q V			
10+15	0.0961	0.29	|Q V			
10+20	0.0978	0.25	Q V			
10+25	0.0993	0.22	Q V			
10+30	0.1007	0.21	Q V			
10+35	0.1022	0.20	Q V			
10+40	0.1038	0.24	Q V			
10+45	0.1059	0.31	|Q V			
10+50	0.1083	0.34	|Q V			
10+55	0.1107	0.36	|Q V			
11+ 0	0.1133	0.37	|Q V			
11+ 5	0.1159	0.38	|Q V			
11+10	0.1185	0.37	|Q V			
11+15	0.1207	0.33	|Q V			
11+20	0.1230	0.32	|Q V			
11+25	0.1252	0.33	|Q V			
11+30	0.1275	0.33	|Q V			
11+35	0.1297	0.33	|Q V			
11+40	0.1318	0.30	|Q V			
11+45	0.1336	0.25	|Q V			
11+50	0.1352	0.24	Q V			
11+55	0.1369	0.24	Q V			
12+ 0	0.1386	0.26	|Q V			
12+ 5	0.1407	0.31	|Q V			
12+10	0.1444	0.53	| Q V			



18+10	0.6313	0.05	Q	|	|	|	V |
18+15	0.6316	0.05	Q	|	|	|	V|
18+20	0.6320	0.05	Q	|	|	|	V|
18+25	0.6323	0.05	Q	|	|	|	V|
18+30	0.6327	0.05	Q	|	|	|	V|
18+35	0.6330	0.05	Q	|	|	|	V|
18+40	0.6333	0.05	Q	|	|	|	V|
18+45	0.6336	0.04	Q	|	|	|	V|
18+50	0.6339	0.04	Q	|	|	|	V|
18+55	0.6341	0.03	Q	|	|	|	V|
19+ 0	0.6343	0.03	Q	|	|	|	V|
19+ 5	0.6345	0.03	Q	|	|	|	V|
19+10	0.6347	0.03	Q	|	|	|	V|
19+15	0.6349	0.03	Q	|	|	|	V|
19+20	0.6352	0.04	Q	|	|	|	V|
19+25	0.6355	0.04	Q	|	|	|	V|
19+30	0.6358	0.04	Q	|	|	|	V|
19+35	0.6361	0.05	Q	|	|	|	V|
19+40	0.6364	0.04	Q	|	|	|	V|
19+45	0.6367	0.04	Q	|	|	|	V|
19+50	0.6369	0.04	Q	|	|	|	V|
19+55	0.6372	0.03	Q	|	|	|	V|
20+ 0	0.6374	0.03	Q	|	|	|	V|
20+ 5	0.6376	0.03	Q	|	|	|	V|
20+10	0.6378	0.03	Q	|	|	|	V|
20+15	0.6380	0.03	Q	|	|	|	V|
20+20	0.6382	0.04	Q	|	|	|	V|
20+25	0.6385	0.04	Q	|	|	|	V|
20+30	0.6387	0.04	Q	|	|	|	V|
20+35	0.6390	0.04	Q	|	|	|	V|
20+40	0.6392	0.04	Q	|	|	|	V|
20+45	0.6395	0.04	Q	|	|	|	V|
20+50	0.6397	0.04	Q	|	|	|	V|
20+55	0.6400	0.03	Q	|	|	|	V|
21+ 0	0.6402	0.03	Q	|	|	|	V|
21+ 5	0.6404	0.03	Q	|	|	|	V|
21+10	0.6406	0.03	Q	|	|	|	V|
21+15	0.6408	0.03	Q	|	|	|	V|
21+20	0.6410	0.03	Q	|	|	|	V|
21+25	0.6413	0.03	Q	|	|	|	V|
21+30	0.6415	0.03	Q	|	|	|	V|
21+35	0.6416	0.03	Q	|	|	|	V|
21+40	0.6418	0.03	Q	|	|	|	V|
21+45	0.6421	0.03	Q	|	|	|	V|
21+50	0.6423	0.03	Q	|	|	|	V|
21+55	0.6425	0.03	Q	|	|	|	V|
22+ 0	0.6427	0.03	Q	|	|	|	V|
22+ 5	0.6429	0.03	Q	|	|	|	V|
22+10	0.6431	0.03	Q	|	|	|	V|
22+15	0.6433	0.03	Q	|	|	|	V|
22+20	0.6436	0.03	Q	|	|	|	V|
22+25	0.6438	0.03	Q	|	|	|	V|
22+30	0.6440	0.03	Q	|	|	|	V|
22+35	0.6442	0.03	Q	|	|	|	V|
22+40	0.6444	0.03	Q	|	|	|	V|
22+45	0.6445	0.03	Q	|	|	|	V|
22+50	0.6447	0.03	Q	|	|	|	V|
22+55	0.6449	0.02	Q	|	|	|	V|
23+ 0	0.6450	0.02	Q	|	|	|	V|
23+ 5	0.6452	0.02	Q	|	|	|	V|
23+10	0.6454	0.02	Q	|	|	|	V|
23+15	0.6456	0.02	Q	|	|	|	V|
23+20	0.6457	0.02	Q	|	|	|	V|
23+25	0.6459	0.02	Q	|	|	|	V|
23+30	0.6461	0.02	Q	|	|	|	V|
23+35	0.6462	0.02	Q	|	|	|	V|
23+40	0.6464	0.02	Q	|	|	|	V|
23+45	0.6466	0.02	Q	|	|	|	V|
23+50	0.6467	0.02	Q	|	|	|	V|
23+55	0.6469	0.02	Q	|	|	|	V|
24+ 0	0.6471	0.02	Q	|	|	|	V|

24+ 5	0.6472	0.02	Q	|	|	|	V|
24+10	0.6474	0.02	Q	|	|	|	V|
24+15	0.6474	0.01	Q	|	|	|	V|
24+20	0.6475	0.00	Q	|	|	|	V|
24+25	0.6475	0.00	Q	|	|	|	V|
24+30	0.6475	0.00	Q	|	|	|	V|
24+35	0.6475	0.00	Q	|	|	|	V|
24+40	0.6475	0.00	Q	|	|	|	V|
24+45	0.6475	0.00	Q	|	|	|	V|
24+50	0.6475	0.00	Q	|	|	|	V|
24+55	0.6475	0.00	Q	|	|	|	V|
25+ 0	0.6475	0.00	Q	|	|	|	V|
25+ 5	0.6475	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 11/01/21 File: 2030upb1100.out

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

Program License Serial Number 6434

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

English Units used in output format

PRE-DEVELOPED AREA B
100-YEAR 1-HOUR
AMC III

Drainage Area = 7.66(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.66(Ac.) = 0.012 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.149 Hr.
Lag time = 8.94 Min.
25% of lag time = 2.23 Min.
40% of lag time = 3.58 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	0.53	4.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	1.46	11.18

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.531(In)
Area Averaged 100-Year Rainfall = 1.460(In)

Point rain (area averaged) = 1.460(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.460(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.660	75.80	0.100

Total Area Entered = 7.66(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.8	88.5	0.147	0.100	0.134	1.000	0.134
					Sum (F) =	0.134

Area averaged mean soil loss (F) (In/Hr) = 0.134
Minimum soil loss rate ((In/Hr)) = 0.067
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	55.928	5.034	0.389
2	0.167	111.857	27.170	2.097
3	0.250	167.785	36.015	2.780
4	0.333	223.714	13.173	1.017
5	0.417	279.642	7.617	0.588
6	0.500	335.570	4.802	0.371
7	0.583	391.499	2.886	0.223
8	0.667	447.427	1.426	0.110
9	0.750	503.356	0.630	0.049
10	0.833	559.284	0.436	0.034
11	0.917	615.213	0.400	0.031
12	1.000	671.141	0.275	0.021
13	1.083	727.069	0.135	0.010
			Sum = 100.000 Sum=	7.720

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	4.40	0.771	0.134	(0.694)	0.637
2	0.17	4.50	0.788	0.134	(0.710)	0.654
3	0.25	5.40	0.946	0.134	(0.851)	0.812
4	0.33	5.40	0.946	0.134	(0.851)	0.812
5	0.42	5.70	0.999	0.134	(0.899)	0.865
6	0.50	6.40	1.121	0.134	(1.009)	0.987
7	0.58	7.90	1.384	0.134	(1.246)	1.250
8	0.67	9.10	1.594	0.134	(1.435)	1.460
9	0.75	12.80	2.242	0.134	(2.018)	2.108
10	0.83	25.60	4.485	0.134	(4.036)	4.351
11	0.92	7.90	1.384	0.134	(1.246)	1.250
12	1.00	4.90	0.858	0.134	(0.773)	0.724
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	15.9

Flood volume = Effective rainfall 1.33(In)
times area 7.7(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.13(In)
Total soil loss = 0.086(Ac.Ft)
Total rainfall = 1.46(In)
Flood volume = 36865.8 Cubic Feet
Total soil loss = 3727.9 Cubic Feet

Peak flow rate of this hydrograph = 18.891(CFS)

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1 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0017	0.25	Q				
0+10	0.0127	1.59	V Q				
0+15	0.0365	3.46	V Q				
0+20	0.0674	4.49	V Q				
0+25	0.1042	5.34	V Q				
0+30	0.1448	5.90	V Q				
0+35	0.1906	6.65	V Q				
0+40	0.2444	7.81	V Q				
0+45	0.3096	9.46	V Q				
0+50	0.3969	12.67	V Q				
0+55	0.5238	18.43	V Q				
1+ 0	0.6539	18.89	V Q				
1+ 5	0.7345	11.71	Q V				
1+10	0.7843	7.22	Q V				
1+15	0.8109	3.86	Q V				
1+20	0.8264	2.26	Q V				
1+25	0.8350	1.25	Q V				
1+30	0.8396	0.66	Q V				
1+35	0.8423	0.40	Q V				
1+40	0.8442	0.27	Q V				
1+45	0.8454	0.18	Q V				
1+50	0.8461	0.09	Q V				
1+55	0.8463	0.03	Q V				
2+ 0	0.8463	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 11/01/21 File: 2030upb24100.out

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

Program License Serial Number 6434

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

English Units used in output format

PRE-DEVELOPED AREA B
100-YEAR 24-HOUR
AMC III

Drainage Area = 7.66(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.66(Ac.) = 0.012 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.149 Hr.
Lag time = 8.94 Min.
25% of lag time = 2.23 Min.
40% of lag time = 3.58 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]
7.66	2.40	18.38

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	6.26	47.95

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.260(In)

Point rain (area averaged) = 6.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 6.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.660	75.80	0.100

Total Area Entered = 7.66(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.8	88.5	0.147	0.100	0.134	1.000	0.134
					Sum (F) =	0.134

Area averaged mean soil loss (F) (In/Hr) = 0.134
Minimum soil loss rate ((In/Hr)) = 0.067
(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
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	55.928	5.034	0.389
2	0.167	111.857	27.170	2.097
3	0.250	167.785	36.015	2.780
4	0.333	223.714	13.173	1.017
5	0.417	279.642	7.617	0.588
6	0.500	335.570	4.802	0.371
7	0.583	391.499	2.886	0.223
8	0.667	447.427	1.426	0.110
9	0.750	503.356	0.630	0.049
10	0.833	559.284	0.436	0.034
11	0.917	615.213	0.400	0.031
12	1.000	671.141	0.275	0.021
13	1.083	727.069	0.135	0.010
			Sum = 100.000	Sum= 7.720

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	0.050	(0.238)	0.045	0.005
2	0.17	0.07	0.050	(0.237)	0.045	0.005
3	0.25	0.07	0.050	(0.236)	0.045	0.005
4	0.33	0.10	0.075	(0.235)	0.068	0.008
5	0.42	0.10	0.075	(0.234)	0.068	0.008
6	0.50	0.10	0.075	(0.233)	0.068	0.008
7	0.58	0.10	0.075	(0.232)	0.068	0.008
8	0.67	0.10	0.075	(0.231)	0.068	0.008
9	0.75	0.10	0.075	(0.230)	0.068	0.008
10	0.83	0.13	0.100	(0.229)	0.090	0.010
11	0.92	0.13	0.100	(0.229)	0.090	0.010
12	1.00	0.13	0.100	(0.228)	0.090	0.010
13	1.08	0.10	0.075	(0.227)	0.068	0.008
14	1.17	0.10	0.075	(0.226)	0.068	0.008
15	1.25	0.10	0.075	(0.225)	0.068	0.008
16	1.33	0.10	0.075	(0.224)	0.068	0.008
17	1.42	0.10	0.075	(0.223)	0.068	0.008
18	1.50	0.10	0.075	(0.222)	0.068	0.008
19	1.58	0.10	0.075	(0.221)	0.068	0.008
20	1.67	0.10	0.075	(0.221)	0.068	0.008
21	1.75	0.10	0.075	(0.220)	0.068	0.008
22	1.83	0.13	0.100	(0.219)	0.090	0.010
23	1.92	0.13	0.100	(0.218)	0.090	0.010
24	2.00	0.13	0.100	(0.217)	0.090	0.010
25	2.08	0.13	0.100	(0.216)	0.090	0.010
26	2.17	0.13	0.100	(0.215)	0.090	0.010
27	2.25	0.13	0.100	(0.214)	0.090	0.010
28	2.33	0.13	0.100	(0.213)	0.090	0.010
29	2.42	0.13	0.100	(0.213)	0.090	0.010
30	2.50	0.13	0.100	(0.212)	0.090	0.010
31	2.58	0.17	0.125	(0.211)	0.113	0.013

32	2.67	0.17	0.125	(0.210)	0.113	0.013
33	2.75	0.17	0.125	(0.209)	0.113	0.013
34	2.83	0.17	0.125	(0.208)	0.113	0.013
35	2.92	0.17	0.125	(0.207)	0.113	0.013
36	3.00	0.17	0.125	(0.207)	0.113	0.013
37	3.08	0.17	0.125	(0.206)	0.113	0.013
38	3.17	0.17	0.125	(0.205)	0.113	0.013
39	3.25	0.17	0.125	(0.204)	0.113	0.013
40	3.33	0.17	0.125	(0.203)	0.113	0.013
41	3.42	0.17	0.125	(0.202)	0.113	0.013
42	3.50	0.17	0.125	(0.201)	0.113	0.013
43	3.58	0.17	0.125	(0.201)	0.113	0.013
44	3.67	0.17	0.125	(0.200)	0.113	0.013
45	3.75	0.17	0.125	(0.199)	0.113	0.013
46	3.83	0.20	0.150	(0.198)	0.135	0.015
47	3.92	0.20	0.150	(0.197)	0.135	0.015
48	4.00	0.20	0.150	(0.196)	0.135	0.015
49	4.08	0.20	0.150	(0.196)	0.135	0.015
50	4.17	0.20	0.150	(0.195)	0.135	0.015
51	4.25	0.20	0.150	(0.194)	0.135	0.015
52	4.33	0.23	0.175	(0.193)	0.158	0.018
53	4.42	0.23	0.175	(0.192)	0.158	0.018
54	4.50	0.23	0.175	(0.191)	0.158	0.018
55	4.58	0.23	0.175	(0.191)	0.158	0.018
56	4.67	0.23	0.175	(0.190)	0.158	0.018
57	4.75	0.23	0.175	(0.189)	0.158	0.018
58	4.83	0.27	0.200	(0.188)	0.180	0.020
59	4.92	0.27	0.200	(0.187)	0.180	0.020
60	5.00	0.27	0.200	(0.187)	0.180	0.020
61	5.08	0.20	0.150	(0.186)	0.135	0.015
62	5.17	0.20	0.150	(0.185)	0.135	0.015
63	5.25	0.20	0.150	(0.184)	0.135	0.015
64	5.33	0.23	0.175	(0.183)	0.158	0.018
65	5.42	0.23	0.175	(0.183)	0.158	0.018
66	5.50	0.23	0.175	(0.182)	0.158	0.018
67	5.58	0.27	0.200	(0.181)	0.180	0.020
68	5.67	0.27	0.200	0.180	(0.180)	0.020
69	5.75	0.27	0.200	0.179	(0.180)	0.021
70	5.83	0.27	0.200	0.179	(0.180)	0.022
71	5.92	0.27	0.200	0.178	(0.180)	0.023
72	6.00	0.27	0.200	0.177	(0.180)	0.023
73	6.08	0.30	0.225	0.176	(0.203)	0.049
74	6.17	0.30	0.225	0.175	(0.203)	0.050
75	6.25	0.30	0.225	0.175	(0.203)	0.051
76	6.33	0.30	0.225	0.174	(0.203)	0.052
77	6.42	0.30	0.225	0.173	(0.203)	0.052
78	6.50	0.30	0.225	0.172	(0.203)	0.053
79	6.58	0.33	0.250	0.172	(0.225)	0.079
80	6.67	0.33	0.250	0.171	(0.225)	0.080
81	6.75	0.33	0.250	0.170	(0.225)	0.080
82	6.83	0.33	0.250	0.169	(0.225)	0.081
83	6.92	0.33	0.250	0.168	(0.225)	0.082
84	7.00	0.33	0.250	0.168	(0.225)	0.083
85	7.08	0.33	0.250	0.167	(0.225)	0.083
86	7.17	0.33	0.250	0.166	(0.225)	0.084
87	7.25	0.33	0.250	0.165	(0.225)	0.085
88	7.33	0.37	0.275	0.165	(0.248)	0.111
89	7.42	0.37	0.275	0.164	(0.248)	0.112
90	7.50	0.37	0.275	0.163	(0.248)	0.112
91	7.58	0.40	0.300	0.162	(0.270)	0.138
92	7.67	0.40	0.300	0.162	(0.270)	0.139
93	7.75	0.40	0.300	0.161	(0.270)	0.140
94	7.83	0.43	0.326	0.160	(0.293)	0.165
95	7.92	0.43	0.326	0.159	(0.293)	0.166
96	8.00	0.43	0.326	0.159	(0.293)	0.167
97	8.08	0.50	0.376	0.158	(0.338)	0.218
98	8.17	0.50	0.376	0.157	(0.338)	0.218
99	8.25	0.50	0.376	0.156	(0.338)	0.219
100	8.33	0.50	0.376	0.156	(0.338)	0.220
101	8.42	0.50	0.376	0.155	(0.338)	0.221
102	8.50	0.50	0.376	0.154	(0.338)	0.221

103	8.58	0.53	0.401	0.154	(	0.361)	0.247
104	8.67	0.53	0.401	0.153	(	0.361)	0.248
105	8.75	0.53	0.401	0.152	(	0.361)	0.249
106	8.83	0.57	0.426	0.151	(	0.383)	0.274
107	8.92	0.57	0.426	0.151	(	0.383)	0.275
108	9.00	0.57	0.426	0.150	(	0.383)	0.276
109	9.08	0.63	0.476	0.149	(	0.428)	0.326
110	9.17	0.63	0.476	0.149	(	0.428)	0.327
111	9.25	0.63	0.476	0.148	(	0.428)	0.328
112	9.33	0.67	0.501	0.147	(	0.451)	0.354
113	9.42	0.67	0.501	0.146	(	0.451)	0.354
114	9.50	0.67	0.501	0.146	(	0.451)	0.355
115	9.58	0.70	0.526	0.145	(	0.473)	0.381
116	9.67	0.70	0.526	0.144	(	0.473)	0.381
117	9.75	0.70	0.526	0.144	(	0.473)	0.382
118	9.83	0.73	0.551	0.143	(	0.496)	0.408
119	9.92	0.73	0.551	0.142	(	0.496)	0.409
120	10.00	0.73	0.551	0.142	(	0.496)	0.409
121	10.08	0.50	0.376	0.141	(	0.338)	0.235
122	10.17	0.50	0.376	0.140	(	0.338)	0.235
123	10.25	0.50	0.376	0.140	(	0.338)	0.236
124	10.33	0.50	0.376	0.139	(	0.338)	0.237
125	10.42	0.50	0.376	0.138	(	0.338)	0.237
126	10.50	0.50	0.376	0.138	(	0.338)	0.238
127	10.58	0.67	0.501	0.137	(	0.451)	0.364
128	10.67	0.67	0.501	0.136	(	0.451)	0.365
129	10.75	0.67	0.501	0.135	(	0.451)	0.365
130	10.83	0.67	0.501	0.135	(	0.451)	0.366
131	10.92	0.67	0.501	0.134	(	0.451)	0.367
132	11.00	0.67	0.501	0.134	(	0.451)	0.367
133	11.08	0.63	0.476	0.133	(	0.428)	0.343
134	11.17	0.63	0.476	0.132	(	0.428)	0.344
135	11.25	0.63	0.476	0.132	(	0.428)	0.344
136	11.33	0.63	0.476	0.131	(	0.428)	0.345
137	11.42	0.63	0.476	0.130	(	0.428)	0.346
138	11.50	0.63	0.476	0.130	(	0.428)	0.346
139	11.58	0.57	0.426	0.129	(	0.383)	0.297
140	11.67	0.57	0.426	0.128	(	0.383)	0.297
141	11.75	0.57	0.426	0.128	(	0.383)	0.298
142	11.83	0.60	0.451	0.127	(	0.406)	0.324
143	11.92	0.60	0.451	0.126	(	0.406)	0.324
144	12.00	0.60	0.451	0.126	(	0.406)	0.325
145	12.08	0.83	0.626	0.125	(	0.563)	0.501
146	12.17	0.83	0.626	0.125	(	0.563)	0.501
147	12.25	0.83	0.626	0.124	(	0.563)	0.502
148	12.33	0.87	0.651	0.123	(	0.586)	0.528
149	12.42	0.87	0.651	0.123	(	0.586)	0.528
150	12.50	0.87	0.651	0.122	(	0.586)	0.529
151	12.58	0.93	0.701	0.121	(	0.631)	0.580
152	12.67	0.93	0.701	0.121	(	0.631)	0.580
153	12.75	0.93	0.701	0.120	(	0.631)	0.581
154	12.83	0.97	0.726	0.120	(	0.654)	0.607
155	12.92	0.97	0.726	0.119	(	0.654)	0.607
156	13.00	0.97	0.726	0.118	(	0.654)	0.608
157	13.08	1.13	0.851	0.118	(	0.766)	0.734
158	13.17	1.13	0.851	0.117	(	0.766)	0.734
159	13.25	1.13	0.851	0.117	(	0.766)	0.735
160	13.33	1.13	0.851	0.116	(	0.766)	0.735
161	13.42	1.13	0.851	0.115	(	0.766)	0.736
162	13.50	1.13	0.851	0.115	(	0.766)	0.737
163	13.58	0.77	0.576	0.114	(	0.518)	0.462
164	13.67	0.77	0.576	0.114	(	0.518)	0.462
165	13.75	0.77	0.576	0.113	(	0.518)	0.463
166	13.83	0.77	0.576	0.113	(	0.518)	0.463
167	13.92	0.77	0.576	0.112	(	0.518)	0.464
168	14.00	0.77	0.576	0.111	(	0.518)	0.465
169	14.08	0.90	0.676	0.111	(	0.608)	0.565
170	14.17	0.90	0.676	0.110	(	0.608)	0.566
171	14.25	0.90	0.676	0.110	(	0.608)	0.566
172	14.33	0.87	0.651	0.109	(	0.586)	0.542
173	14.42	0.87	0.651	0.109	(	0.586)	0.542

174	14.50	0.87	0.651		0.108	(0.586)	0.543
175	14.58	0.87	0.651		0.107	(0.586)	0.544
176	14.67	0.87	0.651		0.107	(0.586)	0.544
177	14.75	0.87	0.651		0.106	(0.586)	0.545
178	14.83	0.83	0.626		0.106	(0.563)	0.520
179	14.92	0.83	0.626		0.105	(0.563)	0.521
180	15.00	0.83	0.626		0.105	(0.563)	0.521
181	15.08	0.80	0.601		0.104	(0.541)	0.497
182	15.17	0.80	0.601		0.104	(0.541)	0.497
183	15.25	0.80	0.601		0.103	(0.541)	0.498
184	15.33	0.77	0.576		0.103	(0.518)	0.473
185	15.42	0.77	0.576		0.102	(0.518)	0.474
186	15.50	0.77	0.576		0.102	(0.518)	0.474
187	15.58	0.63	0.476		0.101	(0.428)	0.375
188	15.67	0.63	0.476		0.100	(0.428)	0.375
189	15.75	0.63	0.476		0.100	(0.428)	0.376
190	15.83	0.63	0.476		0.099	(0.428)	0.376
191	15.92	0.63	0.476		0.099	(0.428)	0.377
192	16.00	0.63	0.476		0.098	(0.428)	0.377
193	16.08	0.13	0.100	(0.098)		0.090	0.010
194	16.17	0.13	0.100	(0.097)		0.090	0.010
195	16.25	0.13	0.100	(0.097)		0.090	0.010
196	16.33	0.13	0.100	(0.096)		0.090	0.010
197	16.42	0.13	0.100	(0.096)		0.090	0.010
198	16.50	0.13	0.100	(0.095)		0.090	0.010
199	16.58	0.10	0.075	(0.095)		0.068	0.008
200	16.67	0.10	0.075	(0.095)		0.068	0.008
201	16.75	0.10	0.075	(0.094)		0.068	0.008
202	16.83	0.10	0.075	(0.094)		0.068	0.008
203	16.92	0.10	0.075	(0.093)		0.068	0.008
204	17.00	0.10	0.075	(0.093)		0.068	0.008
205	17.08	0.17	0.125		0.092	(0.113)	0.033
206	17.17	0.17	0.125		0.092	(0.113)	0.034
207	17.25	0.17	0.125		0.091	(0.113)	0.034
208	17.33	0.17	0.125		0.091	(0.113)	0.034
209	17.42	0.17	0.125		0.090	(0.113)	0.035
210	17.50	0.17	0.125		0.090	(0.113)	0.035
211	17.58	0.17	0.125		0.089	(0.113)	0.036
212	17.67	0.17	0.125		0.089	(0.113)	0.036
213	17.75	0.17	0.125		0.089	(0.113)	0.037
214	17.83	0.13	0.100		0.088	(0.090)	0.012
215	17.92	0.13	0.100		0.088	(0.090)	0.013
216	18.00	0.13	0.100		0.087	(0.090)	0.013
217	18.08	0.13	0.100		0.087	(0.090)	0.013
218	18.17	0.13	0.100		0.086	(0.090)	0.014
219	18.25	0.13	0.100		0.086	(0.090)	0.014
220	18.33	0.13	0.100		0.086	(0.090)	0.015
221	18.42	0.13	0.100		0.085	(0.090)	0.015
222	18.50	0.13	0.100		0.085	(0.090)	0.015
223	18.58	0.10	0.075	(0.084)		0.068	0.008
224	18.67	0.10	0.075	(0.084)		0.068	0.008
225	18.75	0.10	0.075	(0.083)		0.068	0.008
226	18.83	0.07	0.050	(0.083)		0.045	0.005
227	18.92	0.07	0.050	(0.083)		0.045	0.005
228	19.00	0.07	0.050	(0.082)		0.045	0.005
229	19.08	0.10	0.075	(0.082)		0.068	0.008
230	19.17	0.10	0.075	(0.081)		0.068	0.008
231	19.25	0.10	0.075	(0.081)		0.068	0.008
232	19.33	0.13	0.100		0.081	(0.090)	0.019
233	19.42	0.13	0.100		0.080	(0.090)	0.020
234	19.50	0.13	0.100		0.080	(0.090)	0.020
235	19.58	0.10	0.075	(0.080)		0.068	0.008
236	19.67	0.10	0.075	(0.079)		0.068	0.008
237	19.75	0.10	0.075	(0.079)		0.068	0.008
238	19.83	0.07	0.050	(0.079)		0.045	0.005
239	19.92	0.07	0.050	(0.078)		0.045	0.005
240	20.00	0.07	0.050	(0.078)		0.045	0.005
241	20.08	0.10	0.075	(0.078)		0.068	0.008
242	20.17	0.10	0.075	(0.077)		0.068	0.008
243	20.25	0.10	0.075	(0.077)		0.068	0.008
244	20.33	0.10	0.075	(0.076)		0.068	0.008

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245  20.42     0.10      0.075       (  0.076)       0.068        0.008
246  20.50     0.10      0.075       (  0.076)       0.068        0.008
247  20.58     0.10      0.075       (  0.076)       0.068        0.008
248  20.67     0.10      0.075       (  0.075)       0.068        0.008
249  20.75     0.10      0.075       (  0.075)       0.068        0.008
250  20.83     0.07      0.050       (  0.075)       0.045        0.005
251  20.92     0.07      0.050       (  0.074)       0.045        0.005
252  21.00     0.07      0.050       (  0.074)       0.045        0.005
253  21.08     0.10      0.075       (  0.074)       0.068        0.008
254  21.17     0.10      0.075       (  0.073)       0.068        0.008
255  21.25     0.10      0.075       (  0.073)       0.068        0.008
256  21.33     0.07      0.050       (  0.073)       0.045        0.005
257  21.42     0.07      0.050       (  0.073)       0.045        0.005
258  21.50     0.07      0.050       (  0.072)       0.045        0.005
259  21.58     0.10      0.075       (  0.072)       0.068        0.008
260  21.67     0.10      0.075       (  0.072)       0.068        0.008
261  21.75     0.10      0.075       (  0.072)       0.068        0.008
262  21.83     0.07      0.050       (  0.071)       0.045        0.005
263  21.92     0.07      0.050       (  0.071)       0.045        0.005
264  22.00     0.07      0.050       (  0.071)       0.045        0.005
265  22.08     0.10      0.075       (  0.071)       0.068        0.008
266  22.17     0.10      0.075       (  0.070)       0.068        0.008
267  22.25     0.10      0.075       (  0.070)       0.068        0.008
268  22.33     0.07      0.050       (  0.070)       0.045        0.005
269  22.42     0.07      0.050       (  0.070)       0.045        0.005
270  22.50     0.07      0.050       (  0.069)       0.045        0.005
271  22.58     0.07      0.050       (  0.069)       0.045        0.005
272  22.67     0.07      0.050       (  0.069)       0.045        0.005
273  22.75     0.07      0.050       (  0.069)       0.045        0.005
274  22.83     0.07      0.050       (  0.069)       0.045        0.005
275  22.92     0.07      0.050       (  0.069)       0.045        0.005
276  23.00     0.07      0.050       (  0.068)       0.045        0.005
277  23.08     0.07      0.050       (  0.068)       0.045        0.005
278  23.17     0.07      0.050       (  0.068)       0.045        0.005
279  23.25     0.07      0.050       (  0.068)       0.045        0.005
280  23.33     0.07      0.050       (  0.068)       0.045        0.005
281  23.42     0.07      0.050       (  0.068)       0.045        0.005
282  23.50     0.07      0.050       (  0.068)       0.045        0.005
283  23.58     0.07      0.050       (  0.067)       0.045        0.005
284  23.67     0.07      0.050       (  0.067)       0.045        0.005
285  23.75     0.07      0.050       (  0.067)       0.045        0.005
286  23.83     0.07      0.050       (  0.067)       0.045        0.005
287  23.92     0.07      0.050       (  0.067)       0.045        0.005
288  24.00     0.07      0.050       (  0.067)       0.045        0.005
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    44.6
      Flood volume = Effective rainfall      3.71(In)
       times area       7.7(Ac.)/[(In)/(Ft.)] =       2.4(Ac.Ft)
      Total soil loss =      2.55(In)
      Total soil loss =     1.625(Ac.Ft)
      Total rainfall =      6.26(In)
      Flood volume =      103280.1 Cubic Feet
      Total soil loss =       70781.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      5.615(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       0.0003      0.03  Q         |         |         |         |
   0+20       0.0005      0.03  Q         |         |         |         |
   0+25       0.0008      0.04  Q         |         |         |         |
   0+30       0.0011      0.05  Q         |         |         |         |
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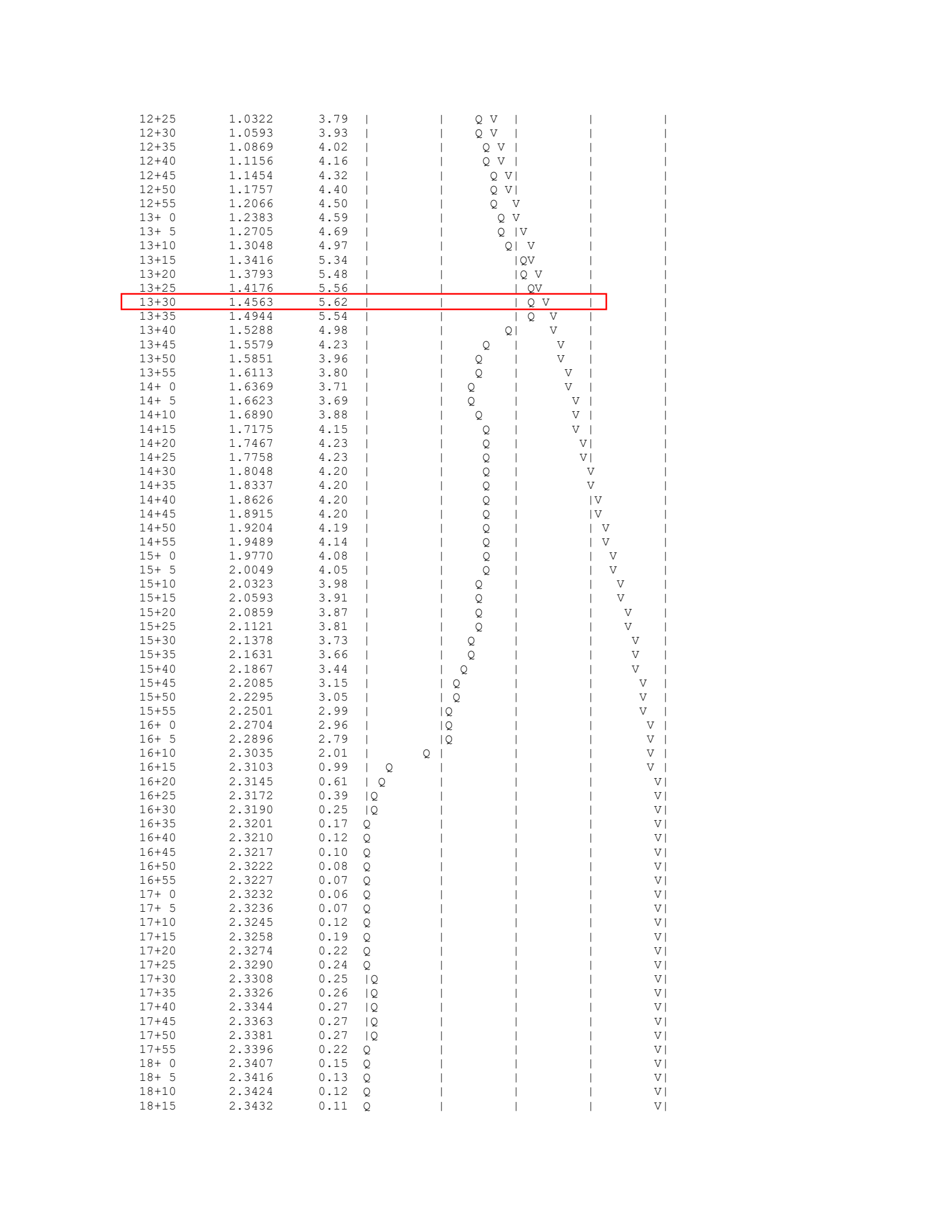
0+35	0.0015	0.05	Q				
0+40	0.0019	0.06	Q				
0+45	0.0023	0.06	Q				
0+50	0.0027	0.06	Q				
0+55	0.0031	0.06	Q				
1+ 0	0.0036	0.07	Q				
1+ 5	0.0041	0.07	Q				
1+10	0.0046	0.07	Q				
1+15	0.0050	0.06	Q				
1+20	0.0054	0.06	Q				
1+25	0.0058	0.06	Q				
1+30	0.0062	0.06	Q				
1+35	0.0066	0.06	Q				
1+40	0.0070	0.06	Q				
1+45	0.0074	0.06	Q				
1+50	0.0078	0.06	Q				
1+55	0.0083	0.06	Q				
2+ 0	0.0088	0.07	Q				
2+ 5	0.0093	0.07	Q				
2+10	0.0098	0.08	Q				
2+15	0.0103	0.08	Q				
2+20	0.0109	0.08	Q				
2+25	0.0114	0.08	Q				
2+30	0.0119	0.08	Q				
2+35	0.0125	0.08	Q				
2+40	0.0130	0.08	Q				
2+45	0.0137	0.09	Q				
2+50	0.0143	0.09	Q				
2+55	0.0149	0.09	Q				
3+ 0	0.0156	0.10	Q				
3+ 5	0.0163	0.10	Q				
3+10	0.0169	0.10	Q				
3+15	0.0176	0.10	Q				
3+20	0.0183	0.10	Q				
3+25	0.0189	0.10	Q				
3+30	0.0196	0.10	Q				
3+35	0.0203	0.10	Q				
3+40	0.0209	0.10	Q				
3+45	0.0216	0.10	Q				
3+50	0.0223	0.10	Q				
3+55	0.0230	0.10	Q				
4+ 0	0.0237	0.11	Q				
4+ 5	0.0245	0.11	Q				
4+10	0.0253	0.11	Q				
4+15	0.0261	0.11	Q				
4+20	0.0269	0.12	Q				
4+25	0.0277	0.12	Q				
4+30	0.0286	0.13	Q				
4+35	0.0295	0.13	Q				
4+40	0.0304	0.13	Q				
4+45	0.0314	0.13	Q				
4+50	0.0323	0.14	Q				
4+55	0.0333	0.14	Q				
5+ 0	0.0343	0.15	Q				
5+ 5	0.0353	0.15	Q				
5+10	0.0363	0.14	Q				
5+15	0.0372	0.13	Q				
5+20	0.0380	0.12	Q				
5+25	0.0389	0.13	Q				
5+30	0.0398	0.13	Q				
5+35	0.0407	0.13	Q				
5+40	0.0417	0.14	Q				
5+45	0.0427	0.15	Q				
5+50	0.0437	0.15	Q				
5+55	0.0448	0.16	Q				
6+ 0	0.0460	0.17	Q				
6+ 5	0.0472	0.18	Q				
6+10	0.0489	0.24	Q				
6+15	0.0511	0.32	VQ				
6+20	0.0535	0.35	VQ				
6+25	0.0560	0.37	VQ				

