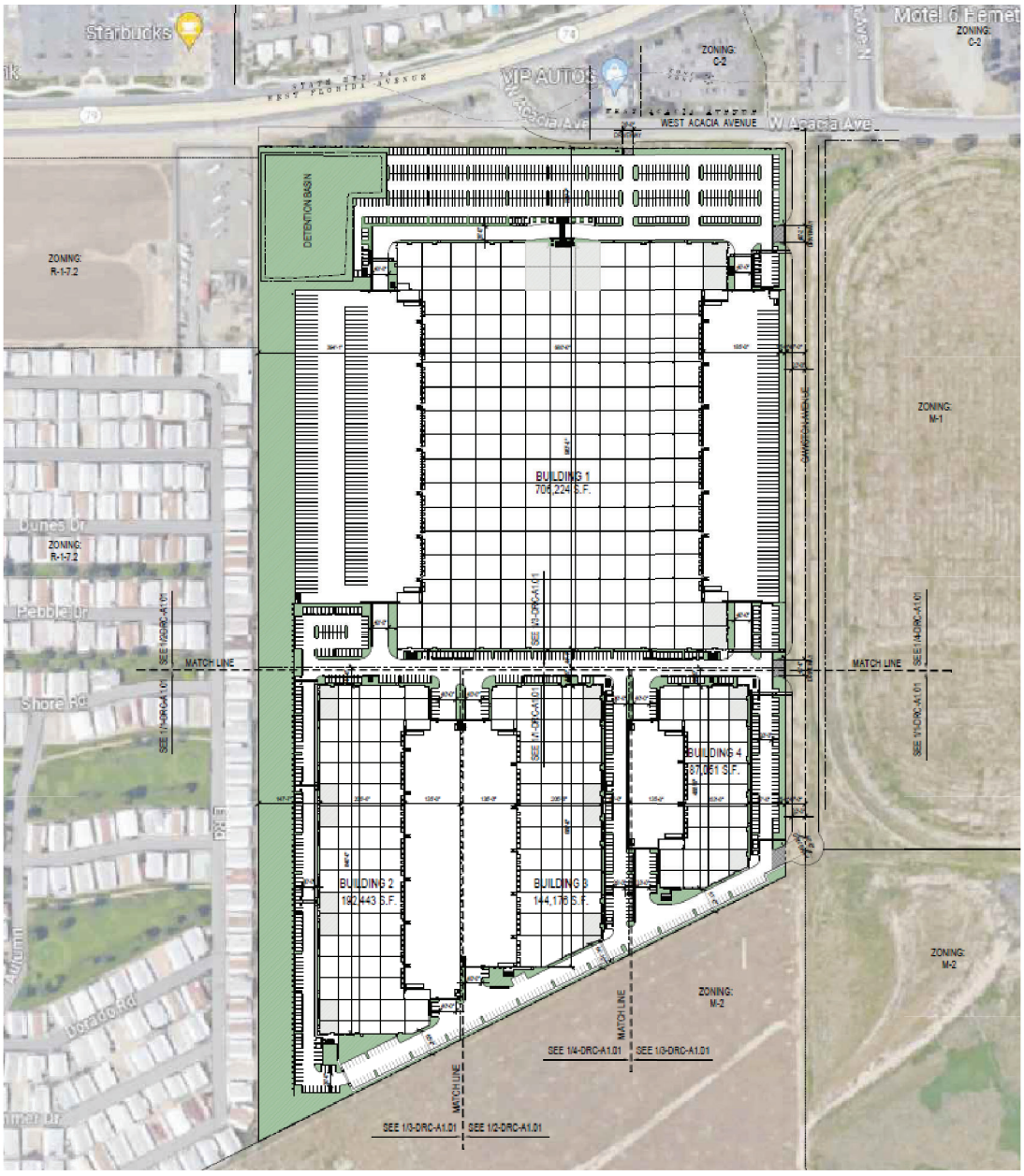
LEGACY
CIVILWORKS

PROJECT NO.: LOCH63-24002

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PRELIMINARY HYDROLOGY REPORT

Entitlements for 63 Acre Property, Hemet

November 22, 2024

ENTITLEMENTS FOR 63 ACRE PROPERTY, HEMET

PRELIMINARY HYDROLOGY REPORT

Prepared for

City of Hemet

Public Works Engineering



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November 28, 2022

Revised: November 22, 2024

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1. Introduction

Legacy CivilWorks Engineering, Inc. is providing professional design services as part of entitlements for a 63-acre property in the City of Hemet. The project site is being developed by Loctek Inc. The site is located between W Acacia Avenue to the north, the Hemet-Ryan Airport to the south, The Lakes Community to the west and AP North Lake Solar Facility to the east, in the City of Hemet, Riverside, California. The project proposes commercial and industrial development of an open, agricultural use, field. The project will include an extension of Cawston Avenue from W Acacia Avenue to the south towards the Hemet-Ryan Airport. Four buildings are proposed along with an extended detention basin to mitigate for on-site hydrology and water quality flows. See Figure 1, Vicinity Map for the project site and location.



ESRI, ArcGIS Online

Figure 1
Vicinity Map

2. Methodology

2.1. General Methodology

To validate the design of the permanent flood control basin and water quality Best Management Practices (BMPs) proposed for this project, this hydrology report and calculations use unit hydrographs developed using the Riverside County Flood Control and Water Conservation District's Hydrology Manual (April 1978). Hydrographs were developed for the 2-year, 5-year, 10-year recurrent, 1-hour, 3-hour, 6-hour, and 24-hour duration storm events using the Civil Design software. A hydrograph for the 100-year, 1-hour duration storm event was also included for the basin spillway design, per requirements of Riverside County Flood Control District, as an emergency overflow conveyance facility. The basin has been designed to retain the onsite peak flow and volume of runoff from the 100-year, 3-hour duration storm event per City of Hemet Detention/Retention guidelines of the Storm Drain Criteria and Drainage Design Manual.

2.2. Sources of Topography

Topography for the site was completed by Partner Engineering and Science, Inc. in October 2021 and 1-foot surface contours were generated from the field survey.

2.3. Soil Classification & Rainfall Intensity Values

The soil classification values used in this study are displayed in Appendix A. Since the site and surrounding properties are either barren vacant land or fully developed, no bulking factor was considered in the calculated volumes and flow rates.

Rainfall values for the project site was taken from the NOAA Precipitation Frequency Data Server, which is based on Atlas 14 and represents the latest intensity values.

2.4. Unit Hydrograph Calculations

Unit hydrograph values for both existing and proposed onsite drainage areas were calculated using the Civil Design (CivilD) software which is software accepted by the County. For existing and proposed conditions areas, separate watercourses from the most hydrologically remote point of each area to the outlet of each subarea were delineated per County requirements and shown on Appendix A, Existing and Proposed Conditions Hydrology Map.

For this study, peak flow rates and runoff volumes of the Civil Design software were used for the sizing and design of the detention basin. For basin sizing specifically, the 100-year, 3-hour storm event was used to size the flood control capacity required to retain the full volume of runoff on the site following guidance from the City of Hemet's design manual. The spillway has been designed using the 100-year 1-hour storm event.

2.5. Rational Method Calculation

Rational Method Calculations were performed for the offsite area, Cawston Avenue, in order to compare the existing and proposed hydrology independently of the onsite development. In the existing condition, Cawston Avenue is very flat and drains north towards Acacia Avenue. In the proposed condition, drainage flows northwest into a bioretention basin, which then directs flow to an underground chamber on the east side of the property and fully infiltrates drainage so that no water leaves the site. During final engineering, onsite rational method calculations will be performed to size onsite storm drain. As a preliminary approach, estimated trunk lines are sized using Unit Hydrograph peak flow rates, which is found in Appendix D. Rational method calculations are documented in Appendix B and C.

3. FEMA Floodplain Identification and Considerations

Per FEMA Map No. 0606C2085G (Effective Date – August 28, 2008), the project is currently impacted by two Zone "A" floodplains and an unshaded Zone "X" floodplain. An unshaded Zone "X" is identified by FEMA as areas determined to be outside the 0.2% annual chance floodplain. Refer to Appendix A for the applicable FEMA FIRM Map. A CLOMR will be prepared to address the project being located within a flood zone and will show that there will be no negative impact to the adjacent property owners.

4. Existing Hydrologic Conditions Discussion

Drainage characteristics of the site and surrounding area were determined using site topography and aerial photos obtained from Google Earth. The site is vacant land that is not seeded or plowed. Flow moves from the east of the site to the west and ponds at the west and northwest corner near Florida Avenue. Areas draining directly to the project area are mostly impervious surfaces and include a solar farm directly to the east that is conveyed north along an existing swale. A percent impervious value of 0% was given to the existing site and curve numbers of 69 and 84 for the soil B and soil D areas respectively based off of the observed characteristics from Google Earth imagery and the land use in the Riverside County Hydrology Manual.

Appendix A illustrates the existing conditions hydrology map for the site.

5. Proposed Hydrologic Conditions Discussion

The site will consist of commercial and industrial land uses with a total of four buildings, where a proposed storm drain systems conveys drainage around the buildings to a proposed bioretention basin on the northwest corner of the site. Building rooftops, asphalt parking lots, and concrete sidewalks make up the impervious areas of the site. An impervious ratio of 0.95 was used for the impervious areas and an impervious ratio of 0 was used for landscaping and undisturbed areas.

Drainage characteristics offsite of the project site will remain similar to the existing condition with the overall subarea boundary and flow paths slightly changed due to the extension of Cawston Avenue at the east of the site boundary. Offsite drainage on Cawston Avenue and the Solar Farm will continue to drain along the existing swale, mostly north, behind the proposed future curb and gutter. Ultimately flow collected along the road extension will be conveyed either north to Acacia Avenue and then to Florida Avenue and down south towards the future extension of Cawston Avenue. For the west side of Cawston Avenue, which will be improved, drainage will flow north and south, with the southerly flows draining towards a proposed parkway drain and the northerly flow draining towards Acacia Avenue.

Appendix A illustrates the proposed conditions unit hydrograph hydrology map for the site. The project will be retaining the full 100-year, 3-hour storm event in the proposed condition and infiltrate that runoff via the underground detention basin, to the maximum extent practical. No increases in the flows and/or runoff volumes are anticipated in compliance with city requirements. This project will result in an increase in impervious area.

6. Existing and Proposed Conditions Unit Hydrograph Calculations and Summary

Calculations were performed using the Civil Design software for the existing and proposed condition. Refer to Appendix B for existing condition and Appendix C for the proposed condition for the input and output data for the unit hydrographs. Due to the size of the watershed, the calculated values for volume and peak flow were used and no other calculations were needed, for the onsite hydrology. See Table 1 for a summary of the existing conditions input data for the 2, 10 and 100-year, 1,3,6, and 24 -hour duration storm event.

The proposed condition 100-year flowrates and volumes are slightly higher than the existing condition values. With the elongation of the longest flowpath in the proposed condition, the runoff values were not as high as one would expect with an increase in impervious area.

The proposed underground detention basin will act as a flood control basin and will be sized to detain the full 100-year, 3-hour storm event volume. This basin sizing was driven by the absence of local and regional existing storm drain systems around the project site. Future facilities are planned but have not been constructed. Instead of releasing on-site flows into adjacent properties and roadways, as is the current case, the decision was made to fully retain the on-site generated stormwater runoff, using an allowed drawdown of 96 hours by the City of Hemet. The increase in required drawdown time is for flood control volume and not for water quality volume. The basin has been sized to retain 10.7 acre-feet, which corresponds to the total volume of water of the hydrographs for the 100-year 3-hour storm event. The total available storage in the basin is 11.4 acre-feet. Details for the Low Impact Development (LID) calculations and mitigation are detailed in the following section.

Table 1 – Existing and Proposed Conditions Unit Hydrograph Output Data – 100-Year Events

Developed Condition: Area A1
Total Area: 14.20 Acres

100 Year	Q (cfs)	Vol (acft)
1 Hr	51.91	1.84
3 Hr	27.60	2.47
6 Hr	24.42	3.19
24 Hr	10.09	5.59

10 Year	Q (cfs)	Vol (acft)
1 Hr	30.17	1.04
3 Hr	16.95	1.42
6 Hr	15.20	1.84
24 Hr	5.85	3.15

2 Year	Q (cfs)	Vol (acft)
1 Hr	15.29	0.50
3 Hr	9.83	0.80
6 Hr	9.08	1.08
24 Hr	3.17	1.79

Developed Condition: Area A2
Total Area: 25.58 Acres

100 Year	Q (cfs)	Vol (acft)
1 Hr	91.18	3.33
3 Hr	48.74	4.52
6 Hr	43.19	5.89
24 Hr	18.42	10.42

10 Year	Q (cfs)	Vol (acft)
1 Hr	53.32	1.91
3 Hr	30.27	2.68
6 Hr	27.22	3.47
24 Hr	11.00	6.05

2 Year	Q (cfs)	Vol (acft)
1 Hr	27.27	0.95
3 Hr	17.76	1.53
6 Hr	16.46	2.07
24 Hr	6.17	3.45

Developed Condition: Area A3
Total Area: 21.11 Acres

100 Year	Q (cfs)	Vol (acft)
1 Hr	75.95	2.75
3 Hr	39.87	3.73
6 Hr	35.34	4.85
24 Hr	15.19	8.55

10 Year	Q (cfs)	Vol (acft)
1 Hr	44.33	1.57
3 Hr	24.66	2.19
6 Hr	22.17	2.82
24 Hr	8.99	4.87

2 Year	Q (cfs)	Vol (acft)
1 Hr	22.63	0.77
3 Hr	14.42	1.23
6 Hr	13.36	1.67
24 Hr	5.00	2.75

Existing Condition: Area A1
Total Area: 60.89 Acres

100 Year	Q (cfs)	Vol (acft)
1 Hr	153.99	7.47
3 Hr	91.25	9.37
6 Hr	80.96	11.26
24 Hr	37.28	16.22

10 Year	Q (cfs)	Vol (acft)
1 Hr	81.04	3.52
3 Hr	47.48	3.50
6 Hr	41.91	3.69
24 Hr	14.34	4.02

2 Year	Q (cfs)	Vol (acft)
1 Hr	27.06	0.86
3 Hr	13.65	0.79
6 Hr	10.87	0.86
24 Hr	1.66	1.05

Volume Analysis

100 Year	Total Ex Vol (acft)	Total Prop Vol (acft)
1 Hr	7.47	7.92
3 Hr	9.37	10.72
6 Hr	11.26	13.93
24 Hr	16.22	24.56

10 Year	Total Ex Vol (acft)	Total Prop Vol (acft)
1 Hr	3.52	4.51
3 Hr	3.50	6.29
6 Hr	3.69	8.13
24 Hr	4.02	14.07

2 Year	Total Ex Vol (acft)	Total Prop Vol (acft)
1 Hr	0.86	2.23
3 Hr	0.79	3.56
6 Hr	0.86	4.82
24 Hr	1.05	7.99

7. Low Impact Development Calculations and Mitigation

7.1. Low Impact Development Calculations

The project will be designed to retain 100 percent of the Design Capture Volume (DCV, V_{BMP}) on-site. LID calculations for on-site post development conditions were performed for improvements shown on Appendix A Preliminary WQMP Site Plan The LID volume for the proposed/post development condition was calculated using the County's LID BMP Sizing Spreadsheet. A copy of the spreadsheet can be found in the project's WQMP report. A summary of the DCV can be found in Table 5 below.

Per the Riverside County Design Handbook for Low Impact Development BMP (September 2011), in order to meet the Regional Water Quality Control Board (RWCCB) requirements, in the Santa Ana River Watershed the design capture volume is based on capturing the volume of runoff generated from an 85th percentile, 24-hour storm event.

Referencing the of 85th Percentile 24-hour rainfall depths within Riverside County, the 85th percentile, 24-hour rain event was determined to be 0.69-inches. The water quality drainage analysis is separated into onsite and offsite street and each have their own BMP and drainage management area.

Table 5 – DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*DMA A1* *DRAINS TO BMP A1*		
	[A]		[B]	[C]	[A] x [C]			
D1 & D3	1,122,137	Concrete or Asphalt	1.00	0.89	998702	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
D2	1,124,559	Roofs	1.00	0.89	1000858			
D4	178,397	Ornamental Landscaping	0.1	0.11	19705.4			
D5 (BASIN)	76,915	Mixed Surface Types	0	0.04	3076.6			
D10	150,294	Ornamental Landscaping	0.1	0.11	16601.2			
	2,652,302				2,038,943	0.69	117,239	*117,240*

In accordance with County requirements, the DCV of 117,239 ft^3 and 117,240 ft^3 will be treated to mitigate the LID requirements for the developed condition. Refer to Appendix D for the LID calculations.

7.2. Mitigation

As the project is designed to treat the 85th percentile, 24-hour rain event volume, the treatment will be provided by the construction of a bioretention basin. Following the DCV calculations, the Bioretention basin was designed in accordance to the Bioretention Basin – Design Procedure Worksheet provided by Riverside County. The Worksheet can be found in Appendix D. After drainage is treated in the bioretention basin, storm water is detained onsite through a detention basin, as previously stated. The detention basin, which will not act as a treatment BMP, will be designed to infiltrate the 100-year storm volume since there is no offsite storm drain facility to connect the overflow to.

7.3. Proposed Source Control Best Management Practices (BMPs)

The Best Management Practices (BMPs) in the following table are proposed for the project in accordance with LID requirements.

Table 6 – Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
Landscape/ Outdoor Pesticide Use	Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. Consider using pest-resistant plants, especially adjacent to hardscape. To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	Maintain landscaping using minimum or no pesticides. Provide IPM information to new owners, lessees, and operators.
Plazas, sidewalks, parking lots, and trash receptacle areas.		Sweep plazas, sidewalks, parking lots, and trash receptacle areas regularly to

		prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer, not a storm drain pipe or inlet.
Underground Detention Basin	Weekly: Look for erosion, standing water and dead vegetation. After storm event: Inspect areas for ponding. Annually: Inspect outlets to basins, connector pipes and inlets on the site	Weekly: Remove trash and debris. Maintain vegetation (see SC-73, Appendix 10) and remove clippings. Replace damaged grass and/or plants. Repair basin cover as necessary. Clean storm drain pipe inlets and outlets to restore functionality in each storm drain line tributary to the detention basin. Clean vegetation from, in and around the storm drain overflows.
Bioretention Basin	• Replace damaged grass and/or plants • Replace surface mulch layer as needed to maintain a 2-3 inch soil cover • Keep adjacent landscape areas maintained. Remove clippings fromLandscape maintenance activities. • Remove trash and debris	• Inspect areas for ponding after storm event • Inspect/clean inlets and outlets
Onsite Catch Basin	Basin sump areas shall be vacuumed when sediment or trash becomes 2-inches deep and dispose of properly. The owner shall clean all catch basins whenever debris, trash or sediment accumulates to a level > 25% of debris holding capacity and shall investigate any suspected illegal dumping into these drains.	Inspect semi-annually(by October 1st and February 1st) and maintain, upon reaching 25% capacity, through maintenance service contract with the vendor or equally qualified contractor.
Drywells	Inspect catchment area for an excessive sediment, trash, and/or debris accumulation on surface. Clean up excessive sediment, trash, and/or debris accumulation. Litter leaves and	4 times Annually, and after heavy rain

	debris should be removed from Drywell to reduce risk of well clogging. Pump stored runoff from an impaired or failed dry well can also be accomplished through the test well.	

7.4. Post-Construction BMP Operations & Maintenance (O&M)

The BMPs identified in this section will require post-construction Operations and Maintenance to ensure their continued effectiveness throughout the life of the project. It is anticipated that all BMP O&M will commence immediately following construction of the project.

Fact Sheet 3.5: Bioretention Facility from the Riverside County LID Manual contains maintenance requirements and a troubleshooting summary to aid in extending the life and performance of the bioretention basin. General recommendations of maintenance include upkeep of the landscaping, debris and trash removal from the surface of the basin, and tending to problems associated with standing water (vectors, odors, etc.). Significant ponding, especially more than 72 hours after an event, may indicate that the bioretention basin surface is no longer providing sufficient filtration and requires media replacement. Please refer to the Preliminary WQMP for additional information on the proposed bioretention basin and drywells used to treat storm water.

8. Summary and Conclusion

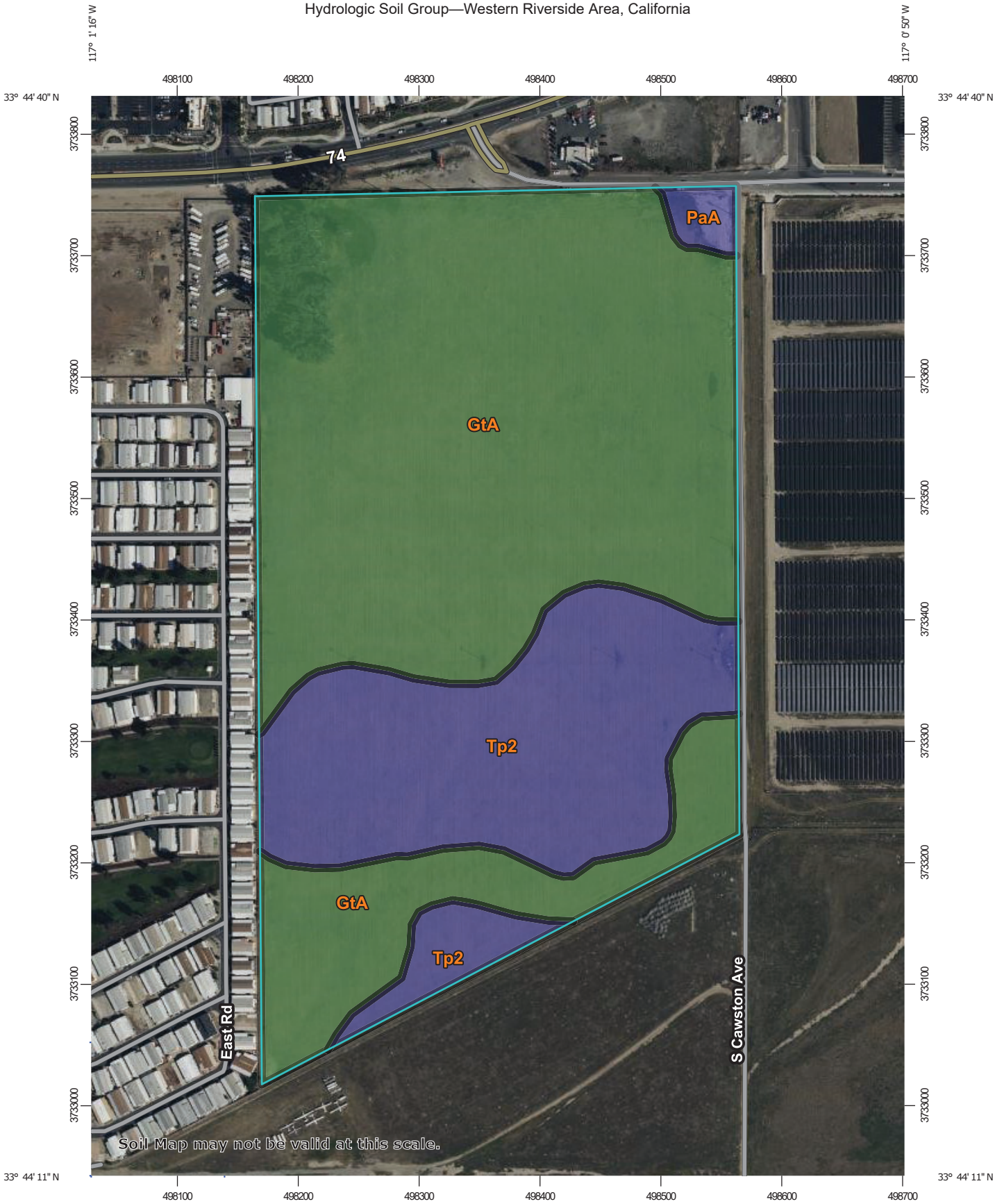
In summary, the flows generated from the on-site development will first be captured and treated in an on-site bioretention, while providing flood protection through the use of a detention just south of the bioretention basin. With the absence of existing drainage systems, runoff from the project will be detained and infiltrated into the ground instead of being released into neighboring developments and infrastructure, to the maximum extent practical. With regular operation and maintenance procedures in and around the basin, drawdown of stormwater in the bioretention basin will be accomplished in less than 72 hours, while the underground detention system will drawdown with a maximum of 96 hours..