6+30	0.0586	0.38	VQ	|	|	|
6+35	0.0614	0.40	|Q	|	|	|
6+40	0.0646	0.47	|Q	|	|	|
6+45	0.0684	0.54	|VQ	|	|	|
6+50	0.0723	0.58	|VQ	|	|	|
6+55	0.0765	0.60	|VQ	|	|	|
7+ 0	0.0807	0.61	|VQ	|	|	|
7+ 5	0.0850	0.62	|VQ	|	|	|
7+10	0.0893	0.63	|VQ	|	|	|
7+15	0.0937	0.64	|VQ	|	|	|
7+20	0.0983	0.66	|VQ	|	|	|
7+25	0.1032	0.72	|VQ	|	|	|
7+30	0.1087	0.79	|V Q	|	|	|
7+35	0.1144	0.83	|V Q	|	|	|
7+40	0.1206	0.91	| VQ	|	|	|
7+45	0.1275	0.99	| VQ	|	|	|
7+50	0.1346	1.04	| V Q	|	|	|
7+55	0.1423	1.11	| V Q	|	|	|
8+ 0	0.1505	1.20	| V Q	|	|	|
8+ 5	0.1592	1.26	| V Q	|	|	|
8+10	0.1687	1.39	| V Q	|	|	|
8+15	0.1793	1.54	| V Q	|	|	|
8+20	0.1904	1.60	| V Q	|	|	|
8+25	0.2017	1.64	| V Q	|	|	|
8+30	0.2132	1.67	| V Q	|	|	|
8+35	0.2249	1.70	| V Q	|	|	|
8+40	0.2370	1.76	| V Q |	|	|	|
8+45	0.2497	1.84	| V Q |	|	|	|
8+50	0.2627	1.88	| V Q |	|	|	|
8+55	0.2761	1.96	| V Q |	|	|	|
9+ 0	0.2902	2.04	| V Q |	|	|	|
9+ 5	0.3047	2.10	| V Q |	|	|	|
9+10	0.3200	2.23	| V Q |	|	|	|
9+15	0.3364	2.38	| V Q|	|	|	|
9+20	0.3533	2.46	| V Q|	|	|	|
9+25	0.3708	2.55	| V Q	|	|	|
9+30	0.3890	2.64	| V Q	|	|	|
9+35	0.4076	2.69	| V Q	|	|	|
9+40	0.4267	2.77	| V |Q	|	|	|
9+45	0.4464	2.86	| V |Q	|	|	|
9+50	0.4664	2.91	| V |Q	|	|	|
9+55	0.4870	2.99	| V |Q	|	|	|
10+ 0	0.5082	3.07	| V | Q	|	|	|
10+ 5	0.5291	3.04	| V | Q	|	|	|
10+10	0.5477	2.70	| VQ	|	|	|
10+15	0.5630	2.23	| QV|	|	|	|
10+20	0.5772	2.06	| QV|	|	|	|
10+25	0.5907	1.97	| Q V|	|	|	|
10+30	0.6039	1.91	| Q V	|	|	|
10+35	0.6171	1.92	| Q V	|	|	|
10+40	0.6321	2.17	| Q V	|	|	|
10+45	0.6494	2.52	| Q	|	|	|
10+50	0.6677	2.65	| QV	|	|	|
10+55	0.6864	2.72	| QV	|	|	|
11+ 0	0.7054	2.77	| |Q	|	|	|
11+ 5	0.7246	2.79	| |QV	|	|	|
11+10	0.7436	2.75	| |QV	|	|	|
11+15	0.7622	2.70	| Q V	|	|	|
11+20	0.7806	2.68	| Q V	|	|	|
11+25	0.7990	2.67	| Q V	|	|	|
11+30	0.8174	2.67	| Q V	|	|	|
11+35	0.8357	2.65	| Q V	|	|	|
11+40	0.8533	2.55	| Q V	|	|	|
11+45	0.8699	2.42	| Q| V	|	|	|
11+50	0.8863	2.38	| Q| V	|	|	|
11+55	0.9029	2.41	| Q| V	|	|	|
12+ 0	0.9198	2.46	| Q| V	|	|	|
12+ 5	0.9374	2.55	| Q V	|	|	|
12+10	0.9575	2.93	| |Q V	|	|	|
12+15	0.9812	3.43	| | Q V	|	|	|
12+20	1.0061	3.63	| | Q V	|	|	|



18+20	2.3440	0.11	Q	|	|	|	V|
18+25	2.3448	0.11	Q	|	|	|	V|
18+30	2.3455	0.11	Q	|	|	|	V|
18+35	2.3463	0.11	Q	|	|	|	V|
18+40	2.3470	0.10	Q	|	|	|	V|
18+45	2.3475	0.08	Q	|	|	|	V|
18+50	2.3480	0.07	Q	|	|	|	V|
18+55	2.3484	0.06	Q	|	|	|	V|
19+ 0	2.3487	0.05	Q	|	|	|	V|
19+ 5	2.3490	0.05	Q	|	|	|	V|
19+10	2.3494	0.05	Q	|	|	|	V|
19+15	2.3497	0.05	Q	|	|	|	V|
19+20	2.3501	0.06	Q	|	|	|	V|
19+25	2.3507	0.09	Q	|	|	|	V|
19+30	2.3516	0.12	Q	|	|	|	V|
19+35	2.3525	0.13	Q	|	|	|	V|
19+40	2.3532	0.11	Q	|	|	|	V|
19+45	2.3538	0.08	Q	|	|	|	V|
19+50	2.3543	0.07	Q	|	|	|	V|
19+55	2.3547	0.06	Q	|	|	|	V|
20+ 0	2.3551	0.05	Q	|	|	|	V|
20+ 5	2.3554	0.05	Q	|	|	|	V|
20+10	2.3557	0.05	Q	|	|	|	V|
20+15	2.3561	0.05	Q	|	|	|	V|
20+20	2.3565	0.06	Q	|	|	|	V|
20+25	2.3569	0.06	Q	|	|	|	V|
20+30	2.3573	0.06	Q	|	|	|	V|
20+35	2.3577	0.06	Q	|	|	|	V|
20+40	2.3580	0.06	Q	|	|	|	V|
20+45	2.3584	0.06	Q	|	|	|	V|
20+50	2.3588	0.06	Q	|	|	|	V|
20+55	2.3592	0.05	Q	|	|	|	V|
21+ 0	2.3595	0.04	Q	|	|	|	V|
21+ 5	2.3598	0.04	Q	|	|	|	V|
21+10	2.3601	0.05	Q	|	|	|	V|
21+15	2.3605	0.05	Q	|	|	|	V|
21+20	2.3609	0.05	Q	|	|	|	V|
21+25	2.3612	0.05	Q	|	|	|	V|
21+30	2.3615	0.04	Q	|	|	|	V|
21+35	2.3618	0.04	Q	|	|	|	V|
21+40	2.3621	0.05	Q	|	|	|	V|
21+45	2.3625	0.05	Q	|	|	|	V|
21+50	2.3629	0.05	Q	|	|	|	V|
21+55	2.3632	0.05	Q	|	|	|	V|
22+ 0	2.3635	0.04	Q	|	|	|	V|
22+ 5	2.3638	0.04	Q	|	|	|	V|
22+10	2.3641	0.05	Q	|	|	|	V|
22+15	2.3645	0.05	Q	|	|	|	V|
22+20	2.3649	0.05	Q	|	|	|	V|
22+25	2.3652	0.05	Q	|	|	|	V|
22+30	2.3655	0.04	Q	|	|	|	V|
22+35	2.3658	0.04	Q	|	|	|	V|
22+40	2.3661	0.04	Q	|	|	|	V|
22+45	2.3663	0.04	Q	|	|	|	V|
22+50	2.3666	0.04	Q	|	|	|	V|
22+55	2.3669	0.04	Q	|	|	|	V|
23+ 0	2.3672	0.04	Q	|	|	|	V|
23+ 5	2.3674	0.04	Q	|	|	|	V|
23+10	2.3677	0.04	Q	|	|	|	V|
23+15	2.3680	0.04	Q	|	|	|	V|
23+20	2.3682	0.04	Q	|	|	|	V|
23+25	2.3685	0.04	Q	|	|	|	V|
23+30	2.3688	0.04	Q	|	|	|	V|
23+35	2.3690	0.04	Q	|	|	|	V|
23+40	2.3693	0.04	Q	|	|	|	V|
23+45	2.3696	0.04	Q	|	|	|	V|
23+50	2.3698	0.04	Q	|	|	|	V|
23+55	2.3701	0.04	Q	|	|	|	V|
24+ 0	2.3704	0.04	Q	|	|	|	V|
24+ 5	2.3706	0.04	Q	|	|	|	V|
24+10	2.3708	0.03	Q	|	|	|	V|

24+15	2.3709	0.01	Q	|	|	|	V|
24+20	2.3709	0.01	Q	|	|	|	V|
24+25	2.3709	0.00	Q	|	|	|	V|
24+30	2.3710	0.00	Q	|	|	|	V|
24+35	2.3710	0.00	Q	|	|	|	V|
24+40	2.3710	0.00	Q	|	|	|	V|
24+45	2.3710	0.00	Q	|	|	|	V|
24+50	2.3710	0.00	Q	|	|	|	V|
24+55	2.3710	0.00	Q	|	|	|	V|
25+ 0	2.3710	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 11/20/21 File: 2030UDB100110.out

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

Program License Serial Number 6434

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

English Units used in output format

DEVELOPED BASIN B
10-YEAR 1-HOUR
AMC II

Drainage Area = 7.66(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.66(Ac.) = 0.012 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.148 Hr.
Lag time = 8.88 Min.
25% of lag time = 2.22 Min.
40% of lag time = 3.55 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	0.53	4.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	1.46	11.18

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.531(In)
Area Averaged 100-Year Rainfall = 1.460(In)

Point rain (area averaged) = 0.913(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.913(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.660	56.00	0.900

Total Area Entered = 7.66(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.4800

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	56.306	5.085	0.393
2	0.167	112.613	27.596	2.130
3	0.250	168.919	35.837	2.767
4	0.333	225.225	13.100	1.011
5	0.417	281.532	7.569	0.584
6	0.500	337.838	4.760	0.368
7	0.583	394.144	2.842	0.219
8	0.667	450.450	1.373	0.106
9	0.750	506.757	0.622	0.048
10	0.833	563.063	0.428	0.033
11	0.917	619.369	0.404	0.031
12	1.000	675.676	0.262	0.020
13	1.083	731.982	0.122	0.009
		Sum = 100.000	Sum=	7.720

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	4.40	0.482	(0.097)	0.087	0.395
2	0.17	4.50	0.493	(0.097)	0.089	0.404
3	0.25	5.40	0.592	0.097	(0.107)	0.495
4	0.33	5.40	0.592	0.097	(0.107)	0.495
5	0.42	5.70	0.625	0.097	(0.112)	0.528
6	0.50	6.40	0.701	0.097	(0.126)	0.604
7	0.58	7.90	0.866	0.097	(0.156)	0.769
8	0.67	9.10	0.997	0.097	(0.179)	0.900
9	0.75	12.80	1.403	0.097	(0.252)	1.306
10	0.83	25.60	2.805	0.097	(0.505)	2.708
11	0.92	7.90	0.866	0.097	(0.156)	0.769
12	1.00	4.90	0.537	(0.097)	0.097	0.440
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	9.8

Flood volume = Effective rainfall 0.82(In)
times area 7.7(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.061(Ac.Ft)
Total rainfall = 0.91(In)
Flood volume = 22735.8 Cubic Feet
Total soil loss = 2654.7 Cubic Feet

Peak flow rate of this hydrograph = 11.686(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0011	0.16	Q				
0+10	0.0080	1.00	V Q				
0+15	0.0228	2.15	V Q				
0+20	0.0418	2.77	V Q				
0+25	0.0644	3.27	V Q				
0+30	0.0893	3.61	VQ				
0+35	0.1173	4.08	Q				
0+40	0.1504	4.80	Q V				
0+45	0.1905	5.83	Q V				
0+50	0.2446	7.86	Q V				
0+55	0.3238	11.49	Q V				
1+ 0	0.4042	11.69	Q V				
1+ 5	0.4538	7.20	Q			V	
1+10	0.4842	4.41	Q			V	
1+15	0.5005	2.36	Q			V	
1+20	0.5100	1.38	Q			V	
1+25	0.5151	0.75	Q			V	
1+30	0.5179	0.40	Q			V	
1+35	0.5196	0.24	Q			V	
1+40	0.5207	0.17	Q			V	
1+45	0.5214	0.11	Q			V	
1+50	0.5218	0.05	Q			V	
1+55	0.5219	0.02	Q			V	
2+ 0	0.5219	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 11/20/21 File: 2030UDB1002410.out

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

Program License Serial Number 6434

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

English Units used in output format

DEVELOPED BASIN B
10-YEAR 24-HOUR
AMC II

Drainage Area = 7.66(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.66(Ac.) = 0.012 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.148 Hr.
Lag time = 8.88 Min.
25% of lag time = 2.22 Min.
40% of lag time = 3.55 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]
7.66	2.40	18.38

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	6.26	47.95

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.260(In)

Point rain (area averaged) = 3.988(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.988(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.660	56.00	0.900

Total Area Entered = 7.66(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	56.306	5.085	0.393
2	0.167	112.613	27.596	2.130
3	0.250	168.919	35.837	2.767
4	0.333	225.225	13.100	1.011
5	0.417	281.532	7.569	0.584
6	0.500	337.838	4.760	0.368
7	0.583	394.144	2.842	0.219
8	0.667	450.450	1.373	0.106
9	0.750	506.757	0.622	0.048
10	0.833	563.063	0.428	0.033
11	0.917	619.369	0.404	0.031
12	1.000	675.676	0.262	0.020
13	1.083	731.982	0.122	0.009
		Sum = 100.000	Sum=	7.720

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	0.032	(0.172)	0.006	0.026
2	0.17	0.07	0.032	(0.171)	0.006	0.026
3	0.25	0.07	0.032	(0.171)	0.006	0.026
4	0.33	0.10	0.048	(0.170)	0.009	0.039
5	0.42	0.10	0.048	(0.169)	0.009	0.039
6	0.50	0.10	0.048	(0.169)	0.009	0.039
7	0.58	0.10	0.048	(0.168)	0.009	0.039
8	0.67	0.10	0.048	(0.167)	0.009	0.039
9	0.75	0.10	0.048	(0.167)	0.009	0.039
10	0.83	0.13	0.064	(0.166)	0.011	0.052
11	0.92	0.13	0.064	(0.165)	0.011	0.052
12	1.00	0.13	0.064	(0.165)	0.011	0.052
13	1.08	0.10	0.048	(0.164)	0.009	0.039
14	1.17	0.10	0.048	(0.163)	0.009	0.039
15	1.25	0.10	0.048	(0.163)	0.009	0.039
16	1.33	0.10	0.048	(0.162)	0.009	0.039
17	1.42	0.10	0.048	(0.162)	0.009	0.039
18	1.50	0.10	0.048	(0.161)	0.009	0.039
19	1.58	0.10	0.048	(0.160)	0.009	0.039
20	1.67	0.10	0.048	(0.160)	0.009	0.039
21	1.75	0.10	0.048	(0.159)	0.009	0.039
22	1.83	0.13	0.064	(0.158)	0.011	0.052
23	1.92	0.13	0.064	(0.158)	0.011	0.052
24	2.00	0.13	0.064	(0.157)	0.011	0.052
25	2.08	0.13	0.064	(0.156)	0.011	0.052
26	2.17	0.13	0.064	(0.156)	0.011	0.052
27	2.25	0.13	0.064	(0.155)	0.011	0.052

28	2.33	0.13	0.064	(0.155)	0.011	0.052
29	2.42	0.13	0.064	(0.154)	0.011	0.052
30	2.50	0.13	0.064	(0.153)	0.011	0.052
31	2.58	0.17	0.080	(0.153)	0.014	0.065
32	2.67	0.17	0.080	(0.152)	0.014	0.065
33	2.75	0.17	0.080	(0.151)	0.014	0.065
34	2.83	0.17	0.080	(0.151)	0.014	0.065
35	2.92	0.17	0.080	(0.150)	0.014	0.065
36	3.00	0.17	0.080	(0.150)	0.014	0.065
37	3.08	0.17	0.080	(0.149)	0.014	0.065
38	3.17	0.17	0.080	(0.148)	0.014	0.065
39	3.25	0.17	0.080	(0.148)	0.014	0.065
40	3.33	0.17	0.080	(0.147)	0.014	0.065
41	3.42	0.17	0.080	(0.146)	0.014	0.065
42	3.50	0.17	0.080	(0.146)	0.014	0.065
43	3.58	0.17	0.080	(0.145)	0.014	0.065
44	3.67	0.17	0.080	(0.145)	0.014	0.065
45	3.75	0.17	0.080	(0.144)	0.014	0.065
46	3.83	0.20	0.096	(0.143)	0.017	0.078
47	3.92	0.20	0.096	(0.143)	0.017	0.078
48	4.00	0.20	0.096	(0.142)	0.017	0.078
49	4.08	0.20	0.096	(0.142)	0.017	0.078
50	4.17	0.20	0.096	(0.141)	0.017	0.078
51	4.25	0.20	0.096	(0.140)	0.017	0.078
52	4.33	0.23	0.112	(0.140)	0.020	0.092
53	4.42	0.23	0.112	(0.139)	0.020	0.092
54	4.50	0.23	0.112	(0.139)	0.020	0.092
55	4.58	0.23	0.112	(0.138)	0.020	0.092
56	4.67	0.23	0.112	(0.137)	0.020	0.092
57	4.75	0.23	0.112	(0.137)	0.020	0.092
58	4.83	0.27	0.128	(0.136)	0.023	0.105
59	4.92	0.27	0.128	(0.136)	0.023	0.105
60	5.00	0.27	0.128	(0.135)	0.023	0.105
61	5.08	0.20	0.096	(0.134)	0.017	0.078
62	5.17	0.20	0.096	(0.134)	0.017	0.078
63	5.25	0.20	0.096	(0.133)	0.017	0.078
64	5.33	0.23	0.112	(0.133)	0.020	0.092
65	5.42	0.23	0.112	(0.132)	0.020	0.092
66	5.50	0.23	0.112	(0.132)	0.020	0.092
67	5.58	0.27	0.128	(0.131)	0.023	0.105
68	5.67	0.27	0.128	(0.130)	0.023	0.105
69	5.75	0.27	0.128	(0.130)	0.023	0.105
70	5.83	0.27	0.128	(0.129)	0.023	0.105
71	5.92	0.27	0.128	(0.129)	0.023	0.105
72	6.00	0.27	0.128	(0.128)	0.023	0.105
73	6.08	0.30	0.144	(0.128)	0.026	0.118
74	6.17	0.30	0.144	(0.127)	0.026	0.118
75	6.25	0.30	0.144	(0.126)	0.026	0.118
76	6.33	0.30	0.144	(0.126)	0.026	0.118
77	6.42	0.30	0.144	(0.125)	0.026	0.118
78	6.50	0.30	0.144	(0.125)	0.026	0.118
79	6.58	0.33	0.160	(0.124)	0.029	0.131
80	6.67	0.33	0.160	(0.124)	0.029	0.131
81	6.75	0.33	0.160	(0.123)	0.029	0.131
82	6.83	0.33	0.160	(0.122)	0.029	0.131
83	6.92	0.33	0.160	(0.122)	0.029	0.131
84	7.00	0.33	0.160	(0.121)	0.029	0.131
85	7.08	0.33	0.160	(0.121)	0.029	0.131
86	7.17	0.33	0.160	(0.120)	0.029	0.131
87	7.25	0.33	0.160	(0.120)	0.029	0.131
88	7.33	0.37	0.175	(0.119)	0.032	0.144
89	7.42	0.37	0.175	(0.119)	0.032	0.144
90	7.50	0.37	0.175	(0.118)	0.032	0.144
91	7.58	0.40	0.191	(0.118)	0.034	0.157
92	7.67	0.40	0.191	(0.117)	0.034	0.157
93	7.75	0.40	0.191	(0.116)	0.034	0.157
94	7.83	0.43	0.207	(0.116)	0.037	0.170
95	7.92	0.43	0.207	(0.115)	0.037	0.170
96	8.00	0.43	0.207	(0.115)	0.037	0.170
97	8.08	0.50	0.239	(0.114)	0.043	0.196
98	8.17	0.50	0.239	(0.114)	0.043	0.196

99	8.25	0.50	0.239	(0.113)	0.043	0.196
100	8.33	0.50	0.239	(0.113)	0.043	0.196
101	8.42	0.50	0.239	(0.112)	0.043	0.196
102	8.50	0.50	0.239	(0.112)	0.043	0.196
103	8.58	0.53	0.255	(0.111)	0.046	0.209
104	8.67	0.53	0.255	(0.111)	0.046	0.209
105	8.75	0.53	0.255	(0.110)	0.046	0.209
106	8.83	0.57	0.271	(0.110)	0.049	0.222
107	8.92	0.57	0.271	(0.109)	0.049	0.222
108	9.00	0.57	0.271	(0.109)	0.049	0.222
109	9.08	0.63	0.303	(0.108)	0.055	0.249
110	9.17	0.63	0.303	(0.108)	0.055	0.249
111	9.25	0.63	0.303	(0.107)	0.055	0.249
112	9.33	0.67	0.319	(0.107)	0.057	0.262
113	9.42	0.67	0.319	(0.106)	0.057	0.262
114	9.50	0.67	0.319	(0.105)	0.057	0.262
115	9.58	0.70	0.335	(0.105)	0.060	0.275
116	9.67	0.70	0.335	(0.104)	0.060	0.275
117	9.75	0.70	0.335	(0.104)	0.060	0.275
118	9.83	0.73	0.351	(0.103)	0.063	0.288
119	9.92	0.73	0.351	(0.103)	0.063	0.288
120	10.00	0.73	0.351	(0.102)	0.063	0.288
121	10.08	0.50	0.239	(0.102)	0.043	0.196
122	10.17	0.50	0.239	(0.101)	0.043	0.196
123	10.25	0.50	0.239	(0.101)	0.043	0.196
124	10.33	0.50	0.239	(0.101)	0.043	0.196
125	10.42	0.50	0.239	(0.100)	0.043	0.196
126	10.50	0.50	0.239	(0.100)	0.043	0.196
127	10.58	0.67	0.319	(0.099)	0.057	0.262
128	10.67	0.67	0.319	(0.099)	0.057	0.262
129	10.75	0.67	0.319	(0.098)	0.057	0.262
130	10.83	0.67	0.319	(0.098)	0.057	0.262
131	10.92	0.67	0.319	(0.097)	0.057	0.262
132	11.00	0.67	0.319	(0.097)	0.057	0.262
133	11.08	0.63	0.303	(0.096)	0.055	0.249
134	11.17	0.63	0.303	(0.096)	0.055	0.249
135	11.25	0.63	0.303	(0.095)	0.055	0.249
136	11.33	0.63	0.303	(0.095)	0.055	0.249
137	11.42	0.63	0.303	(0.094)	0.055	0.249
138	11.50	0.63	0.303	(0.094)	0.055	0.249
139	11.58	0.57	0.271	(0.093)	0.049	0.222
140	11.67	0.57	0.271	(0.093)	0.049	0.222
141	11.75	0.57	0.271	(0.092)	0.049	0.222
142	11.83	0.60	0.287	(0.092)	0.052	0.235
143	11.92	0.60	0.287	(0.092)	0.052	0.235
144	12.00	0.60	0.287	(0.091)	0.052	0.235
145	12.08	0.83	0.399	(0.091)	0.072	0.327
146	12.17	0.83	0.399	(0.090)	0.072	0.327
147	12.25	0.83	0.399	(0.090)	0.072	0.327
148	12.33	0.87	0.415	(0.089)	0.075	0.340
149	12.42	0.87	0.415	(0.089)	0.075	0.340
150	12.50	0.87	0.415	(0.088)	0.075	0.340
151	12.58	0.93	0.447	(0.088)	0.080	0.366
152	12.67	0.93	0.447	(0.087)	0.080	0.366
153	12.75	0.93	0.447	(0.087)	0.080	0.366
154	12.83	0.97	0.463	(0.087)	0.083	0.379
155	12.92	0.97	0.463	(0.086)	0.083	0.379
156	13.00	0.97	0.463	(0.086)	0.083	0.379
157	13.08	1.13	0.542	0.085	(0.098)	0.457
158	13.17	1.13	0.542	0.085	(0.098)	0.458
159	13.25	1.13	0.542	0.084	(0.098)	0.458
160	13.33	1.13	0.542	0.084	(0.098)	0.458
161	13.42	1.13	0.542	0.084	(0.098)	0.459
162	13.50	1.13	0.542	0.083	(0.098)	0.459
163	13.58	0.77	0.367	(0.083)	0.066	0.301
164	13.67	0.77	0.367	(0.082)	0.066	0.301
165	13.75	0.77	0.367	(0.082)	0.066	0.301
166	13.83	0.77	0.367	(0.081)	0.066	0.301
167	13.92	0.77	0.367	(0.081)	0.066	0.301
168	14.00	0.77	0.367	(0.081)	0.066	0.301
169	14.08	0.90	0.431	(0.080)	0.078	0.353

170	14.17	0.90	0.431	(0.080)	0.078	0.353
171	14.25	0.90	0.431	(0.079)	0.078	0.353
172	14.33	0.87	0.415	(0.079)	0.075	0.340
173	14.42	0.87	0.415	(0.079)	0.075	0.340
174	14.50	0.87	0.415	(0.078)	0.075	0.340
175	14.58	0.87	0.415	(0.078)	0.075	0.340
176	14.67	0.87	0.415	(0.077)	0.075	0.340
177	14.75	0.87	0.415	(0.077)	0.075	0.340
178	14.83	0.83	0.399	(0.077)	0.072	0.327
179	14.92	0.83	0.399	(0.076)	0.072	0.327
180	15.00	0.83	0.399	(0.076)	0.072	0.327
181	15.08	0.80	0.383	(0.075)	0.069	0.314
182	15.17	0.80	0.383	(0.075)	0.069	0.314
183	15.25	0.80	0.383	(0.075)	0.069	0.314
184	15.33	0.77	0.367	(0.074)	0.066	0.301
185	15.42	0.77	0.367	(0.074)	0.066	0.301
186	15.50	0.77	0.367	(0.073)	0.066	0.301
187	15.58	0.63	0.303	(0.073)	0.055	0.249
188	15.67	0.63	0.303	(0.073)	0.055	0.249
189	15.75	0.63	0.303	(0.072)	0.055	0.249
190	15.83	0.63	0.303	(0.072)	0.055	0.249
191	15.92	0.63	0.303	(0.072)	0.055	0.249
192	16.00	0.63	0.303	(0.071)	0.055	0.249
193	16.08	0.13	0.064	(0.071)	0.011	0.052
194	16.17	0.13	0.064	(0.071)	0.011	0.052
195	16.25	0.13	0.064	(0.070)	0.011	0.052
196	16.33	0.13	0.064	(0.070)	0.011	0.052
197	16.42	0.13	0.064	(0.069)	0.011	0.052
198	16.50	0.13	0.064	(0.069)	0.011	0.052
199	16.58	0.10	0.048	(0.069)	0.009	0.039
200	16.67	0.10	0.048	(0.068)	0.009	0.039
201	16.75	0.10	0.048	(0.068)	0.009	0.039
202	16.83	0.10	0.048	(0.068)	0.009	0.039
203	16.92	0.10	0.048	(0.067)	0.009	0.039
204	17.00	0.10	0.048	(0.067)	0.009	0.039
205	17.08	0.17	0.080	(0.067)	0.014	0.065
206	17.17	0.17	0.080	(0.066)	0.014	0.065
207	17.25	0.17	0.080	(0.066)	0.014	0.065
208	17.33	0.17	0.080	(0.066)	0.014	0.065
209	17.42	0.17	0.080	(0.065)	0.014	0.065
210	17.50	0.17	0.080	(0.065)	0.014	0.065
211	17.58	0.17	0.080	(0.065)	0.014	0.065
212	17.67	0.17	0.080	(0.064)	0.014	0.065
213	17.75	0.17	0.080	(0.064)	0.014	0.065
214	17.83	0.13	0.064	(0.064)	0.011	0.052
215	17.92	0.13	0.064	(0.063)	0.011	0.052
216	18.00	0.13	0.064	(0.063)	0.011	0.052
217	18.08	0.13	0.064	(0.063)	0.011	0.052
218	18.17	0.13	0.064	(0.063)	0.011	0.052
219	18.25	0.13	0.064	(0.062)	0.011	0.052
220	18.33	0.13	0.064	(0.062)	0.011	0.052
221	18.42	0.13	0.064	(0.062)	0.011	0.052
222	18.50	0.13	0.064	(0.061)	0.011	0.052
223	18.58	0.10	0.048	(0.061)	0.009	0.039
224	18.67	0.10	0.048	(0.061)	0.009	0.039
225	18.75	0.10	0.048	(0.060)	0.009	0.039
226	18.83	0.07	0.032	(0.060)	0.006	0.026
227	18.92	0.07	0.032	(0.060)	0.006	0.026
228	19.00	0.07	0.032	(0.060)	0.006	0.026
229	19.08	0.10	0.048	(0.059)	0.009	0.039
230	19.17	0.10	0.048	(0.059)	0.009	0.039
231	19.25	0.10	0.048	(0.059)	0.009	0.039
232	19.33	0.13	0.064	(0.058)	0.011	0.052
233	19.42	0.13	0.064	(0.058)	0.011	0.052
234	19.50	0.13	0.064	(0.058)	0.011	0.052
235	19.58	0.10	0.048	(0.058)	0.009	0.039
236	19.67	0.10	0.048	(0.057)	0.009	0.039
237	19.75	0.10	0.048	(0.057)	0.009	0.039
238	19.83	0.07	0.032	(0.057)	0.006	0.026
239	19.92	0.07	0.032	(0.057)	0.006	0.026
240	20.00	0.07	0.032	(0.056)	0.006	0.026

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241  20.08     0.10      0.048       (  0.056)       0.009        0.039
242  20.17     0.10      0.048       (  0.056)       0.009        0.039
243  20.25     0.10      0.048       (  0.056)       0.009        0.039
244  20.33     0.10      0.048       (  0.055)       0.009        0.039
245  20.42     0.10      0.048       (  0.055)       0.009        0.039
246  20.50     0.10      0.048       (  0.055)       0.009        0.039
247  20.58     0.10      0.048       (  0.055)       0.009        0.039
248  20.67     0.10      0.048       (  0.054)       0.009        0.039
249  20.75     0.10      0.048       (  0.054)       0.009        0.039
250  20.83     0.07      0.032       (  0.054)       0.006        0.026
251  20.92     0.07      0.032       (  0.054)       0.006        0.026
252  21.00     0.07      0.032       (  0.054)       0.006        0.026
253  21.08     0.10      0.048       (  0.053)       0.009        0.039
254  21.17     0.10      0.048       (  0.053)       0.009        0.039
255  21.25     0.10      0.048       (  0.053)       0.009        0.039
256  21.33     0.07      0.032       (  0.053)       0.006        0.026
257  21.42     0.07      0.032       (  0.053)       0.006        0.026
258  21.50     0.07      0.032       (  0.052)       0.006        0.026
259  21.58     0.10      0.048       (  0.052)       0.009        0.039
260  21.67     0.10      0.048       (  0.052)       0.009        0.039
261  21.75     0.10      0.048       (  0.052)       0.009        0.039
262  21.83     0.07      0.032       (  0.052)       0.006        0.026
263  21.92     0.07      0.032       (  0.051)       0.006        0.026
264  22.00     0.07      0.032       (  0.051)       0.006        0.026
265  22.08     0.10      0.048       (  0.051)       0.009        0.039
266  22.17     0.10      0.048       (  0.051)       0.009        0.039
267  22.25     0.10      0.048       (  0.051)       0.009        0.039
268  22.33     0.07      0.032       (  0.051)       0.006        0.026
269  22.42     0.07      0.032       (  0.050)       0.006        0.026
270  22.50     0.07      0.032       (  0.050)       0.006        0.026
271  22.58     0.07      0.032       (  0.050)       0.006        0.026
272  22.67     0.07      0.032       (  0.050)       0.006        0.026
273  22.75     0.07      0.032       (  0.050)       0.006        0.026
274  22.83     0.07      0.032       (  0.050)       0.006        0.026
275  22.92     0.07      0.032       (  0.050)       0.006        0.026
276  23.00     0.07      0.032       (  0.049)       0.006        0.026
277  23.08     0.07      0.032       (  0.049)       0.006        0.026
278  23.17     0.07      0.032       (  0.049)       0.006        0.026
279  23.25     0.07      0.032       (  0.049)       0.006        0.026
280  23.33     0.07      0.032       (  0.049)       0.006        0.026
281  23.42     0.07      0.032       (  0.049)       0.006        0.026
282  23.50     0.07      0.032       (  0.049)       0.006        0.026
283  23.58     0.07      0.032       (  0.049)       0.006        0.026
284  23.67     0.07      0.032       (  0.049)       0.006        0.026
285  23.75     0.07      0.032       (  0.049)       0.006        0.026
286  23.83     0.07      0.032       (  0.049)       0.006        0.026
287  23.92     0.07      0.032       (  0.049)       0.006        0.026
288  24.00     0.07      0.032       (  0.049)       0.006        0.026
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    39.3
      Flood volume = Effective rainfall      3.28(In)
       times area       7.7(Ac.)/[(In)/(Ft.)] =       2.1(Ac.Ft)
      Total soil loss =      0.71(In)
      Total soil loss =     0.454(Ac.Ft)
      Total rainfall =      3.99(In)
      Flood volume =       91115.6 Cubic Feet
      Total soil loss =       19773.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      3.502(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       0.0001      0.01  Q         |         |         |         |
   0+10       0.0005      0.07  Q         |         |         |         |
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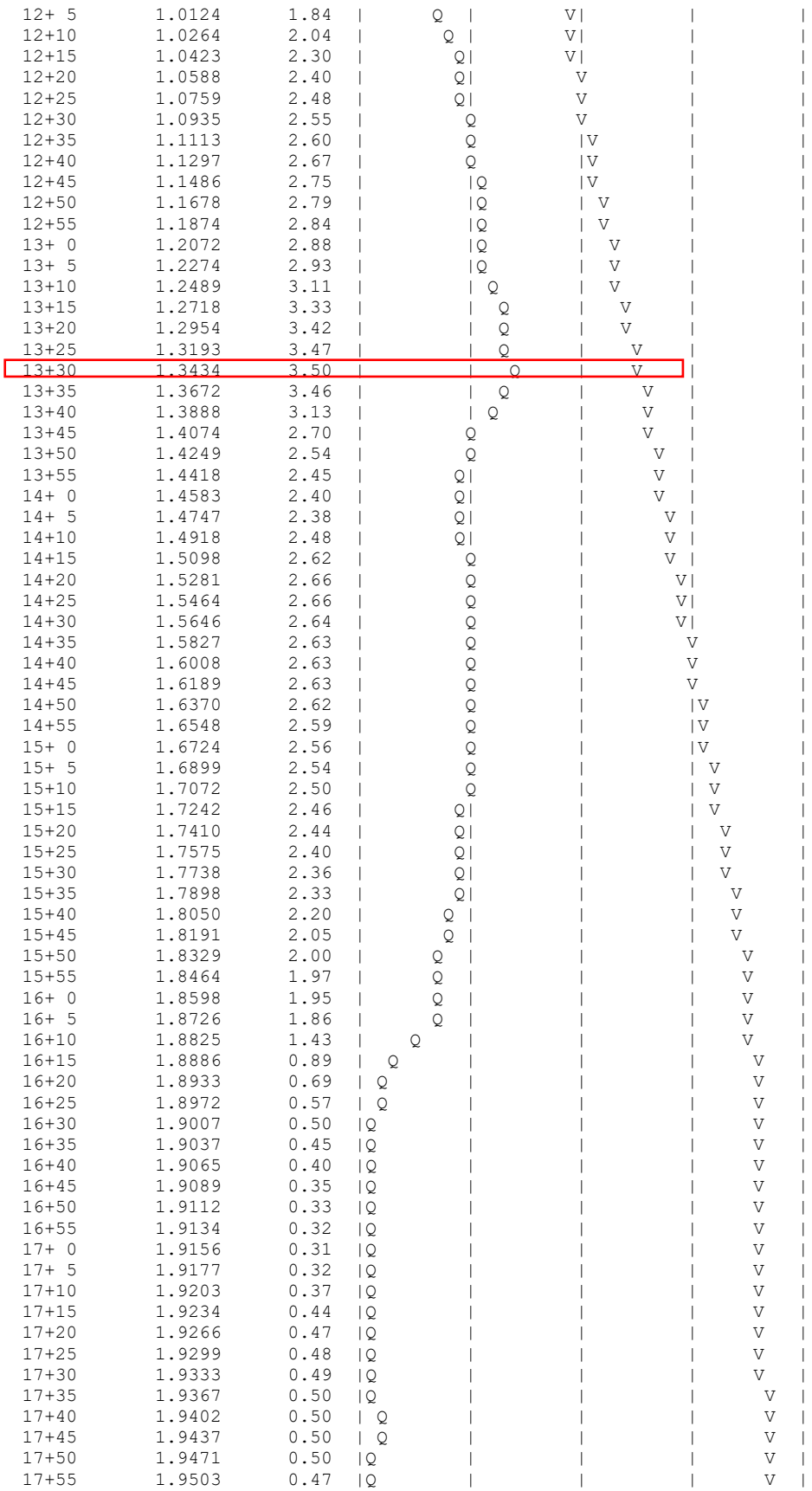
0+15	0.0015	0.14	Q				
0+20	0.0027	0.17	Q				
0+25	0.0041	0.21	Q				
0+30	0.0059	0.26	VQ				
0+35	0.0078	0.28	VQ				
0+40	0.0098	0.29	VQ				
0+45	0.0118	0.29	VQ				
0+50	0.0139	0.30	VQ				
0+55	0.0162	0.33	VQ				
1+ 0	0.0188	0.37	VQ				
1+ 5	0.0214	0.38	VQ				
1+10	0.0239	0.36	VQ				
1+15	0.0261	0.33	VQ				
1+20	0.0283	0.32	VQ				
1+25	0.0305	0.31	VQ				
1+30	0.0326	0.31	VQ				
1+35	0.0347	0.31	VQ				
1+40	0.0368	0.30	VQ				
1+45	0.0389	0.30	VQ				
1+50	0.0410	0.31	VQ				
1+55	0.0433	0.34	VQ				
2+ 0	0.0459	0.37	VQ				
2+ 5	0.0486	0.39	VQ				
2+10	0.0513	0.39	VQ				
2+15	0.0540	0.40	|Q				
2+20	0.0568	0.40	|Q				
2+25	0.0595	0.40	|Q				
2+30	0.0623	0.40	|Q				
2+35	0.0651	0.41	|Q				
2+40	0.0681	0.44	|Q				
2+45	0.0714	0.47	|Q				
2+50	0.0747	0.49	|Q				
2+55	0.0781	0.49	|Q				
3+ 0	0.0816	0.50	|Q				
3+ 5	0.0850	0.50	|VQ				
3+10	0.0885	0.50	|VQ				
3+15	0.0920	0.50	|VQ				
3+20	0.0955	0.50	|VQ				
3+25	0.0989	0.50	|VQ				
3+30	0.1024	0.51	|VQ				
3+35	0.1059	0.51	| Q				
3+40	0.1094	0.51	| Q				
3+45	0.1128	0.51	| Q				
3+50	0.1164	0.51	| Q				
3+55	0.1201	0.54	| Q				
4+ 0	0.1240	0.57	| Q				
4+ 5	0.1281	0.59	| Q				
4+10	0.1322	0.60	| Q				
4+15	0.1363	0.60	| Q				
4+20	0.1405	0.61	| Q				
4+25	0.1449	0.64	| Q				
4+30	0.1495	0.67	| Q				
4+35	0.1543	0.69	| Q				
4+40	0.1590	0.70	| QV				
4+45	0.1639	0.70	| QV				
4+50	0.1688	0.71	| QV				
4+55	0.1738	0.74	| QV				
5+ 0	0.1792	0.78	| Q				
5+ 5	0.1845	0.78	| Q				
5+10	0.1896	0.73	| QV				
5+15	0.1942	0.66	| QV				
5+20	0.1986	0.65	| QV				
5+25	0.2031	0.66	| QV				
5+30	0.2079	0.69	| QV				
5+35	0.2127	0.70	| Q V				
5+40	0.2177	0.73	| Q V				
5+45	0.2230	0.77	| QV				
5+50	0.2285	0.79	| QV				
5+55	0.2340	0.80	| QV				
6+ 0	0.2395	0.80	| QV				
6+ 5	0.2451	0.81	| QV				