In accordance with the City of Hemet flood control design criteria, the basin has been designed retain the complete 100-year, 3-hour duration stormwater volume, 10.7 acre-feet. The provided volume of the basin totals 12.0 acre-feet (522,720 cubic feet).

To meet the LID requirements, the onsite bioretention basin has been designed to capture and treat the calculated DCV volume of 117,240 cubic feet (2.7 acre-feet). The proposed onsite bioretention basin has a volume of 1.5 acft.

A benefit of implementing a full retention basin at this project site is the independence this storm drain system has with the adjacent properties surrounding it. Until future backbone storm drain systems are constructed, the site can maintain self-sufficiency with regular operation and maintenance of its facilities.

Appendix A – Exhibits



Map Scale: 1:4,340 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 15, Sep 6, 2022

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

Date(s) aerial images were photographed: Mar 15, 2022—May 28, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
GtA	Grangeville fine sandy loam, drained, 0 to 2 percent sl opes	A/D	44.1	70.8%
PaA	Pachappa fine sandy loam, 0 to 2 percent slopes	B	0.7	1.2%
Tp2	Traver loamy fine sand, eroded	B	17.5	28.1%
Totals for Area of Interest			**62.4**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

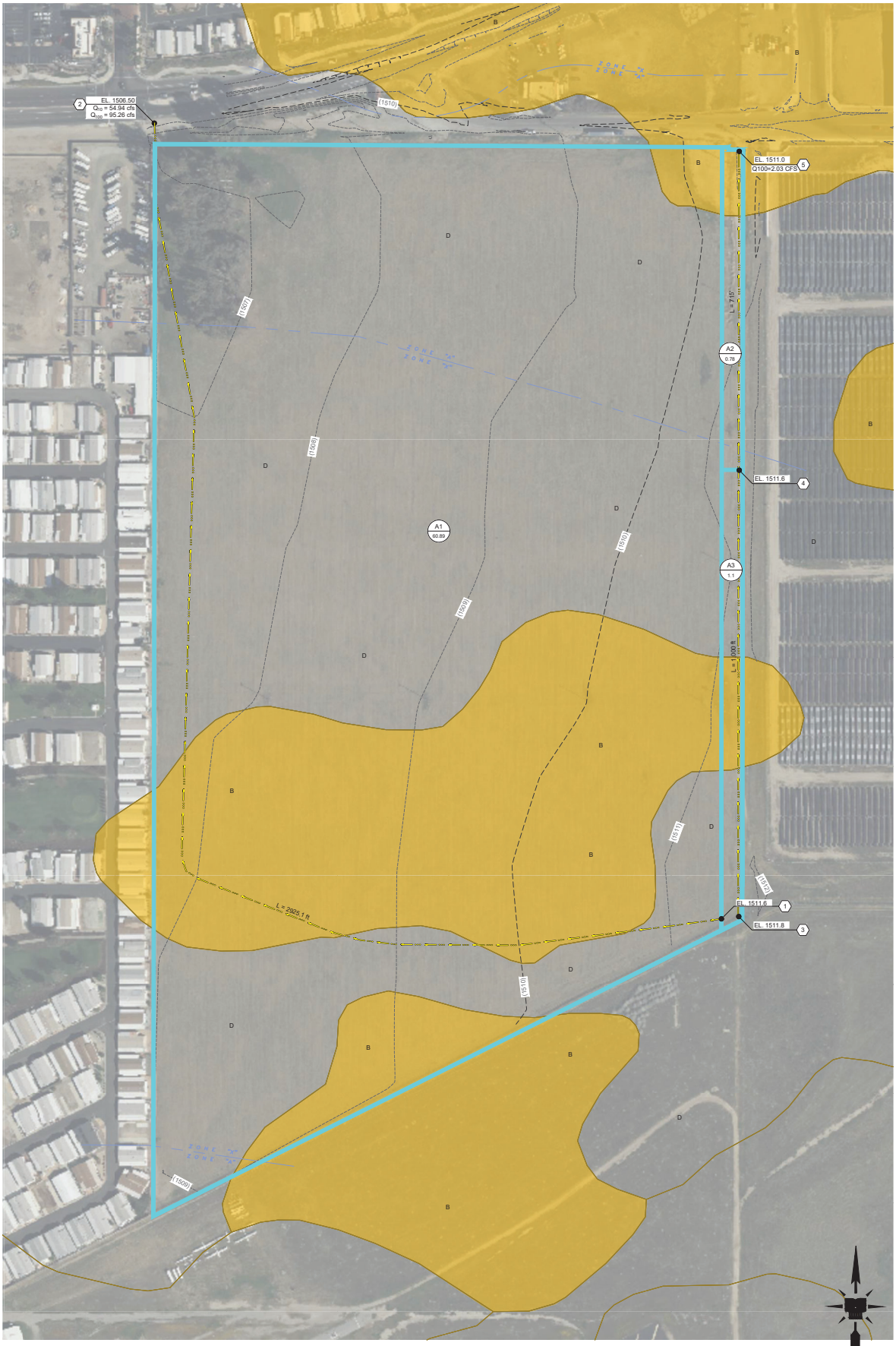
The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.



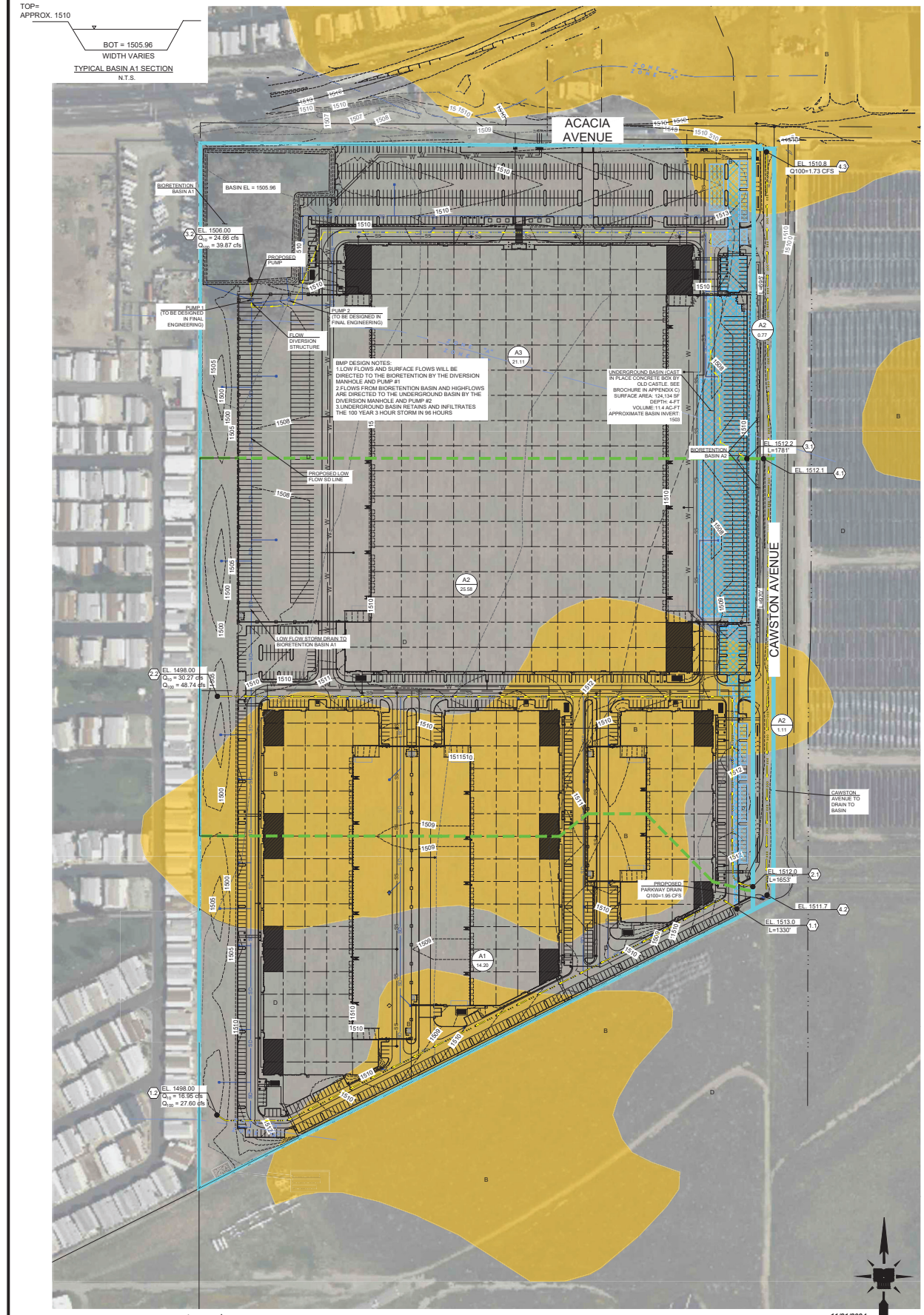
Legend

- A2 / 3.00 — Subarea Name and Acreage
- EL. 1509.50, Q_{10} = 4.81 cfs, Q_{100} = 8.58 cfs, 3 — Hydrology Node, Elevation, and Peak Flow Rates (3-hour storm durations)
- Flow Path
- Drainage Boundary
- Subarea Boundary
- B — USDA-NRCS Hydrologic Soil Group B
- D — USDA-NRCS Hydrologic Soil Group D

SCALE
100 0 50 100 200
(FEET)
1 INCH = 100 FT.

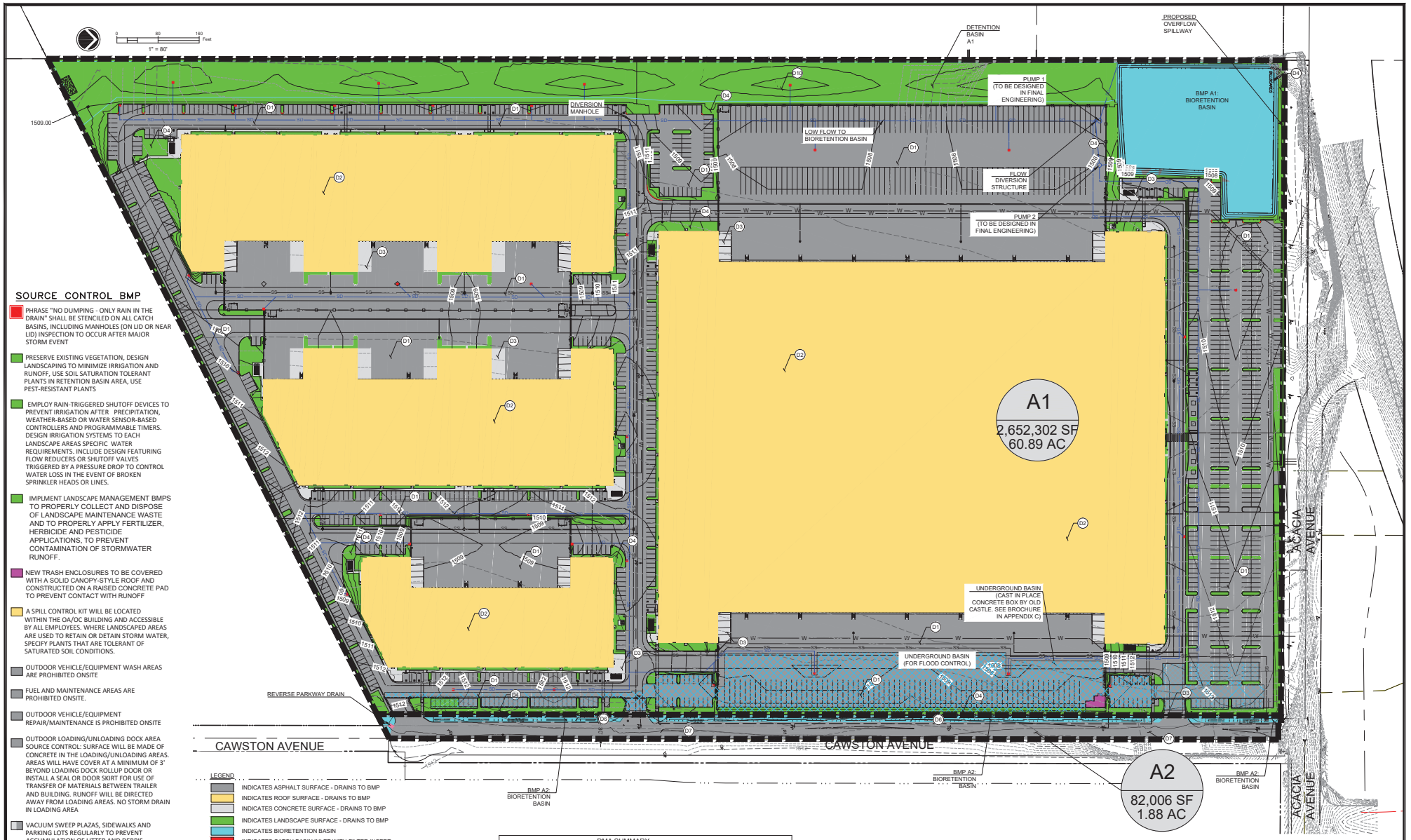
LEGACY CIVILWORKS
LEGACY CIVILWORKS ENGINEERING, INC.
24355 CREEKSIDE ROAD #SOO073,
SANTA CLARITA 91355-3998

Existing Conditions Hydrology Map
PR 21-019, Loctek Industrial Building - Acacia, APN 456-010-025



LEGACY CIVILWORKS
LEGACY CIVILWORKS ENGINEERING, INC.
24355 CREEKSIDE ROAD #SOOO73,
SANTA CLARITA 91355-3998

Proposed Conditions Hydrology Map
PR 21-019, Loctek Industrial Building - Acacia, APN 456-010-025



SOURCE CONTROL BMP

- PHRASE "NO DUMPING - ONLY RAIN IN THE DRAIN" SHALL BE STENCILED ON ALL CATCH BASINS, INCLUDING MANHOLES (ON LID OR NEAR LID) INSPECTION TO OCCUR AFTER MAJOR STORM EVENT
- PRESERVE EXISTING VEGETATION, DESIGN LANDSCAPING TO MINIMIZE IRRIGATION AND RUNOFF, USE SOIL SATURATION TOLERANT PLANTS IN RETENTION BASIN AREA, USE PEST-RESISTANT PLANTS
- EMPLOY RAIN-TRIGGERED SHUTOFF DEVICES TO PREVENT IRRIGATION AFTER PRECIPITATION, WEATHER-BASED OR WATER SENSOR-BASED CONTROLLERS AND PROGRAMMABLE TIMERS. DESIGN IRRIGATION SYSTEMS TO EACH LANDSCAPE AREAS SPECIFIC WATER REQUIREMENTS. INCLUDE DESIGN FEATURING FLOW REDUCERS OR SHUTOFF VALVES TRIGGERED BY A PRESSURE DROP TO CONTROL WATER LOSS IN THE EVENT OF BROKEN SPRINKLER HEADS OR LINES.
- IMPLMENT LANDSCAPE MANAGEMENT BMPS TO PROPERLY COLLECT AND DISPOSE OF LANDSCAPE MAINTENANCE WASTE AND TO PROPERLY APPLY FERTILIZER, HERBICIDE AND PESTICIDE APPLICATIONS, TO PREVENT CONTAMINATION OF STORMWATER RUNOFF.
- NEW TRASH ENCLOSURES TO BE COVERED WITH A SOLID CANOPY-STYLE ROOF AND CONSTRUCTED ON A RAISED CONCRETE PAD TO PREVENT CONTACT WITH RUNOFF
- A SPILL CONTROL KIT WILL BE LOCATED WITHIN THE OA/OC BUILDING AND ACCESSIBLE BY ALL EMPLOYEES. WHERE LANDSCAPED AREAS ARE USED TO RETAIN OR DETAIN STORM WATER, SPECIFY PLANTS THAT ARE TOLERANT OF SATURATED SOIL CONDITIONS.
- OUTDOOR VEHICLE/EQUIPMENT WASH AREAS ARE PROHIBITED ONSITE
- FUEL AND MAINTENANCE AREAS ARE PROHIBITED ONSITE.
- OUTDOOR VEHICLE/EQUIPMENT REPAIR/MAINTENANCE IS PROHIBITED ONSITE
- OUTDOOR LOADING/UNLOADING DOCK AREA SOURCE CONTROL: SURFACE WILL BE MADE OF CONCRETE IN THE LOADING/UNLOADING AREAS. AREAS WILL HAVE COVER AT A MINIMUM OF 3' BEYOND LOADING DOCK ROLLUP DOOR OR INSTALL A SEAL OR DOOR SKIRT FOR USE OF TRANSFER OF MATERIALS BETWEEN TRAILER AND BUILDING. RUNOFF WILL BE DIRECTED AWAY FROM LOADING AREAS. NO STORM DRAIN IN LOADING AREA
- VACUUM SWEEP PLAZAS, SIDEWALKS AND PARKING LOTS REGULARLY TO PREVENT ACCUMULATION OF LITTER AND DEBRIS. COLLECT DEBRIS FROM PRESSURE WASHING TO PREVENT ENTRY INTO STORM DRAIN SYSTEM. COLLECT WASH WATER CONTAINING ANY CLEANING AGENT OR DEGREASER AND DISCHARGE TO SANITARY SEWER, NOT STORM DRAIN

LEGEND

- INDICATES ASPHALT SURFACE - DRAINS TO BMP
- INDICATES ROOF SURFACE - DRAINS TO BMP
- INDICATES CONCRETE SURFACE - DRAINS TO BMP
- INDICATES LANDSCAPE SURFACE - DRAINS TO BMP
- INDICATES BIORETENTION BASIN
- INDICATES CATCH BASIN INLET WITH FILTER INSERT
- CATCH BASIN W/ TRASH SCREEN
- TRASH ENCLOSURE
- INDICATES UNDERGROUND DETENTION BASIN
- DMA BOUNDARY
- REVERSE PARKWAY DRAIN
- UNDERGROUND BASIN (FOR FLOOD CONTROL ONLY)

DMA SUMMARY

IDENTIFIER	AREA (SF)	PROPOSED SURFACE	TREATMENT
D1/D3	1,122,137	ASPHALT/CONCRETE	DRAINS TO BIORETENTION BASIN A1
D2	1,124,559	ROOFS	DRAINS TO BIORETENTION BASIN A1
D4	178,397	LANDSCAPE	DRAINS TO BIORETENTION BASIN A1
D5	76,915	LANDSCAPE	SELF-TREATING/BIORETENTION A1
D6	26,335	LANDSCAPE	SELF-TREATING/BIORETENTION BASIN A2
D7	55,951	ASPHALT/CONCRETE	DRAINS TO BIORETENTION BASIN A2
D10	150,294	LANDSCAPE	DRAINS TO BIORETENTION BASIN A1

PREPARED BY:

LEGACY CIVILWORKS

LEGACY CIVILWORKS ENGINEERING, INC.
24355 CREEKSIDE ROAD
SUITE 200
SANTA CLARITA 91355-9998

CITY OF HEMET
PUBLIC WORKS DEPARTMENT

TENTATIVE PARCEL MAP NO. 38631

PRELIMINARY WQMP SITE PLAN

PROJECT NO.: LOCH63-24002
DATE: 11/21/2024
SHEET: 1 OF 1

PRELIMINARY
SUBJECT TO CHANGE

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, NINGS12
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.

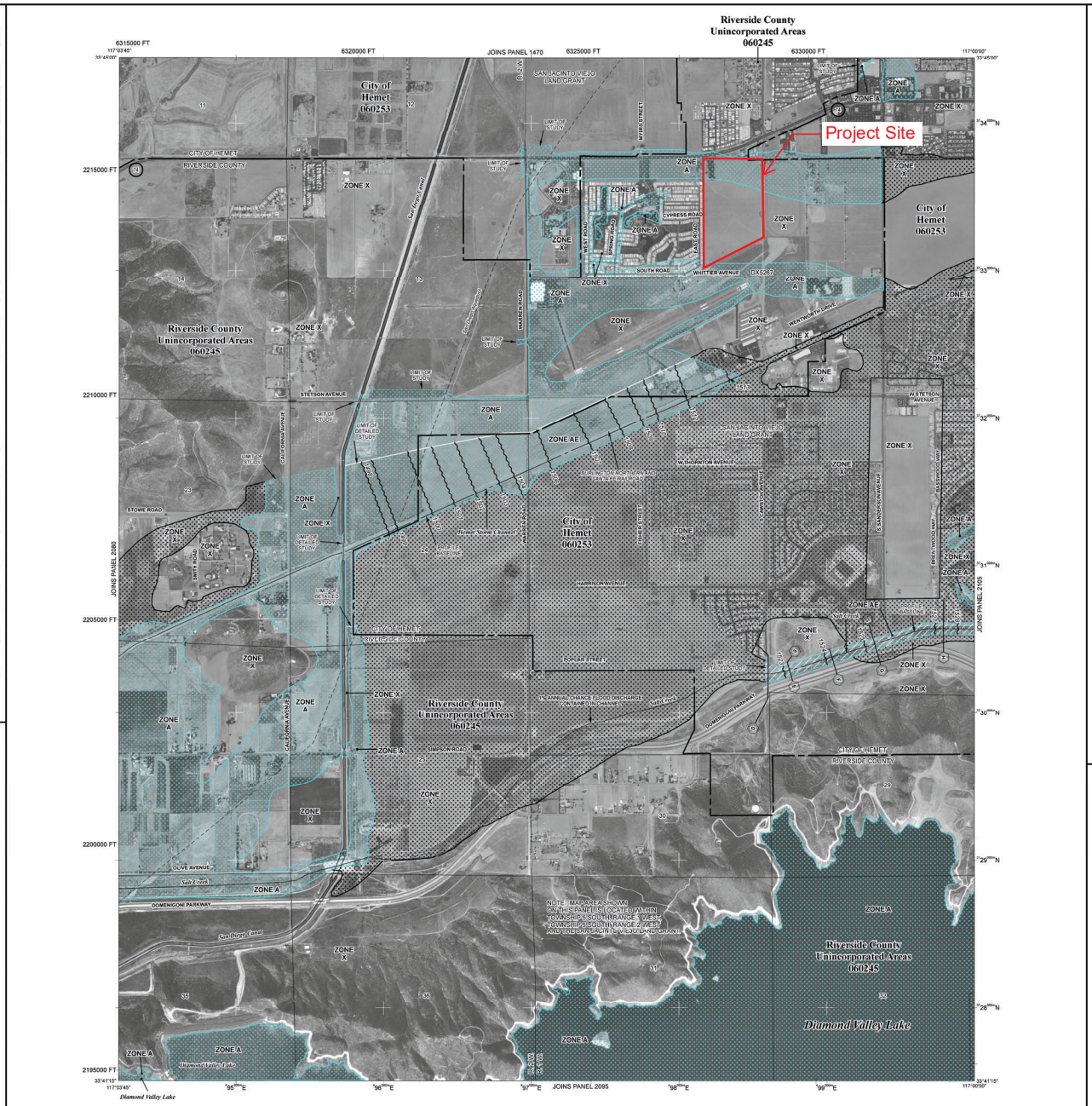
This map may reflect more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As 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