6+10	0.2508	0.84	QV				
6+15	0.2569	0.88	QV				
6+20	0.2630	0.89	Q V				
6+25	0.2692	0.90	Q V				
6+30	0.2754	0.90	Q V				
6+35	0.2817	0.91	Q V				
6+40	0.2881	0.94	Q V				
6+45	0.2949	0.98	Q V				
6+50	0.3017	0.99	Q V				
6+55	0.3086	1.00	Q V				
7+ 0	0.3155	1.00	Q V				
7+ 5	0.3224	1.01	Q V				
7+10	0.3294	1.01	Q V				
7+15	0.3363	1.01	Q V				
7+20	0.3433	1.01	Q V				
7+25	0.3505	1.04	Q V				
7+30	0.3579	1.08	Q V				
7+35	0.3655	1.10	Q V				
7+40	0.3733	1.13	Q V				
7+45	0.3814	1.17	Q V				
7+50	0.3896	1.20	Q V				
7+55	0.3981	1.23	Q V				
8+ 0	0.4069	1.27	Q V				
8+ 5	0.4159	1.30	Q V				
8+10	0.4253	1.37	Q V				
8+15	0.4352	1.44	Q V				
8+20	0.4454	1.47	Q V				
8+25	0.4556	1.49	Q V				
8+30	0.4660	1.50	Q V				
8+35	0.4764	1.51	Q V				
8+40	0.4870	1.54	Q V				
8+45	0.4979	1.58	Q V				
8+50	0.5090	1.60	Q V				
8+55	0.5202	1.64	Q V				
9+ 0	0.5318	1.68	Q V				
9+ 5	0.5436	1.71	Q V				
9+10	0.5558	1.77	Q V				
9+15	0.5685	1.85	Q V				
9+20	0.5815	1.88	Q V				
9+25	0.5947	1.93	Q V				
9+30	0.6083	1.98	Q V				
9+35	0.6221	2.00	Q V				
9+40	0.6362	2.04	Q V				
9+45	0.6505	2.08	Q V				
9+50	0.6650	2.10	Q V				
9+55	0.6797	2.14	Q V				
10+ 0	0.6948	2.18	Q V				
10+ 5	0.7097	2.16	Q V				
10+10	0.7233	1.98	Q V				
10+15	0.7352	1.73	Q V				
10+20	0.7465	1.64	Q V				
10+25	0.7575	1.59	Q V				
10+30	0.7682	1.56	Q V				
10+35	0.7789	1.56	Q V				
10+40	0.7906	1.69	Q V				
10+45	0.8035	1.87	Q V				
10+50	0.8168	1.93	Q V				
10+55	0.8304	1.97	Q V				
11+ 0	0.8441	1.99	Q V				
11+ 5	0.8578	2.00	Q V				
11+10	0.8715	1.98	Q V				
11+15	0.8849	1.95	Q V				
11+20	0.8982	1.93	Q V				
11+25	0.9115	1.93	Q V				
11+30	0.9247	1.93	Q V				
11+35	0.9379	1.91	Q V				
11+40	0.9507	1.86	Q V				
11+45	0.9630	1.78	Q V				
11+50	0.9751	1.76	Q V				
11+55	0.9873	1.77	Q V				
12+ 0	0.9997	1.80	Q V				



18+ 0	1.9533	0.44	|Q	|	|	|	V |
18+ 5	1.9562	0.42	|Q	|	|	|	V |
18+10	1.9591	0.42	|Q	|	|	|	V |
18+15	1.9619	0.41	|Q	|	|	|	V |
18+20	1.9647	0.41	|Q	|	|	|	V |
18+25	1.9675	0.41	|Q	|	|	|	V |
18+30	1.9703	0.41	|Q	|	|	|	V |
18+35	1.9731	0.40	|Q	|	|	|	V |
18+40	1.9756	0.37	|Q	|	|	|	V |
18+45	1.9779	0.34	|Q	|	|	|	V |
18+50	1.9801	0.32	|Q	|	|	|	V |
18+55	1.9821	0.28	|Q	|	|	|	V |
19+ 0	1.9837	0.24	Q	|	|	|	V |
19+ 5	1.9853	0.23	Q	|	|	|	V |
19+10	1.9870	0.25	Q	|	|	|	V |
19+15	1.9889	0.28	|Q	|	|	|	V |
19+20	1.9909	0.29	|Q	|	|	|	V |
19+25	1.9932	0.33	|Q	|	|	|	V |
19+30	1.9957	0.37	|Q	|	|	|	V |
19+35	1.9983	0.38	|Q	|	|	|	V |
19+40	2.0008	0.36	|Q	|	|	|	V |
19+45	2.0031	0.33	|Q	|	|	|	V |
19+50	2.0052	0.31	|Q	|	|	|	V |
19+55	2.0071	0.28	|Q	|	|	|	V |
20+ 0	2.0088	0.24	Q	|	|	|	V |
20+ 5	2.0103	0.23	Q	|	|	|	V |
20+10	2.0120	0.25	Q	|	|	|	V |
20+15	2.0140	0.28	|Q	|	|	|	V |
20+20	2.0160	0.29	|Q	|	|	|	V |
20+25	2.0180	0.29	|Q	|	|	|	V |
20+30	2.0200	0.30	|Q	|	|	|	V |
20+35	2.0221	0.30	|Q	|	|	|	V |
20+40	2.0242	0.30	|Q	|	|	|	V |
20+45	2.0263	0.30	|Q	|	|	|	V |
20+50	2.0283	0.30	|Q	|	|	|	V |
20+55	2.0302	0.27	|Q	|	|	|	V |
21+ 0	2.0318	0.23	Q	|	|	|	V |
21+ 5	2.0333	0.23	Q	|	|	|	V |
21+10	2.0350	0.25	Q	|	|	|	V |
21+15	2.0369	0.28	|Q	|	|	|	V |
21+20	2.0389	0.28	|Q	|	|	|	V |
21+25	2.0407	0.26	|Q	|	|	|	V|
21+30	2.0423	0.23	Q	|	|	|	V|
21+35	2.0438	0.22	Q	|	|	|	V|
21+40	2.0455	0.24	Q	|	|	|	V|
21+45	2.0474	0.28	|Q	|	|	|	V|
21+50	2.0493	0.28	|Q	|	|	|	V|
21+55	2.0511	0.26	|Q	|	|	|	V|
22+ 0	2.0527	0.23	Q	|	|	|	V|
22+ 5	2.0542	0.22	Q	|	|	|	V|
22+10	2.0559	0.24	Q	|	|	|	V|
22+15	2.0578	0.28	|Q	|	|	|	V|
22+20	2.0598	0.28	|Q	|	|	|	V|
22+25	2.0616	0.26	|Q	|	|	|	V|
22+30	2.0631	0.23	Q	|	|	|	V|
22+35	2.0646	0.22	Q	|	|	|	V|
22+40	2.0661	0.21	Q	|	|	|	V|
22+45	2.0675	0.21	Q	|	|	|	V|
22+50	2.0689	0.20	Q	|	|	|	V|
22+55	2.0703	0.20	Q	|	|	|	V|
23+ 0	2.0717	0.20	Q	|	|	|	V|
23+ 5	2.0731	0.20	Q	|	|	|	V|
23+10	2.0745	0.20	Q	|	|	|	V|
23+15	2.0759	0.20	Q	|	|	|	V|
23+20	2.0773	0.20	Q	|	|	|	V|
23+25	2.0787	0.20	Q	|	|	|	V|
23+30	2.0801	0.20	Q	|	|	|	V|
23+35	2.0815	0.20	Q	|	|	|	V|
23+40	2.0829	0.20	Q	|	|	|	V|
23+45	2.0843	0.20	Q	|	|	|	V|
23+50	2.0857	0.20	Q	|	|	|	V|

23+55	2.0870	0.20	Q	|	|	|	V|
24+ 0	2.0884	0.20	Q	|	|	|	V|
24+ 5	2.0898	0.19	Q	|	|	|	V|
24+10	2.0907	0.14	Q	|	|	|	V|
24+15	2.0911	0.06	Q	|	|	|	V|
24+20	2.0914	0.04	Q	|	|	|	V|
24+25	2.0915	0.02	Q	|	|	|	V|
24+30	2.0916	0.01	Q	|	|	|	V|
24+35	2.0917	0.01	Q	|	|	|	V|
24+40	2.0917	0.00	Q	|	|	|	V|
24+45	2.0917	0.00	Q	|	|	|	V|
24+50	2.0917	0.00	Q	|	|	|	V|
24+55	2.0917	0.00	Q	|	|	|	V|
25+ 0	2.0917	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 11/20/21 File: 2030UDB1001100.out

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

Program License Serial Number 6434

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

English Units used in output format

DEVELOPED BASIN B
100-YEAR 1-HOUR
AMC III

Drainage Area = 7.66(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.66(Ac.) = 0.012 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.139 Hr.
Lag time = 8.34 Min.
25% of lag time = 2.09 Min.
40% of lag time = 3.34 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	0.53	4.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	1.46	11.18

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.531(In)
Area Averaged 100-Year Rainfall = 1.460(In)

Point rain (area averaged) = 1.460(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.460(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.660	56.00	0.900

Total Area Entered = 7.66(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.4800

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	59.952	5.585	0.431
2	0.167	119.904	31.570	2.437
3	0.250	179.856	34.083	2.631
4	0.333	239.808	12.398	0.957
5	0.417	299.760	7.160	0.553
6	0.500	359.712	4.339	0.335
7	0.583	419.664	2.400	0.185
8	0.667	479.616	0.945	0.073
9	0.750	539.568	0.563	0.043
10	0.833	599.520	0.414	0.032
11	0.917	659.472	0.358	0.028
12	1.000	719.424	0.184	0.014
			Sum = 100.000	Sum= 7.720

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	4.40	0.771	0.058	(0.139)	0.713
2	0.17	4.50	0.788	0.058	(0.142)	0.730
3	0.25	5.40	0.946	0.058	(0.170)	0.888
4	0.33	5.40	0.946	0.058	(0.170)	0.888
5	0.42	5.70	0.999	0.058	(0.180)	0.941
6	0.50	6.40	1.121	0.058	(0.202)	1.063
7	0.58	7.90	1.384	0.058	(0.249)	1.326
8	0.67	9.10	1.594	0.058	(0.287)	1.536
9	0.75	12.80	2.242	0.058	(0.404)	2.184
10	0.83	25.60	4.485	0.058	(0.807)	4.427
11	0.92	7.90	1.384	0.058	(0.249)	1.326
12	1.00	4.90	0.858	0.058	(0.155)	0.800
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	16.8

Flood volume = Effective rainfall 1.40(In)
times area 7.7(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.06(In)
Total soil loss = 0.037(Ac.Ft)
Total rainfall = 1.46(In)
Flood volume = 38980.4 Cubic Feet
Total soil loss = 1613.2 Cubic Feet

Peak flow rate of this hydrograph = 19.998(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0021	0.31	Q				
0+10	0.0163	2.05	V Q				
0+15	0.0441	4.04	V Q				
0+20	0.0796	5.15	V Q				
0+25	0.1209	6.00	V Q				
0+30	0.1663	6.58	V Q				
0+35	0.2169	7.36	V Q				
0+40	0.2760	8.57	V Q				
0+45	0.3467	10.26	V Q				
0+50	0.4413	13.74	V Q				
0+55	0.5790	20.00	V Q				
1+ 0	0.7097	18.98	V Q				
1+ 5	0.7912	11.83	Q V				
1+10	0.8398	7.05	Q V				
1+15	0.8648	3.63	Q V				
1+20	0.8787	2.02	Q V				
1+25	0.8858	1.03	Q V				
1+30	0.8897	0.57	Q V				
1+35	0.8921	0.34	Q V				
1+40	0.8936	0.23	Q V				
1+45	0.8945	0.13	Q V				
1+50	0.8948	0.04	Q V				
1+55	0.8949	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 11/20/21 File: 2030UDB10024100.out

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

Program License Serial Number 6434

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

English Units used in output format

DEVELOPED BASIN B
100-YEAR 24-HOUR
AMC III

Drainage Area = 7.66(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.66(Ac.) = 0.012 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.139 Hr.
Lag time = 8.34 Min.
25% of lag time = 2.09 Min.
40% of lag time = 3.34 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]
7.66	2.40	18.38

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.66	6.26	47.95

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.260(In)

Point rain (area averaged) = 6.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 6.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.660	56.00	0.900

Total Area Entered = 7.66(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	59.952	5.585	0.431
2	0.167	119.904	31.570	2.437
3	0.250	179.856	34.083	2.631
4	0.333	239.808	12.398	0.957
5	0.417	299.760	7.160	0.553
6	0.500	359.712	4.339	0.335
7	0.583	419.664	2.400	0.185
8	0.667	479.616	0.945	0.073
9	0.750	539.568	0.563	0.043
10	0.833	599.520	0.414	0.032
11	0.917	659.472	0.358	0.028
12	1.000	719.424	0.184	0.014
			Sum = 100.000	Sum= 7.720

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	0.050	(0.103)	0.009	0.041
2	0.17	0.07	0.050	(0.102)	0.009	0.041
3	0.25	0.07	0.050	(0.102)	0.009	0.041
4	0.33	0.10	0.075	(0.102)	0.014	0.062
5	0.42	0.10	0.075	(0.101)	0.014	0.062
6	0.50	0.10	0.075	(0.101)	0.014	0.062
7	0.58	0.10	0.075	(0.100)	0.014	0.062
8	0.67	0.10	0.075	(0.100)	0.014	0.062
9	0.75	0.10	0.075	(0.100)	0.014	0.062
10	0.83	0.13	0.100	(0.099)	0.018	0.082
11	0.92	0.13	0.100	(0.099)	0.018	0.082
12	1.00	0.13	0.100	(0.099)	0.018	0.082
13	1.08	0.10	0.075	(0.098)	0.014	0.062
14	1.17	0.10	0.075	(0.098)	0.014	0.062
15	1.25	0.10	0.075	(0.097)	0.014	0.062
16	1.33	0.10	0.075	(0.097)	0.014	0.062
17	1.42	0.10	0.075	(0.097)	0.014	0.062
18	1.50	0.10	0.075	(0.096)	0.014	0.062
19	1.58	0.10	0.075	(0.096)	0.014	0.062
20	1.67	0.10	0.075	(0.095)	0.014	0.062
21	1.75	0.10	0.075	(0.095)	0.014	0.062
22	1.83	0.13	0.100	(0.095)	0.018	0.082
23	1.92	0.13	0.100	(0.094)	0.018	0.082
24	2.00	0.13	0.100	(0.094)	0.018	0.082
25	2.08	0.13	0.100	(0.094)	0.018	0.082
26	2.17	0.13	0.100	(0.093)	0.018	0.082
27	2.25	0.13	0.100	(0.093)	0.018	0.082
28	2.33	0.13	0.100	(0.092)	0.018	0.082
29	2.42	0.13	0.100	(0.092)	0.018	0.082
30	2.50	0.13	0.100	(0.092)	0.018	0.082

31	2.58	0.17	0.125	(0.091)	0.023	0.103
32	2.67	0.17	0.125	(0.091)	0.023	0.103
33	2.75	0.17	0.125	(0.091)	0.023	0.103
34	2.83	0.17	0.125	(0.090)	0.023	0.103
35	2.92	0.17	0.125	(0.090)	0.023	0.103
36	3.00	0.17	0.125	(0.089)	0.023	0.103
37	3.08	0.17	0.125	(0.089)	0.023	0.103
38	3.17	0.17	0.125	(0.089)	0.023	0.103
39	3.25	0.17	0.125	(0.088)	0.023	0.103
40	3.33	0.17	0.125	(0.088)	0.023	0.103
41	3.42	0.17	0.125	(0.088)	0.023	0.103
42	3.50	0.17	0.125	(0.087)	0.023	0.103
43	3.58	0.17	0.125	(0.087)	0.023	0.103
44	3.67	0.17	0.125	(0.086)	0.023	0.103
45	3.75	0.17	0.125	(0.086)	0.023	0.103
46	3.83	0.20	0.150	(0.086)	0.027	0.123
47	3.92	0.20	0.150	(0.085)	0.027	0.123
48	4.00	0.20	0.150	(0.085)	0.027	0.123
49	4.08	0.20	0.150	(0.085)	0.027	0.123
50	4.17	0.20	0.150	(0.084)	0.027	0.123
51	4.25	0.20	0.150	(0.084)	0.027	0.123
52	4.33	0.23	0.175	(0.084)	0.032	0.144
53	4.42	0.23	0.175	(0.083)	0.032	0.144
54	4.50	0.23	0.175	(0.083)	0.032	0.144
55	4.58	0.23	0.175	(0.082)	0.032	0.144
56	4.67	0.23	0.175	(0.082)	0.032	0.144
57	4.75	0.23	0.175	(0.082)	0.032	0.144
58	4.83	0.27	0.200	(0.081)	0.036	0.164
59	4.92	0.27	0.200	(0.081)	0.036	0.164
60	5.00	0.27	0.200	(0.081)	0.036	0.164
61	5.08	0.20	0.150	(0.080)	0.027	0.123
62	5.17	0.20	0.150	(0.080)	0.027	0.123
63	5.25	0.20	0.150	(0.080)	0.027	0.123
64	5.33	0.23	0.175	(0.079)	0.032	0.144
65	5.42	0.23	0.175	(0.079)	0.032	0.144
66	5.50	0.23	0.175	(0.079)	0.032	0.144
67	5.58	0.27	0.200	(0.078)	0.036	0.164
68	5.67	0.27	0.200	(0.078)	0.036	0.164
69	5.75	0.27	0.200	(0.078)	0.036	0.164
70	5.83	0.27	0.200	(0.077)	0.036	0.164
71	5.92	0.27	0.200	(0.077)	0.036	0.164
72	6.00	0.27	0.200	(0.077)	0.036	0.164
73	6.08	0.30	0.225	(0.076)	0.041	0.185
74	6.17	0.30	0.225	(0.076)	0.041	0.185
75	6.25	0.30	0.225	(0.076)	0.041	0.185
76	6.33	0.30	0.225	(0.075)	0.041	0.185
77	6.42	0.30	0.225	(0.075)	0.041	0.185
78	6.50	0.30	0.225	(0.075)	0.041	0.185
79	6.58	0.33	0.250	(0.074)	0.045	0.205
80	6.67	0.33	0.250	(0.074)	0.045	0.205
81	6.75	0.33	0.250	(0.074)	0.045	0.205
82	6.83	0.33	0.250	(0.073)	0.045	0.205
83	6.92	0.33	0.250	(0.073)	0.045	0.205
84	7.00	0.33	0.250	(0.073)	0.045	0.205
85	7.08	0.33	0.250	(0.072)	0.045	0.205
86	7.17	0.33	0.250	(0.072)	0.045	0.205
87	7.25	0.33	0.250	(0.072)	0.045	0.205
88	7.33	0.37	0.275	(0.071)	0.050	0.226
89	7.42	0.37	0.275	(0.071)	0.050	0.226
90	7.50	0.37	0.275	(0.071)	0.050	0.226
91	7.58	0.40	0.300	(0.070)	0.054	0.246
92	7.67	0.40	0.300	(0.070)	0.054	0.246
93	7.75	0.40	0.300	(0.070)	0.054	0.246
94	7.83	0.43	0.326	(0.069)	0.059	0.267
95	7.92	0.43	0.326	(0.069)	0.059	0.267
96	8.00	0.43	0.326	(0.069)	0.059	0.267
97	8.08	0.50	0.376	(0.068)	0.068	0.308
98	8.17	0.50	0.376	(0.068)	0.068	0.308
99	8.25	0.50	0.376	(0.068)	0.068	0.308
100	8.33	0.50	0.376	0.067	(0.068)	0.308
101	8.42	0.50	0.376	0.067	(0.068)	0.309

102	8.50	0.50	0.376	0.067	(	0.068)	0.309
103	8.58	0.53	0.401	0.066	(	0.072)	0.334
104	8.67	0.53	0.401	0.066	(	0.072)	0.334
105	8.75	0.53	0.401	0.066	(	0.072)	0.335
106	8.83	0.57	0.426	0.066	(	0.077)	0.360
107	8.92	0.57	0.426	0.065	(	0.077)	0.360
108	9.00	0.57	0.426	0.065	(	0.077)	0.361
109	9.08	0.63	0.476	0.065	(	0.086)	0.411
110	9.17	0.63	0.476	0.064	(	0.086)	0.411
111	9.25	0.63	0.476	0.064	(	0.086)	0.412
112	9.33	0.67	0.501	0.064	(	0.090)	0.437
113	9.42	0.67	0.501	0.063	(	0.090)	0.437
114	9.50	0.67	0.501	0.063	(	0.090)	0.438
115	9.58	0.70	0.526	0.063	(	0.095)	0.463
116	9.67	0.70	0.526	0.062	(	0.095)	0.463
117	9.75	0.70	0.526	0.062	(	0.095)	0.464
118	9.83	0.73	0.551	0.062	(	0.099)	0.489
119	9.92	0.73	0.551	0.062	(	0.099)	0.489
120	10.00	0.73	0.551	0.061	(	0.099)	0.490
121	10.08	0.50	0.376	0.061	(	0.068)	0.315
122	10.17	0.50	0.376	0.061	(	0.068)	0.315
123	10.25	0.50	0.376	0.060	(	0.068)	0.315
124	10.33	0.50	0.376	0.060	(	0.068)	0.316
125	10.42	0.50	0.376	0.060	(	0.068)	0.316
126	10.50	0.50	0.376	0.060	(	0.068)	0.316
127	10.58	0.67	0.501	0.059	(	0.090)	0.442
128	10.67	0.67	0.501	0.059	(	0.090)	0.442
129	10.75	0.67	0.501	0.059	(	0.090)	0.442
130	10.83	0.67	0.501	0.058	(	0.090)	0.442
131	10.92	0.67	0.501	0.058	(	0.090)	0.443
132	11.00	0.67	0.501	0.058	(	0.090)	0.443
133	11.08	0.63	0.476	0.057	(	0.086)	0.418
134	11.17	0.63	0.476	0.057	(	0.086)	0.419
135	11.25	0.63	0.476	0.057	(	0.086)	0.419
136	11.33	0.63	0.476	0.057	(	0.086)	0.419
137	11.42	0.63	0.476	0.056	(	0.086)	0.419
138	11.50	0.63	0.476	0.056	(	0.086)	0.420
139	11.58	0.57	0.426	0.056	(	0.077)	0.370
140	11.67	0.57	0.426	0.056	(	0.077)	0.370
141	11.75	0.57	0.426	0.055	(	0.077)	0.370
142	11.83	0.60	0.451	0.055	(	0.081)	0.396
143	11.92	0.60	0.451	0.055	(	0.081)	0.396
144	12.00	0.60	0.451	0.054	(	0.081)	0.396
145	12.08	0.83	0.626	0.054	(	0.113)	0.572
146	12.17	0.83	0.626	0.054	(	0.113)	0.572
147	12.25	0.83	0.626	0.054	(	0.113)	0.572
148	12.33	0.87	0.651	0.053	(	0.117)	0.598
149	12.42	0.87	0.651	0.053	(	0.117)	0.598
150	12.50	0.87	0.651	0.053	(	0.117)	0.598
151	12.58	0.93	0.701	0.053	(	0.126)	0.649
152	12.67	0.93	0.701	0.052	(	0.126)	0.649
153	12.75	0.93	0.701	0.052	(	0.126)	0.649
154	12.83	0.97	0.726	0.052	(	0.131)	0.674
155	12.92	0.97	0.726	0.051	(	0.131)	0.675
156	13.00	0.97	0.726	0.051	(	0.131)	0.675
157	13.08	1.13	0.851	0.051	(	0.153)	0.800
158	13.17	1.13	0.851	0.051	(	0.153)	0.801
159	13.25	1.13	0.851	0.050	(	0.153)	0.801
160	13.33	1.13	0.851	0.050	(	0.153)	0.801
161	13.42	1.13	0.851	0.050	(	0.153)	0.801
162	13.50	1.13	0.851	0.050	(	0.153)	0.802
163	13.58	0.77	0.576	0.049	(	0.104)	0.526
164	13.67	0.77	0.576	0.049	(	0.104)	0.527
165	13.75	0.77	0.576	0.049	(	0.104)	0.527
166	13.83	0.77	0.576	0.049	(	0.104)	0.527
167	13.92	0.77	0.576	0.048	(	0.104)	0.527
168	14.00	0.77	0.576	0.048	(	0.104)	0.528
169	14.08	0.90	0.676	0.048	(	0.122)	0.628
170	14.17	0.90	0.676	0.048	(	0.122)	0.628
171	14.25	0.90	0.676	0.047	(	0.122)	0.629
172	14.33	0.87	0.651	0.047	(	0.117)	0.604

173	14.42	0.87	0.651	0.047	(0.117)	0.604
174	14.50	0.87	0.651	0.047	(0.117)	0.604
175	14.58	0.87	0.651	0.046	(0.117)	0.605
176	14.67	0.87	0.651	0.046	(0.117)	0.605
177	14.75	0.87	0.651	0.046	(0.117)	0.605
178	14.83	0.83	0.626	0.046	(0.113)	0.580
179	14.92	0.83	0.626	0.046	(0.113)	0.580
180	15.00	0.83	0.626	0.045	(0.113)	0.581
181	15.08	0.80	0.601	0.045	(0.108)	0.556
182	15.17	0.80	0.601	0.045	(0.108)	0.556
183	15.25	0.80	0.601	0.045	(0.108)	0.556
184	15.33	0.77	0.576	0.044	(0.104)	0.532
185	15.42	0.77	0.576	0.044	(0.104)	0.532
186	15.50	0.77	0.576	0.044	(0.104)	0.532
187	15.58	0.63	0.476	0.044	(0.086)	0.432
188	15.67	0.63	0.476	0.043	(0.086)	0.432
189	15.75	0.63	0.476	0.043	(0.086)	0.432
190	15.83	0.63	0.476	0.043	(0.086)	0.433
191	15.92	0.63	0.476	0.043	(0.086)	0.433
192	16.00	0.63	0.476	0.043	(0.086)	0.433
193	16.08	0.13	0.100	(0.042)	0.018	0.082
194	16.17	0.13	0.100	(0.042)	0.018	0.082
195	16.25	0.13	0.100	(0.042)	0.018	0.082
196	16.33	0.13	0.100	(0.042)	0.018	0.082
197	16.42	0.13	0.100	(0.042)	0.018	0.082
198	16.50	0.13	0.100	(0.041)	0.018	0.082
199	16.58	0.10	0.075	(0.041)	0.014	0.062
200	16.67	0.10	0.075	(0.041)	0.014	0.062
201	16.75	0.10	0.075	(0.041)	0.014	0.062
202	16.83	0.10	0.075	(0.040)	0.014	0.062
203	16.92	0.10	0.075	(0.040)	0.014	0.062
204	17.00	0.10	0.075	(0.040)	0.014	0.062
205	17.08	0.17	0.125	(0.040)	0.023	0.103
206	17.17	0.17	0.125	(0.040)	0.023	0.103
207	17.25	0.17	0.125	(0.039)	0.023	0.103
208	17.33	0.17	0.125	(0.039)	0.023	0.103
209	17.42	0.17	0.125	(0.039)	0.023	0.103
210	17.50	0.17	0.125	(0.039)	0.023	0.103
211	17.58	0.17	0.125	(0.039)	0.023	0.103
212	17.67	0.17	0.125	(0.038)	0.023	0.103
213	17.75	0.17	0.125	(0.038)	0.023	0.103
214	17.83	0.13	0.100	(0.038)	0.018	0.082
215	17.92	0.13	0.100	(0.038)	0.018	0.082
216	18.00	0.13	0.100	(0.038)	0.018	0.082
217	18.08	0.13	0.100	(0.038)	0.018	0.082
218	18.17	0.13	0.100	(0.037)	0.018	0.082
219	18.25	0.13	0.100	(0.037)	0.018	0.082
220	18.33	0.13	0.100	(0.037)	0.018	0.082
221	18.42	0.13	0.100	(0.037)	0.018	0.082
222	18.50	0.13	0.100	(0.037)	0.018	0.082
223	18.58	0.10	0.075	(0.036)	0.014	0.062
224	18.67	0.10	0.075	(0.036)	0.014	0.062
225	18.75	0.10	0.075	(0.036)	0.014	0.062
226	18.83	0.07	0.050	(0.036)	0.009	0.041
227	18.92	0.07	0.050	(0.036)	0.009	0.041
228	19.00	0.07	0.050	(0.036)	0.009	0.041
229	19.08	0.10	0.075	(0.035)	0.014	0.062
230	19.17	0.10	0.075	(0.035)	0.014	0.062
231	19.25	0.10	0.075	(0.035)	0.014	0.062
232	19.33	0.13	0.100	(0.035)	0.018	0.082
233	19.42	0.13	0.100	(0.035)	0.018	0.082
234	19.50	0.13	0.100	(0.035)	0.018	0.082
235	19.58	0.10	0.075	(0.034)	0.014	0.062
236	19.67	0.10	0.075	(0.034)	0.014	0.062
237	19.75	0.10	0.075	(0.034)	0.014	0.062
238	19.83	0.07	0.050	(0.034)	0.009	0.041
239	19.92	0.07	0.050	(0.034)	0.009	0.041
240	20.00	0.07	0.050	(0.034)	0.009	0.041
241	20.08	0.10	0.075	(0.034)	0.014	0.062
242	20.17	0.10	0.075	(0.033)	0.014	0.062
243	20.25	0.10	0.075	(0.033)	0.014	0.062

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244  20.33     0.10      0.075       (  0.033)       0.014        0.062
245  20.42     0.10      0.075       (  0.033)       0.014        0.062
246  20.50     0.10      0.075       (  0.033)       0.014        0.062
247  20.58     0.10      0.075       (  0.033)       0.014        0.062
248  20.67     0.10      0.075       (  0.033)       0.014        0.062
249  20.75     0.10      0.075       (  0.032)       0.014        0.062
250  20.83     0.07      0.050       (  0.032)       0.009        0.041
251  20.92     0.07      0.050       (  0.032)       0.009        0.041
252  21.00     0.07      0.050       (  0.032)       0.009        0.041
253  21.08     0.10      0.075       (  0.032)       0.014        0.062
254  21.17     0.10      0.075       (  0.032)       0.014        0.062
255  21.25     0.10      0.075       (  0.032)       0.014        0.062
256  21.33     0.07      0.050       (  0.032)       0.009        0.041
257  21.42     0.07      0.050       (  0.031)       0.009        0.041
258  21.50     0.07      0.050       (  0.031)       0.009        0.041
259  21.58     0.10      0.075       (  0.031)       0.014        0.062
260  21.67     0.10      0.075       (  0.031)       0.014        0.062
261  21.75     0.10      0.075       (  0.031)       0.014        0.062
262  21.83     0.07      0.050       (  0.031)       0.009        0.041
263  21.92     0.07      0.050       (  0.031)       0.009        0.041
264  22.00     0.07      0.050       (  0.031)       0.009        0.041
265  22.08     0.10      0.075       (  0.031)       0.014        0.062
266  22.17     0.10      0.075       (  0.030)       0.014        0.062
267  22.25     0.10      0.075       (  0.030)       0.014        0.062
268  22.33     0.07      0.050       (  0.030)       0.009        0.041
269  22.42     0.07      0.050       (  0.030)       0.009        0.041
270  22.50     0.07      0.050       (  0.030)       0.009        0.041
271  22.58     0.07      0.050       (  0.030)       0.009        0.041
272  22.67     0.07      0.050       (  0.030)       0.009        0.041
273  22.75     0.07      0.050       (  0.030)       0.009        0.041
274  22.83     0.07      0.050       (  0.030)       0.009        0.041
275  22.92     0.07      0.050       (  0.030)       0.009        0.041
276  23.00     0.07      0.050       (  0.030)       0.009        0.041
277  23.08     0.07      0.050       (  0.030)       0.009        0.041
278  23.17     0.07      0.050       (  0.029)       0.009        0.041
279  23.25     0.07      0.050       (  0.029)       0.009        0.041
280  23.33     0.07      0.050       (  0.029)       0.009        0.041
281  23.42     0.07      0.050       (  0.029)       0.009        0.041
282  23.50     0.07      0.050       (  0.029)       0.009        0.041
283  23.58     0.07      0.050       (  0.029)       0.009        0.041
284  23.67     0.07      0.050       (  0.029)       0.009        0.041
285  23.75     0.07      0.050       (  0.029)       0.009        0.041
286  23.83     0.07      0.050       (  0.029)       0.009        0.041
287  23.92     0.07      0.050       (  0.029)       0.009        0.041
288  24.00     0.07      0.050       (  0.029)       0.009        0.041
              (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    65.8
      Flood volume = Effective rainfall      5.48(In)
       times area       7.7(Ac.)/[(In)/(Ft.)] =       3.5(Ac.Ft)
      Total soil loss =      0.78(In)
      Total soil loss =     0.496(Ac.Ft)
      Total rainfall =      6.26(In)
      Flood volume =      152467.2 Cubic Feet
      Total soil loss =       21594.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      6.139(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
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   0+ 5       0.0001      0.02  Q         |         |         |         |
   0+10       0.0009      0.12  Q         |         |         |         |
   0+15       0.0025      0.23  Q         |         |         |         |
   0+20       0.0044      0.27  VQ        |         |         |         |
   0+25       0.0068      0.35  VQ        |         |         |         |
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0+30	0.0096	0.41	VQ				
0+35	0.0127	0.44	VQ				
0+40	0.0158	0.46	VQ				
0+45	0.0190	0.47	VQ				
0+50	0.0223	0.48	VQ				
0+55	0.0260	0.53	V Q				
1+ 0	0.0300	0.59	V Q				
1+ 5	0.0341	0.60	V Q				
1+10	0.0380	0.56	V Q				
1+15	0.0415	0.51	V Q				
1+20	0.0450	0.50	VQ				
1+25	0.0483	0.49	VQ				
1+30	0.0516	0.48	VQ				
1+35	0.0549	0.48	VQ				
1+40	0.0582	0.48	VQ				
1+45	0.0615	0.48	VQ				
1+50	0.0649	0.49	VQ				
1+55	0.0686	0.53	V Q				
2+ 0	0.0726	0.59	V Q				
2+ 5	0.0768	0.61	V Q				
2+10	0.0811	0.62	V Q				
2+15	0.0854	0.63	V Q				
2+20	0.0897	0.63	|VQ				
2+25	0.0941	0.63	|VQ				
2+30	0.0984	0.63	|VQ				
2+35	0.1029	0.64	|VQ				
2+40	0.1076	0.69	|VQ				
2+45	0.1128	0.75	|VQ				
2+50	0.1181	0.77	|V Q				
2+55	0.1234	0.78	|V Q				
3+ 0	0.1288	0.79	|V Q				
3+ 5	0.1343	0.79	|V Q				
3+10	0.1397	0.79	|V Q				
3+15	0.1452	0.79	|V Q				
3+20	0.1506	0.79	|V Q				
3+25	0.1561	0.79	|V Q				
3+30	0.1615	0.79	|V Q				
3+35	0.1670	0.79	|V Q				
3+40	0.1725	0.79	|V Q				
3+45	0.1779	0.79	| VQ				
3+50	0.1834	0.80	| VQ				
3+55	0.1893	0.85	| VQ				
4+ 0	0.1955	0.91	| VQ				
4+ 5	0.2019	0.93	| VQ				
4+10	0.2084	0.94	| VQ				
4+15	0.2149	0.94	| VQ				
4+20	0.2215	0.96	| VQ				
4+25	0.2284	1.01	| V Q				
4+30	0.2357	1.06	| V Q				
4+35	0.2432	1.08	| V Q				
4+40	0.2507	1.10	| V Q				
4+45	0.2583	1.10	| V Q				
4+50	0.2660	1.12	| VQ				
4+55	0.2740	1.17	| VQ				
5+ 0	0.2824	1.22	| VQ				
5+ 5	0.2909	1.22	| VQ				
5+10	0.2987	1.14	| VQ				
5+15	0.3058	1.04	| VQ				
5+20	0.3128	1.01	| VQ				
5+25	0.3199	1.04	| VQ				
5+30	0.3273	1.08	| VQ				
5+35	0.3349	1.10	| VQ				
5+40	0.3429	1.16	| VQ				
5+45	0.3513	1.22	| Q				
5+50	0.3598	1.24	| Q				
5+55	0.3685	1.25	| VQ				
6+ 0	0.3771	1.26	| VQ				
6+ 5	0.3859	1.27	| VQ				
6+10	0.3950	1.32	| VQ				
6+15	0.4045	1.38	| VQ				
6+20	0.4142	1.40	| VQ				