A — A	Cross section line
23 — 23	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
3759000 mN	1000-meter Universal Transverse Mercator grid values, zone 11N
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone VI (FIPS0406 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

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2085G

FIRM
FLOOD INSURANCE RATE MAP

RIVERSIDE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 2085 OF 3805
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

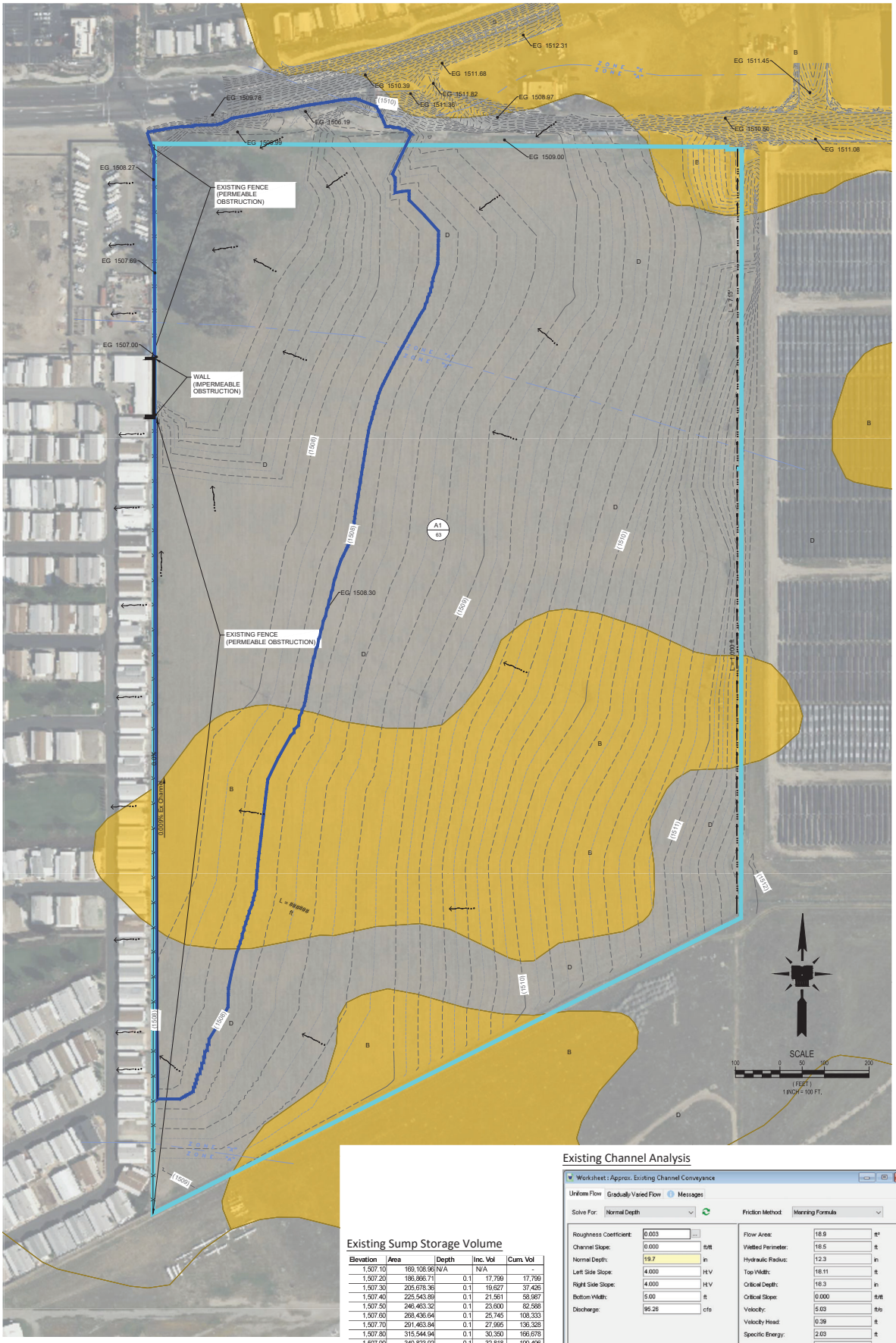
COMMUNITY	NUMBER	PANEL	SUFFIX
HEMET, CITY OF	060253	2085	G
RIVERSIDE COUNTY	060245	2085	G

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
06065C2085G

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency



Existing Sump Storage Volume

Elevation	Area	Depth	Inc. Vol	Cum. Vol
1,507.10	169,108.95	N/A	N/A	-
1,507.20	186,866.71	0.1	17,799	17,799
1,507.30	205,678.36	0.1	19,627	37,426
1,507.40	225,543.89	0.1	21,561	58,987
1,507.50	246,463.32	0.1	23,600	82,588
1,507.60	268,436.64	0.1	25,745	108,333
1,507.70	291,463.84	0.1	27,995	136,328
1,507.80	315,544.94	0.1	30,350	166,678
1,507.90	340,823.92	0.1	32,818	199,496
1,508.00	562,081.40	0.1	45,145	244,642
1,508.10	665,324.92	0.1	61,370	306,012
1,508.20	748,614.82	0.1	70,697	376,709
1508.29	833,797.43	0.09	74,972	451,681
1,508.30	839,307.96	0.1	79,366	456,105
1,508.40	934,137.99	0.1	88,672	544,777
100-year 3 hour:			451,281	cuft

Existing Channel Analysis

Legend

- A2 / 3.00 — Subarea Name and Acreage
- Ponded water for 100-Year 3-hour storm, assuming impermeable obstruction
- Approx. Drainage Area Delineation
- Subarea Boundary
- B — USDA-NRCS Hydrologic Soil Group B
- D — USDA-NRCS Hydrologic Soil Group D

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24355 CREEKSIDE ROAD #SOO073,
SANTA CLARITA 91355-3998

Existing Conditions Flooding Exhibit
PR 21-019, Loctek Industrial Building - Acacia, APN 456-010-025

Appendix B – Existing Conditions Civil Design Calculations

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ENGINEERING, INC.
24355 CREEKSIDE ROAD
#800073,
SANTA CLARITA 91355-9998

Unit Hydrograph Data Input

Existing Condition: Area A1

Area	Soil Type	Cover Type	Cover Quality	RI Index	Sub Area Weighted Average	% Impervious	Impervious Acreage
17.98	B	Grass	Fair	69	20.37	0	0.00
42.91	D	Grass	Fair	84	59.20	0	0.00
Total Acres:		**60.89**			**Weighted RI: 79.57**		**Weighted Imp: 0**

Developed Condition: Area A1

Area	Soil Type	Cover Type	Cover Quality	RI Index	Sub Area Weighted Average	% Impervious	Impervious Acreage
0.81	B	Residential or Commercial Landscaping	Poor	56	3.19	0	0.00
1.77	D	Residential or Commercial Landscaping	Poor	75	9.35	0	0.00
11.62	n/a	Impervious Area Cover	Poor	98	80.19	0.95	0.78
Total Acres:		**14.20**			**Weighted RI: 92.74**		**Weighted Imp: 0.78**

Developed Condition: Area A2

Area	Soil Type	Cover Type	Cover Quality	RI Index	Sub Area Weighted Average	% Impervious	Impervious Acreage
1.10	B	Residential or Commercial Landscaping	Poor	56	2.41	0	0.00
2.03	D	Residential or Commercial Landscaping	Poor	75	5.95	0	0.00
22.45	n/a	Impervious Area Cover	Poor	98	86.01	0.95	0.83
Total Acres:		**25.58**			**Weighted RI: 94.37**		**Weighted Imp: 0.83**

Developed Condition: Area A3

Area	Soil Type	Cover Type	Cover Quality	RI Index	Sub Area Weighted Average	% Impervious	Impervious Acreage
0.11	B	Residential or Commercial Landscaping	Poor	56	0.29	0	0.00
3.36	D	Residential or Commercial Landscaping	Poor	75	11.94	0	0.00
17.64	n/a	Impervious Area Cover	Poor	98	81.89	0.95	0.79
Total Acres:		**21.11**			**Weighted RI: 94.12**		**Weighted Imp: 0.79**

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

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Study date 11/13/24 File: hemetuhex212.out

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing Condition 2-Year Unit Hydrographs
2-Year Design Storm

Drainage Area = 60.89(Ac.) = 0.095 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 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]
       60.89            0.49                  30.08

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            1.59                  96.82

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    0.494(In)
Areal adjustment factor =   99.94 %
Adjusted average point rain =    0.494(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  49.8      0.574     0.000        0.574       0.295      0.169
84.0  68.6      0.377     0.000        0.377       0.705      0.266
                                                 Sum (F) =   0.435
Area averaged mean soil loss (F) (In/Hr) =  0.435
Minimum soil loss rate ((In/Hr)) =  0.218
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
```

5	0.417	203.070	8.355	5.127
6	0.500	243.683	5.319	3.264
7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
			Sum = 100.000	Sum= 61.366

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.201	(0.435)	0.181	0.020
2	0.17	4.70	0.278	(0.435)	0.251	0.028
3	0.25	4.70	0.278	(0.435)	0.251	0.028
4	0.33	5.10	0.302	(0.435)	0.272	0.030
5	0.42	5.80	0.344	(0.435)	0.309	0.034
6	0.50	5.90	0.350	(0.435)	0.315	0.035
7	0.58	7.10	0.421	(0.435)	0.379	0.042
8	0.67	8.70	0.515	0.435	(0.464)	0.080
9	0.75	13.20	0.782	0.435	(0.704)	0.347
10	0.83	29.70	1.760	0.435	(1.584)	1.324
11	0.92	7.70	0.456	(0.435)	0.411	0.046
12	1.00	4.00	0.237	(0.435)	0.213	0.024
	(Loss Rate Not Used)					
Sum =		100.0			Sum =	2.0

Flood volume = Effective rainfall 0.17(In)
times area 60.9(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.32(In)
Total soil loss = 1.643(Ac.Ft)
Total rainfall = 0.49(In)
Flood volume = 37541.8 Cubic Feet
Total soil loss = 71587.1 Cubic Feet

Peak flow rate of this hydrograph = 27.060(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	7.5	15.0	22.5	30.0
0+ 5	0.0004	0.06	Q				
0+10	0.0025	0.30	Q				
0+15	0.0075	0.73	Q				
0+20	0.0148	1.07	VQ				
0+25	0.0238	1.29	|Q				
0+30	0.0340	1.49	|Q				
0+35	0.0456	1.68	| Q				
0+40	0.0593	1.99	| Q				
0+45	0.0823	3.35	| VQ				
0+50	0.1498	9.80	| V	Q			
0+55	0.3029	22.24	|	V	Q		
1+ 0	0.4893	27.06	|		V Q		
1+ 5	0.6086	17.32	|		Q V		
1+10	0.6723	9.25	|	Q	| V		
1+15	0.7137	6.01	| Q		| V		
1+20	0.7443	4.44	| Q		| V		
1+25	0.7677	3.40	| Q		| V		
1+30	0.7863	2.71	| Q		| V		
1+35	0.8010	2.13	| Q		| V		
1+40	0.8127	1.70	| Q		| V		
1+45	0.8227	1.45	|Q		| V		
1+50	0.8314	1.26	|Q		| V		
1+55	0.8383	1.01	|Q		| V		
2+ 0	0.8441	0.84	|Q		| V		
2+ 5	0.8488	0.68	Q		| V		
2+10	0.8525	0.54	Q		| V		
2+15	0.8557	0.46	Q		| V		
2+20	0.8588	0.45	Q		| V		
2+25	0.8617	0.41	Q		| V		
2+30	0.8618	0.02	Q		| V		
2+35	0.8618	0.01	Q		| V		

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

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Study date 11/13/24 File: hemetuhex232.out

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing Condition 2-Year Unit Hydrographs
2-Year Design Storm

Drainage Area = 60.89(Ac.) = 0.095 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            0.85                  51.57

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            2.20                 133.96

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    0.847(In)
Areal adjustment factor =   99.97 %
Adjusted average point rain =    0.847(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  49.8      0.574     0.000        0.574       0.295      0.169
84.0  68.6      0.377     0.000        0.377       0.705      0.266
                                                 Sum (F) =   0.435
Area averaged mean soil loss (F) (In/Hr) =  0.435
Minimum soil loss rate ((In/Hr)) =  0.218
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
    5   0.417        203.070          8.355              5.127
    6   0.500        243.683          5.319              3.264
```

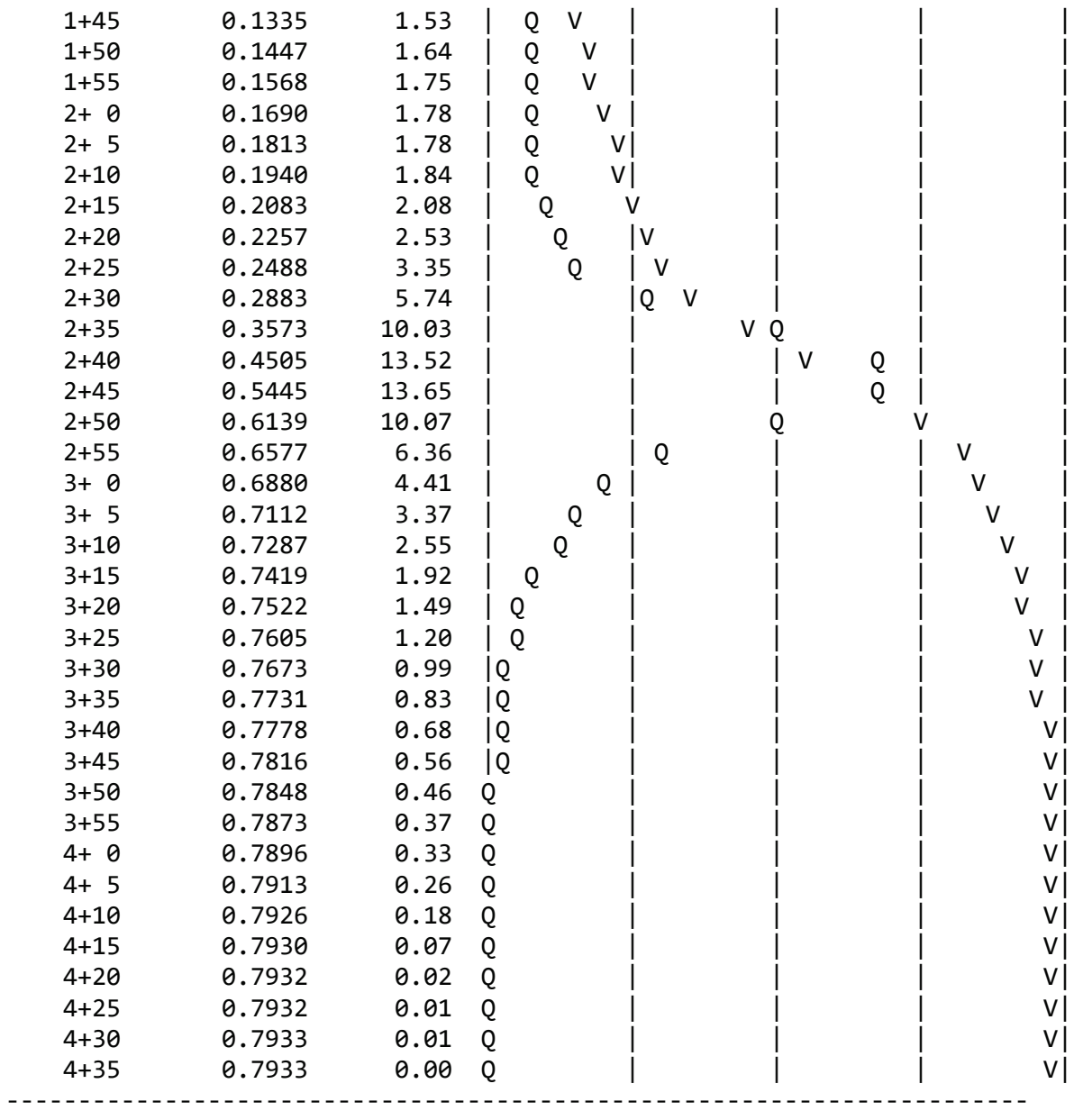
7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
		Sum = 100.000	Sum=	61.366

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.132	(0.435)	0.119	0.013
2	0.17	1.30	0.132	(0.435)	0.119	0.013
3	0.25	1.10	0.112	(0.435)	0.101	0.011
4	0.33	1.50	0.152	(0.435)	0.137	0.015
5	0.42	1.50	0.152	(0.435)	0.137	0.015
6	0.50	1.80	0.183	(0.435)	0.165	0.018
7	0.58	1.50	0.152	(0.435)	0.137	0.015
8	0.67	1.80	0.183	(0.435)	0.165	0.018
9	0.75	1.80	0.183	(0.435)	0.165	0.018
10	0.83	1.50	0.152	(0.435)	0.137	0.015
11	0.92	1.60	0.163	(0.435)	0.146	0.016
12	1.00	1.80	0.183	(0.435)	0.165	0.018
13	1.08	2.20	0.224	(0.435)	0.201	0.022
14	1.17	2.20	0.224	(0.435)	0.201	0.022
15	1.25	2.20	0.224	(0.435)	0.201	0.022
16	1.33	2.00	0.203	(0.435)	0.183	0.020
17	1.42	2.60	0.264	(0.435)	0.238	0.026
18	1.50	2.70	0.274	(0.435)	0.247	0.027
19	1.58	2.40	0.244	(0.435)	0.219	0.024
20	1.67	2.70	0.274	(0.435)	0.247	0.027
21	1.75	3.30	0.335	(0.435)	0.302	0.034
22	1.83	3.10	0.315	(0.435)	0.284	0.032
23	1.92	2.90	0.295	(0.435)	0.265	0.029
24	2.00	3.00	0.305	(0.435)	0.274	0.030
25	2.08	3.10	0.315	(0.435)	0.284	0.032
26	2.17	4.20	0.427	(0.435)	0.384	0.043
27	2.25	5.00	0.508	0.435	(0.457)	0.073

```
28   2.33     3.50      0.356       (  0.435)       0.320        0.036
29   2.42     6.80      0.691          0.435    (  0.622)        0.256
30   2.50     7.30      0.742          0.435    (  0.668)        0.307
31   2.58     8.20      0.833          0.435    (  0.750)        0.398
32   2.67     5.90      0.600          0.435    (  0.540)        0.164
33   2.75     2.00      0.203       (  0.435)       0.183        0.020
34   2.83     1.80      0.183       (  0.435)       0.165        0.018
35   2.92     1.80      0.183       (  0.435)       0.165        0.018
36   3.00     0.60      0.061       (  0.435)       0.055        0.006
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     1.9
      Flood volume = Effective rainfall      0.16(In)
       times area      60.9(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.69(In)
      Total soil loss =     3.503(Ac.Ft)
      Total rainfall =      0.85(In)
      Flood volume =       34556.4 Cubic Feet
      Total soil loss =      152606.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     13.655(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.04  Q         |         |         |         |
  0+10       0.0015      0.19  Q         |         |         |         |
  0+15       0.0043      0.40  Q         |         |         |         |
  0+20       0.0079      0.53  VQ        |         |         |         |
  0+25       0.0121      0.61  VQ        |         |         |         |
  0+30       0.0169      0.70  VQ        |         |         |         |
  0+35       0.0224      0.79  |Q        |         |         |         |
  0+40       0.0283      0.86  |Q        |         |         |         |
  0+45       0.0345      0.90  |Q        |         |         |         |
  0+50       0.0411      0.95  |QV       |         |         |         |
  0+55       0.0477      0.96  |QV       |         |         |         |
  1+ 0       0.0542      0.95  |QV       |         |         |         |
  1+ 5       0.0611      0.99  |Q V      |         |         |         |
  1+10       0.0685      1.08  | QV      |         |         |         |
  1+15       0.0767      1.18  | QV      |         |         |         |
  1+20       0.0852      1.23  | Q V     |         |         |         |
  1+25       0.0939      1.26  | Q V     |         |         |         |
  1+30       0.1030      1.32  | Q  V    |         |         |         |
  1+35       0.1127      1.42  | Q  V    |         |         |         |
  1+40       0.1230      1.48  | Q   V   |         |         |         |
```


1+45 0.1335 1.53
1+50 0.1447 1.64
1+55 0.1568 1.75
2+ 0 0.1690 1.78
2+ 5 0.1813 1.78
2+10 0.1940 1.84
2+15 0.2083 2.08
2+20 0.2257 2.53
2+25 0.2488 3.35
2+30 0.2883 5.74
2+35 0.3573 10.03
2+40 0.4505 13.52
2+45 0.5445 13.65
2+50 0.6139 10.07
2+55 0.6577 6.36
3+ 0 0.6880 4.41
3+ 5 0.7112 3.37
3+10 0.7287 2.55
3+15 0.7419 1.92
3+20 0.7522 1.49
3+25 0.7605 1.20
3+30 0.7673 0.99
3+35 0.7731 0.83
3+40 0.7778 0.68
3+45 0.7816 0.56
3+50 0.7848 0.46
3+55 0.7873 0.37
4+ 0 0.7896 0.33
4+ 5 0.7913 0.26
4+10 0.7926 0.18
4+15 0.7930 0.07
4+20 0.7932 0.02
4+25 0.7932 0.01
4+30 0.7933 0.01
4+35 0.7933 0.00

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

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RCFC & WCD Manual date - April 1978

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English Rainfall Data (Inches) Input Values Used

English Units used in output format

Hemet 63 Acre Development
Existing Condition 2-Year Unit Hydrographs
2-Year Design Storm

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Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            1.18                  71.85

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            2.92                 177.80