6+25	0.4239	1.41	VQ				
6+30	0.4337	1.42	VQ				
6+35	0.4435	1.43	Q				
6+40	0.4538	1.48	Q				
6+45	0.4644	1.54	VQ				
6+50	0.4751	1.56	VQ				
6+55	0.4859	1.57	VQ				
7+ 0	0.4968	1.58	VQ				
7+ 5	0.5077	1.58	VQ				
7+10	0.5186	1.58	VQ				
7+15	0.5295	1.58	Q				
7+20	0.5405	1.59	Q				
7+25	0.5518	1.64	Q				
7+30	0.5635	1.70	Q				
7+35	0.5754	1.73	Q				
7+40	0.5877	1.79	VQ				
7+45	0.6005	1.85	VQ				
7+50	0.6134	1.88	Q				
7+55	0.6268	1.94	Q				
8+ 0	0.6406	2.01	VQ				
8+ 5	0.6547	2.05	VQ				
8+10	0.6696	2.16	VQ				
8+15	0.6853	2.28	V Q				
8+20	0.7013	2.32	VQ				
8+25	0.7175	2.35	VQ				
8+30	0.7338	2.36	VQ				
8+35	0.7502	2.39	VQ				
8+40	0.7671	2.45	VQ				
8+45	0.7845	2.52	V Q				
8+50	0.8021	2.56	VQ				
8+55	0.8203	2.64	VQ				
9+ 0	0.8390	2.72	VQ				
9+ 5	0.8580	2.77	V Q				
9+10	0.8781	2.91	VQ				
9+15	0.8991	3.05	V Q				
9+20	0.9206	3.12	V Q				
9+25	0.9427	3.21	V Q				
9+30	0.9654	3.30	V Q				
9+35	0.9885	3.35	V Q				
9+40	1.0121	3.43	V Q				
9+45	1.0363	3.51	V Q				
9+50	1.0607	3.55	V Q				
9+55	1.0857	3.63	V Q				
10+ 0	1.1113	3.71	V Q				
10+ 5	1.1365	3.67	V Q				
10+10	1.1589	3.26	Q				
10+15	1.1783	2.81	Q V				
10+20	1.1965	2.65	Q V				
10+25	1.2141	2.56	Q V				
10+30	1.2313	2.50	Q V				
10+35	1.2487	2.52	Q V				
10+40	1.2681	2.82	Q V				
10+45	1.2898	3.14	Q V				
10+50	1.3123	3.26	QV				
10+55	1.3352	3.33	Q V				
11+ 0	1.3584	3.37	Q V				
11+ 5	1.3817	3.38	Q V				
11+10	1.4047	3.33	Q V				
11+15	1.4272	3.28	Q V				
11+20	1.4497	3.26	Q V				
11+25	1.4721	3.25	Q V				
11+30	1.4944	3.25	Q V				
11+35	1.5166	3.22	Q V				
11+40	1.5380	3.10	Q V				
11+45	1.5584	2.97	Q V				
11+50	1.5786	2.93	Q V				
11+55	1.5991	2.97	Q V				
12+ 0	1.6199	3.02	Q V				
12+ 5	1.6413	3.11	Q V				
12+10	1.6657	3.55	Q V				
12+15	1.6934	4.02	Q V				

12+20	1.7224	4.20	|	|	Q V|	|	|
12+25	1.7525	4.37	|	|	Q V	|	|
12+30	1.7834	4.49	|	|	Q V	|	|
12+35	1.8149	4.57	|	|	Q V	|	|
12+40	1.8474	4.73	|	|	Q |V	|	|
12+45	1.8810	4.88	|	|	Q|V	|	|
12+50	1.9151	4.95	|	|	Q|V	|	|
12+55	1.9498	5.04	|	|	Q V	|	|
13+ 0	1.9852	5.13	|	|	Q V	|	|
13+ 5	2.0211	5.22	|	|	Q V	|	|
13+10	2.0593	5.55	|	|	| QV	|	|
13+15	2.0999	5.89	|	|	| Q	|	|
13+20	2.1414	6.02	|	|	| Q	|	|
13+25	2.1833	6.09	|	|	| Q	|	|
13+30	2.2256	6.14	|	|	| QV	|	|
13+35	2.2672	6.05	|	|	| QV	|	|
13+40	2.3043	5.39	|	|	|Q V	|	|
13+45	2.3365	4.67	|	|	Q | V	|	|
13+50	2.3669	4.41	|	|	Q | V	|	|
13+55	2.3962	4.26	|	|	Q | V	|	|
14+ 0	2.4250	4.18	|	|	Q | V	|	|
14+ 5	2.4537	4.17	|	|	Q | V	|	|
14+10	2.4840	4.40	|	|	Q | V	|	|
14+15	2.5160	4.65	|	|	Q | V	|	|
14+20	2.5485	4.73	|	|	Q | V|	|	|
14+25	2.5810	4.72	|	|	Q | V|	|	|
14+30	2.6132	4.68	|	|	Q | V|	|	|
14+35	2.6455	4.68	|	|	Q | V	|	|
14+40	2.6776	4.67	|	|	Q | V	|	|
14+45	2.7098	4.67	|	|	Q | V	|	|
14+50	2.7419	4.66	|	|	Q | |V	|	|
14+55	2.7736	4.60	|	|	Q | |V	|	|
15+ 0	2.8049	4.54	|	|	Q | | V	|	|
15+ 5	2.8359	4.50	|	|	Q | | V	|	|
15+10	2.8664	4.43	|	|	Q | | V	|	|
15+15	2.8964	4.36	|	|	Q | | V	|	|
15+20	2.9262	4.32	|	|	Q | | V	|	|
15+25	2.9554	4.25	|	|	Q | | V	|	|
15+30	2.9841	4.17	|	|	Q | | V	|	|
15+35	3.0124	4.10	|	|	Q | | V	|	|
15+40	3.0389	3.84	|	|	Q | | V	|	|
15+45	3.0634	3.57	|	|	Q | | V	|	|
15+50	3.0873	3.47	|	|	Q | | V	|	|
15+55	3.1109	3.41	|	|	Q | | V	|	|
16+ 0	3.1341	3.38	|	|	Q | | V	|	|
16+ 5	3.1563	3.21	|	|	Q | | V	|	|
16+10	3.1724	2.35	|	Q|	| | V	|	|
16+15	3.1822	1.42	|	Q |	| | V	|	|
16+20	3.1897	1.08	|	Q |	| | V	|	|
16+25	3.1958	0.89	|	Q |	| | V	|	|
16+30	3.2011	0.77	|	Q |	| | V	|	|
16+35	3.2058	0.69	|	Q |	| | V	|	|
16+40	3.2101	0.62	|	Q |	| | V	|	|
16+45	3.2138	0.55	|	Q |	| | V	|	|
16+50	3.2174	0.52	|	Q |	| | V	|	|
16+55	3.2208	0.50	|	Q|	| | V	|	|
17+ 0	3.2241	0.48	|	Q|	| | V	|	|
17+ 5	3.2276	0.50	|	Q|	| | V	|	|
17+10	3.2317	0.60	|	Q |	| | V	|	|
17+15	3.2365	0.70	|	Q |	| | V	|	|
17+20	3.2416	0.74	|	Q |	| | V	|	|
17+25	3.2469	0.76	|	Q |	| | V	|	|
17+30	3.2522	0.78	|	Q |	| | V	|	|
17+35	3.2576	0.79	|	Q |	| | V	|	|
17+40	3.2631	0.79	|	Q |	| | V	|	|
17+45	3.2685	0.79	|	Q |	| | V	|	|
17+50	3.2739	0.78	|	Q |	| | V	|	|
17+55	3.2790	0.73	|	Q |	| | V	|	|
18+ 0	3.2836	0.68	|	Q |	| | V	|	|
18+ 5	3.2882	0.66	|	Q |	| | V	|	|
18+10	3.2927	0.65	|	Q |	| | V	|	|

18+15	3.2971	0.64	| Q	|	|	|	V |
18+20	3.3015	0.64	| Q	|	|	|	V |
18+25	3.3059	0.64	| Q	|	|	|	V |
18+30	3.3102	0.64	| Q	|	|	|	V |
18+35	3.3146	0.63	| Q	|	|	|	V |
18+40	3.3185	0.58	| Q	|	|	|	V |
18+45	3.3221	0.52	| Q	|	|	|	V |
18+50	3.3255	0.49	|Q	|	|	|	V |
18+55	3.3285	0.43	|Q	|	|	|	V |
19+ 0	3.3310	0.37	|Q	|	|	|	V |
19+ 5	3.3335	0.36	|Q	|	|	|	V |
19+10	3.3362	0.39	|Q	|	|	|	V |
19+15	3.3392	0.44	|Q	|	|	|	V |
19+20	3.3424	0.46	|Q	|	|	|	V |
19+25	3.3460	0.52	| Q	|	|	|	V |
19+30	3.3500	0.58	| Q	|	|	|	V |
19+35	3.3541	0.60	| Q	|	|	|	V |
19+40	3.3580	0.56	| Q	|	|	|	V |
19+45	3.3615	0.51	| Q	|	|	|	V |
19+50	3.3649	0.49	|Q	|	|	|	V |
19+55	3.3678	0.43	|Q	|	|	|	V |
20+ 0	3.3704	0.37	|Q	|	|	|	V |
20+ 5	3.3728	0.36	|Q	|	|	|	V |
20+10	3.3755	0.39	|Q	|	|	|	V |
20+15	3.3785	0.44	|Q	|	|	|	V |
20+20	3.3817	0.45	|Q	|	|	|	V |
20+25	3.3849	0.46	|Q	|	|	|	V |
20+30	3.3881	0.47	|Q	|	|	|	V |
20+35	3.3913	0.47	|Q	|	|	|	V |
20+40	3.3946	0.47	|Q	|	|	|	V |
20+45	3.3979	0.47	|Q	|	|	|	V |
20+50	3.4011	0.47	|Q	|	|	|	V |
20+55	3.4040	0.42	|Q	|	|	|	V |
21+ 0	3.4064	0.36	|Q	|	|	|	V |
21+ 5	3.4089	0.35	|Q	|	|	|	V |
21+10	3.4116	0.39	|Q	|	|	|	V |
21+15	3.4146	0.44	|Q	|	|	|	V|
21+20	3.4176	0.44	|Q	|	|	|	V|
21+25	3.4204	0.40	|Q	|	|	|	V|
21+30	3.4229	0.36	|Q	|	|	|	V|
21+35	3.4253	0.35	|Q	|	|	|	V|
21+40	3.4280	0.39	|Q	|	|	|	V|
21+45	3.4310	0.44	|Q	|	|	|	V|
21+50	3.4340	0.44	|Q	|	|	|	V|
21+55	3.4368	0.40	|Q	|	|	|	V|
22+ 0	3.4393	0.36	|Q	|	|	|	V|
22+ 5	3.4417	0.35	|Q	|	|	|	V|
22+10	3.4443	0.39	|Q	|	|	|	V|
22+15	3.4474	0.44	|Q	|	|	|	V|
22+20	3.4504	0.44	|Q	|	|	|	V|
22+25	3.4532	0.40	|Q	|	|	|	V|
22+30	3.4557	0.36	|Q	|	|	|	V|
22+35	3.4580	0.34	|Q	|	|	|	V|
22+40	3.4603	0.33	|Q	|	|	|	V|
22+45	3.4625	0.32	|Q	|	|	|	V|
22+50	3.4647	0.32	|Q	|	|	|	V|
22+55	3.4669	0.32	|Q	|	|	|	V|
23+ 0	3.4691	0.32	|Q	|	|	|	V|
23+ 5	3.4713	0.32	|Q	|	|	|	V|
23+10	3.4735	0.32	|Q	|	|	|	V|
23+15	3.4757	0.32	|Q	|	|	|	V|
23+20	3.4778	0.32	|Q	|	|	|	V|
23+25	3.4800	0.32	|Q	|	|	|	V|
23+30	3.4822	0.32	|Q	|	|	|	V|
23+35	3.4844	0.32	|Q	|	|	|	V|
23+40	3.4866	0.32	|Q	|	|	|	V|
23+45	3.4888	0.32	|Q	|	|	|	V|
23+50	3.4909	0.32	|Q	|	|	|	V|
23+55	3.4931	0.32	|Q	|	|	|	V|
24+ 0	3.4953	0.32	|Q	|	|	|	V|
24+ 5	3.4974	0.30	|Q	|	|	|	V|

24+10	3.4987	0.20	Q	|	|	|	V|
24+15	3.4994	0.09	Q	|	|	|	V|
24+20	3.4997	0.05	Q	|	|	|	V|
24+25	3.4999	0.03	Q	|	|	|	V|
24+30	3.5000	0.02	Q	|	|	|	V|
24+35	3.5001	0.01	Q	|	|	|	V|
24+40	3.5001	0.00	Q	|	|	|	V|
24+45	3.5001	0.00	Q	|	|	|	V|
24+50	3.5002	0.00	Q	|	|	|	V|
24+55	3.5002	0.00	Q	|	|	|	V

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 11/21/21

ROUTE BASIN B
10-YEAR 1-HOUR

Program License Serial Number 6434

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

From study/file name: 2030UDB100110.rte
**********HYDROGRAPH DATA**********
Number of intervals = 24
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 11.686 (CFS)
Total volume = 0.522 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 0.000 to Point/Station 1.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 24
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.187	0.520	0.185	0.189
1.000	0.371	1.050	0.367	0.375
1.500	0.551	1.480	0.546	0.556
2.000	0.724	1.820	0.718	0.730
2.500	0.887	2.100	0.880	0.894
3.000	1.032	3.400	1.020	1.044
3.500	1.160	4.480	1.145	1.175
4.000	1.256	17.620	1.195	1.317
4.500	1.321	23.370	1.241	1.401

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 2.9 5.84 8.76 11.69	Depth (Ft.)
0.083	0.16	0.00	0.001	O	0.00
0.167	1.00	0.01	0.004	O I	0.01
0.250	2.15	0.04	0.015	O I	0.04
0.333	2.77	0.09	0.032	O I	0.08
0.417	3.27	0.14	0.052	O I	0.14
0.500	3.61	0.21	0.074	O I	0.20
0.583	4.08	0.28	0.099	O I	0.26
0.667	4.80	0.35	0.127	O I	0.34
0.750	5.83	0.45	0.161	O I	0.43
0.833	7.86	0.57	0.205	O I	0.55
0.917	11.49	0.75	0.267	O I	0.72
1.000	11.69	0.96	0.341	O I	0.92
1.083	7.20	1.12	0.399	O I	1.08
1.167	4.41	1.19	0.431	O I	1.17
1.250	2.36	1.23	0.446	O I	1.21
1.333	1.38	1.24	0.450	O	1.22
1.417	0.75	1.24	0.449	IO	1.22
1.500	0.40	1.23	0.444	I O	1.20
1.583	0.24	1.21	0.438	I O	1.19
1.667	0.17	1.19	0.431	I O	1.17
1.750	0.11	1.18	0.424	I O	1.15
1.833	0.05	1.16	0.417	I O	1.13
1.917	0.02	1.14	0.409	I O	1.11
2.000	0.00	1.12	0.401	I O	1.08
2.083	0.00	1.10	0.394	I O	1.06
2.167	0.00	1.09	0.386	I O	1.04
2.250	0.00	1.07	0.379	I O	1.02
2.333	0.00	1.05	0.371	I O	1.00
2.417	0.00	1.03	0.364	I O	0.98
2.500	0.00	1.01	0.357	I O	0.96
2.583	0.00	0.99	0.350	I O	0.94
2.667	0.00	0.97	0.343	I O	0.93
2.750	0.00	0.95	0.337	I O	0.91
2.833	0.00	0.93	0.330	I O	0.89
2.917	0.00	0.91	0.324	I O	0.87
3.000	0.00	0.90	0.318	I O	0.86
3.083	0.00	0.88	0.312	I O	0.84
3.167	0.00	0.86	0.306	I O	0.82
3.250	0.00	0.84	0.300	I O	0.81
3.333	0.00	0.83	0.294	I O	0.79
3.417	0.00	0.81	0.288	I O	0.78
3.500	0.00	0.80	0.283	I O	0.76
3.583	0.00	0.78	0.277	I O	0.75
3.667	0.00	0.76	0.272	I O	0.73
3.750	0.00	0.75	0.267	I O	0.72
3.833	0.00	0.74	0.262	I O	0.70
3.917	0.00	0.72	0.257	IO	0.69
4.000	0.00	0.71	0.252	IO	0.68
4.083	0.00	0.69	0.247	IO	0.66
4.167	0.00	0.68	0.242	IO	0.65
4.250	0.00	0.67	0.238	IO	0.64
4.333	0.00	0.65	0.233	IO	0.63
4.417	0.00	0.64	0.229	IO	0.61
4.500	0.00	0.63	0.224	IO	0.60
4.583	0.00	0.62	0.220	IO	0.59
4.667	0.00	0.60	0.216	IO	0.58
4.750	0.00	0.59	0.212	IO	0.57
4.833	0.00	0.58	0.208	IO	0.56
4.917	0.00	0.57	0.204	IO	0.55
5.000	0.00	0.56	0.200	IO	0.53
5.083	0.00	0.55	0.196	IO	0.52
5.167	0.00	0.54	0.192	IO	0.51
5.250	0.00	0.52	0.189	IO	0.50

5.333	0.00	0.51	0.185	IO					0.49
5.417	0.00	0.50	0.182	IO					0.49
5.500	0.00	0.50	0.178	IO					0.48
5.583	0.00	0.49	0.175	IO					0.47
5.667	0.00	0.48	0.171	IO					0.46
5.750	0.00	0.47	0.168	IO					0.45
5.833	0.00	0.46	0.165	IO					0.44
5.917	0.00	0.45	0.162	IO					0.43
6.000	0.00	0.44	0.159	IO					0.42
6.083	0.00	0.43	0.156	IO					0.42
6.167	0.00	0.42	0.153	IO					0.41
6.250	0.00	0.42	0.150	IO					0.40
6.333	0.00	0.41	0.147	IO					0.39
6.417	0.00	0.40	0.144	IO					0.39
6.500	0.00	0.39	0.142	IO					0.38
6.583	0.00	0.39	0.139	IO					0.37
6.667	0.00	0.38	0.136	IO					0.36
6.750	0.00	0.37	0.134	IO					0.36
6.833	0.00	0.36	0.131	O					0.35
6.917	0.00	0.36	0.129	O					0.34
7.000	0.00	0.35	0.126	O					0.34
7.083	0.00	0.34	0.124	O					0.33
7.167	0.00	0.34	0.121	O					0.32
7.250	0.00	0.33	0.119	O					0.32
7.333	0.00	0.33	0.117	O					0.31
7.417	0.00	0.32	0.115	O					0.31
7.500	0.00	0.31	0.112	O					0.30
7.583	0.00	0.31	0.110	O					0.30
7.667	0.00	0.30	0.108	O					0.29
7.750	0.00	0.30	0.106	O					0.28
7.833	0.00	0.29	0.104	O					0.28
7.917	0.00	0.28	0.102	O					0.27
8.000	0.00	0.28	0.100	O					0.27
8.083	0.00	0.27	0.098	O					0.26
8.167	0.00	0.27	0.097	O					0.26
8.250	0.00	0.26	0.095	O					0.25
8.333	0.00	0.26	0.093	O					0.25
8.417	0.00	0.25	0.091	O					0.24
8.500	0.00	0.25	0.089	O					0.24
8.583	0.00	0.24	0.088	O					0.23
8.667	0.00	0.24	0.086	O					0.23
8.750	0.00	0.23	0.084	O					0.23
8.833	0.00	0.23	0.083	O					0.22
8.917	0.00	0.23	0.081	O					0.22
9.000	0.00	0.22	0.080	O					0.21
9.083	0.00	0.22	0.078	O					0.21
9.167	0.00	0.21	0.077	O					0.21
9.250	0.00	0.21	0.075	O					0.20
9.333	0.00	0.21	0.074	O					0.20
9.417	0.00	0.20	0.072	O					0.19
9.500	0.00	0.20	0.071	O					0.19
9.583	0.00	0.19	0.070	O					0.19
9.667	0.00	0.19	0.068	O					0.18
9.750	0.00	0.19	0.067	O					0.18
9.833	0.00	0.18	0.066	O					0.18
9.917	0.00	0.18	0.065	O					0.17
10.000	0.00	0.18	0.063	O					0.17
10.083	0.00	0.17	0.062	O					0.17
10.167	0.00	0.17	0.061	O					0.16
10.250	0.00	0.17	0.060	O					0.16
10.333	0.00	0.16	0.059	O					0.16
10.417	0.00	0.16	0.058	O					0.15
10.500	0.00	0.16	0.056	O					0.15
10.583	0.00	0.15	0.055	O					0.15
10.667	0.00	0.15	0.054	O					0.15
10.750	0.00	0.15	0.053	O					0.14
10.833	0.00	0.15	0.052	O					0.14
10.917	0.00	0.14	0.051	O					0.14
11.000	0.00	0.14	0.050	O					0.13
11.083	0.00	0.14	0.049	O					0.13
11.167	0.00	0.13	0.048	O					0.13

11.250	0.00	0.13	0.048	O	|	|	|	|	0.13
11.333	0.00	0.13	0.047	O	|	|	|	|	0.12
11.417	0.00	0.13	0.046	O	|	|	|	|	0.12
11.500	0.00	0.12	0.045	O	|	|	|	|	0.12
11.583	0.00	0.12	0.044	O	|	|	|	|	0.12
11.667	0.00	0.12	0.043	O	|	|	|	|	0.12
11.750	0.00	0.12	0.042	O	|	|	|	|	0.11
11.833	0.00	0.12	0.042	O	|	|	|	|	0.11
11.917	0.00	0.11	0.041	O	|	|	|	|	0.11
12.000	0.00	0.11	0.040	O	|	|	|	|	0.11
12.083	0.00	0.11	0.039	O	|	|	|	|	0.10
12.167	0.00	0.11	0.038	O	|	|	|	|	0.10
12.250	0.00	0.10	0.038	O	|	|	|	|	0.10
12.333	0.00	0.10	0.037	O	|	|	|	|	0.10
12.417	0.00	0.10	0.036	O	|	|	|	|	0.10
12.500	0.00	0.10	0.036	O	|	|	|	|	0.10
12.583	0.00	0.10	0.035	O	|	|	|	|	0.09
12.667	0.00	0.10	0.034	O	|	|	|	|	0.09
12.750	0.00	0.09	0.034	O	|	|	|	|	0.09
12.833	0.00	0.09	0.033	O	|	|	|	|	0.09
12.917	0.00	0.09	0.032	O	|	|	|	|	0.09
13.000	0.00	0.09	0.032	O	|	|	|	|	0.08
13.083	0.00	0.09	0.031	O	|	|	|	|	0.08
13.167	0.00	0.09	0.031	O	|	|	|	|	0.08
13.250	0.00	0.08	0.030	O	|	|	|	|	0.08
13.333	0.00	0.08	0.029	O	|	|	|	|	0.08
13.417	0.00	0.08	0.029	O	|	|	|	|	0.08
13.500	0.00	0.08	0.028	O	|	|	|	|	0.08
13.583	0.00	0.08	0.028	O	|	|	|	|	0.07
13.667	0.00	0.08	0.027	O	|	|	|	|	0.07
13.750	0.00	0.07	0.027	O	|	|	|	|	0.07
13.833	0.00	0.07	0.026	O	|	|	|	|	0.07
13.917	0.00	0.07	0.026	O	|	|	|	|	0.07
14.000	0.00	0.07	0.025	O	|	|	|	|	0.07
14.083	0.00	0.07	0.025	O	|	|	|	|	0.07
14.167	0.00	0.07	0.024	O	|	|	|	|	0.06
14.250	0.00	0.07	0.024	O	|	|	|	|	0.06
14.333	0.00	0.07	0.023	O	|	|	|	|	0.06
14.417	0.00	0.06	0.023	O	|	|	|	|	0.06
14.500	0.00	0.06	0.023	O	|	|	|	|	0.06
14.583	0.00	0.06	0.022	O	|	|	|	|	0.06
14.667	0.00	0.06	0.022	O	|	|	|	|	0.06
14.750	0.00	0.06	0.021	O	|	|	|	|	0.06
14.833	0.00	0.06	0.021	O	|	|	|	|	0.06
14.917	0.00	0.06	0.020	O	|	|	|	|	0.05
15.000	0.00	0.06	0.020	O	|	|	|	|	0.05
15.083	0.00	0.05	0.020	O	|	|	|	|	0.05
15.167	0.00	0.05	0.019	O	|	|	|	|	0.05
15.250	0.00	0.05	0.019	O	|	|	|	|	0.05
15.333	0.00	0.05	0.019	O	|	|	|	|	0.05
15.417	0.00	0.05	0.018	O	|	|	|	|	0.05
15.500	0.00	0.05	0.018	O	|	|	|	|	0.05
15.583	0.00	0.05	0.018	O	|	|	|	|	0.05
15.667	0.00	0.05	0.017	O	|	|	|	|	0.05
15.750	0.00	0.05	0.017	O	|	|	|	|	0.05
15.833	0.00	0.05	0.017	O	|	|	|	|	0.04
15.917	0.00	0.05	0.016	O	|	|	|	|	0.04
16.000	0.00	0.04	0.016	O	|	|	|	|	0.04
16.083	0.00	0.04	0.016	O	|	|	|	|	0.04
16.167	0.00	0.04	0.015	O	|	|	|	|	0.04
16.250	0.00	0.04	0.015	O	|	|	|	|	0.04
16.333	0.00	0.04	0.015	O	|	|	|	|	0.04
16.417	0.00	0.04	0.014	O	|	|	|	|	0.04
16.500	0.00	0.04	0.014	O	|	|	|	|	0.04
16.583	0.00	0.04	0.014	O	|	|	|	|	0.04
16.667	0.00	0.04	0.014	O	|	|	|	|	0.04
16.750	0.00	0.04	0.013	O	|	|	|	|	0.04
16.833	0.00	0.04	0.013	O	|	|	|	|	0.04
16.917	0.00	0.04	0.013	O	|	|	|	|	0.03
17.000	0.00	0.04	0.013	O	|	|	|	|	0.03
17.083	0.00	0.03	0.012	O	|	|	|	|	0.03

17.167	0.00	0.03	0.012	O	|	|	|	|	0.03
17.250	0.00	0.03	0.012	O	|	|	|	|	0.03
17.333	0.00	0.03	0.012	O	|	|	|	|	0.03
17.417	0.00	0.03	0.012	O	|	|	|	|	0.03
17.500	0.00	0.03	0.011	O	|	|	|	|	0.03
17.583	0.00	0.03	0.011	O	|	|	|	|	0.03
17.667	0.00	0.03	0.011	O	|	|	|	|	0.03
17.750	0.00	0.03	0.011	O	|	|	|	|	0.03
17.833	0.00	0.03	0.010	O	|	|	|	|	0.03
17.917	0.00	0.03	0.010	O	|	|	|	|	0.03
18.000	0.00	0.03	0.010	O	|	|	|	|	0.03
18.083	0.00	0.03	0.010	O	|	|	|	|	0.03
18.167	0.00	0.03	0.010	O	|	|	|	|	0.03
18.250	0.00	0.03	0.010	O	|	|	|	|	0.03
18.333	0.00	0.03	0.009	O	|	|	|	|	0.02
18.417	0.00	0.03	0.009	O	|	|	|	|	0.02
18.500	0.00	0.02	0.009	O	|	|	|	|	0.02
18.583	0.00	0.02	0.009	O	|	|	|	|	0.02
18.667	0.00	0.02	0.009	O	|	|	|	|	0.02
18.750	0.00	0.02	0.008	O	|	|	|	|	0.02
18.833	0.00	0.02	0.008	O	|	|	|	|	0.02
18.917	0.00	0.02	0.008	O	|	|	|	|	0.02
19.000	0.00	0.02	0.008	O	|	|	|	|	0.02
19.083	0.00	0.02	0.008	O	|	|	|	|	0.02
19.167	0.00	0.02	0.008	O	|	|	|	|	0.02
19.250	0.00	0.02	0.008	O	|	|	|	|	0.02
19.333	0.00	0.02	0.007	O	|	|	|	|	0.02
19.417	0.00	0.02	0.007	O	|	|	|	|	0.02
19.500	0.00	0.02	0.007	O	|	|	|	|	0.02
19.583	0.00	0.02	0.007	O	|	|	|	|	0.02
19.667	0.00	0.02	0.007	O	|	|	|	|	0.02
19.750	0.00	0.02	0.007	O	|	|	|	|	0.02
19.833	0.00	0.02	0.007	O	|	|	|	|	0.02
19.917	0.00	0.02	0.006	O	|	|	|	|	0.02
20.000	0.00	0.02	0.006	O	|	|	|	|	0.02
20.083	0.00	0.02	0.006	O	|	|	|	|	0.02
20.167	0.00	0.02	0.006	O	|	|	|	|	0.02
20.250	0.00	0.02	0.006	O	|	|	|	|	0.02
20.333	0.00	0.02	0.006	O	|	|	|	|	0.02
20.417	0.00	0.02	0.006	O	|	|	|	|	0.02
20.500	0.00	0.02	0.006	O	|	|	|	|	0.02
20.583	0.00	0.02	0.006	O	|	|	|	|	0.01
20.667	0.00	0.02	0.005	O	|	|	|	|	0.01
20.750	0.00	0.01	0.005	O	|	|	|	|	0.01
20.833	0.00	0.01	0.005	O	|	|	|	|	0.01
20.917	0.00	0.01	0.005	O	|	|	|	|	0.01
21.000	0.00	0.01	0.005	O	|	|	|	|	0.01
21.083	0.00	0.01	0.005	O	|	|	|	|	0.01
21.167	0.00	0.01	0.005	O	|	|	|	|	0.01
21.250	0.00	0.01	0.005	O	|	|	|	|	0.01
21.333	0.00	0.01	0.005	O	|	|	|	|	0.01
21.417	0.00	0.01	0.005	O	|	|	|	|	0.01
21.500	0.00	0.01	0.005	O	|	|	|	|	0.01
21.583	0.00	0.01	0.004	O	|	|	|	|	0.01
21.667	0.00	0.01	0.004	O	|	|	|	|	0.01
21.750	0.00	0.01	0.004	O	|	|	|	|	0.01
21.833	0.00	0.01	0.004	O	|	|	|	|	0.01
21.917	0.00	0.01	0.004	O	|	|	|	|	0.01
22.000	0.00	0.01	0.004	O	|	|	|	|	0.01
22.083	0.00	0.01	0.004	O	|	|	|	|	0.01
22.167	0.00	0.01	0.004	O	|	|	|	|	0.01
22.250	0.00	0.01	0.004	O	|	|	|	|	0.01
22.333	0.00	0.01	0.004	O	|	|	|	|	0.01
22.417	0.00	0.01	0.004	O	|	|	|	|	0.01
22.500	0.00	0.01	0.004	O	|	|	|	|	0.01
22.583	0.00	0.01	0.004	O	|	|	|	|	0.01
22.667	0.00	0.01	0.003	O	|	|	|	|	0.01
22.750	0.00	0.01	0.003	O	|	|	|	|	0.01
22.833	0.00	0.01	0.003	O	|	|	|	|	0.01
22.917	0.00	0.01	0.003	O	|	|	|	|	0.01
23.000	0.00	0.01	0.003	O	|	|	|	|	0.01

23.083	0.00	0.01	0.003	O					0.01
23.167	0.00	0.01	0.003	O					0.01
23.250	0.00	0.01	0.003	O					0.01
23.333	0.00	0.01	0.003	O					0.01
23.417	0.00	0.01	0.003	O					0.01
23.500	0.00	0.01	0.003	O					0.01
23.583	0.00	0.01	0.003	O					0.01
23.667	0.00	0.01	0.003	O					0.01
23.750	0.00	0.01	0.003	O					0.01
23.833	0.00	0.01	0.003	O					0.01
23.917	0.00	0.01	0.003	O					0.01
24.000	0.00	0.01	0.003	O					0.01
24.083	0.00	0.01	0.002	O					0.01
24.167	0.00	0.01	0.002	O					0.01
24.250	0.00	0.01	0.002	O					0.01
24.333	0.00	0.01	0.002	O					0.01
24.417	0.00	0.01	0.002	O					0.01
24.500	0.00	0.01	0.002	O					0.01
24.583	0.00	0.01	0.002	O					0.01
24.667	0.00	0.01	0.002	O					0.01
24.750	0.00	0.01	0.002	O					0.01
24.833	0.00	0.01	0.002	O					0.01
24.917	0.00	0.01	0.002	O					0.01
25.000	0.00	0.01	0.002	O					0.01
25.083	0.00	0.01	0.002	O					0.01
25.167	0.00	0.01	0.002	O					0.01
25.250	0.00	0.01	0.002	O					0.01
25.333	0.00	0.01	0.002	O					0.00
25.417	0.00	0.01	0.002	O					0.00
25.500	0.00	0.00	0.002	O					0.00
25.583	0.00	0.00	0.002	O					0.00
25.667	0.00	0.00	0.002	O					0.00
25.750	0.00	0.00	0.002	O					0.00
25.833	0.00	0.00	0.002	O					0.00
25.917	0.00	0.00	0.002	O					0.00
26.000	0.00	0.00	0.002	O					0.00
26.083	0.00	0.00	0.002	O					0.00
26.167	0.00	0.00	0.002	O					0.00
26.250	0.00	0.00	0.002	O					0.00
26.333	0.00	0.00	0.001	O					0.00
26.417	0.00	0.00	0.001	O					0.00
26.500	0.00	0.00	0.001	O					0.00
26.583	0.00	0.00	0.001	O					0.00
26.667	0.00	0.00	0.001	O					0.00
26.750	0.00	0.00	0.001	O					0.00
26.833	0.00	0.00	0.001	O					0.00
26.917	0.00	0.00	0.001	O					0.00
27.000	0.00	0.00	0.001	O					0.00
27.083	0.00	0.00	0.001	O					0.00
27.167	0.00	0.00	0.001	O					0.00
27.250	0.00	0.00	0.001	O					0.00
27.333	0.00	0.00	0.001	O					0.00
27.417	0.00	0.00	0.001	O					0.00
27.500	0.00	0.00	0.001	O					0.00
27.583	0.00	0.00	0.001	O					0.00
27.667	0.00	0.00	0.001	O					0.00
27.750	0.00	0.00	0.001	O					0.00
27.833	0.00	0.00	0.001	O					0.00
27.917	0.00	0.00	0.001	O					0.00
28.000	0.00	0.00	0.001	O					0.00
28.083	0.00	0.00	0.001	O					0.00
28.167	0.00	0.00	0.001	O					0.00
28.250	0.00	0.00	0.001	O					0.00
28.333	0.00	0.00	0.001	O					0.00
28.417	0.00	0.00	0.001	O					0.00
28.500	0.00	0.00	0.001	O					0.00
28.583	0.00	0.00	0.001	O					0.00
28.667	0.00	0.00	0.001	O					0.00
28.750	0.00	0.00	0.001	O					0.00
28.833	0.00	0.00	0.001	O					0.00
28.917	0.00	0.00	0.001	O					0.00

29.000	0.00	0.00	0.001	O	|	|	|	|	0.00
29.083	0.00	0.00	0.001	O	|	|	|	|	0.00
29.167	0.00	0.00	0.001	O	|	|	|	|	0.00
29.250	0.00	0.00	0.001	O	|	|	|	|	0.00
29.333	0.00	0.00	0.001	O	|	|	|	|	0.00
29.417	0.00	0.00	0.001	O	|	|	|	|	0.00
29.500	0.00	0.00	0.001	O	|	|	|	|	0.00
29.583	0.00	0.00	0.001	O	|	|	|	|	0.00
29.667	0.00	0.00	0.001	O	|	|	|	|	0.00
29.750	0.00	0.00	0.001	O	|	|	|	|	0.00
29.833	0.00	0.00	0.001	O	|	|	|	|	0.00
29.917	0.00	0.00	0.001	O	|	|	|	|	0.00
30.000	0.00	0.00	0.001	O	|	|	|	|	0.00
30.083	0.00	0.00	0.001	O	|	|	|	|	0.00
30.167	0.00	0.00	0.001	O	|	|	|	|	0.00
30.250	0.00	0.00	0.001	O	|	|	|	|	0.00
30.333	0.00	0.00	0.001	O	|	|	|	|	0.00
30.417	0.00	0.00	0.001	O	|	|	|	|	0.00
30.500	0.00	0.00	0.001	O	|	|	|	|	0.00
30.583	0.00	0.00	0.001	O	|	|	|	|	0.00
30.667	0.00	0.00	0.001	O	|	|	|	|	0.00
30.750	0.00	0.00	0.001	O	|	|	|	|	0.00
30.833	0.00	0.00	0.001	O	|	|	|	|	0.00
30.917	0.00	0.00	0.001	O	|	|	|	|	0.00
31.000	0.00	0.00	0.001	O	|	|	|	|	0.00
31.083	0.00	0.00	0.000	O	|	|	|	|	0.00
31.167	0.00	0.00	0.000	O	|	|	|	|	0.00
31.250	0.00	0.00	0.000	O	|	|	|	|	0.00
31.333	0.00	0.00	0.000	O	|	|	|	|	0.00
31.417	0.00	0.00	0.000	O	|	|	|	|	0.00
31.500	0.00	0.00	0.000	O	|	|	|	|	0.00
31.583	0.00	0.00	0.000	O	|	|	|	|	0.00
31.667	0.00	0.00	0.000	O	|	|	|	|	0.00
31.750	0.00	0.00	0.000	O	|	|	|	|	0.00
31.833	0.00	0.00	0.000	O	|	|	|	|	0.00
31.917	0.00	0.00	0.000	O	|	|	|	|	0.00
32.000	0.00	0.00	0.000	O	|	|	|	|	0.00
32.083	0.00	0.00	0.000	O	|	|	|	|	0.00
32.167	0.00	0.00	0.000	O	|	|	|	|	0.00
32.250	0.00	0.00	0.000	O	|	|	|	|	0.00
32.333	0.00	0.00	0.000	O	|	|	|	|	0.00

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

Number of intervals = 388
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.239 (CFS)
Total volume = 0.522 (Ac.Ft)

Status of hydrographs being held in storage

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

****

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 11/21/21

ROUTE BASIN B
10-YEAR 24-HOUR

Program License Serial Number 6434

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

From study/file name: 2030UDB1002410.rte
**********HYDROGRAPH DATA**********
Number of intervals = 300
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.502 (CFS)
Total volume = 2.092 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 0.000 to Point/Station 1.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 300
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.187	0.520	0.185	0.189
1.000	0.371	1.050	0.367	0.375
1.500	0.551	1.480	0.546	0.556
2.000	0.724	1.820	0.718	0.730
2.500	0.887	2.100	0.880	0.894
3.000	1.032	3.400	1.020	1.044
3.500	1.160	4.480	1.145	1.175
4.000	1.256	17.620	1.195	1.317
4.500	1.321	23.370	1.241	1.401

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.9	1.75	2.63	3.50	Depth (Ft.)
0.083	0.01	0.00	0.000	O	|	|	|	|	0.00
0.167	0.07	0.00	0.000	O	|	|	|	|	0.00
0.250	0.14	0.00	0.001	OI	|	|	|	|	0.00
0.333	0.17	0.01	0.002	OI	|	|	|	|	0.01
0.417	0.21	0.01	0.003	OI	|	|	|	|	0.01
0.500	0.26	0.01	0.005	O I	|	|	|	|	0.01
0.583	0.28	0.02	0.007	O I	|	|	|	|	0.02
0.667	0.29	0.02	0.008	O I	|	|	|	|	0.02
0.750	0.29	0.03	0.010	O I	|	|	|	|	0.03
0.833	0.30	0.03	0.012	O I	|	|	|	|	0.03
0.917	0.33	0.04	0.014	O I	|	|	|	|	0.04
1.000	0.37	0.04	0.016	O I	|	|	|	|	0.04
1.083	0.38	0.05	0.018	O I	|	|	|	|	0.05
1.167	0.36	0.06	0.021	O I	|	|	|	|	0.05
1.250	0.33	0.06	0.023	O I	|	|	|	|	0.06
1.333	0.32	0.07	0.024	O I	|	|	|	|	0.06
1.417	0.31	0.07	0.026	O I	|	|	|	|	0.07
1.500	0.31	0.08	0.028	O I	|	|	|	|	0.07
1.583	0.31	0.08	0.029	O I	|	|	|	|	0.08
1.667	0.30	0.09	0.031	O I	|	|	|	|	0.08
1.750	0.30	0.09	0.032	O I	|	|	|	|	0.09
1.833	0.31	0.09	0.034	O I	|	|	|	|	0.09
1.917	0.34	0.10	0.035	O I	|	|	|	|	0.09
2.000	0.37	0.10	0.037	O I	|	|	|	|	0.10
2.083	0.39	0.11	0.039	O I	|	|	|	|	0.10
2.167	0.39	0.11	0.041	|O I	|	|	|	|	0.11
2.250	0.40	0.12	0.043	|O I	|	|	|	|	0.11
2.333	0.40	0.12	0.045	|O I	|	|	|	|	0.12
2.417	0.40	0.13	0.047	|O I	|	|	|	|	0.12
2.500	0.40	0.13	0.048	|O I	|	|	|	|	0.13
2.583	0.41	0.14	0.050	|O I	|	|	|	|	0.13
2.667	0.44	0.15	0.052	|O I	|	|	|	|	0.14
2.750	0.47	0.15	0.054	|O I	|	|	|	|	0.15
2.833	0.49	0.16	0.057	|O I	|	|	|	|	0.15
2.917	0.49	0.16	0.059	|O I	|	|	|	|	0.16
3.000	0.50	0.17	0.061	|O I	|	|	|	|	0.16
3.083	0.50	0.18	0.063	|O I	|	|	|	|	0.17
3.167	0.50	0.18	0.066	|O I	|	|	|	|	0.18
3.250	0.50	0.19	0.068	|O I	|	|	|	|	0.18
3.333	0.50	0.19	0.070	|O I	|	|	|	|	0.19
3.417	0.50	0.20	0.072	|O I	|	|	|	|	0.19
3.500	0.51	0.21	0.074	|O I	|	|	|	|	0.20
3.583	0.51	0.21	0.076	|O I	|	|	|	|	0.20
3.667	0.51	0.22	0.078	|O I	|	|	|	|	0.21
3.750	0.51	0.22	0.080	| O I	|	|	|	|	0.21
3.833	0.51	0.23	0.082	| O I	|	|	|	|	0.22
3.917	0.54	0.23	0.084	| O I	|	|	|	|	0.22
4.000	0.57	0.24	0.086	| O I	|	|	|	|	0.23
4.083	0.59	0.25	0.089	| O I	|	|	|	|	0.24
4.167	0.60	0.25	0.091	| O I	|	|	|	|	0.24
4.250	0.60	0.26	0.093	| O I	|	|	|	|	0.25
4.333	0.61	0.27	0.096	| O I	|	|	|	|	0.26
4.417	0.64	0.27	0.098	| O I	|	|	|	|	0.26
4.500	0.67	0.28	0.101	| O I |	|	|	|	0.27
4.583	0.69	0.29	0.103	| O I |	|	|	|	0.28
4.667	0.70	0.30	0.106	| O I |	|	|	|	0.28
4.750	0.70	0.30	0.109	| O I |	|	|	|	0.29
4.833	0.71	0.31	0.112	| O I |	|	|	|	0.30
4.917	0.74	0.32	0.115	| O I |	|	|	|	0.31
5.000	0.78	0.33	0.117	| O I|	|	|	|	0.31
5.083	0.78	0.34	0.121	| O I|	|	|	|	0.32
5.167	0.73	0.34	0.123	| O I |	|	|	|	0.33
5.250	0.66	0.35	0.126	| O I |	|	|	|	0.34

5.333	0.65	0.36	0.128	O I				0.34
5.417	0.66	0.36	0.130	O I				0.35
5.500	0.69	0.37	0.132	O I				0.35
5.583	0.70	0.37	0.134	O I				0.36
5.667	0.73	0.38	0.137	O I				0.37
5.750	0.77	0.39	0.139	O I				0.37
5.833	0.79	0.39	0.142	O I				0.38
5.917	0.80	0.40	0.145	O I				0.39
6.000	0.80	0.41	0.147	O I				0.39
6.083	0.81	0.42	0.150	O I				0.40
6.167	0.84	0.42	0.153	O I				0.41
6.250	0.88	0.43	0.156	O I				0.42
6.333	0.89	0.44	0.159	O I				0.42
6.417	0.90	0.45	0.162	O I				0.43
6.500	0.90	0.46	0.165	O I				0.44
6.583	0.91	0.47	0.168	O I				0.45
6.667	0.94	0.48	0.171	O I				0.46
6.750	0.98	0.49	0.174	O I				0.47
6.833	0.99	0.49	0.178	O I				0.48
6.917	1.00	0.50	0.181	O I				0.48
7.000	1.00	0.51	0.185	O I				0.49
7.083	1.01	0.52	0.188	O I				0.50
7.167	1.01	0.53	0.191	O I				0.51
7.250	1.01	0.54	0.195	O I				0.52
7.333	1.01	0.55	0.198	O I				0.53
7.417	1.04	0.56	0.201	O I				0.54
7.500	1.08	0.57	0.204	O I				0.55
7.583	1.10	0.58	0.208	O I				0.56
7.667	1.13	0.59	0.212	O I				0.57
7.750	1.17	0.60	0.215	O I				0.58
7.833	1.20	0.61	0.219	O I				0.59
7.917	1.23	0.63	0.224	O I				0.60
8.000	1.27	0.64	0.228	O I				0.61
8.083	1.30	0.65	0.232	O I				0.62
8.167	1.37	0.66	0.237	O I				0.64
8.250	1.44	0.68	0.242	O I				0.65
8.333	1.47	0.69	0.247	O I				0.66
8.417	1.49	0.71	0.253	O I				0.68
8.500	1.50	0.72	0.258	O I				0.69
8.583	1.51	0.74	0.263	O I				0.71
8.667	1.54	0.76	0.269	O I				0.72
8.750	1.58	0.77	0.274	O I				0.74
8.833	1.60	0.79	0.280	O I				0.75
8.917	1.64	0.80	0.286	O I				0.77
9.000	1.68	0.82	0.291	O I				0.78
9.083	1.71	0.84	0.297	O I				0.80
9.167	1.77	0.86	0.303	O I				0.82
9.250	1.85	0.87	0.310	O I				0.83
9.333	1.88	0.89	0.317	O I				0.85
9.417	1.93	0.91	0.324	O I				0.87
9.500	1.98	0.93	0.331	O I				0.89
9.583	2.00	0.95	0.338	O I				0.91
9.667	2.04	0.98	0.345	O I				0.93
9.750	2.08	1.00	0.353	O I				0.95
9.833	2.10	1.02	0.360	O I				0.97
9.917	2.14	1.04	0.368	O I				0.99
10.000	2.18	1.06	0.375	O I				1.01
10.083	2.16	1.08	0.383	O I				1.03
10.167	1.98	1.09	0.390	O I				1.05
10.250	1.73	1.11	0.395	O I				1.07
10.333	1.64	1.12	0.399	O I				1.08
10.417	1.59	1.12	0.402	O I				1.09
10.500	1.56	1.13	0.405	O I				1.10
10.583	1.56	1.14	0.408	O I				1.10
10.667	1.69	1.15	0.411	O I				1.11
10.750	1.87	1.16	0.416	O I				1.12
10.833	1.93	1.17	0.421	O I				1.14
10.917	1.97	1.18	0.426	O I				1.15
11.000	1.99	1.20	0.432	O I				1.17
11.083	2.00	1.21	0.437	O I				1.18
11.167	1.98	1.22	0.443	O I				1.20

11.250	1.95	1.23	0.448	|	| O |I |	|	1.21
11.333	1.93	1.24	0.452	|	| O |I |	|	1.23
11.417	1.93	1.26	0.457	|	| O |I |	|	1.24
11.500	1.93	1.27	0.462	|	| O |I |	|	1.25
11.583	1.91	1.28	0.466	|	| O |I |	|	1.26
11.667	1.86	1.29	0.470	|	| O I |	|	1.28
11.750	1.78	1.30	0.474	|	| O I |	|	1.29
11.833	1.76	1.30	0.477	|	| O I |	|	1.29
11.917	1.77	1.31	0.480	|	| O I |	|	1.30
12.000	1.80	1.32	0.484	|	| O I |	|	1.31
12.083	1.84	1.33	0.487	|	| O I |	|	1.32
12.167	2.04	1.34	0.491	|	| O | I |	|	1.33
12.250	2.30	1.35	0.497	|	| O | I |	|	1.35
12.333	2.40	1.37	0.504	|	| O | I |	|	1.37
12.417	2.48	1.38	0.511	|	| O | I |	|	1.39
12.500	2.55	1.40	0.519	|	| O | I|	|	1.41
12.583	2.60	1.42	0.527	|	| O | I|	|	1.43
12.667	2.67	1.44	0.535	|	| O | I |	|	1.46
12.750	2.75	1.46	0.544	|	| O | |I |	|	1.48
12.833	2.79	1.48	0.553	|	| O | |I |	|	1.50
12.917	2.84	1.50	0.562	|	| O | |I |	|	1.53
13.000	2.88	1.52	0.571	|	| O | | I |	|	1.56
13.083	2.93	1.54	0.581	|	| O | | I |	|	1.59
13.167	3.11	1.56	0.591	|	| O | | I |	|	1.61
13.250	3.33	1.58	0.602	|	| O | | I |	|	1.65
13.333	3.42	1.60	0.614	|	| O | | I|	|	1.68
13.417	3.47	1.63	0.627	|	| O | | I|	|	1.72
13.500	3.50	1.65	0.640	|	| O| | I |	|	1.76
13.583	3.46	1.68	0.652	|	| O| | I|	|	1.79
13.667	3.13	1.70	0.663	|	| O| | I |	|	1.82
13.750	2.70	1.72	0.672	|	| O| | I |	|	1.85
13.833	2.54	1.73	0.678	|	| O| | I|	|	1.87
13.917	2.45	1.74	0.683	|	| O| | I |	|	1.88
14.000	2.40	1.75	0.688	|	| O| | I |	|	1.89
14.083	2.38	1.76	0.692	|	| O | I |	|	1.91
14.167	2.48	1.77	0.697	|	| O | I |	|	1.92
14.250	2.62	1.78	0.702	|	| O | I|	|	1.94
14.333	2.66	1.79	0.708	|	| O | I |	|	1.95
14.417	2.66	1.80	0.714	|	| O | I |	|	1.97
14.500	2.64	1.81	0.720	|	| O | I |	|	1.99
14.583	2.63	1.82	0.725	|	| O | I |	|	2.00
14.667	2.63	1.83	0.731	|	| O | I |	|	2.02
14.750	2.63	1.84	0.736	|	| O | I |	|	2.04
14.833	2.62	1.85	0.742	|	| O | I|	|	2.05
14.917	2.59	1.86	0.747	|	| O | I|	|	2.07
15.000	2.56	1.87	0.752	|	| |O | I|	|	2.08
15.083	2.54	1.88	0.756	|	| |O | I|	|	2.10
15.167	2.50	1.88	0.761	|	| |O | I |	|	2.11
15.250	2.46	1.89	0.765	|	| |O | I |	|	2.13
15.333	2.44	1.90	0.769	|	| |O | I |	|	2.14
15.417	2.40	1.90	0.772	|	| |O | I |	|	2.15
15.500	2.36	1.91	0.776	|	| |O | I |	|	2.16
15.583	2.33	1.91	0.779	|	| |O | I |	|	2.17
15.667	2.20	1.92	0.781	|	| |O | I |	|	2.17
15.750	2.05	1.92	0.782	|	| |O| |	|	2.18
15.833	2.00	1.92	0.783	|	| |O| |	|	2.18
15.917	1.97	1.92	0.784	|	| |O |	|	2.18
16.000	1.95	1.92	0.784	|	| |O |	|	2.18
16.083	1.86	1.92	0.784	|	| |O |	|	2.18
16.167	1.43	1.92	0.782	|	| I | |O |	|	2.18
16.250	0.89	1.91	0.777	|	I | |O |	|	2.16
16.333	0.69	1.90	0.769	|	I | |O |	|	2.14
16.417	0.57	1.88	0.760	|	I | |O |	|	2.11
16.500	0.50	1.87	0.751	|	I | |O |	|	2.08
16.583	0.45	1.85	0.741	|	I | |O |	|	2.05
16.667	0.40	1.83	0.732	|	I | |O |	|	2.02
16.750	0.35	1.82	0.722	|	I | |O |	|	1.99
16.833	0.33	1.80	0.712	|	I | |O |	|	1.96
16.917	0.32	1.78	0.702	|	I | |O |	|	1.94
17.000	0.31	1.76	0.692	|	I | |O |	|	1.91
17.083	0.32	1.74	0.682	|	I | |O|	|	1.88

17.167	0.37	1.72	0.672	| I |	O|	|	|	1.85
17.250	0.44	1.70	0.663	| I |	O|	|	|	1.82
17.333	0.47	1.68	0.655	| I |	O|	|	|	1.80
17.417	0.48	1.67	0.646	| I |	O|	|	|	1.78
17.500	0.49	1.65	0.638	| I |	O|	|	|	1.75
17.583	0.50	1.64	0.630	| I |	O |	|	|	1.73
17.667	0.50	1.62	0.623	| I |	O |	|	|	1.71
17.750	0.50	1.61	0.615	| I |	O |	|	|	1.69
17.833	0.50	1.59	0.607	| I |	O |	|	|	1.66
17.917	0.47	1.58	0.600	| I |	O |	|	|	1.64
18.000	0.44	1.56	0.592	| I |	O |	|	|	1.62
18.083	0.42	1.55	0.584	| I |	O |	|	|	1.60
18.167	0.42	1.53	0.577	| I |	O |	|	|	1.57
18.250	0.41	1.52	0.569	| I |	O |	|	|	1.55
18.333	0.41	1.50	0.562	| I |	O |	|	|	1.53
18.417	0.41	1.49	0.554	| I |	O |	|	|	1.51
18.500	0.41	1.47	0.547	| I |	O |	|	|	1.49
18.583	0.40	1.45	0.539	| I |	O |	|	|	1.47
18.667	0.37	1.43	0.532	| I |	O |	|	|	1.45
18.750	0.34	1.42	0.525	| I |	O |	|	|	1.43
18.833	0.32	1.40	0.517	| I |	O |	|	|	1.41
18.917	0.28	1.38	0.510	| I |	O |	|	|	1.39
19.000	0.24	1.36	0.502	| I |	O |	|	|	1.36
19.083	0.23	1.34	0.494	| I |	O |	|	|	1.34
19.167	0.25	1.33	0.487	| I |	O |	|	|	1.32
19.250	0.28	1.31	0.480	| I |	O |	|	|	1.30
19.333	0.29	1.29	0.473	| I |	O |	|	|	1.28
19.417	0.33	1.28	0.466	| I |	O |	|	|	1.26
19.500	0.37	1.26	0.460	| I |	O |	|	|	1.25
19.583	0.38	1.25	0.453	| I |	O |	|	|	1.23
19.667	0.36	1.23	0.447	| I |	O |	|	|	1.21
19.750	0.33	1.22	0.441	| I |	O |	|	|	1.20
19.833	0.31	1.20	0.435	| I |	O |	|	|	1.18
19.917	0.28	1.19	0.429	| I |	O |	|	|	1.16
20.000	0.24	1.17	0.423	| I |	O |	|	|	1.14
20.083	0.23	1.16	0.416	| I |	O |	|	|	1.13
20.167	0.25	1.14	0.410	| I |	O |	|	|	1.11
20.250	0.28	1.13	0.404	| I |	O |	|	|	1.09
20.333	0.29	1.11	0.398	| I |	O |	|	|	1.08
20.417	0.29	1.10	0.393	| I |	O |	|	|	1.06
20.500	0.30	1.09	0.387	| I |	O |	|	|	1.04
20.583	0.30	1.08	0.382	| I |	O |	|	|	1.03
20.667	0.30	1.06	0.376	| I |	O |	|	|	1.01
20.750	0.30	1.05	0.371	| I |	O |	|	|	1.00
20.833	0.30	1.04	0.366	| I |	O |	|	|	0.99
20.917	0.27	1.02	0.361	| I |	O |	|	|	0.97
21.000	0.23	1.01	0.356	| I |	O |	|	|	0.96
21.083	0.23	0.99	0.350	| I |	O |	|	|	0.94
21.167	0.25	0.98	0.345	| I |	O |	|	|	0.93
21.250	0.28	0.96	0.340	| I |	O |	|	|	0.92
21.333	0.28	0.95	0.336	| I |	O |	|	|	0.90
21.417	0.26	0.94	0.331	| I |	O |	|	|	0.89
21.500	0.23	0.92	0.326	| I |	O |	|	|	0.88
21.583	0.22	0.91	0.322	| I |	O |	|	|	0.87
21.667	0.24	0.89	0.317	| I |	O |	|	|	0.85
21.750	0.28	0.88	0.313	| I |	O |	|	|	0.84
21.833	0.28	0.87	0.309	| I |	O|	|	|	0.83
21.917	0.26	0.86	0.305	| I |	O|	|	|	0.82
22.000	0.23	0.85	0.300	| I |	O|	|	|	0.81
22.083	0.22	0.83	0.296	| I |	O|	|	|	0.80
22.167	0.24	0.82	0.292	| I |	O|	|	|	0.79
22.250	0.28	0.81	0.288	| I |	O|	|	|	0.77
22.333	0.28	0.80	0.285	| I |	O|	|	|	0.77
22.417	0.26	0.79	0.281	| I |	O|	|	|	0.76
22.500	0.23	0.78	0.277	| I |	O|	|	|	0.75
22.583	0.22	0.77	0.273	|I |	O|	|	|	0.73
22.667	0.21	0.76	0.270	|I |	O |	|	|	0.72
22.750	0.21	0.75	0.266	|I |	O |	|	|	0.71
22.833	0.20	0.74	0.262	|I |	O |	|	|	0.70
22.917	0.20	0.73	0.259	|I |	O |	|	|	0.69
23.000	0.20	0.72	0.255	|I |	O |	|	|	0.68

23.083	0.20	0.71	0.252	|I O |				0.68
23.167	0.20	0.70	0.248	|I O |				0.67
23.250	0.20	0.69	0.245	|I O |				0.66
23.333	0.20	0.68	0.241	|I O |				0.65
23.417	0.20	0.67	0.238	|I O |				0.64
23.500	0.20	0.66	0.235	|I O |				0.63
23.583	0.20	0.65	0.232	|I O |				0.62
23.667	0.20	0.64	0.229	|I O |				0.61
23.750	0.20	0.63	0.226	|I O |				0.61
23.833	0.20	0.62	0.223	|I O |				0.60
23.917	0.20	0.62	0.220	|I O |				0.59
24.000	0.20	0.61	0.217	|I O |				0.58
24.083	0.19	0.60	0.214	|I O |				0.57
24.167	0.14	0.59	0.211	|I O |				0.57
24.250	0.06	0.58	0.208	I O |				0.56
24.333	0.04	0.57	0.205	I O |				0.55
24.417	0.02	0.56	0.201	I O |				0.54
24.500	0.01	0.55	0.197	I O |				0.53
24.583	0.01	0.54	0.193	I O |				0.52
24.667	0.00	0.53	0.190	I O |				0.51
24.750	0.00	0.52	0.186	I O |				0.50
24.833	0.00	0.51	0.183	I O |				0.49
24.917	0.00	0.50	0.179	I O |				0.48
25.000	0.00	0.49	0.176	I O |				0.47
25.083	0.00	0.48	0.173	I O |				0.46
25.167	0.00	0.47	0.169	I O |				0.45
25.250	0.00	0.46	0.166	I O |				0.44
25.333	0.00	0.45	0.163	I O |				0.44
25.417	0.00	0.44	0.160	I O |				0.43
25.500	0.00	0.44	0.157	I O |				0.42
25.583	0.00	0.43	0.154	I O |				0.41
25.667	0.00	0.42	0.151	I O |				0.40
25.750	0.00	0.41	0.148	I O |				0.40
25.833	0.00	0.40	0.145	I O |				0.39
25.917	0.00	0.40	0.142	I O |				0.38
26.000	0.00	0.39	0.140	I O |				0.37
26.083	0.00	0.38	0.137	I O |				0.37
26.167	0.00	0.37	0.134	I O |				0.36
26.250	0.00	0.37	0.132	I O |				0.35
26.333	0.00	0.36	0.129	I O |				0.35
26.417	0.00	0.35	0.127	I O |				0.34
26.500	0.00	0.35	0.125	I O |				0.33
26.583	0.00	0.34	0.122	I O |				0.33
26.667	0.00	0.33	0.120	I O |				0.32
26.750	0.00	0.33	0.118	I O |				0.31
26.833	0.00	0.32	0.115	I O |				0.31
26.917	0.00	0.31	0.113	I O |				0.30
27.000	0.00	0.31	0.111	I O |				0.30
27.083	0.00	0.30	0.109	I O |				0.29
27.167	0.00	0.30	0.107	I O |				0.29
27.250	0.00	0.29	0.105	I O |				0.28
27.333	0.00	0.29	0.103	I O |				0.28
27.417	0.00	0.28	0.101	I O |				0.27
27.500	0.00	0.28	0.099	I O |				0.26
27.583	0.00	0.27	0.097	I O |				0.26
27.667	0.00	0.26	0.095	I O |				0.25
27.750	0.00	0.26	0.093	I O |				0.25
27.833	0.00	0.25	0.092	I O |				0.25
27.917	0.00	0.25	0.090	I O |				0.24
28.000	0.00	0.25	0.088	I O |				0.24
28.083	0.00	0.24	0.087	I O |				0.23
28.167	0.00	0.24	0.085	I O |				0.23
28.250	0.00	0.23	0.083	I O |				0.22
28.333	0.00	0.23	0.082	I O |				0.22
28.417	0.00	0.22	0.080	I O |				0.21
28.500	0.00	0.22	0.079	IO |				0.21
28.583	0.00	0.21	0.077	IO |				0.21
28.667	0.00	0.21	0.076	IO |				0.20
28.750	0.00	0.21	0.074	IO |				0.20
28.833	0.00	0.20	0.073	IO |				0.19
28.917	0.00	0.20	0.071	IO |				0.19

29.000	0.00	0.20	0.070	IO				0.19
29.083	0.00	0.19	0.069	IO				0.18
29.167	0.00	0.19	0.067	IO				0.18
29.250	0.00	0.18	0.066	IO				0.18
29.333	0.00	0.18	0.065	IO				0.17
29.417	0.00	0.18	0.064	IO				0.17
29.500	0.00	0.17	0.063	IO				0.17
29.583	0.00	0.17	0.061	IO				0.16
29.667	0.00	0.17	0.060	IO				0.16
29.750	0.00	0.16	0.059	IO				0.16
29.833	0.00	0.16	0.058	IO				0.15
29.917	0.00	0.16	0.057	IO				0.15
30.000	0.00	0.15	0.056	IO				0.15
30.083	0.00	0.15	0.055	IO				0.15
30.167	0.00	0.15	0.054	IO				0.14
30.250	0.00	0.15	0.053	IO				0.14
30.333	0.00	0.14	0.052	IO				0.14
30.417	0.00	0.14	0.051	IO				0.14
30.500	0.00	0.14	0.050	IO				0.13
30.583	0.00	0.14	0.049	IO				0.13
30.667	0.00	0.13	0.048	IO				0.13
30.750	0.00	0.13	0.047	IO				0.13
30.833	0.00	0.13	0.046	IO				0.12
30.917	0.00	0.13	0.045	IO				0.12
31.000	0.00	0.12	0.044	IO				0.12
31.083	0.00	0.12	0.043	IO				0.12
31.167	0.00	0.12	0.043	IO				0.11
31.250	0.00	0.12	0.042	IO				0.11
31.333	0.00	0.11	0.041	IO				0.11
31.417	0.00	0.11	0.040	IO				0.11
31.500	0.00	0.11	0.039	IO				0.11
31.583	0.00	0.11	0.039	O				0.10
31.667	0.00	0.11	0.038	O				0.10
31.750	0.00	0.10	0.037	O				0.10
31.833	0.00	0.10	0.037	O				0.10
31.917	0.00	0.10	0.036	O				0.10
32.000	0.00	0.10	0.035	O				0.09
32.083	0.00	0.10	0.035	O				0.09
32.167	0.00	0.09	0.034	O				0.09
32.250	0.00	0.09	0.033	O				0.09
32.333	0.00	0.09	0.033	O				0.09
32.417	0.00	0.09	0.032	O				0.09
32.500	0.00	0.09	0.031	O				0.08
32.583	0.00	0.09	0.031	O				0.08
32.667	0.00	0.08	0.030	O				0.08
32.750	0.00	0.08	0.030	O				0.08
32.833	0.00	0.08	0.029	O				0.08
32.917	0.00	0.08	0.029	O				0.08
33.000	0.00	0.08	0.028	O				0.07
33.083	0.00	0.08	0.027	O				0.07
33.167	0.00	0.07	0.027	O				0.07
33.250	0.00	0.07	0.026	O				0.07
33.333	0.00	0.07	0.026	O				0.07
33.417	0.00	0.07	0.025	O				0.07
33.500	0.00	0.07	0.025	O				0.07
33.583	0.00	0.07	0.024	O				0.07
33.667	0.00	0.07	0.024	O				0.06
33.750	0.00	0.07	0.024	O				0.06
33.833	0.00	0.06	0.023	O				0.06
33.917	0.00	0.06	0.023	O				0.06
34.000	0.00	0.06	0.022	O				0.06
34.083	0.00	0.06	0.022	O				0.06
34.167	0.00	0.06	0.021	O				0.06
34.250	0.00	0.06	0.021	O				0.06
34.333	0.00	0.06	0.021	O				0.06
34.417	0.00	0.06	0.020	O				0.05
34.500	0.00	0.06	0.020	O				0.05
34.583	0.00	0.05	0.019	O				0.05
34.667	0.00	0.05	0.019	O				0.05
34.750	0.00	0.05	0.019	O				0.05
34.833	0.00	0.05	0.018	O				0.05

34.917	0.00	0.05	0.018	O	|	|	|	|	0.05
35.000	0.00	0.05	0.018	O	|	|	|	|	0.05
35.083	0.00	0.05	0.017	O	|	|	|	|	0.05
35.167	0.00	0.05	0.017	O	|	|	|	|	0.05
35.250	0.00	0.05	0.017	O	|	|	|	|	0.04
35.333	0.00	0.05	0.016	O	|	|	|	|	0.04
35.417	0.00	0.04	0.016	O	|	|	|	|	0.04
35.500	0.00	0.04	0.016	O	|	|	|	|	0.04
35.583	0.00	0.04	0.015	O	|	|	|	|	0.04
35.667	0.00	0.04	0.015	O	|	|	|	|	0.04
35.750	0.00	0.04	0.015	O	|	|	|	|	0.04
35.833	0.00	0.04	0.015	O	|	|	|	|	0.04
35.917	0.00	0.04	0.014	O	|	|	|	|	0.04
36.000	0.00	0.04	0.014	O	|	|	|	|	0.04
36.083	0.00	0.04	0.014	O	|	|	|	|	0.04
36.167	0.00	0.04	0.014	O	|	|	|	|	0.04
36.250	0.00	0.04	0.013	O	|	|	|	|	0.04
36.333	0.00	0.04	0.013	O	|	|	|	|	0.03
36.417	0.00	0.04	0.013	O	|	|	|	|	0.03
36.500	0.00	0.03	0.013	O	|	|	|	|	0.03
36.583	0.00	0.03	0.012	O	|	|	|	|	0.03
36.667	0.00	0.03	0.012	O	|	|	|	|	0.03
36.750	0.00	0.03	0.012	O	|	|	|	|	0.03
36.833	0.00	0.03	0.012	O	|	|	|	|	0.03
36.917	0.00	0.03	0.011	O	|	|	|	|	0.03
37.000	0.00	0.03	0.011	O	|	|	|	|	0.03
37.083	0.00	0.03	0.011	O	|	|	|	|	0.03
37.167	0.00	0.03	0.011	O	|	|	|	|	0.03
37.250	0.00	0.03	0.011	O	|	|	|	|	0.03
37.333	0.00	0.03	0.010	O	|	|	|	|	0.03
37.417	0.00	0.03	0.010	O	|	|	|	|	0.03
37.500	0.00	0.03	0.010	O	|	|	|	|	0.03
37.583	0.00	0.03	0.010	O	|	|	|	|	0.03
37.667	0.00	0.03	0.010	O	|	|	|	|	0.03
37.750	0.00	0.03	0.009	O	|	|	|	|	0.03
37.833	0.00	0.03	0.009	O	|	|	|	|	0.02
37.917	0.00	0.03	0.009	O	|	|	|	|	0.02
38.000	0.00	0.02	0.009	O	|	|	|	|	0.02
38.083	0.00	0.02	0.009	O	|	|	|	|	0.02
38.167	0.00	0.02	0.009	O	|	|	|	|	0.02
38.250	0.00	0.02	0.008	O	|	|	|	|	0.02
38.333	0.00	0.02	0.008	O	|	|	|	|	0.02
38.417	0.00	0.02	0.008	O	|	|	|	|	0.02
38.500	0.00	0.02	0.008	O	|	|	|	|	0.02
38.583	0.00	0.02	0.008	O	|	|	|	|	0.02
38.667	0.00	0.02	0.008	O	|	|	|	|	0.02
38.750	0.00	0.02	0.007	O	|	|	|	|	0.02
38.833	0.00	0.02	0.007	O	|	|	|	|	0.02
38.917	0.00	0.02	0.007	O	|	|	|	|	0.02
39.000	0.00	0.02	0.007	O	|	|	|	|	0.02
39.083	0.00	0.02	0.007	O	|	|	|	|	0.02
39.167	0.00	0.02	0.007	O	|	|	|	|	0.02
39.250	0.00	0.02	0.007	O	|	|	|	|	0.02
39.333	0.00	0.02	0.007	O	|	|	|	|	0.02
39.417	0.00	0.02	0.006	O	|	|	|	|	0.02
39.500	0.00	0.02	0.006	O	|	|	|	|	0.02
39.583	0.00	0.02	0.006	O	|	|	|	|	0.02
39.667	0.00	0.02	0.006	O	|	|	|	|	0.02
39.750	0.00	0.02	0.006	O	|	|	|	|	0.02
39.833	0.00	0.02	0.006	O	|	|	|	|	0.02
39.917	0.00	0.02	0.006	O	|	|	|	|	0.02
40.000	0.00	0.02	0.006	O	|	|	|	|	0.01
40.083	0.00	0.02	0.005	O	|	|	|	|	0.01
40.167	0.00	0.01	0.005	O	|	|	|	|	0.01
40.250	0.00	0.01	0.005	O	|	|	|	|	0.01
40.333	0.00	0.01	0.005	O	|	|	|	|	0.01
40.417	0.00	0.01	0.005	O	|	|	|	|	0.01
40.500	0.00	0.01	0.005	O	|	|	|	|	0.01
40.583	0.00	0.01	0.005	O	|	|	|	|	0.01
40.667	0.00	0.01	0.005	O	|	|	|	|	0.01
40.750	0.00	0.01	0.005	O	|	|	|	|	0.01

40.833	0.00	0.01	0.005	O	|	|	|	|	0.01
40.917	0.00	0.01	0.005	O	|	|	|	|	0.01
41.000	0.00	0.01	0.004	O	|	|	|	|	0.01
41.083	0.00	0.01	0.004	O	|	|	|	|	0.01
41.167	0.00	0.01	0.004	O	|	|	|	|	0.01
41.250	0.00	0.01	0.004	O	|	|	|	|	0.01
41.333	0.00	0.01	0.004	O	|	|	|	|	0.01
41.417	0.00	0.01	0.004	O	|	|	|	|	0.01
41.500	0.00	0.01	0.004	O	|	|	|	|	0.01
41.583	0.00	0.01	0.004	O	|	|	|	|	0.01
41.667	0.00	0.01	0.004	O	|	|	|	|	0.01
41.750	0.00	0.01	0.004	O	|	|	|	|	0.01
41.833	0.00	0.01	0.004	O	|	|	|	|	0.01
41.917	0.00	0.01	0.004	O	|	|	|	|	0.01
42.000	0.00	0.01	0.004	O	|	|	|	|	0.01
42.083	0.00	0.01	0.003	O	|	|	|	|	0.01
42.167	0.00	0.01	0.003	O	|	|	|	|	0.01
42.250	0.00	0.01	0.003	O	|	|	|	|	0.01
42.333	0.00	0.01	0.003	O	|	|	|	|	0.01
42.417	0.00	0.01	0.003	O	|	|	|	|	0.01
42.500	0.00	0.01	0.003	O	|	|	|	|	0.01
42.583	0.00	0.01	0.003	O	|	|	|	|	0.01
42.667	0.00	0.01	0.003	O	|	|	|	|	0.01
42.750	0.00	0.01	0.003	O	|	|	|	|	0.01
42.833	0.00	0.01	0.003	O	|	|	|	|	0.01
42.917	0.00	0.01	0.003	O	|	|	|	|	0.01
43.000	0.00	0.01	0.003	O	|	|	|	|	0.01
43.083	0.00	0.01	0.003	O	|	|	|	|	0.01
43.167	0.00	0.01	0.003	O	|	|	|	|	0.01
43.250	0.00	0.01	0.003	O	|	|	|	|	0.01
43.333	0.00	0.01	0.003	O	|	|	|	|	0.01
43.417	0.00	0.01	0.003	O	|	|	|	|	0.01
43.500	0.00	0.01	0.003	O	|	|	|	|	0.01
43.583	0.00	0.01	0.002	O	|	|	|	|	0.01
43.667	0.00	0.01	0.002	O	|	|	|	|	0.01
43.750	0.00	0.01	0.002	O	|	|	|	|	0.01
43.833	0.00	0.01	0.002	O	|	|	|	|	0.01
43.917	0.00	0.01	0.002	O	|	|	|	|	0.01
44.000	0.00	0.01	0.002	O	|	|	|	|	0.01
44.083	0.00	0.01	0.002	O	|	|	|	|	0.01
44.167	0.00	0.01	0.002	O	|	|	|	|	0.01
44.250	0.00	0.01	0.002	O	|	|	|	|	0.01
44.333	0.00	0.01	0.002	O	|	|	|	|	0.01
44.417	0.00	0.01	0.002	O	|	|	|	|	0.01
44.500	0.00	0.01	0.002	O	|	|	|	|	0.01
44.583	0.00	0.01	0.002	O	|	|	|	|	0.01
44.667	0.00	0.01	0.002	O	|	|	|	|	0.01
44.750	0.00	0.01	0.002	O	|	|	|	|	0.01
44.833	0.00	0.01	0.002	O	|	|	|	|	0.00
44.917	0.00	0.01	0.002	O	|	|	|	|	0.00
45.000	0.00	0.00	0.002	O	|	|	|	|	0.00
45.083	0.00	0.00	0.002	O	|	|	|	|	0.00
45.167	0.00	0.00	0.002	O	|	|	|	|	0.00
45.250	0.00	0.00	0.002	O	|	|	|	|	0.00
45.333	0.00	0.00	0.002	O	|	|	|	|	0.00
45.417	0.00	0.00	0.002	O	|	|	|	|	0.00
45.500	0.00	0.00	0.002	O	|	|	|	|	0.00
45.583	0.00	0.00	0.002	O	|	|	|	|	0.00
45.667	0.00	0.00	0.002	O	|	|	|	|	0.00
45.750	0.00	0.00	0.001	O	|	|	|	|	0.00
45.833	0.00	0.00	0.001	O	|	|	|	|	0.00
45.917	0.00	0.00	0.001	O	|	|	|	|	0.00
46.000	0.00	0.00	0.001	O	|	|	|	|	0.00
46.083	0.00	0.00	0.001	O	|	|	|	|	0.00
46.167	0.00	0.00	0.001	O	|	|	|	|	0.00
46.250	0.00	0.00	0.001	O	|	|	|	|	0.00
46.333	0.00	0.00	0.001	O	|	|	|	|	0.00
46.417	0.00	0.00	0.001	O	|	|	|	|	0.00
46.500	0.00	0.00	0.001	O	|	|	|	|	0.00
46.583	0.00	0.00	0.001	O	|	|	|	|	0.00
46.667	0.00	0.00	0.001	O	|	|	|	|	0.00