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    1.180(In)
Areal adjustment factor =   99.98 %
Adjusted average point rain =    1.180(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  49.8      0.574     0.000        0.574       0.295      0.169
84.0  68.6      0.377     0.000        0.377       0.705      0.266
                                                 Sum (F) =   0.435
Area averaged mean soil loss (F) (In/Hr) =  0.435
Minimum soil loss rate ((In/Hr)) =  0.218
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
    5   0.417        203.070          8.355              5.127
    6   0.500        243.683          5.319              3.264
```

7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
		Sum = 100.000	Sum=	61.366

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.071	(0.435)	0.064	0.007
2	0.17	0.60	0.085	(0.435)	0.076	0.008
3	0.25	0.60	0.085	(0.435)	0.076	0.008
4	0.33	0.60	0.085	(0.435)	0.076	0.008
5	0.42	0.60	0.085	(0.435)	0.076	0.008
6	0.50	0.70	0.099	(0.435)	0.089	0.010
7	0.58	0.70	0.099	(0.435)	0.089	0.010
8	0.67	0.70	0.099	(0.435)	0.089	0.010
9	0.75	0.70	0.099	(0.435)	0.089	0.010
10	0.83	0.70	0.099	(0.435)	0.089	0.010
11	0.92	0.70	0.099	(0.435)	0.089	0.010
12	1.00	0.80	0.113	(0.435)	0.102	0.011
13	1.08	0.80	0.113	(0.435)	0.102	0.011
14	1.17	0.80	0.113	(0.435)	0.102	0.011
15	1.25	0.80	0.113	(0.435)	0.102	0.011
16	1.33	0.80	0.113	(0.435)	0.102	0.011
17	1.42	0.80	0.113	(0.435)	0.102	0.011
18	1.50	0.80	0.113	(0.435)	0.102	0.011
19	1.58	0.80	0.113	(0.435)	0.102	0.011
20	1.67	0.80	0.113	(0.435)	0.102	0.011
21	1.75	0.80	0.113	(0.435)	0.102	0.011
22	1.83	0.80	0.113	(0.435)	0.102	0.011
23	1.92	0.80	0.113	(0.435)	0.102	0.011
24	2.00	0.90	0.127	(0.435)	0.115	0.013
25	2.08	0.80	0.113	(0.435)	0.102	0.011
26	2.17	0.90	0.127	(0.435)	0.115	0.013
27	2.25	0.90	0.127	(0.435)	0.115	0.013

28	2.33	0.90	0.127	(0.435)	0.115	0.013
29	2.42	0.90	0.127	(0.435)	0.115	0.013
30	2.50	0.90	0.127	(0.435)	0.115	0.013
31	2.58	0.90	0.127	(0.435)	0.115	0.013
32	2.67	0.90	0.127	(0.435)	0.115	0.013
33	2.75	1.00	0.142	(0.435)	0.127	0.014
34	2.83	1.00	0.142	(0.435)	0.127	0.014
35	2.92	1.00	0.142	(0.435)	0.127	0.014
36	3.00	1.00	0.142	(0.435)	0.127	0.014
37	3.08	1.00	0.142	(0.435)	0.127	0.014
38	3.17	1.10	0.156	(0.435)	0.140	0.016
39	3.25	1.10	0.156	(0.435)	0.140	0.016
40	3.33	1.10	0.156	(0.435)	0.140	0.016
41	3.42	1.20	0.170	(0.435)	0.153	0.017
42	3.50	1.30	0.184	(0.435)	0.166	0.018
43	3.58	1.40	0.198	(0.435)	0.178	0.020
44	3.67	1.40	0.198	(0.435)	0.178	0.020
45	3.75	1.50	0.212	(0.435)	0.191	0.021
46	3.83	1.50	0.212	(0.435)	0.191	0.021
47	3.92	1.60	0.227	(0.435)	0.204	0.023
48	4.00	1.60	0.227	(0.435)	0.204	0.023
49	4.08	1.70	0.241	(0.435)	0.217	0.024
50	4.17	1.80	0.255	(0.435)	0.229	0.025
51	4.25	1.90	0.269	(0.435)	0.242	0.027
52	4.33	2.00	0.283	(0.435)	0.255	0.028
53	4.42	2.10	0.297	(0.435)	0.268	0.030
54	4.50	2.10	0.297	(0.435)	0.268	0.030
55	4.58	2.20	0.311	(0.435)	0.280	0.031
56	4.67	2.30	0.326	(0.435)	0.293	0.033
57	4.75	2.40	0.340	(0.435)	0.306	0.034
58	4.83	2.40	0.340	(0.435)	0.306	0.034
59	4.92	2.50	0.354	(0.435)	0.319	0.035
60	5.00	2.60	0.368	(0.435)	0.331	0.037
61	5.08	3.10	0.439	(0.435)	0.395	0.044
62	5.17	3.60	0.510	0.435	(0.459)	0.074
63	5.25	3.90	0.552	0.435	(0.497)	0.117
64	5.33	4.20	0.595	0.435	(0.535)	0.159
65	5.42	4.70	0.665	0.435	(0.599)	0.230
66	5.50	5.60	0.793	0.435	(0.714)	0.358
67	5.58	1.90	0.269	(0.435)	0.242	0.027
68	5.67	0.90	0.127	(0.435)	0.115	0.013
69	5.75	0.60	0.085	(0.435)	0.076	0.008
70	5.83	0.50	0.071	(0.435)	0.064	0.007
71	5.92	0.30	0.042	(0.435)	0.038	0.004
72	6.00	0.20	0.028	(0.435)	0.025	0.003

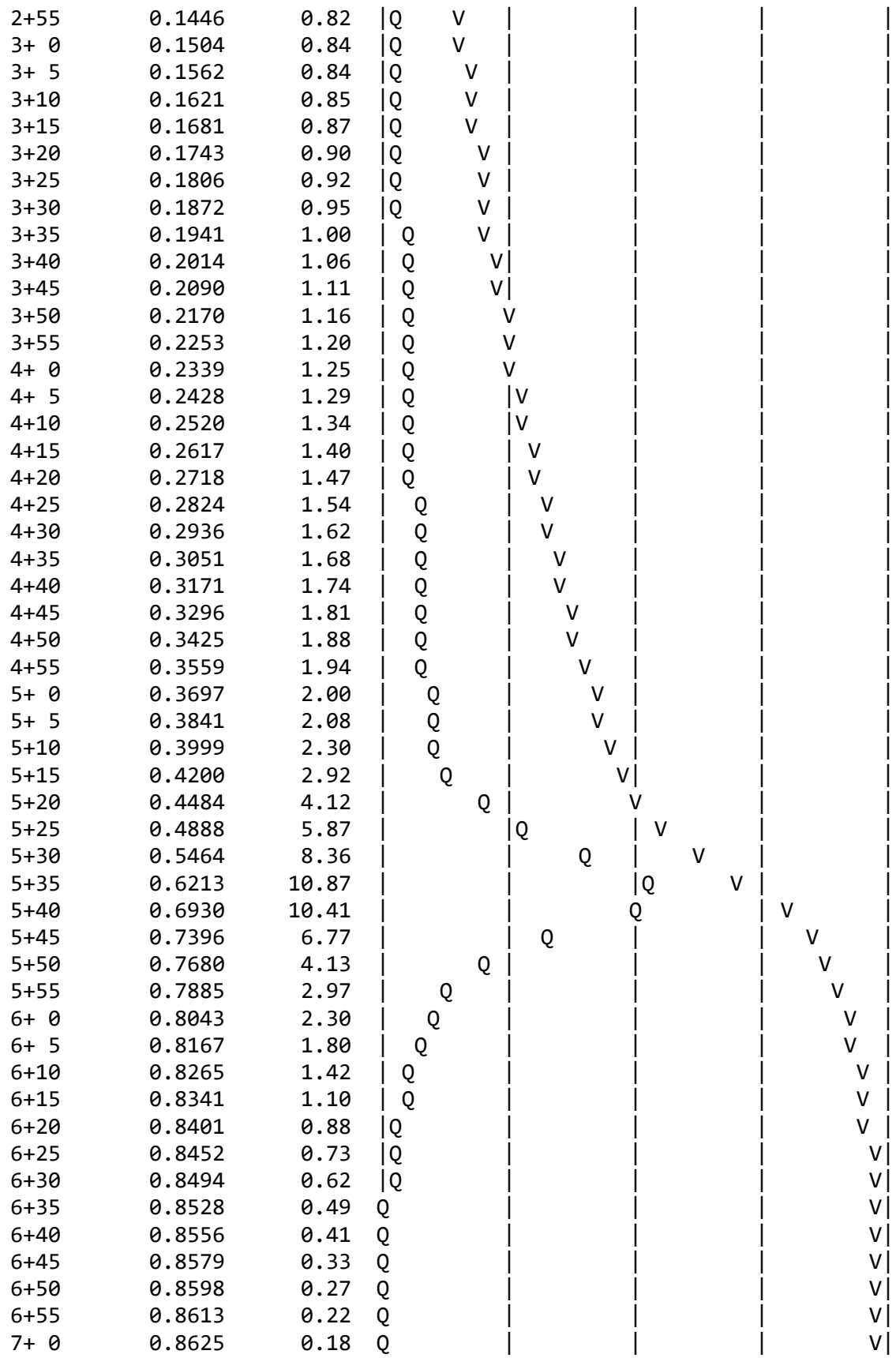
(Loss Rate Not Used)

Sum = 100.0 Sum = 2.0

Flood volume = Effective rainfall 0.17(In)
times area 60.9(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 1.01(In)

```
      Total soil loss =     5.123(Ac.Ft)
      Total rainfall =      1.18(In)
      Flood volume =       37622.7 Cubic Feet
      Total soil loss =      223139.0 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     10.866(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.02  Q         |         |         |         |
  0+10       0.0008      0.10  Q         |         |         |         |
  0+15       0.0025      0.24  Q         |         |         |         |
  0+20       0.0048      0.33  Q         |         |         |         |
  0+25       0.0074      0.39  Q         |         |         |         |
  0+30       0.0103      0.42  Q         |         |         |         |
  0+35       0.0135      0.46  Q         |         |         |         |
  0+40       0.0169      0.50  Q         |         |         |         |
  0+45       0.0205      0.53  VQ        |         |         |         |
  0+50       0.0243      0.54  |Q        |         |         |         |
  0+55       0.0281      0.56  |Q        |         |         |         |
  1+ 0       0.0321      0.57  |Q        |         |         |         |
  1+ 5       0.0362      0.60  |Q        |         |         |         |
  1+10       0.0405      0.63  |Q        |         |         |         |
  1+15       0.0449      0.65  |QV       |         |         |         |
  1+20       0.0495      0.66  |QV       |         |         |         |
  1+25       0.0541      0.67  |QV       |         |         |         |
  1+30       0.0587      0.67  |QV       |         |         |         |
  1+35       0.0634      0.68  |QV       |         |         |         |
  1+40       0.0681      0.68  |Q V      |         |         |         |
  1+45       0.0728      0.69  |Q V      |         |         |         |
  1+50       0.0776      0.69  |Q V      |         |         |         |
  1+55       0.0823      0.69  |Q V      |         |         |         |
  2+ 0       0.0871      0.70  |Q  V     |         |         |         |
  2+ 5       0.0920      0.71  |Q  V     |         |         |         |
  2+10       0.0969      0.72  |Q  V     |         |         |         |
  2+15       0.1020      0.73  |Q  V     |         |         |         |
  2+20       0.1071      0.74  |Q  V     |         |         |         |
  2+25       0.1123      0.76  |Q   V    |         |         |         |
  2+30       0.1176      0.76  |Q   V    |         |         |         |
  2+35       0.1229      0.77  |Q   V    |         |         |         |
  2+40       0.1282      0.77  |Q   V    |         |         |         |
  2+45       0.1335      0.78  |Q    V   |         |         |         |
  2+50       0.1390      0.79  |Q    V   |         |         |         |
```



```
    7+ 5       0.8634      0.13  Q         |          |          |        V|
    7+10       0.8635      0.02  Q         |          |          |        V|
    7+15       0.8636      0.01  Q         |          |          |        V|
    7+20       0.8637      0.01  Q         |          |          |        V|
    7+25       0.8637      0.00  Q         |          |          |        V|
    7+30       0.8637      0.00  Q         |          |          |        V|
    7+35       0.8637      0.00  Q         |          |          |        V|
---------------------------------------------------------------------------
```

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

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Study date 11/13/24 File: hemetuhex2242.out

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing Condition 2-Year Unit Hydrographs
2-Year Design Storm

Drainage Area = 60.89(Ac.) = 0.095 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 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]
       60.89            2.07                 126.04

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            5.42                 330.02

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    2.070(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    2.070(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  49.8      0.574     0.000        0.574       0.295      0.169
84.0  68.6      0.377     0.000        0.377       0.705      0.266
                                                 Sum (F) =   0.435
Area averaged mean soil loss (F) (In/Hr) =  0.435
Minimum soil loss rate ((In/Hr)) =  0.218
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
    5   0.417        203.070          8.355              5.127
    6   0.500        243.683          5.319              3.264
```

7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
		Sum = 100.000	Sum=	61.366

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	0.017	(0.772)	0.015	0.002
2	0.17	0.07	0.017	(0.769)	0.015	0.002
3	0.25	0.07	0.017	(0.766)	0.015	0.002
4	0.33	0.10	0.025	(0.763)	0.022	0.002
5	0.42	0.10	0.025	(0.760)	0.022	0.002
6	0.50	0.10	0.025	(0.757)	0.022	0.002
7	0.58	0.10	0.025	(0.754)	0.022	0.002
8	0.67	0.10	0.025	(0.751)	0.022	0.002
9	0.75	0.10	0.025	(0.748)	0.022	0.002
10	0.83	0.13	0.033	(0.745)	0.030	0.003
11	0.92	0.13	0.033	(0.742)	0.030	0.003
12	1.00	0.13	0.033	(0.739)	0.030	0.003
13	1.08	0.10	0.025	(0.736)	0.022	0.002
14	1.17	0.10	0.025	(0.733)	0.022	0.002
15	1.25	0.10	0.025	(0.730)	0.022	0.002
16	1.33	0.10	0.025	(0.727)	0.022	0.002
17	1.42	0.10	0.025	(0.725)	0.022	0.002
18	1.50	0.10	0.025	(0.722)	0.022	0.002
19	1.58	0.10	0.025	(0.719)	0.022	0.002
20	1.67	0.10	0.025	(0.716)	0.022	0.002
21	1.75	0.10	0.025	(0.713)	0.022	0.002
22	1.83	0.13	0.033	(0.710)	0.030	0.003
23	1.92	0.13	0.033	(0.707)	0.030	0.003
24	2.00	0.13	0.033	(0.704)	0.030	0.003
25	2.08	0.13	0.033	(0.702)	0.030	0.003
26	2.17	0.13	0.033	(0.699)	0.030	0.003
27	2.25	0.13	0.033	(0.696)	0.030	0.003

28	2.33	0.13	0.033	(0.693)	0.030	0.003
29	2.42	0.13	0.033	(0.690)	0.030	0.003
30	2.50	0.13	0.033	(0.687)	0.030	0.003
31	2.58	0.17	0.041	(0.685)	0.037	0.004
32	2.67	0.17	0.041	(0.682)	0.037	0.004
33	2.75	0.17	0.041	(0.679)	0.037	0.004
34	2.83	0.17	0.041	(0.676)	0.037	0.004
35	2.92	0.17	0.041	(0.673)	0.037	0.004
36	3.00	0.17	0.041	(0.671)	0.037	0.004
37	3.08	0.17	0.041	(0.668)	0.037	0.004
38	3.17	0.17	0.041	(0.665)	0.037	0.004
39	3.25	0.17	0.041	(0.662)	0.037	0.004
40	3.33	0.17	0.041	(0.660)	0.037	0.004
41	3.42	0.17	0.041	(0.657)	0.037	0.004
42	3.50	0.17	0.041	(0.654)	0.037	0.004
43	3.58	0.17	0.041	(0.651)	0.037	0.004
44	3.67	0.17	0.041	(0.649)	0.037	0.004
45	3.75	0.17	0.041	(0.646)	0.037	0.004
46	3.83	0.20	0.050	(0.643)	0.045	0.005
47	3.92	0.20	0.050	(0.640)	0.045	0.005
48	4.00	0.20	0.050	(0.638)	0.045	0.005
49	4.08	0.20	0.050	(0.635)	0.045	0.005
50	4.17	0.20	0.050	(0.632)	0.045	0.005
51	4.25	0.20	0.050	(0.630)	0.045	0.005
52	4.33	0.23	0.058	(0.627)	0.052	0.006
53	4.42	0.23	0.058	(0.624)	0.052	0.006
54	4.50	0.23	0.058	(0.622)	0.052	0.006
55	4.58	0.23	0.058	(0.619)	0.052	0.006
56	4.67	0.23	0.058	(0.616)	0.052	0.006
57	4.75	0.23	0.058	(0.614)	0.052	0.006
58	4.83	0.27	0.066	(0.611)	0.060	0.007
59	4.92	0.27	0.066	(0.608)	0.060	0.007
60	5.00	0.27	0.066	(0.606)	0.060	0.007
61	5.08	0.20	0.050	(0.603)	0.045	0.005
62	5.17	0.20	0.050	(0.600)	0.045	0.005
63	5.25	0.20	0.050	(0.598)	0.045	0.005
64	5.33	0.23	0.058	(0.595)	0.052	0.006
65	5.42	0.23	0.058	(0.593)	0.052	0.006
66	5.50	0.23	0.058	(0.590)	0.052	0.006
67	5.58	0.27	0.066	(0.587)	0.060	0.007
68	5.67	0.27	0.066	(0.585)	0.060	0.007
69	5.75	0.27	0.066	(0.582)	0.060	0.007
70	5.83	0.27	0.066	(0.580)	0.060	0.007
71	5.92	0.27	0.066	(0.577)	0.060	0.007
72	6.00	0.27	0.066	(0.575)	0.060	0.007
73	6.08	0.30	0.075	(0.572)	0.067	0.007
74	6.17	0.30	0.075	(0.569)	0.067	0.007
75	6.25	0.30	0.075	(0.567)	0.067	0.007
76	6.33	0.30	0.075	(0.564)	0.067	0.007
77	6.42	0.30	0.075	(0.562)	0.067	0.007

78	6.50	0.30	0.075	(0.559)	0.067	0.007
79	6.58	0.33	0.083	(0.557)	0.075	0.008
80	6.67	0.33	0.083	(0.554)	0.075	0.008
81	6.75	0.33	0.083	(0.552)	0.075	0.008
82	6.83	0.33	0.083	(0.549)	0.075	0.008
83	6.92	0.33	0.083	(0.547)	0.075	0.008
84	7.00	0.33	0.083	(0.544)	0.075	0.008
85	7.08	0.33	0.083	(0.542)	0.075	0.008
86	7.17	0.33	0.083	(0.539)	0.075	0.008
87	7.25	0.33	0.083	(0.537)	0.075	0.008
88	7.33	0.37	0.091	(0.534)	0.082	0.009
89	7.42	0.37	0.091	(0.532)	0.082	0.009
90	7.50	0.37	0.091	(0.530)	0.082	0.009
91	7.58	0.40	0.099	(0.527)	0.089	0.010
92	7.67	0.40	0.099	(0.525)	0.089	0.010
93	7.75	0.40	0.099	(0.522)	0.089	0.010
94	7.83	0.43	0.108	(0.520)	0.097	0.011
95	7.92	0.43	0.108	(0.517)	0.097	0.011
96	8.00	0.43	0.108	(0.515)	0.097	0.011
97	8.08	0.50	0.124	(0.513)	0.112	0.012
98	8.17	0.50	0.124	(0.510)	0.112	0.012
99	8.25	0.50	0.124	(0.508)	0.112	0.012
100	8.33	0.50	0.124	(0.506)	0.112	0.012
101	8.42	0.50	0.124	(0.503)	0.112	0.012
102	8.50	0.50	0.124	(0.501)	0.112	0.012
103	8.58	0.53	0.132	(0.498)	0.119	0.013
104	8.67	0.53	0.132	(0.496)	0.119	0.013
105	8.75	0.53	0.132	(0.494)	0.119	0.013
106	8.83	0.57	0.141	(0.491)	0.127	0.014
107	8.92	0.57	0.141	(0.489)	0.127	0.014
108	9.00	0.57	0.141	(0.487)	0.127	0.014
109	9.08	0.63	0.157	(0.485)	0.142	0.016
110	9.17	0.63	0.157	(0.482)	0.142	0.016
111	9.25	0.63	0.157	(0.480)	0.142	0.016
112	9.33	0.67	0.166	(0.478)	0.149	0.017
113	9.42	0.67	0.166	(0.475)	0.149	0.017
114	9.50	0.67	0.166	(0.473)	0.149	0.017
115	9.58	0.70	0.174	(0.471)	0.156	0.017
116	9.67	0.70	0.174	(0.469)	0.156	0.017
117	9.75	0.70	0.174	(0.466)	0.156	0.017
118	9.83	0.73	0.182	(0.464)	0.164	0.018
119	9.92	0.73	0.182	(0.462)	0.164	0.018
120	10.00	0.73	0.182	(0.460)	0.164	0.018
121	10.08	0.50	0.124	(0.457)	0.112	0.012
122	10.17	0.50	0.124	(0.455)	0.112	0.012
123	10.25	0.50	0.124	(0.453)	0.112	0.012
124	10.33	0.50	0.124	(0.451)	0.112	0.012
125	10.42	0.50	0.124	(0.449)	0.112	0.012
126	10.50	0.50	0.124	(0.446)	0.112	0.012
127	10.58	0.67	0.166	(0.444)	0.149	0.017

128	10.67	0.67	0.166	(0.442)	0.149	0.017
129	10.75	0.67	0.166	(0.440)	0.149	0.017
130	10.83	0.67	0.166	(0.438)	0.149	0.017
131	10.92	0.67	0.166	(0.436)	0.149	0.017
132	11.00	0.67	0.166	(0.433)	0.149	0.017
133	11.08	0.63	0.157	(0.431)	0.142	0.016
134	11.17	0.63	0.157	(0.429)	0.142	0.016
135	11.25	0.63	0.157	(0.427)	0.142	0.016
136	11.33	0.63	0.157	(0.425)	0.142	0.016
137	11.42	0.63	0.157	(0.423)	0.142	0.016
138	11.50	0.63	0.157	(0.421)	0.142	0.016
139	11.58	0.57	0.141	(0.419)	0.127	0.014
140	11.67	0.57	0.141	(0.417)	0.127	0.014
141	11.75	0.57	0.141	(0.415)	0.127	0.014
142	11.83	0.60	0.149	(0.412)	0.134	0.015
143	11.92	0.60	0.149	(0.410)	0.134	0.015
144	12.00	0.60	0.149	(0.408)	0.134	0.015
145	12.08	0.83	0.207	(0.406)	0.186	0.021
146	12.17	0.83	0.207	(0.404)	0.186	0.021
147	12.25	0.83	0.207	(0.402)	0.186	0.021
148	12.33	0.87	0.215	(0.400)	0.194	0.022
149	12.42	0.87	0.215	(0.398)	0.194	0.022
150	12.50	0.87	0.215	(0.396)	0.194	0.022
151	12.58	0.93	0.232	(0.394)	0.209	0.023
152	12.67	0.93	0.232	(0.392)	0.209	0.023
153	12.75	0.93	0.232	(0.390)	0.209	0.023
154	12.83	0.97	0.240	(0.388)	0.216	0.024
155	12.92	0.97	0.240	(0.386)	0.216	0.024
156	13.00	0.97	0.240	(0.384)	0.216	0.024
157	13.08	1.13	0.281	(0.382)	0.253	0.028
158	13.17	1.13	0.281	(0.380)	0.253	0.028
159	13.25	1.13	0.281	(0.379)	0.253	0.028
160	13.33	1.13	0.281	(0.377)	0.253	0.028
161	13.42	1.13	0.281	(0.375)	0.253	0.028
162	13.50	1.13	0.281	(0.373)	0.253	0.028
163	13.58	0.77	0.190	(0.371)	0.171	0.019
164	13.67	0.77	0.190	(0.369)	0.171	0.019
165	13.75	0.77	0.190	(0.367)	0.171	0.019
166	13.83	0.77	0.190	(0.365)	0.171	0.019
167	13.92	0.77	0.190	(0.363)	0.171	0.019
168	14.00	0.77	0.190	(0.362)	0.171	0.019
169	14.08	0.90	0.224	(0.360)	0.201	0.022
170	14.17	0.90	0.224	(0.358)	0.201	0.022
171	14.25	0.90	0.224	(0.356)	0.201	0.022
172	14.33	0.87	0.215	(0.354)	0.194	0.022
173	14.42	0.87	0.215	(0.352)	0.194	0.022
174	14.50	0.87	0.215	(0.351)	0.194	0.022
175	14.58	0.87	0.215	(0.349)	0.194	0.022
176	14.67	0.87	0.215	(0.347)	0.194	0.022
177	14.75	0.87	0.215	(0.345)	0.194	0.022

178	14.83	0.83	0.207	(0.343)	0.186	0.021
179	14.92	0.83	0.207	(0.342)	0.186	0.021
180	15.00	0.83	0.207	(0.340)	0.186	0.021
181	15.08	0.80	0.199	(0.338)	0.179	0.020
182	15.17	0.80	0.199	(0.336)	0.179	0.020
183	15.25	0.80	0.199	(0.335)	0.179	0.020
184	15.33	0.77	0.190	(0.333)	0.171	0.019
185	15.42	0.77	0.190	(0.331)	0.171	0.019
186	15.50	0.77	0.190	(0.330)	0.171	0.019
187	15.58	0.63	0.157	(0.328)	0.142	0.016
188	15.67	0.63	0.157	(0.326)	0.142	0.016
189	15.75	0.63	0.157	(0.325)	0.142	0.016
190	15.83	0.63	0.157	(0.323)	0.142	0.016
191	15.92	0.63	0.157	(0.321)	0.142	0.016
192	16.00	0.63	0.157	(0.320)	0.142	0.016
193	16.08	0.13	0.033	(0.318)	0.030	0.003
194	16.17	0.13	0.033	(0.316)	0.030	0.003
195	16.25	0.13	0.033	(0.315)	0.030	0.003
196	16.33	0.13	0.033	(0.313)	0.030	0.003
197	16.42	0.13	0.033	(0.312)	0.030	0.003
198	16.50	0.13	0.033	(0.310)	0.030	0.003
199	16.58	0.10	0.025	(0.308)	0.022	0.002
200	16.67	0.10	0.025	(0.307)	0.022	0.002
201	16.75	0.10	0.025	(0.305)	0.022	0.002
202	16.83	0.10	0.025	(0.304)	0.022	0.002
203	16.92	0.10	0.025	(0.302)	0.022	0.002
204	17.00	0.10	0.025	(0.301)	0.022	0.002
205	17.08	0.17	0.041	(0.299)	0.037	0.004
206	17.17	0.17	0.041	(0.298)	0.037	0.004
207	17.25	0.17	0.041	(0.296)	0.037	0.004
208	17.33	0.17	0.041	(0.295)	0.037	0.004
209	17.42	0.17	0.041	(0.293)	0.037	0.004
210	17.50	0.17	0.041	(0.292)	0.037	0.004
211	17.58	0.17	0.041	(0.290)	0.037	0.004
212	17.67	0.17	0.041	(0.289)	0.037	0.004
213	17.75	0.17	0.041	(0.287)	0.037	0.004
214	17.83	0.13	0.033	(0.286)	0.030	0.003
215	17.92	0.13	0.033	(0.285)	0.030	0.003
216	18.00	0.13	0.033	(0.283)	0.030	0.003
217	18.08	0.13	0.033	(0.282)	0.030	0.003
218	18.17	0.13	0.033	(0.280)	0.030	0.003
219	18.25	0.13	0.033	(0.279)	0.030	0.003
220	18.33	0.13	0.033	(0.278)	0.030	0.003
221	18.42	0.13	0.033	(0.276)	0.030	0.003
222	18.50	0.13	0.033	(0.275)	0.030	0.003
223	18.58	0.10	0.025	(0.274)	0.022	0.002
224	18.67	0.10	0.025	(0.272)	0.022	0.002
225	18.75	0.10	0.025	(0.271)	0.022	0.002
226	18.83	0.07	0.017	(0.270)	0.015	0.002
227	18.92	0.07	0.017	(0.268)	0.015	0.002

228	19.00	0.07	0.017	(0.267)	0.015	0.002
229	19.08	0.10	0.025	(0.266)	0.022	0.002
230	19.17	0.10	0.025	(0.265)	0.022	0.002
231	19.25	0.10	0.025	(0.263)	0.022	0.002
232	19.33	0.13	0.033	(0.262)	0.030	0.003
233	19.42	0.13	0.033	(0.261)	0.030	0.003
234	19.50	0.13	0.033	(0.260)	0.030	0.003
235	19.58	0.10	0.025	(0.259)	0.022	0.002
236	19.67	0.10	0.025	(0.257)	0.022	0.002
237	19.75	0.10	0.025	(0.256)	0.022	0.002
238	19.83	0.07	0.017	(0.255)	0.015	0.002
239	19.92	0.07	0.017	(0.254)	0.015	0.002
240	20.00	0.07	0.017	(0.253)	0.015	0.002
241	20.08	0.10	0.025	(0.252)	0.022	0.002
242	20.17	0.10	0.025	(0.251)	0.022	0.002
243	20.25	0.10	0.025	(0.249)	0.022	0.002
244	20.33	0.10	0.025	(0.248)	0.022	0.002
245	20.42	0.10	0.025	(0.247)	0.022	0.002
246	20.50	0.10	0.025	(0.246)	0.022	0.002
247	20.58	0.10	0.025	(0.245)	0.022	0.002
248	20.67	0.10	0.025	(0.244)	0.022	0.002
249	20.75	0.10	0.025	(0.243)	0.022	0.002
250	20.83	0.07	0.017	(0.242)	0.015	0.002
251	20.92	0.07	0.017	(0.241)	0.015	0.002
252	21.00	0.07	0.017	(0.240)	0.015	0.002
253	21.08	0.10	0.025	(0.239)	0.022	0.002
254	21.17	0.10	0.025	(0.238)	0.022	0.002
255	21.25	0.10	0.025	(0.237)	0.022	0.002
256	21.33	0.07	0.017	(0.237)	0.015	0.002
257	21.42	0.07	0.017	(0.236)	0.015	0.002
258	21.50	0.07	0.017	(0.235)	0.015	0.002
259	21.58	0.10	0.025	(0.234)	0.022	0.002
260	21.67	0.10	0.025	(0.233)	0.022	0.002
261	21.75	0.10	0.025	(0.232)	0.022	0.002
262	21.83	0.07	0.017	(0.231)	0.015	0.002
263	21.92	0.07	0.017	(0.231)	0.015	0.002
264	22.00	0.07	0.017	(0.230)	0.015	0.002
265	22.08	0.10	0.025	(0.229)	0.022	0.002
266	22.17	0.10	0.025	(0.228)	0.022	0.002
267	22.25	0.10	0.025	(0.228)	0.022	0.002
268	22.33	0.07	0.017	(0.227)	0.015	0.002
269	22.42	0.07	0.017	(0.226)	0.015	0.002
270	22.50	0.07	0.017	(0.226)	0.015	0.002
271	22.58	0.07	0.017	(0.225)	0.015	0.002
272	22.67	0.07	0.017	(0.224)	0.015	0.002
273	22.75	0.07	0.017	(0.224)	0.015	0.002
274	22.83	0.07	0.017	(0.223)	0.015	0.002
275	22.92	0.07	0.017	(0.222)	0.015	0.002
276	23.00	0.07	0.017	(0.222)	0.015	0.002
277	23.08	0.07	0.017	(0.221)	0.015	0.002

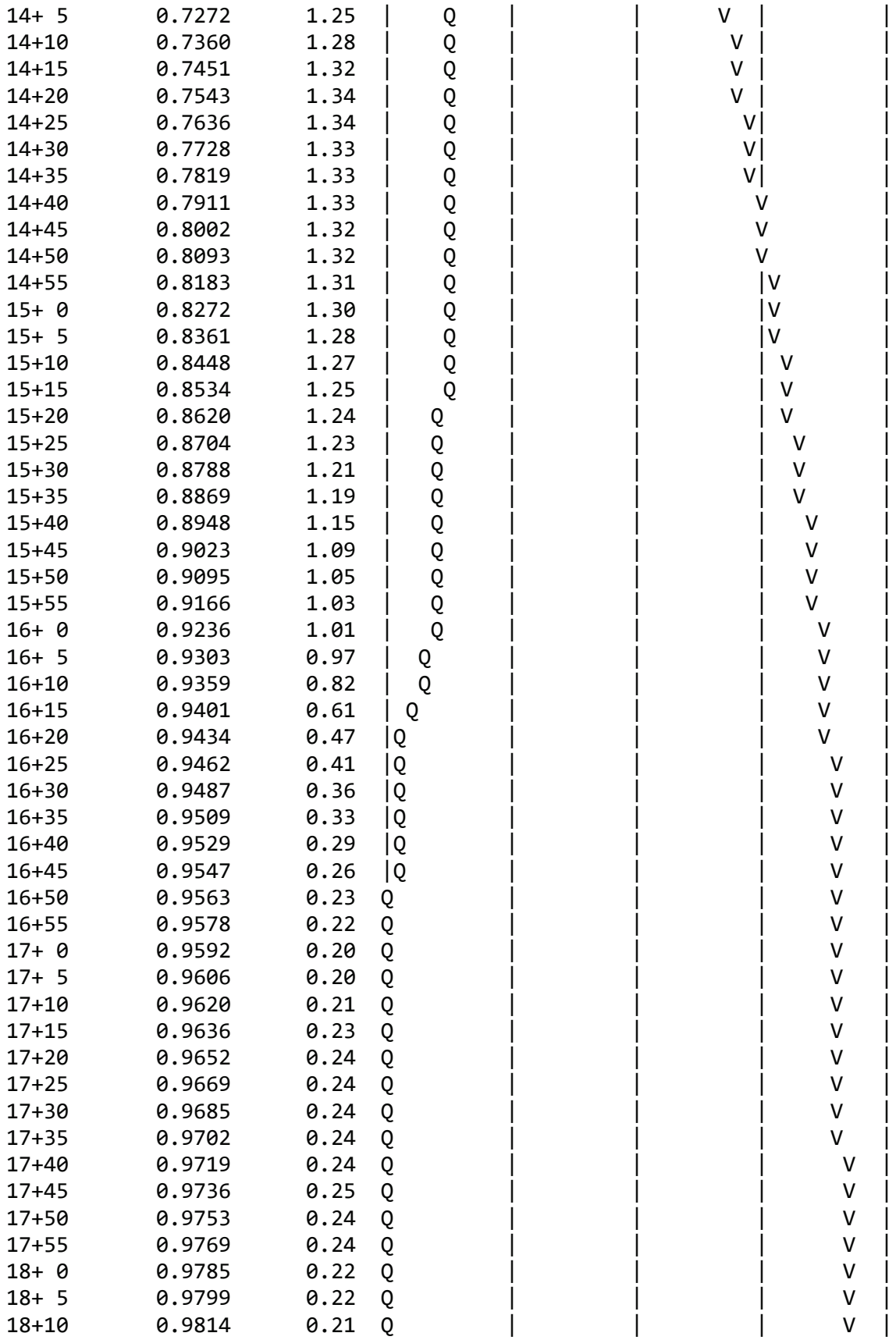
```
278  23.17     0.07      0.017       (  0.221)       0.015        0.002
279  23.25     0.07      0.017       (  0.220)       0.015        0.002
280  23.33     0.07      0.017       (  0.220)       0.015        0.002
281  23.42     0.07      0.017       (  0.220)       0.015        0.002
282  23.50     0.07      0.017       (  0.219)       0.015        0.002
283  23.58     0.07      0.017       (  0.219)       0.015        0.002
284  23.67     0.07      0.017       (  0.219)       0.015        0.002
285  23.75     0.07      0.017       (  0.218)       0.015        0.002
286  23.83     0.07      0.017       (  0.218)       0.015        0.002
287  23.92     0.07      0.017       (  0.218)       0.015        0.002
288  24.00     0.07      0.017       (  0.218)       0.015        0.002
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     2.5
       Flood volume = Effective rainfall      0.21(In)
        times area      60.9(Ac.)/[(In)/(Ft.)] =       1.1(Ac.Ft)
       Total soil loss =      1.86(In)
       Total soil loss =     9.452(Ac.Ft)
       Total rainfall =      2.07(In)
       Flood volume =       45747.9 Cubic Feet
       Total soil loss =      411731.2 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      1.665(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      0.02  Q         |         |         |         |
   0+15       0.0005      0.05  Q         |         |         |         |
   0+20       0.0010      0.07  Q         |         |         |         |
   0+25       0.0016      0.09  Q         |         |         |         |
   0+30       0.0024      0.11  Q         |         |         |         |
   0+35       0.0032      0.12  Q         |         |         |         |
   0+40       0.0041      0.13  Q         |         |         |         |
   0+45       0.0050      0.13  Q         |         |         |         |
   0+50       0.0059      0.14  Q         |         |         |         |
   0+55       0.0070      0.15  Q         |         |         |         |
   1+ 0       0.0081      0.17  Q         |         |         |         |
   1+ 5       0.0094      0.18  Q         |         |         |         |
   1+10       0.0105      0.17  Q         |         |         |         |
   1+15       0.0117      0.16  Q         |         |         |         |
   1+20       0.0128      0.16  Q         |         |         |         |
   1+25       0.0138      0.16  Q         |         |         |         |
   1+30       0.0149      0.16  Q         |         |         |         |
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1+35	0.0160	0.15	Q	|	|	|	|
1+40	0.0170	0.15	Q	|	|	|	|
1+45	0.0181	0.15	Q	|	|	|	|
1+50	0.0192	0.16	Q	|	|	|	|
1+55	0.0203	0.17	Q	|	|	|	|
2+ 0	0.0215	0.18	Q	|	|	|	|
2+ 5	0.0228	0.19	Q	|	|	|	|
2+10	0.0242	0.19	Q	|	|	|	|
2+15	0.0255	0.19	Q	|	|	|	|
2+20	0.0269	0.20	QV	|	|	|	|
2+25	0.0282	0.20	QV	|	|	|	|
2+30	0.0296	0.20	QV	|	|	|	|
2+35	0.0310	0.20	QV	|	|	|	|
2+40	0.0324	0.21	QV	|	|	|	|
2+45	0.0340	0.23	QV	|	|	|	|
2+50	0.0356	0.24	QV	|	|	|	|
2+55	0.0373	0.24	QV	|	|	|	|
3+ 0	0.0389	0.24	QV	|	|	|	|
3+ 5	0.0406	0.25	QV	|	|	|	|
3+10	0.0423	0.25	QV	|	|	|	|
3+15	0.0440	0.25	QV	|	|	|	|
3+20	0.0458	0.25	QV	|	|	|	|
3+25	0.0475	0.25	|Q	|	|	|	|
3+30	0.0492	0.25	|Q	|	|	|	|
3+35	0.0510	0.25	|Q	|	|	|	|
3+40	0.0527	0.25	|QV	|	|	|	|
3+45	0.0544	0.25	|QV	|	|	|	|
3+50	0.0562	0.26	|QV	|	|	|	|
3+55	0.0580	0.27	|QV	|	|	|	|
4+ 0	0.0599	0.28	|QV	|	|	|	|
4+ 5	0.0619	0.29	|QV	|	|	|	|
4+10	0.0639	0.29	|QV	|	|	|	|
4+15	0.0660	0.30	|QV	|	|	|	|
4+20	0.0680	0.30	|QV	|	|	|	|
4+25	0.0702	0.31	|QV	|	|	|	|
4+30	0.0724	0.33	|QV	|	|	|	|
4+35	0.0747	0.34	|QV	|	|	|	|
4+40	0.0771	0.34	|QV	|	|	|	|
4+45	0.0794	0.34	|Q V	|	|	|	|
4+50	0.0818	0.35	|Q V	|	|	|	|
4+55	0.0843	0.36	|Q V	|	|	|	|
5+ 0	0.0869	0.37	|Q V	|	|	|	|
5+ 5	0.0895	0.38	|Q V	|	|	|	|
5+10	0.0920	0.37	|Q V	|	|	|	|
5+15	0.0944	0.34	|Q V	|	|	|	|
5+20	0.0967	0.33	|Q V	|	|	|	|
5+25	0.0990	0.33	|Q V	|	|	|	|
5+30	0.1013	0.34	|Q V	|	|	|	|
5+35	0.1038	0.35	|Q V	|	|	|	|
5+40	0.1063	0.36	|Q V	|	|	|	|

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5+45       0.1089      0.38  |Q  V     |          |          |          |
5+50       0.1115      0.39  |Q  V     |          |          |          |
5+55       0.1143      0.39  |Q  V     |          |          |          |
6+ 0       0.1170      0.40  |Q  V     |          |          |          |
6+ 5       0.1197      0.40  |Q  V     |          |          |          |
6+10       0.1226      0.41  |Q  V     |          |          |          |
6+15       0.1255      0.43  |Q  V     |          |          |          |
6+20       0.1285      0.44  |Q  V     |          |          |          |
6+25       0.1316      0.44  |Q   V    |          |          |          |
6+30       0.1346      0.44  |Q   V    |          |          |          |
6+35       0.1377      0.45  |Q   V    |          |          |          |
6+40       0.1409      0.46  |Q   V    |          |          |          |
6+45       0.1442      0.48  |Q   V    |          |          |          |
6+50       0.1475      0.49  |Q   V    |          |          |          |
6+55       0.1509      0.49  |Q   V    |          |          |          |
7+ 0       0.1543      0.50  |Q   V    |          |          |          |
7+ 5       0.1577      0.50  |Q    V   |          |          |          |
7+10       0.1612      0.50  | Q   V   |          |          |          |
7+15       0.1646      0.50  | Q   V   |          |          |          |
7+20       0.1681      0.51  | Q   V   |          |          |          |
7+25       0.1717      0.52  | Q   V   |          |          |          |
7+30       0.1753      0.53  | Q   V   |          |          |          |
7+35       0.1791      0.54  | Q   V   |          |          |          |
7+40       0.1829      0.56  | Q   V   |          |          |          |
7+45       0.1869      0.57  | Q    V  |          |          |          |
7+50       0.1909      0.59  | Q    V  |          |          |          |
7+55       0.1950      0.60  | Q    V  |          |          |          |
8+ 0       0.1993      0.62  | Q    V  |          |          |          |
8+ 5       0.2037      0.64  | Q    V  |          |          |          |
8+10       0.2083      0.66  | Q    V  |          |          |          |
8+15       0.2130      0.69  | Q     V |          |          |          |
8+20       0.2180      0.72  | Q     V |          |          |          |
8+25       0.2230      0.73  | Q     V |          |          |          |
8+30       0.2280      0.73  | Q     V |          |          |          |
8+35       0.2331      0.74  | Q     V |          |          |          |
8+40       0.2383      0.76  |  Q     V|          |          |          |
8+45       0.2437      0.77  |  Q     V|          |          |          |
8+50       0.2491      0.79  |  Q     V|          |          |          |
8+55       0.2546      0.80  |  Q     V|          |          |          |
9+ 0       0.2603      0.82  |  Q     V|          |          |          |
9+ 5       0.2661      0.84  |  Q      V          |          |          |
9+10       0.2720      0.86  |  Q      V          |          |          |
9+15       0.2782      0.90  |  Q      V          |          |          |
9+20       0.2845      0.92  |  Q      V          |          |          |
9+25       0.2910      0.94  |  Q      |V         |          |          |
9+30       0.2977      0.96  |  Q      |V         |          |          |
9+35       0.3044      0.98  |  Q      |V         |          |          |
9+40       0.3113      1.00  |  Q      |V         |          |          |
9+45       0.3183      1.02  |   Q     | V        |          |          |
9+50       0.3254      1.03  |   Q     | V        |          |          |
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9+55	0.3327	1.05	Q	V			
10+ 0	0.3400	1.07	Q	V			
10+ 5	0.3474	1.07	Q	V			
10+10	0.3544	1.01	Q	V			
10+15	0.3607	0.92	Q	V			
10+20	0.3666	0.86	Q	V			
10+25	0.3724	0.84	Q	V			
10+30	0.3781	0.82	Q	V			
10+35	0.3837	0.82	Q	V			
10+40	0.3896	0.86	Q	V			
10+45	0.3960	0.92	Q	V			
10+50	0.4026	0.96	Q	V			
10+55	0.4093	0.97	Q	V			
11+ 0	0.4161	0.98	Q	V			
11+ 5	0.4229	0.99	Q	V			
11+10	0.4296	0.98	Q	V			
11+15	0.4364	0.97	Q	V			
11+20	0.4430	0.97	Q	V			
11+25	0.4497	0.97	Q	V			
11+30	0.4563	0.97	Q	V			
11+35	0.4629	0.96	Q	V			
11+40	0.4694	0.94	Q	V			
11+45	0.4757	0.91	Q	V			
11+50	0.4819	0.90	Q	V			
11+55	0.4881	0.90	Q	V			
12+ 0	0.4944	0.91	Q	V			
12+ 5	0.5008	0.93	Q	V			
12+10	0.5077	1.00	Q	V			
12+15	0.5152	1.09	Q	V			
12+20	0.5232	1.16	Q	V			
12+25	0.5314	1.20	Q	V			
12+30	0.5399	1.23	Q	V			
12+35	0.5485	1.26	Q	V			
12+40	0.5574	1.29	Q	V			
12+45	0.5665	1.33	Q	V			
12+50	0.5759	1.36	Q	V			
12+55	0.5854	1.38	Q	V			
13+ 0	0.5950	1.41	Q	V			
13+ 5	0.6049	1.43	Q	V			
13+10	0.6152	1.49	Q	V			
13+15	0.6260	1.57	Q	V			
13+20	0.6372	1.62	Q	V			
13+25	0.6485	1.65	Q	V			
13+30	0.6600	1.66	Q	V			
13+35	0.6714	1.65	Q	V			
13+40	0.6821	1.56	Q	V			
13+45	0.6919	1.42	Q	V			
13+50	0.7010	1.33	Q	V			
13+55	0.7099	1.29	Q	V			
14+ 0	0.7186	1.26	Q	V			



18+15	0.9829	0.21	Q	|	|	|	V |
18+20	0.9843	0.21	Q	|	|	|	V |
18+25	0.9857	0.21	Q	|	|	|	V |
18+30	0.9872	0.21	Q	|	|	|	V |
18+35	0.9886	0.20	Q	|	|	|	V |
18+40	0.9899	0.19	Q	|	|	|	V |
18+45	0.9912	0.18	Q	|	|	|	V |
18+50	0.9923	0.17	Q	|	|	|	V |
18+55	0.9934	0.15	Q	|	|	|	V |
19+ 0	0.9943	0.14	Q	|	|	|	V |
19+ 5	0.9952	0.13	Q	|	|	|	V |
19+10	0.9961	0.13	Q	|	|	|	V |
19+15	0.9971	0.14	Q	|	|	|	V |
19+20	0.9982	0.15	Q	|	|	|	V |
19+25	0.9993	0.16	Q	|	|	|	V |
19+30	1.0005	0.18	Q	|	|	|	V |
19+35	1.0017	0.18	Q	|	|	|	V |
19+40	1.0030	0.18	Q	|	|	|	V |
19+45	1.0041	0.17	Q	|	|	|	V |
19+50	1.0052	0.16	Q	|	|	|	V |
19+55	1.0062	0.15	Q	|	|	|	V |
20+ 0	1.0071	0.13	Q	|	|	|	V |
20+ 5	1.0080	0.12	Q	|	|	|	V |
20+10	1.0088	0.13	Q	|	|	|	V |
20+15	1.0098	0.14	Q	|	|	|	V |
20+20	1.0108	0.14	Q	|	|	|	V |
20+25	1.0118	0.15	Q	|	|	|	V |
20+30	1.0128	0.15	Q	|	|	|	V |
20+35	1.0139	0.15	Q	|	|	|	V |
20+40	1.0149	0.15	Q	|	|	|	V |
20+45	1.0159	0.15	Q	|	|	|	V |
20+50	1.0170	0.15	Q	|	|	|	V |
20+55	1.0179	0.14	Q	|	|	|	V |
21+ 0	1.0188	0.13	Q	|	|	|	V |
21+ 5	1.0196	0.12	Q	|	|	|	V |
21+10	1.0205	0.12	Q	|	|	|	V |
21+15	1.0214	0.14	Q	|	|	|	V |
21+20	1.0224	0.14	Q	|	|	|	V |
21+25	1.0233	0.13	Q	|	|	|	V |
21+30	1.0241	0.12	Q	|	|	|	V|
21+35	1.0249	0.12	Q	|	|	|	V|
21+40	1.0258	0.12	Q	|	|	|	V|
21+45	1.0267	0.13	Q	|	|	|	V|
21+50	1.0277	0.14	Q	|	|	|	V|
21+55	1.0286	0.13	Q	|	|	|	V|
22+ 0	1.0294	0.12	Q	|	|	|	V|
22+ 5	1.0302	0.12	Q	|	|	|	V|
22+10	1.0311	0.12	Q	|	|	|	V|
22+15	1.0320	0.13	Q	|	|	|	V|
22+20	1.0329	0.14	Q	|	|	|	V|

22+25	1.0338	0.13	Q	|	|	|	V|
22+30	1.0347	0.12	Q	|	|	|	V|
22+35	1.0355	0.11	Q	|	|	|	V|
22+40	1.0362	0.11	Q	|	|	|	V|
22+45	1.0370	0.11	Q	|	|	|	V|
22+50	1.0377	0.11	Q	|	|	|	V|
22+55	1.0384	0.11	Q	|	|	|	V|
23+ 0	1.0391	0.10	Q	|	|	|	V|
23+ 5	1.0399	0.10	Q	|	|	|	V|
23+10	1.0406	0.10	Q	|	|	|	V|
23+15	1.0413	0.10	Q	|	|	|	V|
23+20	1.0420	0.10	Q	|	|	|	V|
23+25	1.0427	0.10	Q	|	|	|	V|
23+30	1.0434	0.10	Q	|	|	|	V|
23+35	1.0441	0.10	Q	|	|	|	V|
23+40	1.0448	0.10	Q	|	|	|	V|
23+45	1.0455	0.10	Q	|	|	|	V|
23+50	1.0462	0.10	Q	|	|	|	V|
23+55	1.0469	0.10	Q	|	|	|	V|
24+ 0	1.0476	0.10	Q	|	|	|	V|
24+ 5	1.0483	0.10	Q	|	|	|	V|
24+10	1.0488	0.08	Q	|	|	|	V|
24+15	1.0492	0.05	Q	|	|	|	V|
24+20	1.0494	0.03	Q	|	|	|	V|
24+25	1.0496	0.03	Q	|	|	|	V|
24+30	1.0497	0.02	Q	|	|	|	V|
24+35	1.0498	0.02	Q	|	|	|	V|
24+40	1.0499	0.01	Q	|	|	|	V|
24+45	1.0500	0.01	Q	|	|	|	V|
24+50	1.0500	0.01	Q	|	|	|	V|
24+55	1.0501	0.01	Q	|	|	|	V|
25+ 0	1.0501	0.01	Q	|	|	|	V|
25+ 5	1.0502	0.00	Q	|	|	|	V|
25+10	1.0502	0.00	Q	|	|	|	V|
25+15	1.0502	0.00	Q	|	|	|	V|
25+20	1.0502	0.00	Q	|	|	|	V|
25+25	1.0502	0.00	Q	|	|	|	V|
25+30	1.0502	0.00	Q	|	|	|	V|
25+35	1.0502	0.00	Q	|	|	|	V|

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

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing Condition 10-Year Unit Hydrographs
10-Year Design Storm

Drainage Area = 60.89(Ac.) = 0.095 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 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]
       60.89            0.49                  30.08

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            1.59                  96.82

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    0.945(In)
Areal adjustment factor =   99.94 %
Adjusted average point rain =    0.944(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  69.0      0.373     0.000        0.373       0.295      0.110
84.0  84.0      0.198     0.000        0.198       0.705      0.140
                                                 Sum (F) =   0.250
Area averaged mean soil loss (F) (In/Hr) =  0.250
Minimum soil loss rate ((In/Hr)) =  0.125
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
```