46.750	0.00	0.00	0.001	O	|	|	|	|	0.00
46.833	0.00	0.00	0.001	O	|	|	|	|	0.00
46.917	0.00	0.00	0.001	O	|	|	|	|	0.00
47.000	0.00	0.00	0.001	O	|	|	|	|	0.00
47.083	0.00	0.00	0.001	O	|	|	|	|	0.00
47.167	0.00	0.00	0.001	O	|	|	|	|	0.00
47.250	0.00	0.00	0.001	O	|	|	|	|	0.00
47.333	0.00	0.00	0.001	O	|	|	|	|	0.00
47.417	0.00	0.00	0.001	O	|	|	|	|	0.00
47.500	0.00	0.00	0.001	O	|	|	|	|	0.00
47.583	0.00	0.00	0.001	O	|	|	|	|	0.00
47.667	0.00	0.00	0.001	O	|	|	|	|	0.00
47.750	0.00	0.00	0.001	O	|	|	|	|	0.00
47.833	0.00	0.00	0.001	O	|	|	|	|	0.00
47.917	0.00	0.00	0.001	O	|	|	|	|	0.00
48.000	0.00	0.00	0.001	O	|	|	|	|	0.00
48.083	0.00	0.00	0.001	O	|	|	|	|	0.00
48.167	0.00	0.00	0.001	O	|	|	|	|	0.00
48.250	0.00	0.00	0.001	O	|	|	|	|	0.00
48.333	0.00	0.00	0.001	O	|	|	|	|	0.00
48.417	0.00	0.00	0.001	O	|	|	|	|	0.00
48.500	0.00	0.00	0.001	O	|	|	|	|	0.00
48.583	0.00	0.00	0.001	O	|	|	|	|	0.00
48.667	0.00	0.00	0.001	O	|	|	|	|	0.00
48.750	0.00	0.00	0.001	O	|	|	|	|	0.00
48.833	0.00	0.00	0.001	O	|	|	|	|	0.00
48.917	0.00	0.00	0.001	O	|	|	|	|	0.00
49.000	0.00	0.00	0.001	O	|	|	|	|	0.00
49.083	0.00	0.00	0.001	O	|	|	|	|	0.00
49.167	0.00	0.00	0.001	O	|	|	|	|	0.00
49.250	0.00	0.00	0.001	O	|	|	|	|	0.00
49.333	0.00	0.00	0.001	O	|	|	|	|	0.00
49.417	0.00	0.00	0.001	O	|	|	|	|	0.00
49.500	0.00	0.00	0.001	O	|	|	|	|	0.00
49.583	0.00	0.00	0.001	O	|	|	|	|	0.00
49.667	0.00	0.00	0.001	O	|	|	|	|	0.00
49.750	0.00	0.00	0.001	O	|	|	|	|	0.00
49.833	0.00	0.00	0.001	O	|	|	|	|	0.00
49.917	0.00	0.00	0.001	O	|	|	|	|	0.00
50.000	0.00	0.00	0.001	O	|	|	|	|	0.00
50.083	0.00	0.00	0.001	O	|	|	|	|	0.00
50.167	0.00	0.00	0.001	O	|	|	|	|	0.00
50.250	0.00	0.00	0.001	O	|	|	|	|	0.00
50.333	0.00	0.00	0.001	O	|	|	|	|	0.00
50.417	0.00	0.00	0.001	O	|	|	|	|	0.00
50.500	0.00	0.00	0.001	O	|	|	|	|	0.00
50.583	0.00	0.00	0.000	O	|	|	|	|	0.00
50.667	0.00	0.00	0.000	O	|	|	|	|	0.00
50.750	0.00	0.00	0.000	O	|	|	|	|	0.00
50.833	0.00	0.00	0.000	O	|	|	|	|	0.00
50.917	0.00	0.00	0.000	O	|	|	|	|	0.00
51.000	0.00	0.00	0.000	O	|	|	|	|	0.00
51.083	0.00	0.00	0.000	O	|	|	|	|	0.00
51.167	0.00	0.00	0.000	O	|	|	|	|	0.00
51.250	0.00	0.00	0.000	O	|	|	|	|	0.00
51.333	0.00	0.00	0.000	O	|	|	|	|	0.00
51.417	0.00	0.00	0.000	O	|	|	|	|	0.00
51.500	0.00	0.00	0.000	O	|	|	|	|	0.00
51.583	0.00	0.00	0.000	O	|	|	|	|	0.00
51.667	0.00	0.00	0.000	O	|	|	|	|	0.00
51.750	0.00	0.00	0.000	O	|	|	|	|	0.00
51.833	0.00	0.00	0.000	O	|	|	|	|	0.00

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

Number of intervals = 622
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.923 (CFS)
Total volume = 2.091 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000

Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 11/21/21

ROUTE BASIN B
100-YEAR 1-HOUR

Program License Serial Number 6434

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

From study/file name: 2030UDB1001100.rte

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

Number of intervals = 23
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 19.998 (CFS)
Total volume = 0.895 (Ac.Ft)
Status of hydrographs being held in storage

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

****

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Process from Point/Station 0.000 to Point/Station 1.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 23
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.187	0.520	0.185	0.189
1.000	0.371	1.050	0.367	0.375
1.500	0.551	1.480	0.546	0.556
2.000	0.724	1.820	0.718	0.730
2.500	0.887	2.100	0.880	0.894
3.000	1.032	3.400	1.020	1.044
3.500	1.160	4.480	1.145	1.175
4.000	1.256	17.620	1.195	1.317
4.500	1.321	23.370	1.241	1.401

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 5.0 10.00 15.00 20.00	Depth (Ft.)
0.083	0.31	0.00	0.001	O	0.00
0.167	2.05	0.03	0.009	O I	0.02
0.250	4.04	0.08	0.030	O I	0.08
0.333	5.15	0.17	0.060	O I	0.16
0.417	6.00	0.27	0.097	O I	0.26
0.500	6.58	0.39	0.138	O I	0.37
0.583	7.36	0.51	0.183	O I	0.49
0.667	8.57	0.66	0.234	O I	0.63
0.750	10.26	0.83	0.294	O I	0.79
0.833	13.74	1.05	0.370	O I	1.00
0.917	20.00	1.31	0.478	O I	1.30
1.000	18.98	1.58	0.603	O I	1.65
1.083	11.83	1.77	0.697	O I	1.92
1.167	7.05	1.86	0.750	O I	2.08
1.250	3.63	1.90	0.773	O I	2.15
1.333	2.02	1.92	0.780	O	2.17
1.417	1.03	1.91	0.777	I O	2.16
1.500	0.57	1.90	0.769	I O	2.14
1.583	0.34	1.88	0.760	I O	2.11
1.667	0.23	1.86	0.749	I O	2.08
1.750	0.13	1.84	0.737	I O	2.04
1.833	0.04	1.82	0.725	I O	2.00
1.917	0.01	1.80	0.713	I O	1.97
2.000	0.00	1.77	0.701	I O	1.93
2.083	0.00	1.75	0.688	I O	1.90
2.167	0.00	1.73	0.676	I O	1.86
2.250	0.00	1.70	0.665	I O	1.83
2.333	0.00	1.68	0.653	I O	1.79
2.417	0.00	1.66	0.641	I O	1.76
2.500	0.00	1.64	0.630	I O	1.73
2.583	0.00	1.61	0.619	I O	1.70
2.667	0.00	1.59	0.608	I O	1.66
2.750	0.00	1.57	0.597	I O	1.63
2.833	0.00	1.55	0.586	I O	1.60
2.917	0.00	1.53	0.576	I O	1.57
3.000	0.00	1.51	0.565	I O	1.54
3.083	0.00	1.49	0.555	I O	1.51
3.167	0.00	1.47	0.545	I O	1.48
3.250	0.00	1.44	0.535	I O	1.45
3.333	0.00	1.42	0.525	I O	1.43
3.417	0.00	1.39	0.515	I O	1.40
3.500	0.00	1.37	0.506	I O	1.37
3.583	0.00	1.35	0.496	I O	1.35
3.667	0.00	1.33	0.487	I O	1.32
3.750	0.00	1.31	0.478	I O	1.30
3.833	0.00	1.28	0.469	I O	1.27
3.917	0.00	1.26	0.460	I O	1.25
4.000	0.00	1.24	0.452	IO	1.22
4.083	0.00	1.22	0.443	IO	1.20
4.167	0.00	1.20	0.435	IO	1.18
4.250	0.00	1.18	0.427	IO	1.15
4.333	0.00	1.16	0.419	IO	1.13
4.417	0.00	1.14	0.411	IO	1.11
4.500	0.00	1.13	0.403	IO	1.09
4.583	0.00	1.11	0.395	IO	1.07
4.667	0.00	1.09	0.388	IO	1.05
4.750	0.00	1.07	0.380	IO	1.03
4.833	0.00	1.05	0.373	IO	1.00
4.917	0.00	1.03	0.366	IO	0.99
5.000	0.00	1.01	0.359	IO	0.97
5.083	0.00	0.99	0.352	IO	0.95
5.167	0.00	0.97	0.345	IO	0.93
5.250	0.00	0.96	0.338	IO	0.91

5.333	0.00	0.94	0.332	IO				0.89
5.417	0.00	0.92	0.325	IO				0.88
5.500	0.00	0.90	0.319	IO				0.86
5.583	0.00	0.88	0.313	IO				0.84
5.667	0.00	0.87	0.307	IO				0.83
5.750	0.00	0.85	0.301	IO				0.81
5.833	0.00	0.83	0.295	IO				0.79
5.917	0.00	0.82	0.290	IO				0.78
6.000	0.00	0.80	0.284	IO				0.76
6.083	0.00	0.78	0.278	IO				0.75
6.167	0.00	0.77	0.273	IO				0.73
6.250	0.00	0.75	0.268	IO				0.72
6.333	0.00	0.74	0.263	IO				0.71
6.417	0.00	0.72	0.258	IO				0.69
6.500	0.00	0.71	0.253	IO				0.68
6.583	0.00	0.70	0.248	IO				0.67
6.667	0.00	0.68	0.243	IO				0.65
6.750	0.00	0.67	0.239	IO				0.64
6.833	0.00	0.66	0.234	IO				0.63
6.917	0.00	0.64	0.230	IO				0.62
7.000	0.00	0.63	0.225	IO				0.60
7.083	0.00	0.62	0.221	O				0.59
7.167	0.00	0.61	0.217	O				0.58
7.250	0.00	0.59	0.213	O				0.57
7.333	0.00	0.58	0.208	O				0.56
7.417	0.00	0.57	0.205	O				0.55
7.500	0.00	0.56	0.201	O				0.54
7.583	0.00	0.55	0.197	O				0.53
7.667	0.00	0.54	0.193	O				0.52
7.750	0.00	0.53	0.189	O				0.51
7.833	0.00	0.52	0.186	O				0.50
7.917	0.00	0.51	0.182	O				0.49
8.000	0.00	0.50	0.179	O				0.48
8.083	0.00	0.49	0.175	O				0.47
8.167	0.00	0.48	0.172	O				0.46
8.250	0.00	0.47	0.169	O				0.45
8.333	0.00	0.46	0.166	O				0.44
8.417	0.00	0.45	0.162	O				0.43
8.500	0.00	0.44	0.159	O				0.43
8.583	0.00	0.43	0.156	O				0.42
8.667	0.00	0.43	0.153	O				0.41
8.750	0.00	0.42	0.151	O				0.40
8.833	0.00	0.41	0.148	O				0.39
8.917	0.00	0.40	0.145	O				0.39
9.000	0.00	0.40	0.142	O				0.38
9.083	0.00	0.39	0.139	O				0.37
9.167	0.00	0.38	0.137	O				0.37
9.250	0.00	0.37	0.134	O				0.36
9.333	0.00	0.37	0.132	O				0.35
9.417	0.00	0.36	0.129	O				0.35
9.500	0.00	0.35	0.127	O				0.34
9.583	0.00	0.35	0.124	O				0.33
9.667	0.00	0.34	0.122	O				0.33
9.750	0.00	0.33	0.120	O				0.32
9.833	0.00	0.33	0.117	O				0.31
9.917	0.00	0.32	0.115	O				0.31
10.000	0.00	0.31	0.113	O				0.30
10.083	0.00	0.31	0.111	O				0.30
10.167	0.00	0.30	0.109	O				0.29
10.250	0.00	0.30	0.107	O				0.29
10.333	0.00	0.29	0.105	O				0.28
10.417	0.00	0.29	0.103	O				0.27
10.500	0.00	0.28	0.101	O				0.27
10.583	0.00	0.27	0.099	O				0.26
10.667	0.00	0.27	0.097	O				0.26
10.750	0.00	0.26	0.095	O				0.25
10.833	0.00	0.26	0.093	O				0.25
10.917	0.00	0.25	0.091	O				0.24
11.000	0.00	0.25	0.090	O				0.24
11.083	0.00	0.24	0.088	O				0.24
11.167	0.00	0.24	0.086	O				0.23

11.250	0.00	0.24	0.085	O	|	|	|	|	0.23
11.333	0.00	0.23	0.083	O	|	|	|	|	0.22
11.417	0.00	0.23	0.082	O	|	|	|	|	0.22
11.500	0.00	0.22	0.080	O	|	|	|	|	0.21
11.583	0.00	0.22	0.078	O	|	|	|	|	0.21
11.667	0.00	0.21	0.077	O	|	|	|	|	0.21
11.750	0.00	0.21	0.076	O	|	|	|	|	0.20
11.833	0.00	0.21	0.074	O	|	|	|	|	0.20
11.917	0.00	0.20	0.073	O	|	|	|	|	0.19
12.000	0.00	0.20	0.071	O	|	|	|	|	0.19
12.083	0.00	0.19	0.070	O	|	|	|	|	0.19
12.167	0.00	0.19	0.069	O	|	|	|	|	0.18
12.250	0.00	0.19	0.067	O	|	|	|	|	0.18
12.333	0.00	0.18	0.066	O	|	|	|	|	0.18
12.417	0.00	0.18	0.065	O	|	|	|	|	0.17
12.500	0.00	0.18	0.064	O	|	|	|	|	0.17
12.583	0.00	0.17	0.062	O	|	|	|	|	0.17
12.667	0.00	0.17	0.061	O	|	|	|	|	0.16
12.750	0.00	0.17	0.060	O	|	|	|	|	0.16
12.833	0.00	0.16	0.059	O	|	|	|	|	0.16
12.917	0.00	0.16	0.058	O	|	|	|	|	0.15
13.000	0.00	0.16	0.057	O	|	|	|	|	0.15
13.083	0.00	0.15	0.056	O	|	|	|	|	0.15
13.167	0.00	0.15	0.055	O	|	|	|	|	0.15
13.250	0.00	0.15	0.054	O	|	|	|	|	0.14
13.333	0.00	0.15	0.052	O	|	|	|	|	0.14
13.417	0.00	0.14	0.051	O	|	|	|	|	0.14
13.500	0.00	0.14	0.051	O	|	|	|	|	0.14
13.583	0.00	0.14	0.050	O	|	|	|	|	0.13
13.667	0.00	0.14	0.049	O	|	|	|	|	0.13
13.750	0.00	0.13	0.048	O	|	|	|	|	0.13
13.833	0.00	0.13	0.047	O	|	|	|	|	0.13
13.917	0.00	0.13	0.046	O	|	|	|	|	0.12
14.000	0.00	0.13	0.045	O	|	|	|	|	0.12
14.083	0.00	0.12	0.044	O	|	|	|	|	0.12
14.167	0.00	0.12	0.043	O	|	|	|	|	0.12
14.250	0.00	0.12	0.043	O	|	|	|	|	0.11
14.333	0.00	0.12	0.042	O	|	|	|	|	0.11
14.417	0.00	0.11	0.041	O	|	|	|	|	0.11
14.500	0.00	0.11	0.040	O	|	|	|	|	0.11
14.583	0.00	0.11	0.039	O	|	|	|	|	0.11
14.667	0.00	0.11	0.039	O	|	|	|	|	0.10
14.750	0.00	0.11	0.038	O	|	|	|	|	0.10
14.833	0.00	0.10	0.037	O	|	|	|	|	0.10
14.917	0.00	0.10	0.036	O	|	|	|	|	0.10
15.000	0.00	0.10	0.036	O	|	|	|	|	0.10
15.083	0.00	0.10	0.035	O	|	|	|	|	0.09
15.167	0.00	0.10	0.034	O	|	|	|	|	0.09
15.250	0.00	0.09	0.034	O	|	|	|	|	0.09
15.333	0.00	0.09	0.033	O	|	|	|	|	0.09
15.417	0.00	0.09	0.033	O	|	|	|	|	0.09
15.500	0.00	0.09	0.032	O	|	|	|	|	0.09
15.583	0.00	0.09	0.031	O	|	|	|	|	0.08
15.667	0.00	0.09	0.031	O	|	|	|	|	0.08
15.750	0.00	0.08	0.030	O	|	|	|	|	0.08
15.833	0.00	0.08	0.030	O	|	|	|	|	0.08
15.917	0.00	0.08	0.029	O	|	|	|	|	0.08
16.000	0.00	0.08	0.028	O	|	|	|	|	0.08
16.083	0.00	0.08	0.028	O	|	|	|	|	0.07
16.167	0.00	0.08	0.027	O	|	|	|	|	0.07
16.250	0.00	0.07	0.027	O	|	|	|	|	0.07
16.333	0.00	0.07	0.026	O	|	|	|	|	0.07
16.417	0.00	0.07	0.026	O	|	|	|	|	0.07
16.500	0.00	0.07	0.025	O	|	|	|	|	0.07
16.583	0.00	0.07	0.025	O	|	|	|	|	0.07
16.667	0.00	0.07	0.024	O	|	|	|	|	0.07
16.750	0.00	0.07	0.024	O	|	|	|	|	0.06
16.833	0.00	0.07	0.023	O	|	|	|	|	0.06
16.917	0.00	0.06	0.023	O	|	|	|	|	0.06
17.000	0.00	0.06	0.023	O	|	|	|	|	0.06
17.083	0.00	0.06	0.022	O	|	|	|	|	0.06

17.167	0.00	0.06	0.022	O	|	|	|	|	0.06
17.250	0.00	0.06	0.021	O	|	|	|	|	0.06
17.333	0.00	0.06	0.021	O	|	|	|	|	0.06
17.417	0.00	0.06	0.021	O	|	|	|	|	0.05
17.500	0.00	0.06	0.020	O	|	|	|	|	0.05
17.583	0.00	0.05	0.020	O	|	|	|	|	0.05
17.667	0.00	0.05	0.019	O	|	|	|	|	0.05
17.750	0.00	0.05	0.019	O	|	|	|	|	0.05
17.833	0.00	0.05	0.019	O	|	|	|	|	0.05
17.917	0.00	0.05	0.018	O	|	|	|	|	0.05
18.000	0.00	0.05	0.018	O	|	|	|	|	0.05
18.083	0.00	0.05	0.018	O	|	|	|	|	0.05
18.167	0.00	0.05	0.017	O	|	|	|	|	0.05
18.250	0.00	0.05	0.017	O	|	|	|	|	0.05
18.333	0.00	0.05	0.017	O	|	|	|	|	0.04
18.417	0.00	0.05	0.016	O	|	|	|	|	0.04
18.500	0.00	0.04	0.016	O	|	|	|	|	0.04
18.583	0.00	0.04	0.016	O	|	|	|	|	0.04
18.667	0.00	0.04	0.015	O	|	|	|	|	0.04
18.750	0.00	0.04	0.015	O	|	|	|	|	0.04
18.833	0.00	0.04	0.015	O	|	|	|	|	0.04
18.917	0.00	0.04	0.015	O	|	|	|	|	0.04
19.000	0.00	0.04	0.014	O	|	|	|	|	0.04
19.083	0.00	0.04	0.014	O	|	|	|	|	0.04
19.167	0.00	0.04	0.014	O	|	|	|	|	0.04
19.250	0.00	0.04	0.013	O	|	|	|	|	0.04
19.333	0.00	0.04	0.013	O	|	|	|	|	0.04
19.417	0.00	0.04	0.013	O	|	|	|	|	0.03
19.500	0.00	0.04	0.013	O	|	|	|	|	0.03
19.583	0.00	0.03	0.012	O	|	|	|	|	0.03
19.667	0.00	0.03	0.012	O	|	|	|	|	0.03
19.750	0.00	0.03	0.012	O	|	|	|	|	0.03
19.833	0.00	0.03	0.012	O	|	|	|	|	0.03
19.917	0.00	0.03	0.012	O	|	|	|	|	0.03
20.000	0.00	0.03	0.011	O	|	|	|	|	0.03
20.083	0.00	0.03	0.011	O	|	|	|	|	0.03
20.167	0.00	0.03	0.011	O	|	|	|	|	0.03
20.250	0.00	0.03	0.011	O	|	|	|	|	0.03
20.333	0.00	0.03	0.011	O	|	|	|	|	0.03
20.417	0.00	0.03	0.010	O	|	|	|	|	0.03
20.500	0.00	0.03	0.010	O	|	|	|	|	0.03
20.583	0.00	0.03	0.010	O	|	|	|	|	0.03
20.667	0.00	0.03	0.010	O	|	|	|	|	0.03
20.750	0.00	0.03	0.010	O	|	|	|	|	0.03
20.833	0.00	0.03	0.009	O	|	|	|	|	0.03
20.917	0.00	0.03	0.009	O	|	|	|	|	0.02
21.000	0.00	0.03	0.009	O	|	|	|	|	0.02
21.083	0.00	0.02	0.009	O	|	|	|	|	0.02
21.167	0.00	0.02	0.009	O	|	|	|	|	0.02
21.250	0.00	0.02	0.009	O	|	|	|	|	0.02
21.333	0.00	0.02	0.008	O	|	|	|	|	0.02
21.417	0.00	0.02	0.008	O	|	|	|	|	0.02
21.500	0.00	0.02	0.008	O	|	|	|	|	0.02
21.583	0.00	0.02	0.008	O	|	|	|	|	0.02
21.667	0.00	0.02	0.008	O	|	|	|	|	0.02
21.750	0.00	0.02	0.008	O	|	|	|	|	0.02
21.833	0.00	0.02	0.007	O	|	|	|	|	0.02
21.917	0.00	0.02	0.007	O	|	|	|	|	0.02
22.000	0.00	0.02	0.007	O	|	|	|	|	0.02
22.083	0.00	0.02	0.007	O	|	|	|	|	0.02
22.167	0.00	0.02	0.007	O	|	|	|	|	0.02
22.250	0.00	0.02	0.007	O	|	|	|	|	0.02
22.333	0.00	0.02	0.007	O	|	|	|	|	0.02
22.417	0.00	0.02	0.007	O	|	|	|	|	0.02
22.500	0.00	0.02	0.006	O	|	|	|	|	0.02
22.583	0.00	0.02	0.006	O	|	|	|	|	0.02
22.667	0.00	0.02	0.006	O	|	|	|	|	0.02
22.750	0.00	0.02	0.006	O	|	|	|	|	0.02
22.833	0.00	0.02	0.006	O	|	|	|	|	0.02
22.917	0.00	0.02	0.006	O	|	|	|	|	0.02
23.000	0.00	0.02	0.006	O	|	|	|	|	0.02

23.083	0.00	0.02	0.006	O	|	|	|	|	0.01
23.167	0.00	0.02	0.005	O	|	|	|	|	0.01
23.250	0.00	0.01	0.005	O	|	|	|	|	0.01
23.333	0.00	0.01	0.005	O	|	|	|	|	0.01
23.417	0.00	0.01	0.005	O	|	|	|	|	0.01
23.500	0.00	0.01	0.005	O	|	|	|	|	0.01
23.583	0.00	0.01	0.005	O	|	|	|	|	0.01
23.667	0.00	0.01	0.005	O	|	|	|	|	0.01
23.750	0.00	0.01	0.005	O	|	|	|	|	0.01
23.833	0.00	0.01	0.005	O	|	|	|	|	0.01
23.917	0.00	0.01	0.005	O	|	|	|	|	0.01
24.000	0.00	0.01	0.005	O	|	|	|	|	0.01
24.083	0.00	0.01	0.004	O	|	|	|	|	0.01
24.167	0.00	0.01	0.004	O	|	|	|	|	0.01
24.250	0.00	0.01	0.004	O	|	|	|	|	0.01
24.333	0.00	0.01	0.004	O	|	|	|	|	0.01
24.417	0.00	0.01	0.004	O	|	|	|	|	0.01
24.500	0.00	0.01	0.004	O	|	|	|	|	0.01
24.583	0.00	0.01	0.004	O	|	|	|	|	0.01
24.667	0.00	0.01	0.004	O	|	|	|	|	0.01
24.750	0.00	0.01	0.004	O	|	|	|	|	0.01
24.833	0.00	0.01	0.004	O	|	|	|	|	0.01
24.917	0.00	0.01	0.004	O	|	|	|	|	0.01
25.000	0.00	0.01	0.004	O	|	|	|	|	0.01
25.083	0.00	0.01	0.004	O	|	|	|	|	0.01
25.167	0.00	0.01	0.003	O	|	|	|	|	0.01
25.250	0.00	0.01	0.003	O	|	|	|	|	0.01
25.333	0.00	0.01	0.003	O	|	|	|	|	0.01
25.417	0.00	0.01	0.003	O	|	|	|	|	0.01
25.500	0.00	0.01	0.003	O	|	|	|	|	0.01
25.583	0.00	0.01	0.003	O	|	|	|	|	0.01
25.667	0.00	0.01	0.003	O	|	|	|	|	0.01
25.750	0.00	0.01	0.003	O	|	|	|	|	0.01
25.833	0.00	0.01	0.003	O	|	|	|	|	0.01
25.917	0.00	0.01	0.003	O	|	|	|	|	0.01
26.000	0.00	0.01	0.003	O	|	|	|	|	0.01
26.083	0.00	0.01	0.003	O	|	|	|	|	0.01
26.167	0.00	0.01	0.003	O	|	|	|	|	0.01
26.250	0.00	0.01	0.003	O	|	|	|	|	0.01
26.333	0.00	0.01	0.003	O	|	|	|	|	0.01
26.417	0.00	0.01	0.003	O	|	|	|	|	0.01
26.500	0.00	0.01	0.003	O	|	|	|	|	0.01
26.583	0.00	0.01	0.002	O	|	|	|	|	0.01
26.667	0.00	0.01	0.002	O	|	|	|	|	0.01
26.750	0.00	0.01	0.002	O	|	|	|	|	0.01
26.833	0.00	0.01	0.002	O	|	|	|	|	0.01
26.917	0.00	0.01	0.002	O	|	|	|	|	0.01
27.000	0.00	0.01	0.002	O	|	|	|	|	0.01
27.083	0.00	0.01	0.002	O	|	|	|	|	0.01
27.167	0.00	0.01	0.002	O	|	|	|	|	0.01
27.250	0.00	0.01	0.002	O	|	|	|	|	0.01
27.333	0.00	0.01	0.002	O	|	|	|	|	0.01
27.417	0.00	0.01	0.002	O	|	|	|	|	0.01
27.500	0.00	0.01	0.002	O	|	|	|	|	0.01
27.583	0.00	0.01	0.002	O	|	|	|	|	0.01
27.667	0.00	0.01	0.002	O	|	|	|	|	0.01
27.750	0.00	0.01	0.002	O	|	|	|	|	0.01
27.833	0.00	0.01	0.002	O	|	|	|	|	0.01
27.917	0.00	0.01	0.002	O	|	|	|	|	0.00
28.000	0.00	0.01	0.002	O	|	|	|	|	0.00
28.083	0.00	0.00	0.002	O	|	|	|	|	0.00
28.167	0.00	0.00	0.002	O	|	|	|	|	0.00
28.250	0.00	0.00	0.002	O	|	|	|	|	0.00
28.333	0.00	0.00	0.002	O	|	|	|	|	0.00
28.417	0.00	0.00	0.002	O	|	|	|	|	0.00
28.500	0.00	0.00	0.002	O	|	|	|	|	0.00
28.583	0.00	0.00	0.002	O	|	|	|	|	0.00
28.667	0.00	0.00	0.002	O	|	|	|	|	0.00
28.750	0.00	0.00	0.002	O	|	|	|	|	0.00
28.833	0.00	0.00	0.001	O	|	|	|	|	0.00
28.917	0.00	0.00	0.001	O	|	|	|	|	0.00

29.000	0.00	0.00	0.001	O					0.00
29.083	0.00	0.00	0.001	O					0.00
29.167	0.00	0.00	0.001	O					0.00
29.250	0.00	0.00	0.001	O					0.00
29.333	0.00	0.00	0.001	O					0.00
29.417	0.00	0.00	0.001	O					0.00
29.500	0.00	0.00	0.001	O					0.00
29.583	0.00	0.00	0.001	O					0.00
29.667	0.00	0.00	0.001	O					0.00
29.750	0.00	0.00	0.001	O					0.00
29.833	0.00	0.00	0.001	O					0.00
29.917	0.00	0.00	0.001	O					0.00
30.000	0.00	0.00	0.001	O					0.00
30.083	0.00	0.00	0.001	O					0.00
30.167	0.00	0.00	0.001	O					0.00
30.250	0.00	0.00	0.001	O					0.00
30.333	0.00	0.00	0.001	O					0.00
30.417	0.00	0.00	0.001	O					0.00
30.500	0.00	0.00	0.001	O					0.00
30.583	0.00	0.00	0.001	O					0.00
30.667	0.00	0.00	0.001	O					0.00
30.750	0.00	0.00	0.001	O					0.00
30.833	0.00	0.00	0.001	O					0.00
30.917	0.00	0.00	0.001	O					0.00
31.000	0.00	0.00	0.001	O					0.00
31.083	0.00	0.00	0.001	O					0.00
31.167	0.00	0.00	0.001	O					0.00
31.250	0.00	0.00	0.001	O					0.00
31.333	0.00	0.00	0.001	O					0.00
31.417	0.00	0.00	0.001	O					0.00
31.500	0.00	0.00	0.001	O					0.00
31.583	0.00	0.00	0.001	O					0.00
31.667	0.00	0.00	0.001	O					0.00
31.750	0.00	0.00	0.001	O					0.00
31.833	0.00	0.00	0.001	O					0.00
31.917	0.00	0.00	0.001	O					0.00
32.000	0.00	0.00	0.001	O					0.00
32.083	0.00	0.00	0.001	O					0.00
32.167	0.00	0.00	0.001	O					0.00
32.250	0.00	0.00	0.001	O					0.00
32.333	0.00	0.00	0.001	O					0.00
32.417	0.00	0.00	0.001	O					0.00
32.500	0.00	0.00	0.001	O					0.00
32.583	0.00	0.00	0.001	O					0.00
32.667	0.00	0.00	0.001	O					0.00
32.750	0.00	0.00	0.001	O					0.00
32.833	0.00	0.00	0.001	O					0.00
32.917	0.00	0.00	0.001	O					0.00
33.000	0.00	0.00	0.001	O					0.00
33.083	0.00	0.00	0.001	O					0.00
33.167	0.00	0.00	0.001	O					0.00
33.250	0.00	0.00	0.001	O					0.00
33.333	0.00	0.00	0.001	O					0.00
33.417	0.00	0.00	0.001	O					0.00
33.500	0.00	0.00	0.001	O					0.00
33.583	0.00	0.00	0.000	O					0.00
33.667	0.00	0.00	0.000	O					0.00
33.750	0.00	0.00	0.000	O					0.00
33.833	0.00	0.00	0.000	O					0.00
33.917	0.00	0.00	0.000	O					0.00
34.000	0.00	0.00	0.000	O					0.00
34.083	0.00	0.00	0.000	O					0.00
34.167	0.00	0.00	0.000	O					0.00
34.250	0.00	0.00	0.000	O					0.00
34.333	0.00	0.00	0.000	O					0.00
34.417	0.00	0.00	0.000	O					0.00
34.500	0.00	0.00	0.000	O					0.00
34.583	0.00	0.00	0.000	O					0.00
34.667	0.00	0.00	0.000	O					0.00
34.750	0.00	0.00	0.000	O					0.00
34.833	0.00	0.00	0.000	O					0.00

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34.917    0.00    0.00      0.000  O       |       |       |       |     0.00

      ****************************HYDROGRAPH DATA****************************
                    Number of intervals =   419
                    Time interval =    5.0 (Min.)
                    Maximum/Peak flow rate =        1.916 (CFS)
                    Total volume =       0.895 (Ac.Ft)
              Status of hydrographs being held in storage
                         Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
              Peak (CFS)      0.000     0.000     0.000     0.000     0.000
              Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
      ***********************************************************************

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FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 11/21/21

ROUTE BASIN B
100-YEAR 24-HOUR

Program License Serial Number 6434

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

From study/file name: 2030UDB10024100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 299
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 6.139 (CFS)
Total volume = 3.500 (Ac.Ft)
Status of hydrographs being held in storage

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

****

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Process from Point/Station 0.000 to Point/Station 1.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 299
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.187	0.520	0.185	0.189
1.000	0.371	1.050	0.367	0.375
1.500	0.551	1.480	0.546	0.556
2.000	0.724	1.820	0.718	0.730
2.500	0.887	2.100	0.880	0.894
3.000	1.032	3.400	1.020	1.044
3.500	1.160	4.480	1.145	1.175
4.000	1.256	17.620	1.195	1.317
4.500	1.321	23.370	1.241	1.401

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	1.5	3.07	4.60	6.14	Depth (Ft.)
0.083	0.02	0.00	0.000	O					0.00
0.167	0.12	0.00	0.001	O					0.00
0.250	0.23	0.00	0.002	OI					0.00
0.333	0.27	0.01	0.003	OI					0.01
0.417	0.35	0.02	0.005	OI					0.01
0.500	0.41	0.02	0.008	O I					0.02
0.583	0.44	0.03	0.011	O I					0.03
0.667	0.46	0.04	0.014	O I					0.04
0.750	0.47	0.05	0.016	O I					0.04
0.833	0.48	0.05	0.019	O I					0.05
0.917	0.53	0.06	0.022	O I					0.06
1.000	0.59	0.07	0.026	O I					0.07
1.083	0.60	0.08	0.029	O I					0.08
1.167	0.56	0.09	0.033	O I					0.09
1.250	0.51	0.10	0.036	O I					0.10
1.333	0.50	0.11	0.039	O I					0.10
1.417	0.49	0.11	0.041	O I					0.11
1.500	0.48	0.12	0.044	O I					0.12
1.583	0.48	0.13	0.046	O I					0.12
1.667	0.48	0.14	0.049	O I					0.13
1.750	0.48	0.14	0.051	O I					0.14
1.833	0.49	0.15	0.053	O I					0.14
1.917	0.53	0.15	0.056	O I					0.15
2.000	0.59	0.16	0.058	O I					0.16
2.083	0.61	0.17	0.061	O I					0.16
2.167	0.62	0.18	0.064	O I					0.17
2.250	0.63	0.19	0.067	O I					0.18
2.333	0.63	0.20	0.071	O I					0.19
2.417	0.63	0.20	0.073	O I					0.20
2.500	0.63	0.21	0.076	O I					0.20
2.583	0.64	0.22	0.079	O I					0.21
2.667	0.69	0.23	0.082	O I					0.22
2.750	0.75	0.24	0.086	O I					0.23
2.833	0.77	0.25	0.089	O I					0.24
2.917	0.78	0.26	0.093	O I					0.25
3.000	0.79	0.27	0.096	O I					0.26
3.083	0.79	0.28	0.100	O I					0.27
3.167	0.79	0.29	0.103	O I					0.28
3.250	0.79	0.30	0.107	O I					0.29
3.333	0.79	0.31	0.110	O I					0.29
3.417	0.79	0.32	0.114	O I					0.30
3.500	0.79	0.32	0.117	O I					0.31
3.583	0.79	0.33	0.120	O I					0.32
3.667	0.79	0.34	0.123	O I					0.33
3.750	0.79	0.35	0.126	O I					0.34
3.833	0.80	0.36	0.129	O I					0.35
3.917	0.85	0.37	0.132	O I					0.35
4.000	0.91	0.38	0.136	O I					0.36
4.083	0.93	0.39	0.140	O I					0.37
4.167	0.94	0.40	0.143	O I					0.38
4.250	0.94	0.41	0.147	O I					0.39
4.333	0.96	0.42	0.151	O I					0.40
4.417	1.01	0.43	0.155	O I					0.41
4.500	1.06	0.44	0.159	O I					0.42
4.583	1.08	0.45	0.163	O I					0.44
4.667	1.10	0.47	0.167	O I					0.45
4.750	1.10	0.48	0.172	O I					0.46
4.833	1.12	0.49	0.176	O I					0.47
4.917	1.17	0.50	0.180	O I					0.48
5.000	1.22	0.51	0.185	O I					0.49
5.083	1.22	0.53	0.190	O I					0.51
5.167	1.14	0.54	0.194	O I					0.52
5.250	1.04	0.55	0.198	O I					0.53