5	0.417	203.070	8.355	5.127
6	0.500	243.683	5.319	3.264
7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
			Sum = 100.000	Sum= 61.366

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.385	0.250	(0.347)	0.135
2	0.17	4.70	0.533	0.250	(0.479)	0.283
3	0.25	4.70	0.533	0.250	(0.479)	0.283
4	0.33	5.10	0.578	0.250	(0.520)	0.328
5	0.42	5.80	0.657	0.250	(0.592)	0.407
6	0.50	5.90	0.669	0.250	(0.602)	0.419
7	0.58	7.10	0.805	0.250	(0.724)	0.555
8	0.67	8.70	0.986	0.250	(0.887)	0.736
9	0.75	13.20	1.496	0.250	(1.346)	1.246
10	0.83	29.70	3.366	0.250	(3.029)	3.116
11	0.92	7.70	0.873	0.250	(0.785)	0.623
12	1.00	4.00	0.453	0.250	(0.408)	0.203
	(Loss Rate Not Used)					
Sum =		100.0			Sum =	8.3

Flood volume = Effective rainfall 0.69(In)
times area 60.9(Ac.)/[(In)/(Ft.)] = 3.5(Ac.Ft)
Total soil loss = 0.25(In)
Total soil loss = 1.268(Ac.Ft)
Total rainfall = 0.94(In)
Flood volume = 153502.3 Cubic Feet
Total soil loss = 55235.1 Cubic Feet

Peak flow rate of this hydrograph = 81.038(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 22.5 45.0 67.5 90.0
0+ 5	0.0026	0.37	Q | | | |
0+10	0.0184	2.30	VQ | | | |
0+15	0.0612	6.21	V Q | | | |
0+20	0.1315	10.21	|V Q | | | |
0+25	0.2223	13.19	| V Q | | | |
0+30	0.3330	16.06	| V Q | | | |
0+35	0.4650	19.17	| V Q | | | |
0+40	0.6239	23.07	| V Q | | | |
0+45	0.8300	29.92	| V| Q | | |
0+50	1.1471	46.04	| | V Q | |
0+55	1.6430	72.01	| | V | | Q |
1+ 0	2.2011	81.04	| | | V | Q |
1+ 5	2.6001	57.93	| | | Q V| |
1+10	2.8391	34.71	| | Q | | V |
1+15	2.9926	22.29	| Q| | | V |
1+20	3.1031	16.03	| Q | | | V |
1+25	3.1876	12.28	| Q | | | V |
1+30	3.2548	9.75	| Q | | | V |
1+35	3.3083	7.77	| Q | | | V |
1+40	3.3514	6.27	| Q | | | V |
1+45	3.3878	5.27	| Q | | | V |
1+50	3.4186	4.48	|Q | | | V |
1+55	3.4436	3.62	|Q | | | V|
2+ 0	3.4641	2.98	|Q | | | V|
2+ 5	3.4806	2.40	|Q | | | V|
2+10	3.4938	1.92	Q | | | V|
2+15	3.5046	1.57	Q | | | V|
2+20	3.5141	1.37	Q | | | V|
2+25	3.5219	1.14	Q | | | V|
2+30	3.5235	0.24	Q | | | V|
2+35	3.5239	0.06	Q | | | V

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

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing Condition 10-Year Unit Hydrographs
10-Year Design Storm

Drainage Area = 60.89(Ac.) = 0.095 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            0.85                  51.57

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            2.20                 133.96

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    1.404(In)
Areal adjustment factor =   99.97 %
Adjusted average point rain =    1.403(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  69.0      0.373     0.000        0.373       0.295      0.110
84.0  84.0      0.198     0.000        0.198       0.705      0.140
                                                 Sum (F) =   0.250
Area averaged mean soil loss (F) (In/Hr) =  0.250
Minimum soil loss rate ((In/Hr)) =  0.125
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
    5   0.417        203.070          8.355              5.127
    6   0.500        243.683          5.319              3.264
```

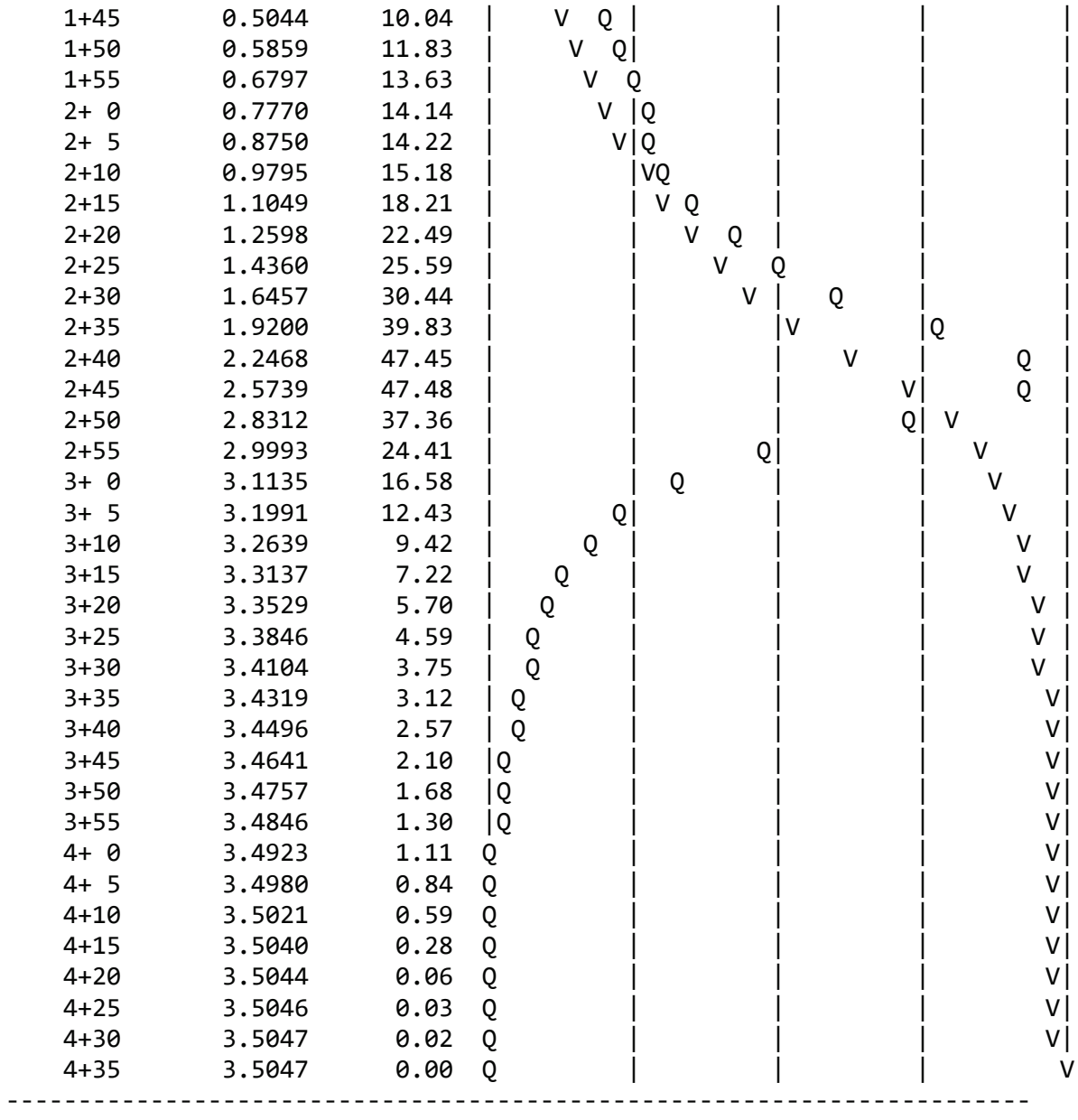
7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
		Sum = 100.000	Sum=	61.366

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.219	(0.250)	0.197	0.022
2	0.17	1.30	0.219	(0.250)	0.197	0.022
3	0.25	1.10	0.185	(0.250)	0.167	0.019
4	0.33	1.50	0.253	(0.250)	0.227	0.025
5	0.42	1.50	0.253	(0.250)	0.227	0.025
6	0.50	1.80	0.303	0.250	(0.273)	0.053
7	0.58	1.50	0.253	(0.250)	0.227	0.025
8	0.67	1.80	0.303	0.250	(0.273)	0.053
9	0.75	1.80	0.303	0.250	(0.273)	0.053
10	0.83	1.50	0.253	(0.250)	0.227	0.025
11	0.92	1.60	0.269	(0.250)	0.242	0.027
12	1.00	1.80	0.303	0.250	(0.273)	0.053
13	1.08	2.20	0.370	0.250	(0.333)	0.121
14	1.17	2.20	0.370	0.250	(0.333)	0.121
15	1.25	2.20	0.370	0.250	(0.333)	0.121
16	1.33	2.00	0.337	0.250	(0.303)	0.087
17	1.42	2.60	0.438	0.250	(0.394)	0.188
18	1.50	2.70	0.455	0.250	(0.409)	0.205
19	1.58	2.40	0.404	0.250	(0.364)	0.154
20	1.67	2.70	0.455	0.250	(0.409)	0.205
21	1.75	3.30	0.556	0.250	(0.500)	0.306
22	1.83	3.10	0.522	0.250	(0.470)	0.272
23	1.92	2.90	0.488	0.250	(0.440)	0.238
24	2.00	3.00	0.505	0.250	(0.455)	0.255
25	2.08	3.10	0.522	0.250	(0.470)	0.272
26	2.17	4.20	0.707	0.250	(0.637)	0.457
27	2.25	5.00	0.842	0.250	(0.758)	0.592

```
28   2.33     3.50      0.589          0.250    (  0.530)        0.339
29   2.42     6.80      1.145          0.250    (  1.031)        0.895
30   2.50     7.30      1.229          0.250    (  1.106)        0.979
31   2.58     8.20      1.381          0.250    (  1.243)        1.131
32   2.67     5.90      0.994          0.250    (  0.894)        0.744
33   2.75     2.00      0.337          0.250    (  0.303)        0.087
34   2.83     1.80      0.303          0.250    (  0.273)        0.053
35   2.92     1.80      0.303          0.250    (  0.273)        0.053
36   3.00     0.60      0.101       (  0.250)       0.091        0.010
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     8.3
      Flood volume = Effective rainfall      0.69(In)
       times area      60.9(Ac.)/[(In)/(Ft.)] =       3.5(Ac.Ft)
      Total soil loss =      0.71(In)
      Total soil loss =     3.616(Ac.Ft)
      Total rainfall =      1.40(In)
      Flood volume =      152666.2 Cubic Feet
      Total soil loss =      157497.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     47.484(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       12.5      25.0      37.5      50.0
-------------------------------------------------------------------------
  0+ 5       0.0004      0.06  Q         |         |         |         |
  0+10       0.0025      0.31  Q         |         |         |         |
  0+15       0.0071      0.66  Q         |         |         |         |
  0+20       0.0131      0.87  Q         |         |         |         |
  0+25       0.0200      1.00  Q         |         |         |         |
  0+30       0.0285      1.23  Q         |         |         |         |
  0+35       0.0393      1.58  VQ        |         |         |         |
  0+40       0.0522      1.87  VQ        |         |         |         |
  0+45       0.0663      2.06  VQ        |         |         |         |
  0+50       0.0824      2.33  VQ        |         |         |         |
  0+55       0.0981      2.29  |Q        |         |         |         |
  1+ 0       0.1123      2.06  |Q        |         |         |         |
  1+ 5       0.1286      2.37  |Q        |         |         |         |
  1+10       0.1528      3.51  |VQ       |         |         |         |
  1+15       0.1864      4.88  | VQ      |         |         |         |
  1+20       0.2251      5.62  | V Q     |         |         |         |
  1+25       0.2660      5.93  |  VQ     |         |         |         |
  1+30       0.3130      6.84  |  V Q    |         |         |         |
  1+35       0.3710      8.42  |   V Q   |         |         |         |
  1+40       0.4352      9.33  |   V  Q  |         |         |         |
```


1+45 0.5044 10.04
1+50 0.5859 11.83
1+55 0.6797 13.63
2+ 0 0.7770 14.14
2+ 5 0.8750 14.22
2+10 0.9795 15.18
2+15 1.1049 18.21
2+20 1.2598 22.49
2+25 1.4360 25.59
2+30 1.6457 30.44
2+35 1.9200 39.83
2+40 2.2468 47.45
2+45 2.5739 47.48
2+50 2.8312 37.36
2+55 2.9993 24.41
3+ 0 3.1135 16.58
3+ 5 3.1991 12.43
3+10 3.2639 9.42
3+15 3.3137 7.22
3+20 3.3529 5.70
3+25 3.3846 4.59
3+30 3.4104 3.75
3+35 3.4319 3.12
3+40 3.4496 2.57
3+45 3.4641 2.10
3+50 3.4757 1.68
3+55 3.4846 1.30
4+ 0 3.4923 1.11
4+ 5 3.4980 0.84
4+10 3.5021 0.59
4+15 3.5040 0.28
4+20 3.5044 0.06
4+25 3.5046 0.03
4+30 3.5047 0.02
4+35 3.5047 0.00

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

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Study date 11/13/24 File: hemetuhex10610.out

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing Condition 10-Year Unit Hydrographs
10-Year Design Storm

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Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            1.18                  71.85

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            2.92                 177.80

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    1.896(In)
Areal adjustment factor =   99.98 %
Adjusted average point rain =    1.895(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  69.0      0.373     0.000        0.373       0.295      0.110
84.0  84.0      0.198     0.000        0.198       0.705      0.140
                                                 Sum (F) =   0.250
Area averaged mean soil loss (F) (In/Hr) =  0.250
Minimum soil loss rate ((In/Hr)) =  0.125
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
    5   0.417        203.070          8.355              5.127
    6   0.500        243.683          5.319              3.264
```

7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
		Sum = 100.000	Sum=	61.366

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

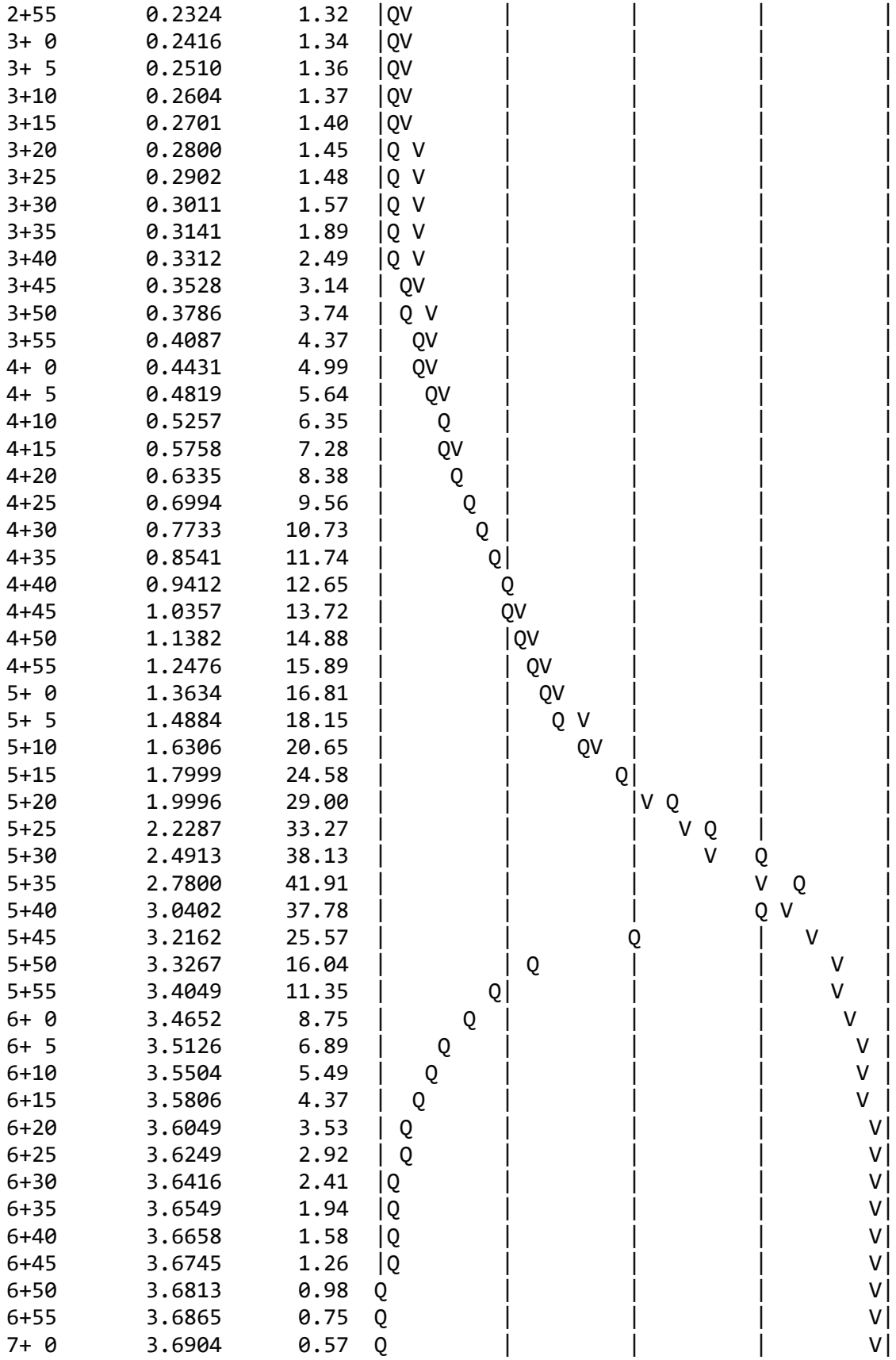
Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.114	(0.250)	0.102	0.011
2	0.17	0.60	0.136	(0.250)	0.123	0.014
3	0.25	0.60	0.136	(0.250)	0.123	0.014
4	0.33	0.60	0.136	(0.250)	0.123	0.014
5	0.42	0.60	0.136	(0.250)	0.123	0.014
6	0.50	0.70	0.159	(0.250)	0.143	0.016
7	0.58	0.70	0.159	(0.250)	0.143	0.016
8	0.67	0.70	0.159	(0.250)	0.143	0.016
9	0.75	0.70	0.159	(0.250)	0.143	0.016
10	0.83	0.70	0.159	(0.250)	0.143	0.016
11	0.92	0.70	0.159	(0.250)	0.143	0.016
12	1.00	0.80	0.182	(0.250)	0.164	0.018
13	1.08	0.80	0.182	(0.250)	0.164	0.018
14	1.17	0.80	0.182	(0.250)	0.164	0.018
15	1.25	0.80	0.182	(0.250)	0.164	0.018
16	1.33	0.80	0.182	(0.250)	0.164	0.018
17	1.42	0.80	0.182	(0.250)	0.164	0.018
18	1.50	0.80	0.182	(0.250)	0.164	0.018
19	1.58	0.80	0.182	(0.250)	0.164	0.018
20	1.67	0.80	0.182	(0.250)	0.164	0.018
21	1.75	0.80	0.182	(0.250)	0.164	0.018
22	1.83	0.80	0.182	(0.250)	0.164	0.018
23	1.92	0.80	0.182	(0.250)	0.164	0.018
24	2.00	0.90	0.205	(0.250)	0.184	0.020
25	2.08	0.80	0.182	(0.250)	0.164	0.018
26	2.17	0.90	0.205	(0.250)	0.184	0.020
27	2.25	0.90	0.205	(0.250)	0.184	0.020

28	2.33	0.90	0.205	(0.250)	0.184		0.020
29	2.42	0.90	0.205	(0.250)	0.184		0.020
30	2.50	0.90	0.205	(0.250)	0.184		0.020
31	2.58	0.90	0.205	(0.250)	0.184		0.020
32	2.67	0.90	0.205	(0.250)	0.184		0.020
33	2.75	1.00	0.227	(0.250)	0.205		0.023
34	2.83	1.00	0.227	(0.250)	0.205		0.023
35	2.92	1.00	0.227	(0.250)	0.205		0.023
36	3.00	1.00	0.227	(0.250)	0.205		0.023
37	3.08	1.00	0.227	(0.250)	0.205		0.023
38	3.17	1.10	0.250	(0.250)	0.225		0.025
39	3.25	1.10	0.250	(0.250)	0.225		0.025
40	3.33	1.10	0.250	(0.250)	0.225		0.025
41	3.42	1.20	0.273	(0.250)	0.246		0.027
42	3.50	1.30	0.296	0.250	(0.266)		0.046
43	3.58	1.40	0.318	0.250	(0.287)		0.069
44	3.67	1.40	0.318	0.250	(0.287)		0.069
45	3.75	1.50	0.341	0.250	(0.307)		0.091
46	3.83	1.50	0.341	0.250	(0.307)		0.091
47	3.92	1.60	0.364	0.250	(0.328)		0.114
48	4.00	1.60	0.364	0.250	(0.328)		0.114
49	4.08	1.70	0.387	0.250	(0.348)		0.137
50	4.17	1.80	0.409	0.250	(0.368)		0.160
51	4.25	1.90	0.432	0.250	(0.389)		0.182
52	4.33	2.00	0.455	0.250	(0.409)		0.205
53	4.42	2.10	0.478	0.250	(0.430)		0.228
54	4.50	2.10	0.478	0.250	(0.430)		0.228
55	4.58	2.20	0.500	0.250	(0.450)		0.251
56	4.67	2.30	0.523	0.250	(0.471)		0.273
57	4.75	2.40	0.546	0.250	(0.491)		0.296
58	4.83	2.40	0.546	0.250	(0.491)		0.296
59	4.92	2.50	0.569	0.250	(0.512)		0.319
60	5.00	2.60	0.591	0.250	(0.532)		0.341
61	5.08	3.10	0.705	0.250	(0.635)		0.455
62	5.17	3.60	0.819	0.250	(0.737)		0.569
63	5.25	3.90	0.887	0.250	(0.798)		0.637
64	5.33	4.20	0.955	0.250	(0.860)		0.705
65	5.42	4.70	1.069	0.250	(0.962)		0.819
66	5.50	5.60	1.274	0.250	(1.146)		1.024
67	5.58	1.90	0.432	0.250	(0.389)		0.182
68	5.67	0.90	0.205	(0.250)	0.184		0.020
69	5.75	0.60	0.136	(0.250)	0.123		0.014
70	5.83	0.50	0.114	(0.250)	0.102		0.011
71	5.92	0.30	0.068	(0.250)	0.061		0.007
72	6.00	0.20	0.045	(0.250)	0.041		0.005
		(Loss Rate Not Used)					
Sum =		100.0			Sum =		8.7

Flood volume = Effective rainfall 0.73(In)
times area 60.9(Ac.)/[(In)/(Ft.)] = 3.7(Ac.Ft)
Total soil loss = 1.17(In)

```
      Total soil loss =     5.924(Ac.Ft)
      Total rainfall =      1.90(In)
      Flood volume =      160897.0 Cubic Feet
      Total soil loss =      258056.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     41.912(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       12.5      25.0      37.5      50.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.03  Q         |         |         |         |
  0+10       0.0014      0.17  Q         |         |         |         |
  0+15       0.0040      0.38  Q         |         |         |         |
  0+20       0.0077      0.54  Q         |         |         |         |
  0+25       0.0119      0.62  Q         |         |         |         |
  0+30       0.0166      0.68  Q         |         |         |         |
  0+35       0.0217      0.74  Q         |         |         |         |
  0+40       0.0272      0.80  Q         |         |         |         |
  0+45       0.0330      0.85  Q         |         |         |         |
  0+50       0.0390      0.87  Q         |         |         |         |
  0+55       0.0452      0.89  Q         |         |         |         |
  1+ 0       0.0515      0.92  Q         |         |         |         |
  1+ 5       0.0581      0.96  Q         |         |         |         |
  1+10       0.0650      1.01  Q         |         |         |         |
  1+15       0.0722      1.04  Q         |         |         |         |
  1+20       0.0795      1.06  Q         |         |         |         |
  1+25       0.0868      1.07  Q         |         |         |         |
  1+30       0.0943      1.08  QV        |         |         |         |
  1+35       0.1018      1.09  QV        |         |         |         |
  1+40       0.1094      1.10  QV        |         |         |         |
  1+45       0.1170      1.10  QV        |         |         |         |
  1+50       0.1246      1.11  QV        |         |         |         |
  1+55       0.1322      1.11  QV        |         |         |         |
  2+ 0       0.1399      1.12  QV        |         |         |         |
  2+ 5       0.1478      1.14  QV        |         |         |         |
  2+10       0.1557      1.16  QV        |         |         |         |
  2+15       0.1638      1.17  QV        |         |         |         |
  2+20       0.1720      1.20  QV        |         |         |         |
  2+25       0.1804      1.22  QV        |         |         |         |
  2+30       0.1889      1.23  Q V       |         |         |         |
  2+35       0.1974      1.23  Q V       |         |         |         |
  2+40       0.2059      1.24  Q V       |         |         |         |
  2+45       0.2145      1.25  Q V       |         |         |         |
  2+50       0.2233      1.28  |QV       |         |         |         |
```



7+ 5	3.6929	0.37	Q	|	|	|	V|
7+10	3.6934	0.07	Q	|	|	|	V|
7+15	3.6935	0.02	Q	|	|	|	V|
7+20	3.6936	0.01	Q	|	|	|	V|
7+25	3.6937	0.01	Q	|	|	|	V|
7+30	3.6937	0.00	Q	|	|	|	V|
7+35	3.6937	0.00	Q	|	|	|	V|

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

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Study date 11/13/24 File: hemetuhex102410.out

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing Condition 10-Year Unit Hydrographs
10-Year Design Storm

Drainage Area = 60.89(Ac.) = 0.095 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 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]
       60.89            2.07                 126.04

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            5.42                 330.02