5.333	1.01	0.56	0.201	O I				0.54
5.417	1.04	0.57	0.204	O I				0.55
5.500	1.08	0.58	0.208	O I				0.56
5.583	1.10	0.59	0.211	O I				0.57
5.667	1.16	0.60	0.215	O I				0.58
5.750	1.22	0.61	0.219	O I				0.59
5.833	1.24	0.62	0.223	O I				0.60
5.917	1.25	0.64	0.227	O I				0.61
6.000	1.26	0.65	0.232	O I				0.62
6.083	1.27	0.66	0.236	O I				0.63
6.167	1.32	0.67	0.240	O I				0.64
6.250	1.38	0.69	0.245	O I				0.66
6.333	1.40	0.70	0.250	O I				0.67
6.417	1.41	0.71	0.254	O I				0.68
6.500	1.42	0.73	0.259	O I				0.70
6.583	1.43	0.74	0.264	O I				0.71
6.667	1.48	0.76	0.269	O I				0.72
6.750	1.54	0.77	0.274	O I				0.74
6.833	1.56	0.79	0.279	O I				0.75
6.917	1.57	0.80	0.285	O I				0.77
7.000	1.58	0.82	0.290	O I				0.78
7.083	1.58	0.83	0.295	O I				0.79
7.167	1.58	0.85	0.300	O I				0.81
7.250	1.58	0.86	0.305	O I				0.82
7.333	1.59	0.87	0.310	O I				0.83
7.417	1.64	0.89	0.315	O I				0.85
7.500	1.70	0.90	0.321	O I				0.86
7.583	1.73	0.92	0.326	O I				0.88
7.667	1.79	0.94	0.332	O I				0.89
7.750	1.85	0.95	0.338	O I				0.91
7.833	1.88	0.97	0.344	O I				0.93
7.917	1.94	0.99	0.351	O I				0.94
8.000	2.01	1.01	0.357	O I				0.96
8.083	2.05	1.03	0.364	O I				0.98
8.167	2.16	1.05	0.371	O I				1.00
8.250	2.28	1.07	0.379	O I				1.02
8.333	2.32	1.09	0.388	O I				1.05
8.417	2.35	1.11	0.396	O I				1.07
8.500	2.36	1.13	0.405	O I				1.09
8.583	2.39	1.15	0.413	O I				1.12
8.667	2.45	1.17	0.422	O I				1.14
8.750	2.52	1.19	0.431	O I				1.17
8.833	2.56	1.22	0.440	O I				1.19
8.917	2.64	1.24	0.450	O I				1.22
9.000	2.72	1.26	0.460	O I				1.25
9.083	2.77	1.29	0.470	O I				1.27
9.167	2.91	1.31	0.480	O I				1.30
9.250	3.05	1.34	0.492	O I				1.34
9.333	3.12	1.37	0.504	O I				1.37
9.417	3.21	1.40	0.516	O I				1.40
9.500	3.30	1.43	0.529	O I				1.44
9.583	3.35	1.46	0.542	O I				1.47
9.667	3.43	1.49	0.555	O I				1.51
9.750	3.51	1.51	0.568	O I				1.55
9.833	3.55	1.54	0.582	O I				1.59
9.917	3.63	1.57	0.596	O I				1.63
10.000	3.71	1.60	0.610	O I				1.67
10.083	3.67	1.62	0.625	O I				1.71
10.167	3.26	1.65	0.637	O I				1.75
10.250	2.81	1.67	0.647	O I				1.78
10.333	2.65	1.68	0.654	O I				1.80
10.417	2.56	1.69	0.660	O I				1.82
10.500	2.50	1.71	0.666	O I				1.83
10.583	2.52	1.72	0.672	O I				1.85
10.667	2.82	1.73	0.678	O I				1.87
10.750	3.14	1.75	0.687	O I				1.89
10.833	3.26	1.77	0.697	O I				1.92
10.917	3.33	1.79	0.707	O I				1.95
11.000	3.37	1.81	0.718	O I				1.98
11.083	3.38	1.83	0.729	O I				2.01
11.167	3.33	1.85	0.739	O I				2.05

11.250	3.28	1.86	0.749	|	|O	|I	|	2.08
11.333	3.26	1.88	0.759	|	|O	I	|	2.11
11.417	3.25	1.90	0.768	|	|O	I	|	2.14
11.500	3.25	1.91	0.777	|	|O	I	|	2.16
11.583	3.22	1.93	0.786	|	O	I	|	2.19
11.667	3.10	1.94	0.795	|	O	I	|	2.22
11.750	2.97	1.95	0.802	|	O	I|	|	2.24
11.833	2.93	1.97	0.809	|	O	I|	|	2.26
11.917	2.97	1.98	0.816	|	O	I|	|	2.28
12.000	3.02	1.99	0.823	|	O	I|	|	2.30
12.083	3.11	2.00	0.830	|	O	I	|	2.33
12.167	3.55	2.02	0.839	|	O	| I	|	2.35
12.250	4.02	2.04	0.851	|	O	| I	|	2.39
12.333	4.20	2.06	0.866	|	O	| I	|	2.43
12.417	4.37	2.09	0.881	|	O	| I	|	2.48
12.500	4.49	2.19	0.897	|	O	| I|	|	2.53
12.583	4.57	2.33	0.912	|	O	| I|	|	2.59
12.667	4.73	2.47	0.928	|	O	| I	|	2.64
12.750	4.88	2.61	0.943	|	O	| |I	|	2.69
12.833	4.95	2.74	0.959	|	O	| |I	|	2.75
12.917	5.04	2.88	0.974	|	O|	| I	|	2.80
13.000	5.13	3.01	0.989	|	O|	| I	|	2.85
13.083	5.22	3.14	1.003	|	O	| I	|	2.90
13.167	5.55	3.27	1.018	|	|O	| I	|	2.95
13.250	5.89	3.42	1.034	|	|O	| I	|	3.01
13.333	6.02	3.56	1.051	|	| O	| I|	|	3.08
13.417	6.09	3.70	1.068	|	| O	| I|	|	3.14
13.500	6.14	3.84	1.084	|	| O	| I	|	3.20
13.583	6.05	3.97	1.099	|	| O	| I|	|	3.26
13.667	5.39	4.07	1.111	|	| O	| I	|	3.31
13.750	4.67	4.12	1.117	|	| O	I	|	3.33
13.833	4.41	4.14	1.120	|	| OI	|	3.34
13.917	4.26	4.15	1.121	|	| OI	|	3.35
14.000	4.18	4.16	1.122	|	| O	|	3.35
14.083	4.17	4.16	1.122	|	| O	|	3.35
14.167	4.40	4.17	1.123	|	| OI	|	3.35
14.250	4.65	4.19	1.125	|	| O	I	|	3.36
14.333	4.73	4.21	1.129	|	| O	I	|	3.38
14.417	4.72	4.24	1.132	|	| O	I	|	3.39
14.500	4.68	4.27	1.135	|	| O	I	|	3.40
14.583	4.68	4.29	1.138	|	| O	I	|	3.41
14.667	4.67	4.31	1.140	|	| O	I	|	3.42
14.750	4.67	4.33	1.143	|	| O	I	|	3.43
14.833	4.66	4.35	1.145	|	| O	I	|	3.44
14.917	4.60	4.37	1.147	|	| OI|	|	3.45
15.000	4.54	4.38	1.148	|	| OI|	|	3.45
15.083	4.50	4.39	1.149	|	| OI|	|	3.46
15.167	4.43	4.39	1.150	|	| OI|	|	3.46
15.250	4.36	4.39	1.150	|	| O	|	3.46
15.333	4.32	4.39	1.149	|	| O	|	3.46
15.417	4.25	4.38	1.149	|	| O	|	3.46
15.500	4.17	4.37	1.147	|	| IO	|	3.45
15.583	4.10	4.36	1.146	|	| IO	|	3.44
15.667	3.84	4.34	1.143	|	| I O	|	3.43
15.750	3.57	4.30	1.139	|	| I O	|	3.42
15.833	3.47	4.26	1.134	|	| I O	|	3.40
15.917	3.41	4.21	1.128	|	|I O	|	3.38
16.000	3.38	4.17	1.123	|	|I O	|	3.35
16.083	3.21	4.12	1.117	|	I O	|	3.33
16.167	2.35	4.04	1.108	|	I | O	|	3.30
16.250	1.42	3.92	1.094	|	I| O	|	3.24
16.333	1.08	3.77	1.076	|	I | O	|	3.17
16.417	0.89	3.61	1.057	|	I | O	|	3.10
16.500	0.77	3.45	1.038	|	I | O	|	3.03
16.583	0.69	3.29	1.020	|	I |O	|	2.96
16.667	0.62	3.14	1.003	|	I O	|	2.90
16.750	0.55	2.98	0.986	|	I O|	|	2.84
16.833	0.52	2.84	0.969	|	I O |	|	2.78
16.917	0.50	2.70	0.954	|	I O |	|	2.73
17.000	0.48	2.56	0.939	|	I O |	|	2.68
17.083	0.50	2.44	0.925	|	I O |	|	2.63

17.167	0.60	2.33	0.912	| I |	| O	|	|	2.59
17.250	0.70	2.23	0.901	| I |	| O |		|	2.55
17.333	0.74	2.14	0.891	| I |	| O |		|	2.51
17.417	0.76	2.09	0.882	| I |	O |		|	2.48
17.500	0.78	2.08	0.873	| I |	O |		|	2.46
17.583	0.79	2.06	0.864	| I |	O |		|	2.43
17.667	0.79	2.05	0.855	| I |	O |		|	2.40
17.750	0.79	2.03	0.846	| I |	O |		|	2.38
17.833	0.78	2.02	0.838	| I |	O |		|	2.35
17.917	0.73	2.00	0.829	| I |	O |		|	2.32
18.000	0.68	1.99	0.821	| I |	O |		|	2.30
18.083	0.66	1.97	0.811	| I |	O |		|	2.27
18.167	0.65	1.95	0.802	| I |	O |		|	2.24
18.250	0.64	1.94	0.794	| I |	O |		|	2.21
18.333	0.64	1.92	0.785	| I |	O |		|	2.19
18.417	0.64	1.91	0.776	| I |	O |		|	2.16
18.500	0.64	1.89	0.767	| I |	O |		|	2.13
18.583	0.63	1.88	0.758	| I |	O |		|	2.11
18.667	0.58	1.86	0.750	| I |	O |		|	2.08
18.750	0.52	1.85	0.741	| I |	O |		|	2.05
18.833	0.49	1.83	0.732	| I |	O |		|	2.02
18.917	0.43	1.82	0.722	| I |	O |		|	1.99
19.000	0.37	1.80	0.712	| I |	O |		|	1.97
19.083	0.36	1.78	0.703	| I |	O |		|	1.94
19.167	0.39	1.76	0.693	| I |	O |		|	1.91
19.250	0.44	1.74	0.684	| I |	O |		|	1.88
19.333	0.46	1.72	0.675	| I |	O		|	1.86
19.417	0.52	1.71	0.667	| I |	O		|	1.83
19.500	0.58	1.69	0.659	| I |	O		|	1.81
19.583	0.60	1.68	0.651	| I |	O		|	1.79
19.667	0.56	1.66	0.644	| I |	O		|	1.77
19.750	0.51	1.65	0.636	| I |	O		|	1.75
19.833	0.49	1.63	0.628	| I |	O		|	1.72
19.917	0.43	1.62	0.620	| I |	O		|	1.70
20.000	0.37	1.60	0.612	| I |	O		|	1.68
20.083	0.36	1.58	0.603	| I |	O		|	1.65
20.167	0.39	1.57	0.595	| I |	O		|	1.63
20.250	0.44	1.55	0.587	| I |	O		|	1.60
20.333	0.45	1.54	0.580	| I |	O		|	1.58
20.417	0.46	1.52	0.572	| I |	O|		|	1.56
20.500	0.47	1.51	0.565	| I |	O|		|	1.54
20.583	0.47	1.49	0.558	| I |	O|		|	1.52
20.667	0.47	1.48	0.551	| I |	O|		|	1.50
20.750	0.47	1.46	0.544	| I |	O|		|	1.48
20.833	0.47	1.45	0.537	| I |	O|		|	1.46
20.917	0.42	1.43	0.530	| I |	O|		|	1.44
21.000	0.36	1.41	0.523	| I |	O|		|	1.42
21.083	0.35	1.40	0.516	| I |	O|		|	1.40
21.167	0.39	1.38	0.509	| I |	O|		|	1.38
21.250	0.44	1.36	0.502	| I |	O|		|	1.37
21.333	0.44	1.35	0.496	| I |	O|		|	1.35
21.417	0.40	1.33	0.490	| I |	O |		|	1.33
21.500	0.36	1.32	0.483	| I |	O |		|	1.31
21.583	0.35	1.30	0.477	| I |	O |		|	1.29
21.667	0.39	1.29	0.470	| I |	O |		|	1.28
21.750	0.44	1.27	0.464	| I |	O |		|	1.26
21.833	0.44	1.26	0.459	| I |	O |		|	1.24
21.917	0.40	1.25	0.453	| I |	O |		|	1.23
22.000	0.36	1.23	0.447	| I |	O |		|	1.21
22.083	0.35	1.22	0.441	| I |	O |		|	1.19
22.167	0.39	1.20	0.435	| I |	O |		|	1.18
22.250	0.44	1.19	0.430	| I |	O |		|	1.16
22.333	0.44	1.18	0.425	| I |	O |		|	1.15
22.417	0.40	1.17	0.420	| I |	O |		|	1.14
22.500	0.36	1.15	0.414	| I |	O |		|	1.12
22.583	0.34	1.14	0.409	| I |	O |		|	1.10
22.667	0.33	1.13	0.403	| I |	O |		|	1.09
22.750	0.32	1.11	0.398	| I |	O |		|	1.07
22.833	0.32	1.10	0.392	| I |	O |		|	1.06
22.917	0.32	1.09	0.387	| I |	O |		|	1.04
23.000	0.32	1.08	0.382	| I |	O |		|	1.03

23.083	0.32	1.06	0.377	|I O |				1.02
23.167	0.32	1.05	0.372	|I O |				1.00
23.250	0.32	1.04	0.367	|I O |				0.99
23.333	0.32	1.02	0.362	|I O |				0.97
23.417	0.32	1.01	0.357	|I O |				0.96
23.500	0.32	1.00	0.352	|I O |				0.95
23.583	0.32	0.98	0.347	|I O |				0.94
23.667	0.32	0.97	0.343	|I O |				0.92
23.750	0.32	0.96	0.338	|I O |				0.91
23.833	0.32	0.94	0.334	|I O |				0.90
23.917	0.32	0.93	0.330	|I O |				0.89
24.000	0.32	0.92	0.326	|I O |				0.88
24.083	0.30	0.91	0.321	|I O |				0.87
24.167	0.20	0.89	0.317	|I O |				0.85
24.250	0.09	0.88	0.312	I O |				0.84
24.333	0.05	0.86	0.306	I O |				0.82
24.417	0.03	0.85	0.301	I O |				0.81
24.500	0.02	0.83	0.295	I O |				0.79
24.583	0.01	0.82	0.290	I O |				0.78
24.667	0.00	0.80	0.284	I O |				0.76
24.750	0.00	0.78	0.279	I O |				0.75
24.833	0.00	0.77	0.273	I O |				0.73
24.917	0.00	0.75	0.268	I O |				0.72
25.000	0.00	0.74	0.263	I O |				0.71
25.083	0.00	0.72	0.258	I O |				0.69
25.167	0.00	0.71	0.253	I O |				0.68
25.250	0.00	0.70	0.248	I O |				0.67
25.333	0.00	0.68	0.243	I O |				0.65
25.417	0.00	0.67	0.239	I O |				0.64
25.500	0.00	0.66	0.234	I O |				0.63
25.583	0.00	0.64	0.230	I O |				0.62
25.667	0.00	0.63	0.225	I O |				0.60
25.750	0.00	0.62	0.221	I O |				0.59
25.833	0.00	0.61	0.217	I O |				0.58
25.917	0.00	0.59	0.213	I O |				0.57
26.000	0.00	0.58	0.209	I O |				0.56
26.083	0.00	0.57	0.205	I O |				0.55
26.167	0.00	0.56	0.201	I O |				0.54
26.250	0.00	0.55	0.197	I O |				0.53
26.333	0.00	0.54	0.193	I O |				0.52
26.417	0.00	0.53	0.189	I O |				0.51
26.500	0.00	0.52	0.186	I O |				0.50
26.583	0.00	0.51	0.182	I O |				0.49
26.667	0.00	0.50	0.179	I O |				0.48
26.750	0.00	0.49	0.176	I O |				0.47
26.833	0.00	0.48	0.172	I O |				0.46
26.917	0.00	0.47	0.169	I O |				0.45
27.000	0.00	0.46	0.166	I O |				0.44
27.083	0.00	0.45	0.163	I O |				0.43
27.167	0.00	0.44	0.159	I O |				0.43
27.250	0.00	0.44	0.156	I O |				0.42
27.333	0.00	0.43	0.153	I O |				0.41
27.417	0.00	0.42	0.151	I O |				0.40
27.500	0.00	0.41	0.148	I O |				0.39
27.583	0.00	0.40	0.145	I O |				0.39
27.667	0.00	0.40	0.142	I O |				0.38
27.750	0.00	0.39	0.139	I O |				0.37
27.833	0.00	0.38	0.137	IO |				0.37
27.917	0.00	0.37	0.134	IO |				0.36
28.000	0.00	0.37	0.132	IO |				0.35
28.083	0.00	0.36	0.129	IO |				0.35
28.167	0.00	0.35	0.127	IO |				0.34
28.250	0.00	0.35	0.124	IO |				0.33
28.333	0.00	0.34	0.122	IO |				0.33
28.417	0.00	0.33	0.120	IO |				0.32
28.500	0.00	0.33	0.117	IO |				0.31
28.583	0.00	0.32	0.115	IO |				0.31
28.667	0.00	0.31	0.113	IO |				0.30
28.750	0.00	0.31	0.111	IO |				0.30
28.833	0.00	0.30	0.109	IO |				0.29
28.917	0.00	0.30	0.107	IO |				0.29

29.000	0.00	0.29	0.105	IO				0.28
29.083	0.00	0.29	0.103	IO				0.27
29.167	0.00	0.28	0.101	IO				0.27
29.250	0.00	0.27	0.099	IO				0.26
29.333	0.00	0.27	0.097	IO				0.26
29.417	0.00	0.26	0.095	IO				0.25
29.500	0.00	0.26	0.093	IO				0.25
29.583	0.00	0.25	0.092	IO				0.24
29.667	0.00	0.25	0.090	IO				0.24
29.750	0.00	0.24	0.088	IO				0.24
29.833	0.00	0.24	0.086	IO				0.23
29.917	0.00	0.24	0.085	IO				0.23
30.000	0.00	0.23	0.083	IO				0.22
30.083	0.00	0.23	0.082	IO				0.22
30.167	0.00	0.22	0.080	IO				0.21
30.250	0.00	0.22	0.079	IO				0.21
30.333	0.00	0.21	0.077	IO				0.21
30.417	0.00	0.21	0.076	IO				0.20
30.500	0.00	0.21	0.074	IO				0.20
30.583	0.00	0.20	0.073	IO				0.19
30.667	0.00	0.20	0.071	IO				0.19
30.750	0.00	0.19	0.070	IO				0.19
30.833	0.00	0.19	0.069	O				0.18
30.917	0.00	0.19	0.067	O				0.18
31.000	0.00	0.18	0.066	O				0.18
31.083	0.00	0.18	0.065	O				0.17
31.167	0.00	0.18	0.064	O				0.17
31.250	0.00	0.17	0.062	O				0.17
31.333	0.00	0.17	0.061	O				0.16
31.417	0.00	0.17	0.060	O				0.16
31.500	0.00	0.16	0.059	O				0.16
31.583	0.00	0.16	0.058	O				0.15
31.667	0.00	0.16	0.057	O				0.15
31.750	0.00	0.15	0.056	O				0.15
31.833	0.00	0.15	0.055	O				0.15
31.917	0.00	0.15	0.054	O				0.14
32.000	0.00	0.15	0.053	O				0.14
32.083	0.00	0.14	0.052	O				0.14
32.167	0.00	0.14	0.051	O				0.14
32.250	0.00	0.14	0.050	O				0.13
32.333	0.00	0.14	0.049	O				0.13
32.417	0.00	0.13	0.048	O				0.13
32.500	0.00	0.13	0.047	O				0.13
32.583	0.00	0.13	0.046	O				0.12
32.667	0.00	0.13	0.045	O				0.12
32.750	0.00	0.12	0.044	O				0.12
32.833	0.00	0.12	0.043	O				0.12
32.917	0.00	0.12	0.043	O				0.11
33.000	0.00	0.12	0.042	O				0.11
33.083	0.00	0.11	0.041	O				0.11
33.167	0.00	0.11	0.040	O				0.11
33.250	0.00	0.11	0.039	O				0.11
33.333	0.00	0.11	0.039	O				0.10
33.417	0.00	0.11	0.038	O				0.10
33.500	0.00	0.10	0.037	O				0.10
33.583	0.00	0.10	0.036	O				0.10
33.667	0.00	0.10	0.036	O				0.10
33.750	0.00	0.10	0.035	O				0.09
33.833	0.00	0.10	0.034	O				0.09
33.917	0.00	0.09	0.034	O				0.09
34.000	0.00	0.09	0.033	O				0.09
34.083	0.00	0.09	0.033	O				0.09
34.167	0.00	0.09	0.032	O				0.09
34.250	0.00	0.09	0.031	O				0.08
34.333	0.00	0.09	0.031	O				0.08
34.417	0.00	0.08	0.030	O				0.08
34.500	0.00	0.08	0.030	O				0.08
34.583	0.00	0.08	0.029	O				0.08
34.667	0.00	0.08	0.028	O				0.08
34.750	0.00	0.08	0.028	O				0.07
34.833	0.00	0.08	0.027	O				0.07

34.917	0.00	0.07	0.027	O	|	|	|	|	0.07
35.000	0.00	0.07	0.026	O	|	|	|	|	0.07
35.083	0.00	0.07	0.026	O	|	|	|	|	0.07
35.167	0.00	0.07	0.025	O	|	|	|	|	0.07
35.250	0.00	0.07	0.025	O	|	|	|	|	0.07
35.333	0.00	0.07	0.024	O	|	|	|	|	0.07
35.417	0.00	0.07	0.024	O	|	|	|	|	0.06
35.500	0.00	0.07	0.023	O	|	|	|	|	0.06
35.583	0.00	0.06	0.023	O	|	|	|	|	0.06
35.667	0.00	0.06	0.023	O	|	|	|	|	0.06
35.750	0.00	0.06	0.022	O	|	|	|	|	0.06
35.833	0.00	0.06	0.022	O	|	|	|	|	0.06
35.917	0.00	0.06	0.021	O	|	|	|	|	0.06
36.000	0.00	0.06	0.021	O	|	|	|	|	0.06
36.083	0.00	0.06	0.021	O	|	|	|	|	0.05
36.167	0.00	0.06	0.020	O	|	|	|	|	0.05
36.250	0.00	0.05	0.020	O	|	|	|	|	0.05
36.333	0.00	0.05	0.019	O	|	|	|	|	0.05
36.417	0.00	0.05	0.019	O	|	|	|	|	0.05
36.500	0.00	0.05	0.019	O	|	|	|	|	0.05
36.583	0.00	0.05	0.018	O	|	|	|	|	0.05
36.667	0.00	0.05	0.018	O	|	|	|	|	0.05
36.750	0.00	0.05	0.018	O	|	|	|	|	0.05
36.833	0.00	0.05	0.017	O	|	|	|	|	0.05
36.917	0.00	0.05	0.017	O	|	|	|	|	0.05
37.000	0.00	0.05	0.017	O	|	|	|	|	0.04
37.083	0.00	0.05	0.016	O	|	|	|	|	0.04
37.167	0.00	0.04	0.016	O	|	|	|	|	0.04
37.250	0.00	0.04	0.016	O	|	|	|	|	0.04
37.333	0.00	0.04	0.015	O	|	|	|	|	0.04
37.417	0.00	0.04	0.015	O	|	|	|	|	0.04
37.500	0.00	0.04	0.015	O	|	|	|	|	0.04
37.583	0.00	0.04	0.015	O	|	|	|	|	0.04
37.667	0.00	0.04	0.014	O	|	|	|	|	0.04
37.750	0.00	0.04	0.014	O	|	|	|	|	0.04
37.833	0.00	0.04	0.014	O	|	|	|	|	0.04
37.917	0.00	0.04	0.013	O	|	|	|	|	0.04
38.000	0.00	0.04	0.013	O	|	|	|	|	0.04
38.083	0.00	0.04	0.013	O	|	|	|	|	0.03
38.167	0.00	0.04	0.013	O	|	|	|	|	0.03
38.250	0.00	0.03	0.012	O	|	|	|	|	0.03
38.333	0.00	0.03	0.012	O	|	|	|	|	0.03
38.417	0.00	0.03	0.012	O	|	|	|	|	0.03
38.500	0.00	0.03	0.012	O	|	|	|	|	0.03
38.583	0.00	0.03	0.012	O	|	|	|	|	0.03
38.667	0.00	0.03	0.011	O	|	|	|	|	0.03
38.750	0.00	0.03	0.011	O	|	|	|	|	0.03
38.833	0.00	0.03	0.011	O	|	|	|	|	0.03
38.917	0.00	0.03	0.011	O	|	|	|	|	0.03
39.000	0.00	0.03	0.011	O	|	|	|	|	0.03
39.083	0.00	0.03	0.010	O	|	|	|	|	0.03
39.167	0.00	0.03	0.010	O	|	|	|	|	0.03
39.250	0.00	0.03	0.010	O	|	|	|	|	0.03
39.333	0.00	0.03	0.010	O	|	|	|	|	0.03
39.417	0.00	0.03	0.010	O	|	|	|	|	0.03
39.500	0.00	0.03	0.009	O	|	|	|	|	0.03
39.583	0.00	0.03	0.009	O	|	|	|	|	0.02
39.667	0.00	0.03	0.009	O	|	|	|	|	0.02
39.750	0.00	0.02	0.009	O	|	|	|	|	0.02
39.833	0.00	0.02	0.009	O	|	|	|	|	0.02
39.917	0.00	0.02	0.009	O	|	|	|	|	0.02
40.000	0.00	0.02	0.008	O	|	|	|	|	0.02
40.083	0.00	0.02	0.008	O	|	|	|	|	0.02
40.167	0.00	0.02	0.008	O	|	|	|	|	0.02
40.250	0.00	0.02	0.008	O	|	|	|	|	0.02
40.333	0.00	0.02	0.008	O	|	|	|	|	0.02
40.417	0.00	0.02	0.008	O	|	|	|	|	0.02
40.500	0.00	0.02	0.007	O	|	|	|	|	0.02
40.583	0.00	0.02	0.007	O	|	|	|	|	0.02
40.667	0.00	0.02	0.007	O	|	|	|	|	0.02
40.750	0.00	0.02	0.007	O	|	|	|	|	0.02

40.833	0.00	0.02	0.007	O	|	|	|	|	0.02
40.917	0.00	0.02	0.007	O	|	|	|	|	0.02
41.000	0.00	0.02	0.007	O	|	|	|	|	0.02
41.083	0.00	0.02	0.007	O	|	|	|	|	0.02
41.167	0.00	0.02	0.006	O	|	|	|	|	0.02
41.250	0.00	0.02	0.006	O	|	|	|	|	0.02
41.333	0.00	0.02	0.006	O	|	|	|	|	0.02
41.417	0.00	0.02	0.006	O	|	|	|	|	0.02
41.500	0.00	0.02	0.006	O	|	|	|	|	0.02
41.583	0.00	0.02	0.006	O	|	|	|	|	0.02
41.667	0.00	0.02	0.006	O	|	|	|	|	0.02
41.750	0.00	0.02	0.006	O	|	|	|	|	0.01
41.833	0.00	0.02	0.005	O	|	|	|	|	0.01
41.917	0.00	0.01	0.005	O	|	|	|	|	0.01
42.000	0.00	0.01	0.005	O	|	|	|	|	0.01
42.083	0.00	0.01	0.005	O	|	|	|	|	0.01
42.167	0.00	0.01	0.005	O	|	|	|	|	0.01
42.250	0.00	0.01	0.005	O	|	|	|	|	0.01
42.333	0.00	0.01	0.005	O	|	|	|	|	0.01
42.417	0.00	0.01	0.005	O	|	|	|	|	0.01
42.500	0.00	0.01	0.005	O	|	|	|	|	0.01
42.583	0.00	0.01	0.005	O	|	|	|	|	0.01
42.667	0.00	0.01	0.005	O	|	|	|	|	0.01
42.750	0.00	0.01	0.004	O	|	|	|	|	0.01
42.833	0.00	0.01	0.004	O	|	|	|	|	0.01
42.917	0.00	0.01	0.004	O	|	|	|	|	0.01
43.000	0.00	0.01	0.004	O	|	|	|	|	0.01
43.083	0.00	0.01	0.004	O	|	|	|	|	0.01
43.167	0.00	0.01	0.004	O	|	|	|	|	0.01
43.250	0.00	0.01	0.004	O	|	|	|	|	0.01
43.333	0.00	0.01	0.004	O	|	|	|	|	0.01
43.417	0.00	0.01	0.004	O	|	|	|	|	0.01
43.500	0.00	0.01	0.004	O	|	|	|	|	0.01
43.583	0.00	0.01	0.004	O	|	|	|	|	0.01
43.667	0.00	0.01	0.004	O	|	|	|	|	0.01
43.750	0.00	0.01	0.004	O	|	|	|	|	0.01
43.833	0.00	0.01	0.003	O	|	|	|	|	0.01
43.917	0.00	0.01	0.003	O	|	|	|	|	0.01
44.000	0.00	0.01	0.003	O	|	|	|	|	0.01
44.083	0.00	0.01	0.003	O	|	|	|	|	0.01
44.167	0.00	0.01	0.003	O	|	|	|	|	0.01
44.250	0.00	0.01	0.003	O	|	|	|	|	0.01
44.333	0.00	0.01	0.003	O	|	|	|	|	0.01
44.417	0.00	0.01	0.003	O	|	|	|	|	0.01
44.500	0.00	0.01	0.003	O	|	|	|	|	0.01
44.583	0.00	0.01	0.003	O	|	|	|	|	0.01
44.667	0.00	0.01	0.003	O	|	|	|	|	0.01
44.750	0.00	0.01	0.003	O	|	|	|	|	0.01
44.833	0.00	0.01	0.003	O	|	|	|	|	0.01
44.917	0.00	0.01	0.003	O	|	|	|	|	0.01
45.000	0.00	0.01	0.003	O	|	|	|	|	0.01
45.083	0.00	0.01	0.003	O	|	|	|	|	0.01
45.167	0.00	0.01	0.003	O	|	|	|	|	0.01
45.250	0.00	0.01	0.002	O	|	|	|	|	0.01
45.333	0.00	0.01	0.002	O	|	|	|	|	0.01
45.417	0.00	0.01	0.002	O	|	|	|	|	0.01
45.500	0.00	0.01	0.002	O	|	|	|	|	0.01
45.583	0.00	0.01	0.002	O	|	|	|	|	0.01
45.667	0.00	0.01	0.002	O	|	|	|	|	0.01
45.750	0.00	0.01	0.002	O	|	|	|	|	0.01
45.833	0.00	0.01	0.002	O	|	|	|	|	0.01
45.917	0.00	0.01	0.002	O	|	|	|	|	0.01
46.000	0.00	0.01	0.002	O	|	|	|	|	0.01
46.083	0.00	0.01	0.002	O	|	|	|	|	0.01
46.167	0.00	0.01	0.002	O	|	|	|	|	0.01
46.250	0.00	0.01	0.002	O	|	|	|	|	0.01
46.333	0.00	0.01	0.002	O	|	|	|	|	0.01
46.417	0.00	0.01	0.002	O	|	|	|	|	0.01
46.500	0.00	0.01	0.002	O	|	|	|	|	0.01
46.583	0.00	0.01	0.002	O	|	|	|	|	0.00
46.667	0.00	0.01	0.002	O	|	|	|	|	0.00

46.750	0.00	0.00	0.002	O					0.00
46.833	0.00	0.00	0.002	O					0.00
46.917	0.00	0.00	0.002	O					0.00
47.000	0.00	0.00	0.002	O					0.00
47.083	0.00	0.00	0.002	O					0.00
47.167	0.00	0.00	0.002	O					0.00
47.250	0.00	0.00	0.002	O					0.00
47.333	0.00	0.00	0.002	O					0.00
47.417	0.00	0.00	0.002	O					0.00
47.500	0.00	0.00	0.001	O					0.00
47.583	0.00	0.00	0.001	O					0.00
47.667	0.00	0.00	0.001	O					0.00
47.750	0.00	0.00	0.001	O					0.00
47.833	0.00	0.00	0.001	O					0.00
47.917	0.00	0.00	0.001	O					0.00
48.000	0.00	0.00	0.001	O					0.00
48.083	0.00	0.00	0.001	O					0.00
48.167	0.00	0.00	0.001	O					0.00
48.250	0.00	0.00	0.001	O					0.00
48.333	0.00	0.00	0.001	O					0.00
48.417	0.00	0.00	0.001	O					0.00
48.500	0.00	0.00	0.001	O					0.00
48.583	0.00	0.00	0.001	O					0.00
48.667	0.00	0.00	0.001	O					0.00
48.750	0.00	0.00	0.001	O					0.00
48.833	0.00	0.00	0.001	O					0.00
48.917	0.00	0.00	0.001	O					0.00
49.000	0.00	0.00	0.001	O					0.00
49.083	0.00	0.00	0.001	O					0.00
49.167	0.00	0.00	0.001	O					0.00
49.250	0.00	0.00	0.001	O					0.00
49.333	0.00	0.00	0.001	O					0.00
49.417	0.00	0.00	0.001	O					0.00
49.500	0.00	0.00	0.001	O					0.00
49.583	0.00	0.00	0.001	O					0.00
49.667	0.00	0.00	0.001	O					0.00
49.750	0.00	0.00	0.001	O					0.00
49.833	0.00	0.00	0.001	O					0.00
49.917	0.00	0.00	0.001	O					0.00
50.000	0.00	0.00	0.001	O					0.00
50.083	0.00	0.00	0.001	O					0.00
50.167	0.00	0.00	0.001	O					0.00
50.250	0.00	0.00	0.001	O					0.00
50.333	0.00	0.00	0.001	O					0.00
50.417	0.00	0.00	0.001	O					0.00
50.500	0.00	0.00	0.001	O					0.00
50.583	0.00	0.00	0.001	O					0.00
50.667	0.00	0.00	0.001	O					0.00
50.750	0.00	0.00	0.001	O					0.00
50.833	0.00	0.00	0.001	O					0.00
50.917	0.00	0.00	0.001	O					0.00
51.000	0.00	0.00	0.001	O					0.00
51.083	0.00	0.00	0.001	O					0.00
51.167	0.00	0.00	0.001	O					0.00
51.250	0.00	0.00	0.001	O					0.00
51.333	0.00	0.00	0.001	O					0.00
51.417	0.00	0.00	0.001	O					0.00
51.500	0.00	0.00	0.001	O					0.00
51.583	0.00	0.00	0.001	O					0.00
51.667	0.00	0.00	0.001	O					0.00
51.750	0.00	0.00	0.001	O					0.00
51.833	0.00	0.00	0.001	O					0.00
51.917	0.00	0.00	0.001	O					0.00
52.000	0.00	0.00	0.001	O					0.00
52.083	0.00	0.00	0.001	O					0.00
52.167	0.00	0.00	0.001	O					0.00
52.250	0.00	0.00	0.001	O					0.00
52.333	0.00	0.00	0.000	O					0.00
52.417	0.00	0.00	0.000	O					0.00
52.500	0.00	0.00	0.000	O					0.00
52.583	0.00	0.00	0.000	O					0.00

52.667	0.00	0.00	0.000	O	|	|	|	0.00
52.750	0.00	0.00	0.000	O	|	|	|	0.00
52.833	0.00	0.00	0.000	O	|	|	|	0.00
52.917	0.00	0.00	0.000	O	|	|	|	0.00
53.000	0.00	0.00	0.000	O	|	|	|	0.00
53.083	0.00	0.00	0.000	O	|	|	|	0.00
53.167	0.00	0.00	0.000	O	|	|	|	0.00
53.250	0.00	0.00	0.000	O	|	|	|	0.00
53.333	0.00	0.00	0.000	O	|	|	|	0.00
53.417	0.00	0.00	0.000	O	|	|	|	0.00
53.500	0.00	0.00	0.000	O	|	|	|	0.00
53.583	0.00	0.00	0.000	O	|	|	|	0.00

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

Number of intervals = 643
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 4.393 (CFS)
Total volume = 3.500 (Ac.Ft)

Status of hydrographs being held in storage

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

****

APPENDIX D

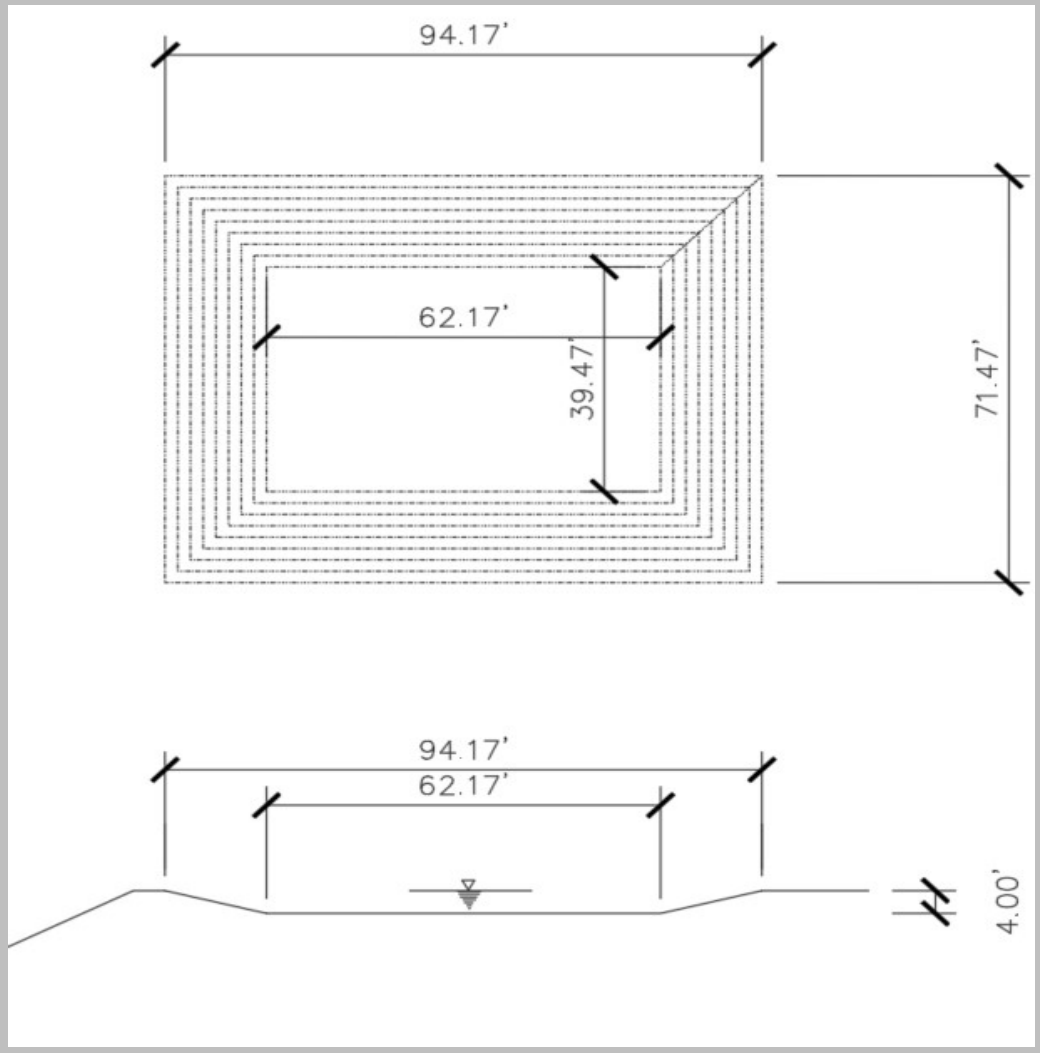
Basin A

18-inch Diameter Riser

Basin B

Dual 18-inch & 18-inch Diameter Riser

a. 30-inch outlet pipe 53-cfs
b. 27-Inch outlet pipe 45-cfs



BASIN A

DEPTH	SF/DEPTH	AF/DEPTH	VOLUME @ DEPTH
4.00	6730.72	0.15	0.42
3.50	6084.14	0.14	0.34
3.00	5469.56	0.13	0.27
2.50	4886.98	0.11	0.21
2.00	4336.40	0.10	0.16
1.50	3817.82	0.09	0.11
1.00	3331.24	0.08	0.07
0.50	2876.66	0.07	0.03
0.00	2454.08	0.06	0.00

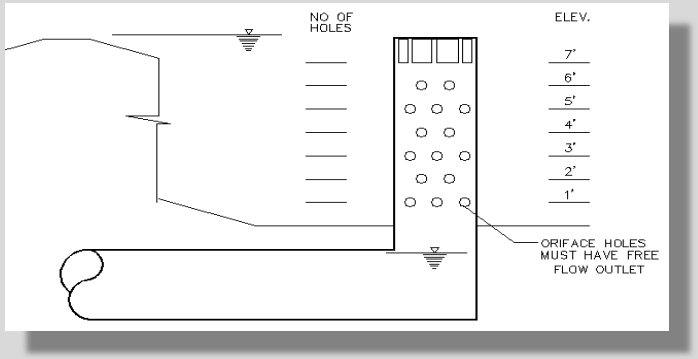
RISER PIPE FLOW CALCULATION

COMBINED ORIFIC / WIER STRUCTURE

BASIN A

Given: **ORIFICE VARIABLES**

Dia Hole (in)	D=	2.25 in	Pre Q =	0.47
Hole Type		Sharp Uniform	90% =	0.423
Coef	Cd=	0.60		
Hole Area	Ao=	0.028 sq ft		
Gravity	g=	32.17		
	Q =	CAo(2gh)^0.5		

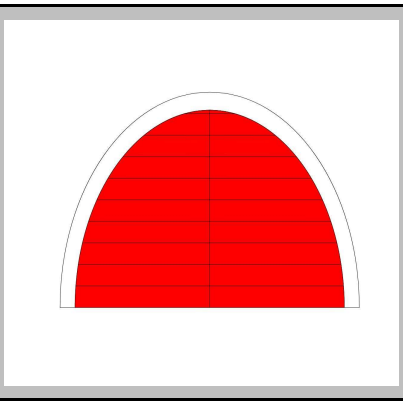


Riser Pipe Hole Elevation	Num Holes	WS Depths	8	7	6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1	0.5	0
			Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa
0	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	3		0.00	1.02	0.93	0.89	0.85	0.80	0.75	0.69	0.63	0.56	0.49	0.40	0.28	0.00	
1	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1.5	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
2	3		0.98	0.89	0.80	0.75	0.69	0.63	0.56	0.49	0.40	0.28	0.00				
2.5	1		0.31	0.28	0.25	0.23	0.21	0.19	0.16	0.13	0.09	0.00					
3	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
3.5	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
4	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00								
4.5	0		0.00	0.00	0.00	0.00	0.00	0.00									
5	0		0.00	0.00	0.00	0.00	0.00										
6	0		0.00	0.00	0.00												
7	0		0.00	0.00													

Given: **SHARP CRESTED WIER VARIABLES**

Max Height	h_T=	0.484	Weir / Orifaces Transition														
Diameter	D=	24 in															
Hieght Weir	P=	3.25 ft															
Length Weir	B=	6.283 ft															
	C=	0.62		0.65	0.64	0.63	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	1.62	0.62
	h=	Ws-P		4.75	3.75	2.75	2.25	1.75	1.25	0.75	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ao=	3.142															
	Q =	0.667CB(2g)^0.5 h^1.5		0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Q =	CAo(2gh)^0.5		35.42	31.23	26.33	23.44	20.67	17.47	13.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Flows at Depth				36.71	33.42	28.31	25.30	22.41	19.08	15.00	3.92	1.12	0.85	0.49	0.40	0.28	0.14	0.00
				No	No	No	No	No	No	No	No	No	No	No				
Basin Volume										0.422	0.343	0.273	0.211	0.156	0.108	0.066	0.306	0

BASIN B -SEE ADS PLANS

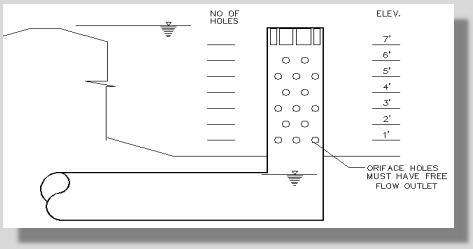


		ADS (MC-4500)		LF		
		Area (FT^2)	CF	540	ACFT	ACCU-AF
4.5	10	1.31	5.28	2849.34	0.065412	1.321
4	9	1.99	8.02	4332.57	0.099462	1.256
3.5	8	2.50	10.08	5443.70	0.12497	1.157
3	7	2.90	11.69	6313.08	0.144928	1.032
2.5	6	3.26	13.13	7091.70	0.162803	0.887
2	5	3.46	13.94	7526.18	0.172777	0.724
1.5	4	3.61	14.51	7836.12	0.179893	0.551
1	3	3.70	14.88	8036.08	0.184483	0.371
0.5	2	3.74	15.06	8134.32	0.186738	0.187
0	1		106.60			

RISER PIPE FLOW CALCULATION

COMBINED ORIFIC / WIER STRUCTURE

BASIN B 100-YEAR 24-HOUR



Given: **ORIFICE VARIABLES**

Dia Hole (in)	D=	2.25 in	Pre Q =	5.62
Hole Type		Sharp Uniform	90% =	5.058
Coef	Cd=	0.60		
Hole Area	Ao=	0.028 sq ft		
Gravity	g=	32.17		
	Q =	CAo(2gh)^0.5		

Riser pipe		WS Elevation	8	7	6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1	0.5	0
Hole Elevation	Num Holes		Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa
0	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	5		0.00	1.69	1.56	1.49	1.41	1.33	1.24	1.15	1.05	0.94	0.81	0.66	0.47	0.00	
1	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1.5	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
2	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
2.5	5		1.56	1.41	1.24	1.15	1.05	0.94	0.81	0.66	0.47	0.00					
3	2		0.59	0.53	0.46	0.42	0.38	0.33	0.27	0.19	0.00						
3.5	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
4	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00								
4.5	0		0.00	0.00	0.00	0.00	0.00	0.00									
5	0		0.00	0.00	0.00	0.00	0.00										
6	0		0.00	0.00	0.00												
7	0		0.00	0.00													

Top **SHARP CRESTED WIER VARIABLES**

Given: Weir / Orifaces Transition

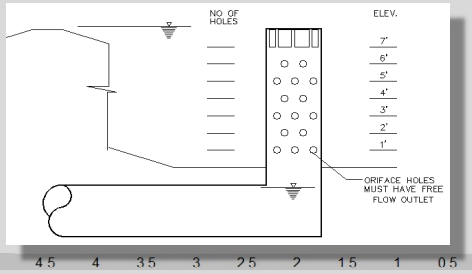
Max Height	hT=	0.363															
Diameter	D=	18 in															
Hieght Weir	P=	3.5 ft															
Length Weir	B=	4.712 ft	0.65	0.64	0.63	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	1.62	0.62
	C=	0.62	4.50	3.50	2.50	2.00	1.50	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	h=	Ws-P															
	Ao=	1.767															
	Q =	0.667CB(2g)^0.5 h^1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Q =	CAo(2gh)^0.5	19.39	16.97	14.12	12.43	10.76	8.79	6.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

total flows at elev	21.55	20.61	17.38	15.49	13.60	11.38	8.54	2.00	1.52	0.94	0.81	0.66	0.47	0.23	0.00
	No	No	No	No	No	No	No								

2nd RISER PIPE FLOW CALCULATION

COMBINED ORIFIC / WIER STRUCTURE

BASIN B 100-YEAR 24-HOUR



Given: **ORIFICE VARIABLES**

Dia Hole (in)	D=	2.50 in	Pre Q =	4.43
Hole Type		Sharp Uniform	90% =	3.987
Coef	Cd=	0.60		
Hole Area	Ao=	0.034 sq ft		
Gravity	g=	32.17		
	Q =	CAo(2gh)^0.5		

Riser pipe		WS Elevation	8	7	6	5.5	5	4.5	4	3.5	3	2.5	2	1.5	1	0.5	0
Hole Elevation	Num Holes		Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa	Qa
0	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	5		2.25	2.09	1.92	1.83	1.74	1.64	1.53	1.42	1.30	1.16	1.00	0.82	0.58	0.00	
1	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1.5	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
2	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
2.5	5		1.92	1.74	1.53	1.42	1.30	1.16	1.00	0.82	0.58	0.00					
3	2		0.73	0.66	0.57	0.52	0.46	0.40	0.33	0.23	0.00						
3.5	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
4	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00								
4.5	0		0.00	0.00	0.00	0.00	0.00	0.00									
5	0		0.00	0.00	0.00	0.00	0.00										
6	0		0.00	0.00	0.00												
7	0		0.00	0.00													

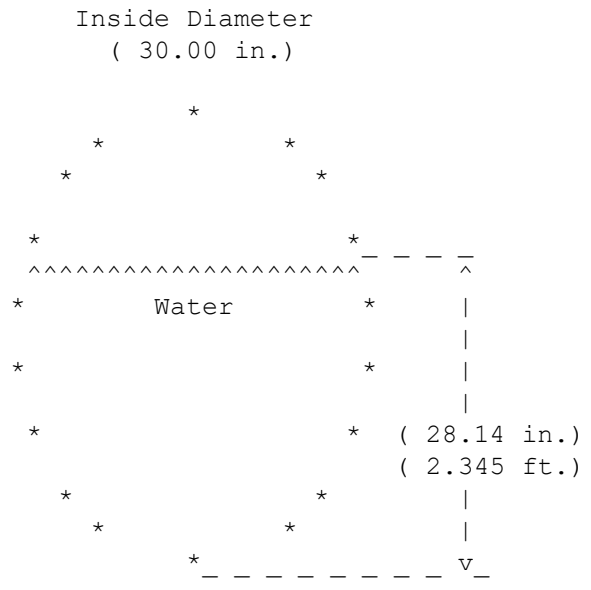
Top **SHARP CRESTED WIER VARIABLES**

Given: Weir / Orifaces Transition

Max Height	hT=	0.363															
Diameter	D=	18 in															
Hieght Weir	P=	3.5 ft															
Length Weir	B=	4.712 ft	0.65	0.64	0.63	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	1.62	0.62
	C=	0.62	4.50	3.50	2.50	2.00	1.50	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	h=	Ws-P															
	Ao=	1.767															
	Q =	0.667CB(2g)^0.5 h^1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Q =	CAo(2gh)^0.5	19.39	16.97	14.12	12.43	10.76	8.79	6.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total Flows at Depth	24.30	21.46	18.15	16.20	14.26	11.99	9.08	2.47	1.88	1.16	1.00	0.82	0.58	0.29	0.00
Double Riser Totals	45.85	42.07	35.53	31.69	27.86	23.37	17.62	4.48	3.40	2.10	1.82	1.48	1.05	0.52	0.00
	No	No	No	No	No	No	No								
Basin Volume						1.321	1.256	1.16	1.032	0.887	0.724	0.551	0.371	0.187	0

Joseph E. Bonadiman & Assoc., Inc.
Consulting Engineers
234 N. Arrowhead Ave.
San Bernardino, California 92408
(909)885-3806



Circular Channel Section

Flowrate	65.444	CFS
Velocity	13.684	fps
Pipe Diameter	30.000	inches
Depth of Flow	28.140	inches
Depth of Flow	2.345	feet
Critical Depth	2.419	feet
Depth/Diameter (D/d)	0.938	
Slope of Pipe	2.200	%
X-Sectional Area	4.783	sq. ft.
Wetted Perimeter	6.596	feet
AR^(2/3)	3.860	
Mannings 'n'	0.013	
Min. Fric. Slope, 30 inch Pipe Flowing Full	2.546	%

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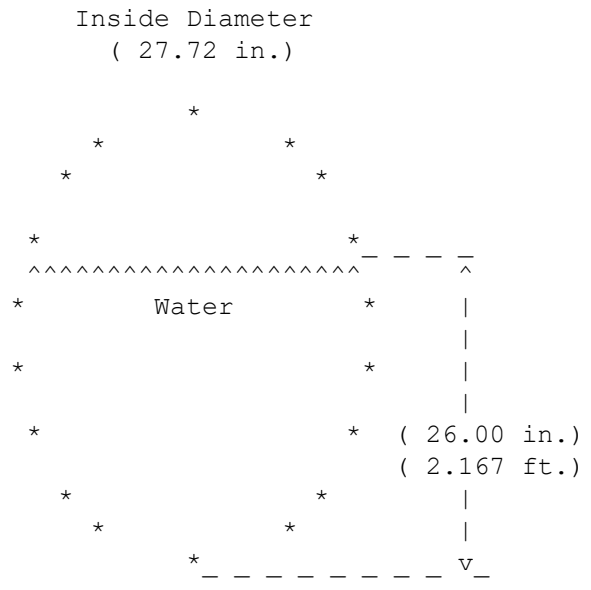
San Bernardino, California 92408
(909)885-3806



Circular Channel Section

Flowrate	53.000	CFS
Velocity	12.981	fps
Pipe Diameter	27.720	inches
Depth of Flow	26.001	inches
Depth of Flow	2.167	feet
Critical Depth	2.234	feet
Depth/Diameter (D/d)	0.938	
Slope of Pipe	2.200	%
X-Sectional Area	4.083	sq. ft.
Wetted Perimeter	6.094	feet
AR^(2/3)	3.126	
Mannings 'n'	0.013	
Min. Fric. Slope, 30 inch Pipe Flowing Full	1.669	%

APPENDIX E

Basin A

Above Ground Basin
Infiltration/Detention Basin

Basin B

ADS Storm-tech Underground
Infiltration/Detention Basin

EXHIBIT J

User Inputs

Chamber Model:	MC-4500
Outlet Control Structure:	Yes
Project Name:	Wildomar Commons
Engineer:	David Larson
Project Location:	California
Measurement Type:	Imperial
Required Storage Volume:	57565 cubic ft.
Stone Porosity:	40%
Stone Foundation Depth:	9 in.
Stone Above Chambers:	12 in.
Average Cover Over Chambers:	24 in.
Design Constraint Dimensions:	(70 ft. x 230 ft.)

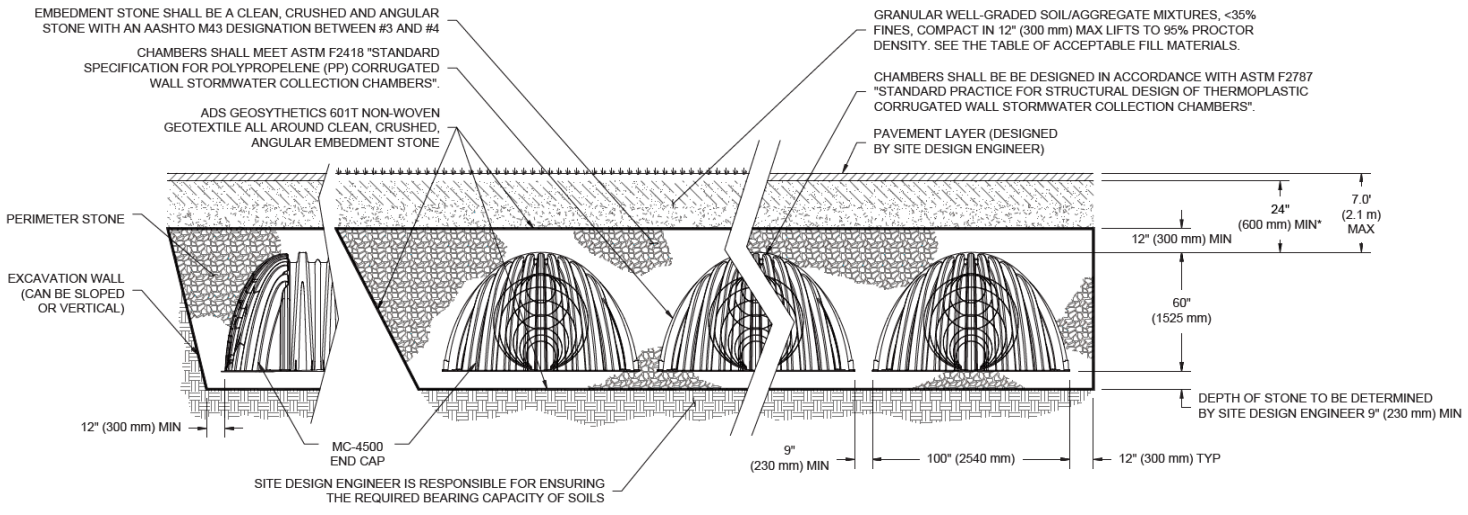
Results

System Volume and Bed Size

Installed Storage Volume:	58094.81 cubic ft.
Storage Volume Per Chamber:	106.50 cubic ft.
Number Of Chambers Required:	336
Number Of End Caps Required:	14
Chamber Rows:	7
Maximum Length:	209.64 ft.
Maximum Width:	65.43 ft.
Approx. Bed Size Required:	13441.71 square ft.

System Components

Amount Of Stone Required:	2014.61 cubic yards
Volume Of Excavation (Not Including Fill):	3360.43 cubic yards



*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 30" (750 mm).

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

ADVANCED DRAINAGE SYSTEMS, INC.

SiteASSIST™ by StormTech
FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

WILDOMAR COMMONS

WILDOMAR, CA

MC-4500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-4500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

1. STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

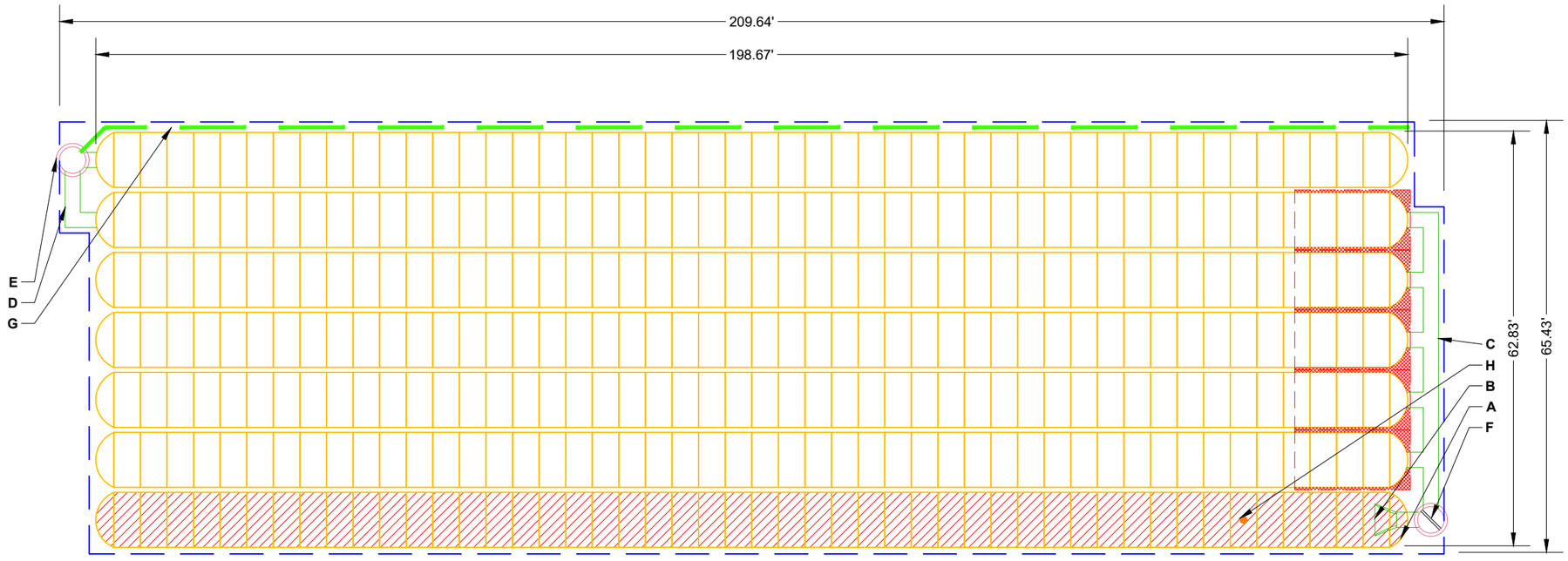
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS	
336	STORMTECH MC-4500 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	12.75
14	STORMTECH MC-4500 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	8.25
12	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	7.75
9	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	7.75
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	7.75
58097	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	6.75
		TOP OF MC-4500 CHAMBER:	5.75
		24" x 24" BOTTOM MANIFOLD INVERT:	0.94
		24" x 24" BOTTOM MANIFOLD INVERT:	0.94
13442	SYSTEM AREA (SF)	24" ISOLATOR ROW PLUS INVERT:	0.94
550.2	SYSTEM PERIMETER (ft)	24" BOTTOM CONNECTION INVERT:	0.94
		BOTTOM OF MC-4500 CHAMBER:	0.75
		UNDERDRAIN INVERT:	0.00
		BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM PARTIAL CUT END CAP, PART#: MC4500IEPP24B / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.26"	
FLAMP	B	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MC450024RAMP		
MANIFOLD	C	24" x 24" BOTTOM MANIFOLD, ADS N-12	2.26"	
MANIFOLD	D	24" x 24" BOTTOM MANIFOLD, ADS N-12	2.26"	
CONCRETE STRUCTURE	E	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		14.0 CFS OUT
CONCRETE STRUCTURE W/WEIR	F	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		41.5 CFS IN
UNDERDRAIN	G	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		
INSPECTION PORT	H	4" SEE DETAIL		



ISOLATOR ROW PLUS
(SEE DETAIL)

PLACE MINIMUM 17.50' OF ADSPLUS175 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

WILDOMAR COMMONS
WILDOMAR, CA

DATE: 12/7/2020 | DRAWN: DL | CHECKED: N/A | PROJECT #:

REV	DRW	CHK	DESCRIPTION

StormTech
Detention•Retention•Water Quality
520 CROMWELL AVENUE | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

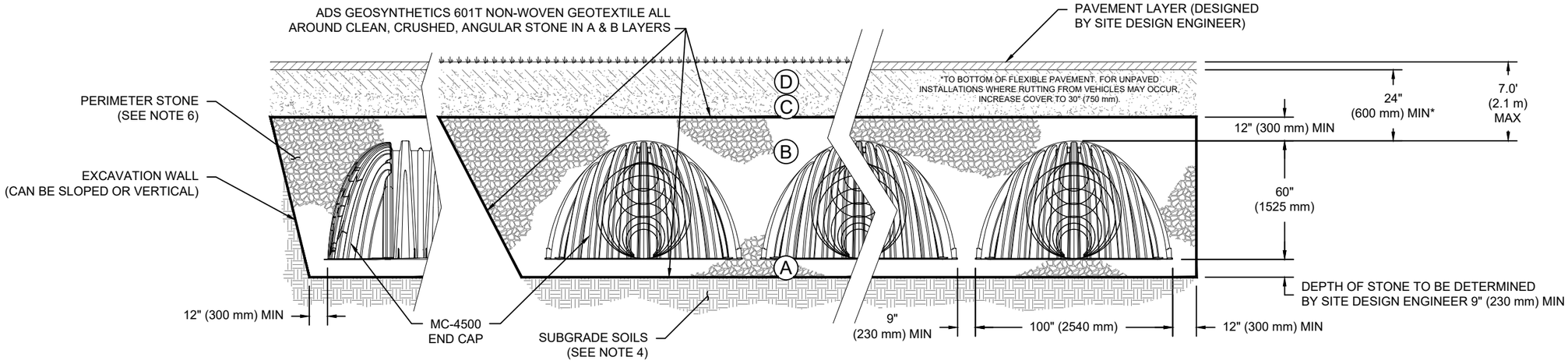
ADS
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

0 20' 40'

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

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2. MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

WILDOMAR COMMONS
WILDOMAR, CA
DATE: 12/7/2020
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CHECKED: N/A

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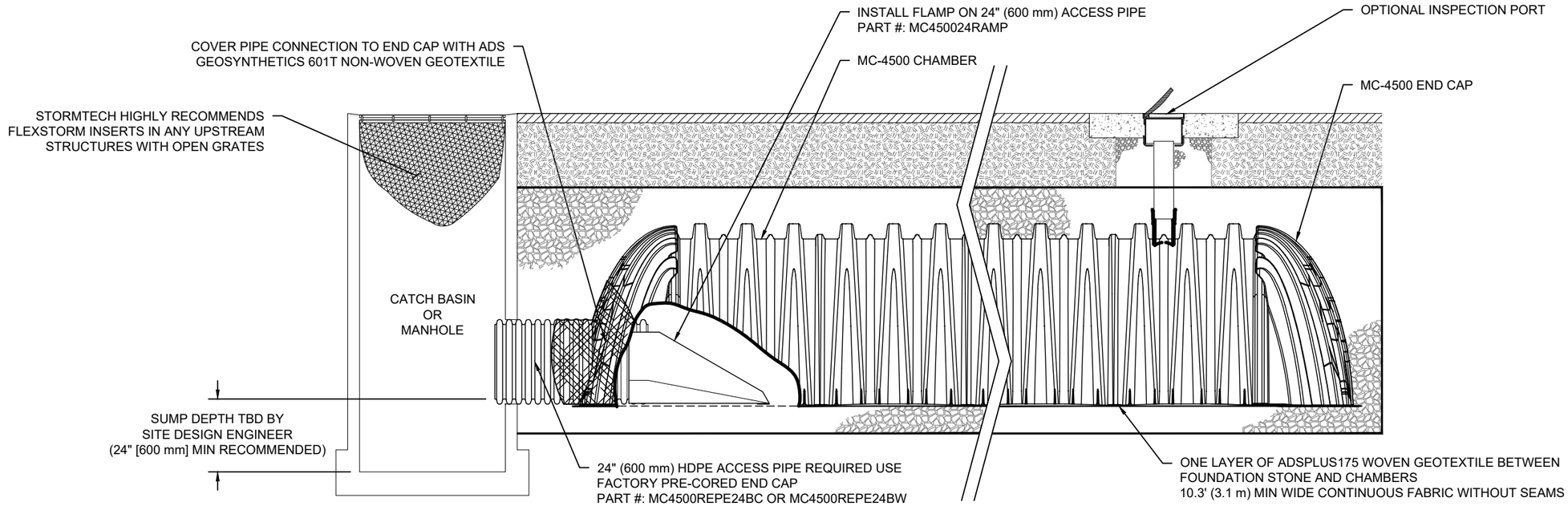


MC-4500 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

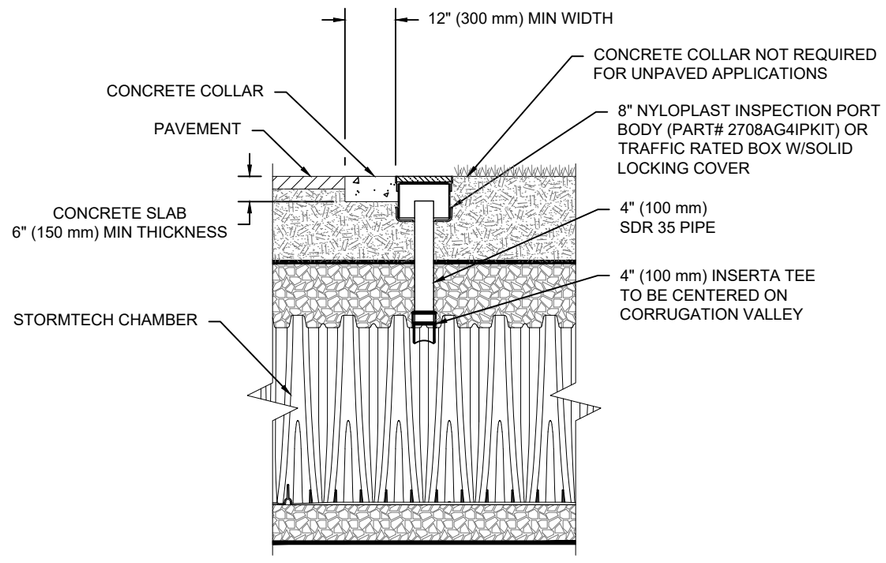
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL
(MC SERIES CHAMBER)
NTS

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WILDOMAR, CA
DATE: 12/7/2020 | DRAWN: DL | CHECKED: N/A
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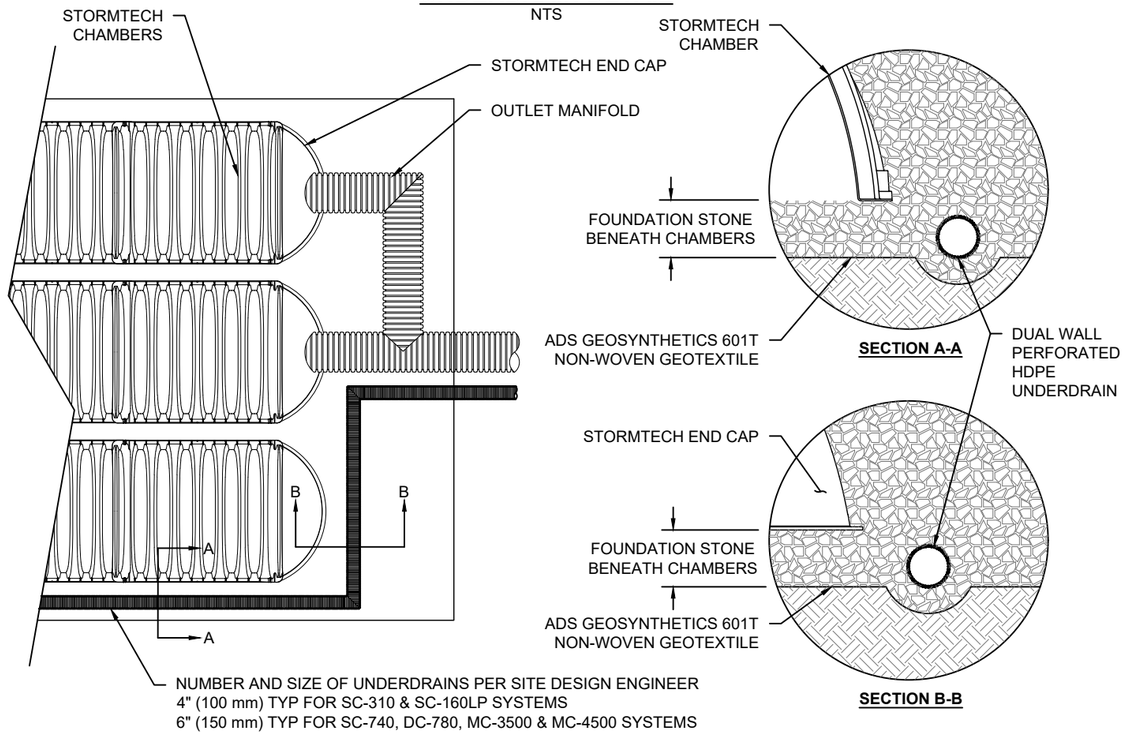
SHEET
4 OF 5

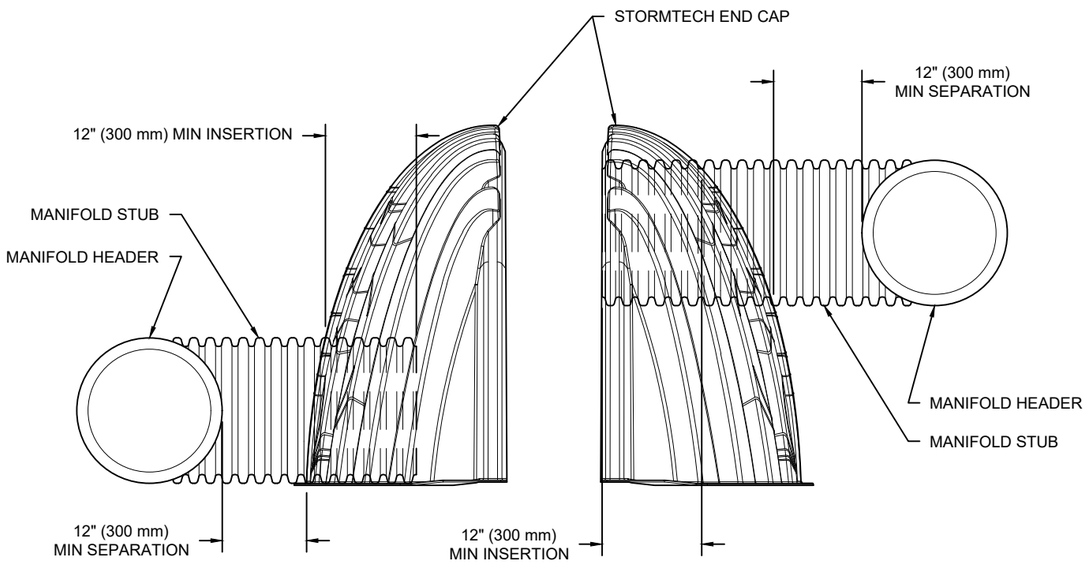
UNDERDRAIN DETAIL

NTS



MC-SERIES END CAP INSERTION DETAIL

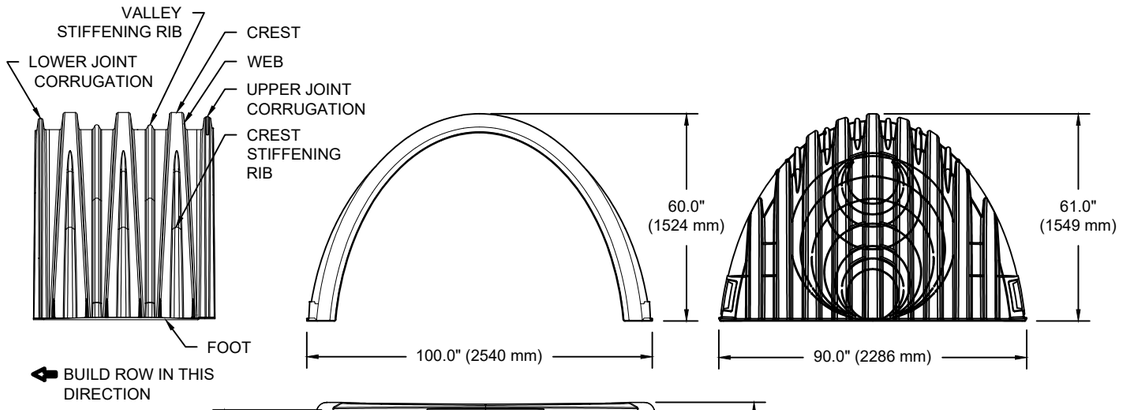
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-4500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 48.3"	(2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE	106.5 CUBIC FEET	(3.01 m³)
MINIMUM INSTALLED STORAGE*	162.6 CUBIC FEET	(4.60 m³)
WEIGHT (NOMINAL)	125.0 lbs.	(56.7 kg)

NOMINAL END CAP SPECIFICATIONS

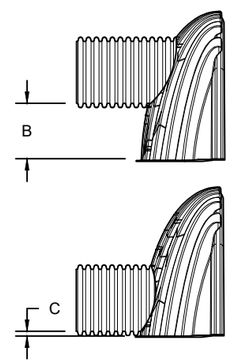
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC4500IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC4500IEPP06B		---	0.86" (22 mm)
MC4500IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC4500IEPP08B		---	1.01" (26 mm)
MC4500IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC4500IEPP10B		---	1.33" (34 mm)
MC4500IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC4500IEPP12B		---	1.55" (39 mm)
MC4500IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC4500IEPP15B		---	1.70" (43 mm)
MC4500IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC4500IEPP18TW			
MC4500IEPP18B		---	1.97" (50 mm)
MC4500IEPP18BW			
MC4500IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC4500IEPP24TW			
MC4500IEPP24B		---	2.26" (57 mm)
MC4500IEPP24BW			
MC4500IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC4500IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC4500IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PARTIAL CUT INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

WILDOMAR COMMONS
WILDOMAR, CA

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