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    3.448(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    3.448(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  69.0      0.373     0.000        0.373       0.295      0.110
84.0  84.0      0.198     0.000        0.198       0.705      0.140
                                                 Sum (F) =   0.250
Area averaged mean soil loss (F) (In/Hr) =  0.250
Minimum soil loss rate ((In/Hr)) =  0.125
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
    5   0.417        203.070          8.355              5.127
    6   0.500        243.683          5.319              3.264
```

7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
		Sum = 100.000	Sum=	61.366

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	0.028	(0.443)	0.025	0.003
2	0.17	0.07	0.028	(0.441)	0.025	0.003
3	0.25	0.07	0.028	(0.440)	0.025	0.003
4	0.33	0.10	0.041	(0.438)	0.037	0.004
5	0.42	0.10	0.041	(0.436)	0.037	0.004
6	0.50	0.10	0.041	(0.434)	0.037	0.004
7	0.58	0.10	0.041	(0.433)	0.037	0.004
8	0.67	0.10	0.041	(0.431)	0.037	0.004
9	0.75	0.10	0.041	(0.429)	0.037	0.004
10	0.83	0.13	0.055	(0.428)	0.050	0.006
11	0.92	0.13	0.055	(0.426)	0.050	0.006
12	1.00	0.13	0.055	(0.424)	0.050	0.006
13	1.08	0.10	0.041	(0.423)	0.037	0.004
14	1.17	0.10	0.041	(0.421)	0.037	0.004
15	1.25	0.10	0.041	(0.419)	0.037	0.004
16	1.33	0.10	0.041	(0.418)	0.037	0.004
17	1.42	0.10	0.041	(0.416)	0.037	0.004
18	1.50	0.10	0.041	(0.414)	0.037	0.004
19	1.58	0.10	0.041	(0.413)	0.037	0.004
20	1.67	0.10	0.041	(0.411)	0.037	0.004
21	1.75	0.10	0.041	(0.409)	0.037	0.004
22	1.83	0.13	0.055	(0.408)	0.050	0.006
23	1.92	0.13	0.055	(0.406)	0.050	0.006
24	2.00	0.13	0.055	(0.404)	0.050	0.006
25	2.08	0.13	0.055	(0.403)	0.050	0.006
26	2.17	0.13	0.055	(0.401)	0.050	0.006
27	2.25	0.13	0.055	(0.400)	0.050	0.006

28	2.33	0.13	0.055	(0.398)	0.050	0.006
29	2.42	0.13	0.055	(0.396)	0.050	0.006
30	2.50	0.13	0.055	(0.395)	0.050	0.006
31	2.58	0.17	0.069	(0.393)	0.062	0.007
32	2.67	0.17	0.069	(0.391)	0.062	0.007
33	2.75	0.17	0.069	(0.390)	0.062	0.007
34	2.83	0.17	0.069	(0.388)	0.062	0.007
35	2.92	0.17	0.069	(0.387)	0.062	0.007
36	3.00	0.17	0.069	(0.385)	0.062	0.007
37	3.08	0.17	0.069	(0.383)	0.062	0.007
38	3.17	0.17	0.069	(0.382)	0.062	0.007
39	3.25	0.17	0.069	(0.380)	0.062	0.007
40	3.33	0.17	0.069	(0.379)	0.062	0.007
41	3.42	0.17	0.069	(0.377)	0.062	0.007
42	3.50	0.17	0.069	(0.376)	0.062	0.007
43	3.58	0.17	0.069	(0.374)	0.062	0.007
44	3.67	0.17	0.069	(0.372)	0.062	0.007
45	3.75	0.17	0.069	(0.371)	0.062	0.007
46	3.83	0.20	0.083	(0.369)	0.074	0.008
47	3.92	0.20	0.083	(0.368)	0.074	0.008
48	4.00	0.20	0.083	(0.366)	0.074	0.008
49	4.08	0.20	0.083	(0.365)	0.074	0.008
50	4.17	0.20	0.083	(0.363)	0.074	0.008
51	4.25	0.20	0.083	(0.361)	0.074	0.008
52	4.33	0.23	0.097	(0.360)	0.087	0.010
53	4.42	0.23	0.097	(0.358)	0.087	0.010
54	4.50	0.23	0.097	(0.357)	0.087	0.010
55	4.58	0.23	0.097	(0.355)	0.087	0.010
56	4.67	0.23	0.097	(0.354)	0.087	0.010
57	4.75	0.23	0.097	(0.352)	0.087	0.010
58	4.83	0.27	0.110	(0.351)	0.099	0.011
59	4.92	0.27	0.110	(0.349)	0.099	0.011
60	5.00	0.27	0.110	(0.348)	0.099	0.011
61	5.08	0.20	0.083	(0.346)	0.074	0.008
62	5.17	0.20	0.083	(0.345)	0.074	0.008
63	5.25	0.20	0.083	(0.343)	0.074	0.008
64	5.33	0.23	0.097	(0.342)	0.087	0.010
65	5.42	0.23	0.097	(0.340)	0.087	0.010
66	5.50	0.23	0.097	(0.339)	0.087	0.010
67	5.58	0.27	0.110	(0.337)	0.099	0.011
68	5.67	0.27	0.110	(0.336)	0.099	0.011
69	5.75	0.27	0.110	(0.334)	0.099	0.011
70	5.83	0.27	0.110	(0.333)	0.099	0.011
71	5.92	0.27	0.110	(0.331)	0.099	0.011
72	6.00	0.27	0.110	(0.330)	0.099	0.011
73	6.08	0.30	0.124	(0.328)	0.112	0.012
74	6.17	0.30	0.124	(0.327)	0.112	0.012
75	6.25	0.30	0.124	(0.325)	0.112	0.012
76	6.33	0.30	0.124	(0.324)	0.112	0.012
77	6.42	0.30	0.124	(0.323)	0.112	0.012

78	6.50	0.30	0.124	(0.321)	0.112	0.012
79	6.58	0.33	0.138	(0.320)	0.124	0.014
80	6.67	0.33	0.138	(0.318)	0.124	0.014
81	6.75	0.33	0.138	(0.317)	0.124	0.014
82	6.83	0.33	0.138	(0.315)	0.124	0.014
83	6.92	0.33	0.138	(0.314)	0.124	0.014
84	7.00	0.33	0.138	(0.313)	0.124	0.014
85	7.08	0.33	0.138	(0.311)	0.124	0.014
86	7.17	0.33	0.138	(0.310)	0.124	0.014
87	7.25	0.33	0.138	(0.308)	0.124	0.014
88	7.33	0.37	0.152	(0.307)	0.137	0.015
89	7.42	0.37	0.152	(0.305)	0.137	0.015
90	7.50	0.37	0.152	(0.304)	0.137	0.015
91	7.58	0.40	0.165	(0.303)	0.149	0.017
92	7.67	0.40	0.165	(0.301)	0.149	0.017
93	7.75	0.40	0.165	(0.300)	0.149	0.017
94	7.83	0.43	0.179	(0.299)	0.161	0.018
95	7.92	0.43	0.179	(0.297)	0.161	0.018
96	8.00	0.43	0.179	(0.296)	0.161	0.018
97	8.08	0.50	0.207	(0.294)	0.186	0.021
98	8.17	0.50	0.207	(0.293)	0.186	0.021
99	8.25	0.50	0.207	(0.292)	0.186	0.021
100	8.33	0.50	0.207	(0.290)	0.186	0.021
101	8.42	0.50	0.207	(0.289)	0.186	0.021
102	8.50	0.50	0.207	(0.288)	0.186	0.021
103	8.58	0.53	0.221	(0.286)	0.199	0.022
104	8.67	0.53	0.221	(0.285)	0.199	0.022
105	8.75	0.53	0.221	(0.284)	0.199	0.022
106	8.83	0.57	0.234	(0.282)	0.211	0.023
107	8.92	0.57	0.234	(0.281)	0.211	0.023
108	9.00	0.57	0.234	(0.280)	0.211	0.023
109	9.08	0.63	0.262	(0.278)	0.236	0.026
110	9.17	0.63	0.262	(0.277)	0.236	0.026
111	9.25	0.63	0.262	(0.276)	0.236	0.026
112	9.33	0.67	0.276	(0.274)	0.248	0.028
113	9.42	0.67	0.276	(0.273)	0.248	0.028
114	9.50	0.67	0.276	(0.272)	0.248	0.028
115	9.58	0.70	0.290	(0.270)	0.261	0.029
116	9.67	0.70	0.290	(0.269)	0.261	0.029
117	9.75	0.70	0.290	(0.268)	0.261	0.029
118	9.83	0.73	0.303	0.266	(0.273)	0.037
119	9.92	0.73	0.303	0.265	(0.273)	0.038
120	10.00	0.73	0.303	0.264	(0.273)	0.040
121	10.08	0.50	0.207	(0.263)	0.186	0.021
122	10.17	0.50	0.207	(0.261)	0.186	0.021
123	10.25	0.50	0.207	(0.260)	0.186	0.021
124	10.33	0.50	0.207	(0.259)	0.186	0.021
125	10.42	0.50	0.207	(0.258)	0.186	0.021
126	10.50	0.50	0.207	(0.256)	0.186	0.021
127	10.58	0.67	0.276	(0.255)	0.248	0.028

128	10.67	0.67	0.276	(0.254)	0.248	0.028
129	10.75	0.67	0.276	(0.253)	0.248	0.028
130	10.83	0.67	0.276	(0.251)	0.248	0.028
131	10.92	0.67	0.276	(0.250)	0.248	0.028
132	11.00	0.67	0.276	(0.249)	0.248	0.028
133	11.08	0.63	0.262	(0.248)	0.236	0.026
134	11.17	0.63	0.262	(0.246)	0.236	0.026
135	11.25	0.63	0.262	(0.245)	0.236	0.026
136	11.33	0.63	0.262	(0.244)	0.236	0.026
137	11.42	0.63	0.262	(0.243)	0.236	0.026
138	11.50	0.63	0.262	(0.242)	0.236	0.026
139	11.58	0.57	0.234	(0.240)	0.211	0.023
140	11.67	0.57	0.234	(0.239)	0.211	0.023
141	11.75	0.57	0.234	(0.238)	0.211	0.023
142	11.83	0.60	0.248	(0.237)	0.223	0.025
143	11.92	0.60	0.248	(0.236)	0.223	0.025
144	12.00	0.60	0.248	(0.234)	0.223	0.025
145	12.08	0.83	0.345	0.233	(0.310)	0.112
146	12.17	0.83	0.345	0.232	(0.310)	0.113
147	12.25	0.83	0.345	0.231	(0.310)	0.114
148	12.33	0.87	0.359	0.230	(0.323)	0.129
149	12.42	0.87	0.359	0.229	(0.323)	0.130
150	12.50	0.87	0.359	0.227	(0.323)	0.131
151	12.58	0.93	0.386	0.226	(0.348)	0.160
152	12.67	0.93	0.386	0.225	(0.348)	0.161
153	12.75	0.93	0.386	0.224	(0.348)	0.162
154	12.83	0.97	0.400	0.223	(0.360)	0.177
155	12.92	0.97	0.400	0.222	(0.360)	0.178
156	13.00	0.97	0.400	0.221	(0.360)	0.179
157	13.08	1.13	0.469	0.220	(0.422)	0.249
158	13.17	1.13	0.469	0.218	(0.422)	0.250
159	13.25	1.13	0.469	0.217	(0.422)	0.252
160	13.33	1.13	0.469	0.216	(0.422)	0.253
161	13.42	1.13	0.469	0.215	(0.422)	0.254
162	13.50	1.13	0.469	0.214	(0.422)	0.255
163	13.58	0.77	0.317	0.213	(0.285)	0.104
164	13.67	0.77	0.317	0.212	(0.285)	0.105
165	13.75	0.77	0.317	0.211	(0.285)	0.106
166	13.83	0.77	0.317	0.210	(0.285)	0.107
167	13.92	0.77	0.317	0.209	(0.285)	0.109
168	14.00	0.77	0.317	0.208	(0.285)	0.110
169	14.08	0.90	0.372	0.207	(0.335)	0.166
170	14.17	0.90	0.372	0.205	(0.335)	0.167
171	14.25	0.90	0.372	0.204	(0.335)	0.168
172	14.33	0.87	0.359	0.203	(0.323)	0.155
173	14.42	0.87	0.359	0.202	(0.323)	0.156
174	14.50	0.87	0.359	0.201	(0.323)	0.157
175	14.58	0.87	0.359	0.200	(0.323)	0.158
176	14.67	0.87	0.359	0.199	(0.323)	0.159
177	14.75	0.87	0.359	0.198	(0.323)	0.160

178	14.83	0.83	0.345	0.197	(0.310)	0.148
179	14.92	0.83	0.345	0.196	(0.310)	0.149
180	15.00	0.83	0.345	0.195	(0.310)	0.150
181	15.08	0.80	0.331	0.194	(0.298)	0.137
182	15.17	0.80	0.331	0.193	(0.298)	0.138
183	15.25	0.80	0.331	0.192	(0.298)	0.139
184	15.33	0.77	0.317	0.191	(0.285)	0.126
185	15.42	0.77	0.317	0.190	(0.285)	0.127
186	15.50	0.77	0.317	0.189	(0.285)	0.128
187	15.58	0.63	0.262	0.188	(0.236)	0.074
188	15.67	0.63	0.262	0.187	(0.236)	0.075
189	15.75	0.63	0.262	0.186	(0.236)	0.076
190	15.83	0.63	0.262	0.185	(0.236)	0.077
191	15.92	0.63	0.262	0.184	(0.236)	0.078
192	16.00	0.63	0.262	0.184	(0.236)	0.079
193	16.08	0.13	0.055	(0.183)	0.050	0.006
194	16.17	0.13	0.055	(0.182)	0.050	0.006
195	16.25	0.13	0.055	(0.181)	0.050	0.006
196	16.33	0.13	0.055	(0.180)	0.050	0.006
197	16.42	0.13	0.055	(0.179)	0.050	0.006
198	16.50	0.13	0.055	(0.178)	0.050	0.006
199	16.58	0.10	0.041	(0.177)	0.037	0.004
200	16.67	0.10	0.041	(0.176)	0.037	0.004
201	16.75	0.10	0.041	(0.175)	0.037	0.004
202	16.83	0.10	0.041	(0.174)	0.037	0.004
203	16.92	0.10	0.041	(0.173)	0.037	0.004
204	17.00	0.10	0.041	(0.173)	0.037	0.004
205	17.08	0.17	0.069	(0.172)	0.062	0.007
206	17.17	0.17	0.069	(0.171)	0.062	0.007
207	17.25	0.17	0.069	(0.170)	0.062	0.007
208	17.33	0.17	0.069	(0.169)	0.062	0.007
209	17.42	0.17	0.069	(0.168)	0.062	0.007
210	17.50	0.17	0.069	(0.167)	0.062	0.007
211	17.58	0.17	0.069	(0.167)	0.062	0.007
212	17.67	0.17	0.069	(0.166)	0.062	0.007
213	17.75	0.17	0.069	(0.165)	0.062	0.007
214	17.83	0.13	0.055	(0.164)	0.050	0.006
215	17.92	0.13	0.055	(0.163)	0.050	0.006
216	18.00	0.13	0.055	(0.163)	0.050	0.006
217	18.08	0.13	0.055	(0.162)	0.050	0.006
218	18.17	0.13	0.055	(0.161)	0.050	0.006
219	18.25	0.13	0.055	(0.160)	0.050	0.006
220	18.33	0.13	0.055	(0.159)	0.050	0.006
221	18.42	0.13	0.055	(0.159)	0.050	0.006
222	18.50	0.13	0.055	(0.158)	0.050	0.006
223	18.58	0.10	0.041	(0.157)	0.037	0.004
224	18.67	0.10	0.041	(0.156)	0.037	0.004
225	18.75	0.10	0.041	(0.156)	0.037	0.004
226	18.83	0.07	0.028	(0.155)	0.025	0.003
227	18.92	0.07	0.028	(0.154)	0.025	0.003

228	19.00	0.07	0.028	(0.153)	0.025	0.003
229	19.08	0.10	0.041	(0.153)	0.037	0.004
230	19.17	0.10	0.041	(0.152)	0.037	0.004
231	19.25	0.10	0.041	(0.151)	0.037	0.004
232	19.33	0.13	0.055	(0.150)	0.050	0.006
233	19.42	0.13	0.055	(0.150)	0.050	0.006
234	19.50	0.13	0.055	(0.149)	0.050	0.006
235	19.58	0.10	0.041	(0.148)	0.037	0.004
236	19.67	0.10	0.041	(0.148)	0.037	0.004
237	19.75	0.10	0.041	(0.147)	0.037	0.004
238	19.83	0.07	0.028	(0.146)	0.025	0.003
239	19.92	0.07	0.028	(0.146)	0.025	0.003
240	20.00	0.07	0.028	(0.145)	0.025	0.003
241	20.08	0.10	0.041	(0.144)	0.037	0.004
242	20.17	0.10	0.041	(0.144)	0.037	0.004
243	20.25	0.10	0.041	(0.143)	0.037	0.004
244	20.33	0.10	0.041	(0.143)	0.037	0.004
245	20.42	0.10	0.041	(0.142)	0.037	0.004
246	20.50	0.10	0.041	(0.141)	0.037	0.004
247	20.58	0.10	0.041	(0.141)	0.037	0.004
248	20.67	0.10	0.041	(0.140)	0.037	0.004
249	20.75	0.10	0.041	(0.140)	0.037	0.004
250	20.83	0.07	0.028	(0.139)	0.025	0.003
251	20.92	0.07	0.028	(0.138)	0.025	0.003
252	21.00	0.07	0.028	(0.138)	0.025	0.003
253	21.08	0.10	0.041	(0.137)	0.037	0.004
254	21.17	0.10	0.041	(0.137)	0.037	0.004
255	21.25	0.10	0.041	(0.136)	0.037	0.004
256	21.33	0.07	0.028	(0.136)	0.025	0.003
257	21.42	0.07	0.028	(0.135)	0.025	0.003
258	21.50	0.07	0.028	(0.135)	0.025	0.003
259	21.58	0.10	0.041	(0.134)	0.037	0.004
260	21.67	0.10	0.041	(0.134)	0.037	0.004
261	21.75	0.10	0.041	(0.133)	0.037	0.004
262	21.83	0.07	0.028	(0.133)	0.025	0.003
263	21.92	0.07	0.028	(0.132)	0.025	0.003
264	22.00	0.07	0.028	(0.132)	0.025	0.003
265	22.08	0.10	0.041	(0.132)	0.037	0.004
266	22.17	0.10	0.041	(0.131)	0.037	0.004
267	22.25	0.10	0.041	(0.131)	0.037	0.004
268	22.33	0.07	0.028	(0.130)	0.025	0.003
269	22.42	0.07	0.028	(0.130)	0.025	0.003
270	22.50	0.07	0.028	(0.129)	0.025	0.003
271	22.58	0.07	0.028	(0.129)	0.025	0.003
272	22.67	0.07	0.028	(0.129)	0.025	0.003
273	22.75	0.07	0.028	(0.128)	0.025	0.003
274	22.83	0.07	0.028	(0.128)	0.025	0.003
275	22.92	0.07	0.028	(0.128)	0.025	0.003
276	23.00	0.07	0.028	(0.127)	0.025	0.003
277	23.08	0.07	0.028	(0.127)	0.025	0.003

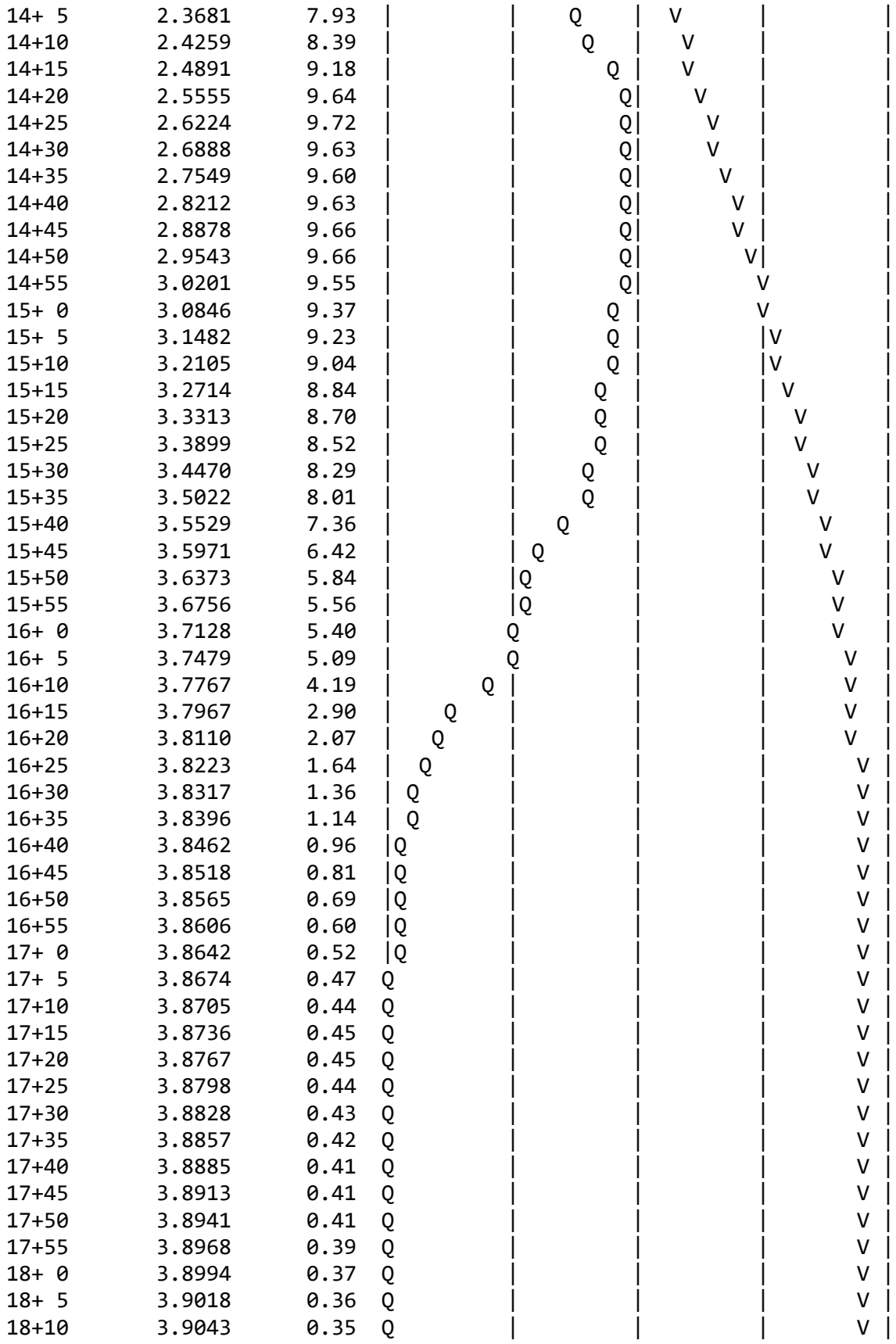
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278  23.17     0.07      0.028       (  0.127)       0.025        0.003
279  23.25     0.07      0.028       (  0.127)       0.025        0.003
280  23.33     0.07      0.028       (  0.126)       0.025        0.003
281  23.42     0.07      0.028       (  0.126)       0.025        0.003
282  23.50     0.07      0.028       (  0.126)       0.025        0.003
283  23.58     0.07      0.028       (  0.126)       0.025        0.003
284  23.67     0.07      0.028       (  0.125)       0.025        0.003
285  23.75     0.07      0.028       (  0.125)       0.025        0.003
286  23.83     0.07      0.028       (  0.125)       0.025        0.003
287  23.92     0.07      0.028       (  0.125)       0.025        0.003
288  24.00     0.07      0.028       (  0.125)       0.025        0.003
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     9.5
       Flood volume = Effective rainfall      0.79(In)
        times area      60.9(Ac.)/[(In)/(Ft.)] =       4.0(Ac.Ft)
       Total soil loss =      2.66(In)
       Total soil loss =    13.476(Ac.Ft)
       Total rainfall =      3.45(In)
       Flood volume =      175064.4 Cubic Feet
       Total soil loss =      587006.8 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     14.341(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        5.0      10.0      15.0      20.0
 ----------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q         |         |         |         |
   0+10       0.0003      0.04  Q         |         |         |         |
   0+15       0.0009      0.08  Q         |         |         |         |
   0+20       0.0017      0.12  Q         |         |         |         |
   0+25       0.0027      0.15  Q         |         |         |         |
   0+30       0.0040      0.18  Q         |         |         |         |
   0+35       0.0053      0.20  Q         |         |         |         |
   0+40       0.0068      0.21  Q         |         |         |         |
   0+45       0.0083      0.22  Q         |         |         |         |
   0+50       0.0099      0.23  Q         |         |         |         |
   0+55       0.0116      0.25  Q         |         |         |         |
   1+ 0       0.0136      0.28  Q         |         |         |         |
   1+ 5       0.0156      0.29  Q         |         |         |         |
   1+10       0.0176      0.29  Q         |         |         |         |
   1+15       0.0194      0.27  Q         |         |         |         |
   1+20       0.0213      0.26  Q         |         |         |         |
   1+25       0.0230      0.26  Q         |         |         |         |
   1+30       0.0248      0.26  Q         |         |         |         |
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1+35	0.0266	0.26	Q	|	|	|	|
1+40	0.0284	0.26	Q	|	|	|	|
1+45	0.0301	0.26	Q	|	|	|	|
1+50	0.0319	0.26	Q	|	|	|	|
1+55	0.0338	0.28	Q	|	|	|	|
2+ 0	0.0359	0.30	Q	|	|	|	|
2+ 5	0.0381	0.31	Q	|	|	|	|
2+10	0.0403	0.32	Q	|	|	|	|
2+15	0.0425	0.32	Q	|	|	|	|
2+20	0.0447	0.33	Q	|	|	|	|
2+25	0.0470	0.33	Q	|	|	|	|
2+30	0.0493	0.33	Q	|	|	|	|
2+35	0.0516	0.34	Q	|	|	|	|
2+40	0.0540	0.35	Q	|	|	|	|
2+45	0.0566	0.38	Q	|	|	|	|
2+50	0.0593	0.39	Q	|	|	|	|
2+55	0.0621	0.40	Q	|	|	|	|
3+ 0	0.0649	0.41	Q	|	|	|	|
3+ 5	0.0677	0.41	Q	|	|	|	|
3+10	0.0705	0.41	Q	|	|	|	|
3+15	0.0734	0.41	Q	|	|	|	|
3+20	0.0762	0.42	Q	|	|	|	|
3+25	0.0791	0.42	Q	|	|	|	|
3+30	0.0820	0.42	Q	|	|	|	|
3+35	0.0849	0.42	Q	|	|	|	|
3+40	0.0878	0.42	Q	|	|	|	|
3+45	0.0907	0.42	Q	|	|	|	|
3+50	0.0936	0.43	Q	|	|	|	|
3+55	0.0967	0.44	Q	|	|	|	|
4+ 0	0.0999	0.46	Q	|	|	|	|
4+ 5	0.1032	0.48	QV	|	|	|	|
4+10	0.1065	0.49	QV	|	|	|	|
4+15	0.1099	0.49	QV	|	|	|	|
4+20	0.1133	0.50	QV	|	|	|	|
4+25	0.1169	0.52	|Q	|	|	|	|
4+30	0.1206	0.54	|Q	|	|	|	|
4+35	0.1245	0.56	|Q	|	|	|	|
4+40	0.1284	0.57	|Q	|	|	|	|
4+45	0.1323	0.57	|Q	|	|	|	|
4+50	0.1363	0.58	|Q	|	|	|	|
4+55	0.1404	0.60	|Q	|	|	|	|
5+ 0	0.1447	0.62	|Q	|	|	|	|
5+ 5	0.1491	0.63	|Q	|	|	|	|
5+10	0.1533	0.61	|Q	|	|	|	|
5+15	0.1573	0.57	|Q	|	|	|	|
5+20	0.1610	0.55	|Q	|	|	|	|
5+25	0.1649	0.56	|Q	|	|	|	|
5+30	0.1688	0.57	|Q	|	|	|	|
5+35	0.1729	0.59	|Q	|	|	|	|
5+40	0.1770	0.61	|Q	|	|	|	|

5+45	0.1814	0.63	Q				
5+50	0.1858	0.65	Q				
5+55	0.1903	0.65	Q				
6+ 0	0.1949	0.66	Q				
6+ 5	0.1995	0.67	Q				
6+10	0.2042	0.69	QV				
6+15	0.2091	0.71	QV				
6+20	0.2141	0.73	QV				
6+25	0.2191	0.74	QV				
6+30	0.2242	0.74	QV				
6+35	0.2294	0.75	QV				
6+40	0.2347	0.77	QV				
6+45	0.2401	0.79	QV				
6+50	0.2457	0.81	QV				
6+55	0.2514	0.82	QV				
7+ 0	0.2570	0.83	QV				
7+ 5	0.2628	0.83	QV				
7+10	0.2685	0.83	QV				
7+15	0.2743	0.84	QV				
7+20	0.2801	0.84	QV				
7+25	0.2860	0.86	QV				
7+30	0.2921	0.88	QV				
7+35	0.2983	0.90	QV				
7+40	0.3047	0.93	Q V				
7+45	0.3113	0.96	Q V				
7+50	0.3180	0.98	Q V				
7+55	0.3249	1.00	QV				
8+ 0	0.3320	1.03	QV				
8+ 5	0.3393	1.06	QV				
8+10	0.3469	1.10	QV				
8+15	0.3549	1.16	QV				
8+20	0.3631	1.19	QV				
8+25	0.3714	1.21	QV				
8+30	0.3798	1.22	QV				
8+35	0.3883	1.24	QV				
8+40	0.3970	1.26	QV				
8+45	0.4059	1.29	Q V				
8+50	0.4149	1.31	Q V				
8+55	0.4242	1.34	Q V				
9+ 0	0.4336	1.37	Q V				
9+ 5	0.4432	1.40	Q V				
9+10	0.4531	1.44	Q V				
9+15	0.4634	1.49	Q V				
9+20	0.4740	1.53	QV				
9+25	0.4848	1.57	QV				
9+30	0.4958	1.60	QV				
9+35	0.5071	1.63	Q V				
9+40	0.5185	1.66	Q V				
9+45	0.5302	1.70	Q V				
9+50	0.5422	1.74	Q V				

9+55	0.5549	1.85	Q V				
10+ 0	0.5688	2.01	QV				
10+ 5	0.5831	2.08	QV				
10+10	0.5966	1.95	Q V				
10+15	0.6082	1.69	Q V				
10+20	0.6187	1.53	Q V				
10+25	0.6288	1.46	Q V				
10+30	0.6385	1.42	Q V				
10+35	0.6482	1.40	Q V				
10+40	0.6582	1.46	Q V				
10+45	0.6690	1.56	Q V				
10+50	0.6801	1.61	Q V				
10+55	0.6914	1.64	Q V				
11+ 0	0.7028	1.65	Q V				
11+ 5	0.7142	1.66	Q V				
11+10	0.7255	1.65	Q V				
11+15	0.7368	1.63	Q V				
11+20	0.7479	1.62	Q V				
11+25	0.7590	1.62	Q V				
11+30	0.7702	1.61	Q V				
11+35	0.7812	1.60	Q V				
11+40	0.7920	1.57	Q V				
11+45	0.8025	1.52	Q V				
11+50	0.8128	1.50	Q V				
11+55	0.8231	1.50	Q V				
12+ 0	0.8336	1.51	Q V				
12+ 5	0.8457	1.76	Q V				
12+10	0.8646	2.74	Q V				
12+15	0.8935	4.20	Q				
12+20	0.9293	5.19	VQ				
12+25	0.9694	5.84	V|Q				
12+30	1.0135	6.40	V Q				
12+35	1.0610	6.89	V Q				
12+40	1.1126	7.49	|V Q				
12+45	1.1690	8.19	|V Q				
12+50	1.2290	8.71	| V Q				
12+55	1.2922	9.18	| V Q				
13+ 0	1.3587	9.65	| V Q|				
13+ 5	1.4289	10.20	| V Q				
13+10	1.5062	11.22	| V | Q				
13+15	1.5927	12.57	| V | Q				
13+20	1.6855	13.47	| V | Q				
13+25	1.7818	13.98	| V | Q				
13+30	1.8806	14.34	| V | Q				
13+35	1.9785	14.22	| V| Q				
13+40	2.0665	12.77	| V Q				
13+45	2.1384	10.44	| QV				
13+50	2.2005	9.02	| Q |V				
13+55	2.2582	8.39	| Q | V				
14+ 0	2.3135	8.03	| Q | V				



18+15	3.9067	0.35	Q	|	|	|	V |
18+20	3.9091	0.35	Q	|	|	|	V |
18+25	3.9115	0.35	Q	|	|	|	V |
18+30	3.9139	0.35	Q	|	|	|	V |
18+35	3.9162	0.34	Q	|	|	|	V |
18+40	3.9185	0.32	Q	|	|	|	V |
18+45	3.9205	0.30	Q	|	|	|	V|
18+50	3.9225	0.28	Q	|	|	|	V|
18+55	3.9242	0.26	Q	|	|	|	V|
19+ 0	3.9258	0.23	Q	|	|	|	V|
19+ 5	3.9273	0.22	Q	|	|	|	V|
19+10	3.9288	0.22	Q	|	|	|	V|
19+15	3.9305	0.24	Q	|	|	|	V|
19+20	3.9322	0.25	Q	|	|	|	V|
19+25	3.9340	0.27	Q	|	|	|	V|
19+30	3.9361	0.29	Q	|	|	|	V|
19+35	3.9381	0.30	Q	|	|	|	V|
19+40	3.9402	0.30	Q	|	|	|	V|
19+45	3.9421	0.28	Q	|	|	|	V|
19+50	3.9439	0.26	Q	|	|	|	V|
19+55	3.9456	0.24	Q	|	|	|	V|
20+ 0	3.9471	0.22	Q	|	|	|	V|
20+ 5	3.9485	0.21	Q	|	|	|	V|
20+10	3.9500	0.21	Q	|	|	|	V|
20+15	3.9516	0.23	Q	|	|	|	V|
20+20	3.9532	0.24	Q	|	|	|	V|
20+25	3.9549	0.25	Q	|	|	|	V|
20+30	3.9566	0.25	Q	|	|	|	V|
20+35	3.9583	0.25	Q	|	|	|	V|
20+40	3.9601	0.25	Q	|	|	|	V|
20+45	3.9618	0.25	Q	|	|	|	V|
20+50	3.9635	0.25	Q	|	|	|	V|
20+55	3.9651	0.23	Q	|	|	|	V|
21+ 0	3.9666	0.21	Q	|	|	|	V|
21+ 5	3.9679	0.20	Q	|	|	|	V|
21+10	3.9694	0.21	Q	|	|	|	V|
21+15	3.9709	0.23	Q	|	|	|	V|
21+20	3.9725	0.23	Q	|	|	|	V|
21+25	3.9741	0.22	Q	|	|	|	V|
21+30	3.9755	0.20	Q	|	|	|	V|
21+35	3.9768	0.19	Q	|	|	|	V|
21+40	3.9782	0.20	Q	|	|	|	V|
21+45	3.9798	0.22	Q	|	|	|	V|
21+50	3.9814	0.23	Q	|	|	|	V|
21+55	3.9829	0.22	Q	|	|	|	V|
22+ 0	3.9843	0.20	Q	|	|	|	V|
22+ 5	3.9856	0.19	Q	|	|	|	V|
22+10	3.9870	0.20	Q	|	|	|	V|
22+15	3.9885	0.22	Q	|	|	|	V|
22+20	3.9901	0.23	Q	|	|	|	V|

22+25	3.9916	0.22	Q	|	|	|	V|
22+30	3.9930	0.20	Q	|	|	|	V|
22+35	3.9943	0.19	Q	|	|	|	V|
22+40	3.9956	0.18	Q	|	|	|	V|
22+45	3.9968	0.18	Q	|	|	|	V|
22+50	3.9981	0.18	Q	|	|	|	V|
22+55	3.9993	0.18	Q	|	|	|	V|
23+ 0	4.0005	0.17	Q	|	|	|	V|
23+ 5	4.0017	0.17	Q	|	|	|	V|
23+10	4.0029	0.17	Q	|	|	|	V|
23+15	4.0040	0.17	Q	|	|	|	V|
23+20	4.0052	0.17	Q	|	|	|	V|
23+25	4.0064	0.17	Q	|	|	|	V|
23+30	4.0076	0.17	Q	|	|	|	V|
23+35	4.0088	0.17	Q	|	|	|	V|
23+40	4.0099	0.17	Q	|	|	|	V|
23+45	4.0111	0.17	Q	|	|	|	V|
23+50	4.0123	0.17	Q	|	|	|	V|
23+55	4.0134	0.17	Q	|	|	|	V|
24+ 0	4.0146	0.17	Q	|	|	|	V|
24+ 5	4.0157	0.16	Q	|	|	|	V|
24+10	4.0166	0.13	Q	|	|	|	V|
24+15	4.0172	0.08	Q	|	|	|	V|
24+20	4.0176	0.06	Q	|	|	|	V|
24+25	4.0179	0.04	Q	|	|	|	V|
24+30	4.0181	0.03	Q	|	|	|	V|
24+35	4.0183	0.03	Q	|	|	|	V|
24+40	4.0184	0.02	Q	|	|	|	V|
24+45	4.0185	0.02	Q	|	|	|	V|
24+50	4.0186	0.01	Q	|	|	|	V|
24+55	4.0187	0.01	Q	|	|	|	V|
25+ 0	4.0188	0.01	Q	|	|	|	V|
25+ 5	4.0188	0.01	Q	|	|	|	V|
25+10	4.0188	0.01	Q	|	|	|	V|
25+15	4.0189	0.00	Q	|	|	|	V|
25+20	4.0189	0.00	Q	|	|	|	V|
25+25	4.0189	0.00	Q	|	|	|	V|
25+30	4.0189	0.00	Q	|	|	|	V|
25+35	4.0189	0.00	Q	|	|	|	V

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

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Study date 11/13/24 File: hemetuhex1001100.out

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing COndition 100-Year Unit Hydrographs
100-Year Design Storm

Drainage Area = 60.89(Ac.) = 0.095 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 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]
       60.89            0.49                  30.08

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            1.59                  96.82

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    1.590(In)
Areal adjustment factor =   99.94 %
Adjusted average point rain =    1.589(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  84.4      0.194     0.000        0.194       0.295      0.057
84.0  93.4      0.086     0.000        0.086       0.705      0.060
                                                 Sum (F) =   0.118
Area averaged mean soil loss (F) (In/Hr) =  0.118
Minimum soil loss rate ((In/Hr)) =  0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
```

5	0.417	203.070	8.355	5.127
6	0.500	243.683	5.319	3.264
7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
			Sum = 100.000	Sum= 61.366

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.648	0.118	(0.584)	0.531
2	0.17	4.70	0.896	0.118	(0.807)	0.779
3	0.25	4.70	0.896	0.118	(0.807)	0.779
4	0.33	5.10	0.973	0.118	(0.875)	0.855
5	0.42	5.80	1.106	0.118	(0.995)	0.988
6	0.50	5.90	1.125	0.118	(1.013)	1.007
7	0.58	7.10	1.354	0.118	(1.219)	1.236
8	0.67	8.70	1.659	0.118	(1.493)	1.541
9	0.75	13.20	2.517	0.118	(2.265)	2.399
10	0.83	29.70	5.664	0.118	(5.097)	5.546
11	0.92	7.70	1.468	0.118	(1.322)	1.351
12	1.00	4.00	0.763	0.118	(0.687)	0.645
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	17.7

Flood volume = Effective rainfall 1.47(In)
times area 60.9(Ac.)/[(In)/(Ft.)] = 7.5(Ac.Ft)
Total soil loss = 0.12(In)
Total soil loss = 0.597(Ac.Ft)
Total rainfall = 1.59(In)
Flood volume = 325229.0 Cubic Feet
Total soil loss = 26015.9 Cubic Feet

Peak flow rate of this hydrograph = 153.991(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 50.0 100.0 150.0 200.0
0+ 5	0.0100	1.45	Q
0+10	0.0659	8.12	VQ
0+15	0.2018	19.73	V Q
0+20	0.4060	29.65	V Q
0+25	0.6553	36.21	V Q
0+30	0.9448	42.04	V Q
0+35	1.2755	48.01	V Q
0+40	1.6552	55.13	V Q
0+45	2.1174	67.11	V Q
0+50	2.7689	94.59	V Q
0+55	3.7231	138.56	V Q
1+ 0	4.7837	153.99	V Q
1+ 5	5.5722	114.50	Q V
1+10	6.0693	72.17	Q V
1+15	6.3886	46.37	Q V
1+20	6.6144	32.78	Q V
1+25	6.7865	24.99	Q V
1+30	6.9230	19.82	Q V
1+35	7.0320	15.83	Q V
1+40	7.1203	12.83	Q V
1+45	7.1940	10.70	Q V
1+50	7.2561	9.01	Q V
1+55	7.3063	7.30	Q V
2+ 0	7.3475	5.97	Q V
2+ 5	7.3805	4.79	Q V
2+10	7.4068	3.82	Q V
2+15	7.4281	3.09	Q V
2+20	7.4462	2.63	Q V
2+25	7.4610	2.15	Q V
2+30	7.4649	0.56	Q V
2+35	7.4662	0.19	Q V

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

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Study date 11/13/24 File: hemetuhex1003100.out

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing COndition 100-Year Unit Hydrographs
100-Year Design Storm

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Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            0.85                  51.57

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            2.20                 133.96

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    2.200(In)
Areal adjustment factor =   99.97 %
Adjusted average point rain =    2.199(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  84.4      0.194     0.000        0.194       0.295      0.057
84.0  93.4      0.086     0.000        0.086       0.705      0.060
                                                 Sum (F) =   0.118
Area averaged mean soil loss (F) (In/Hr) =  0.118
Minimum soil loss rate ((In/Hr)) =  0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
    5   0.417        203.070          8.355              5.127
    6   0.500        243.683          5.319              3.264
```

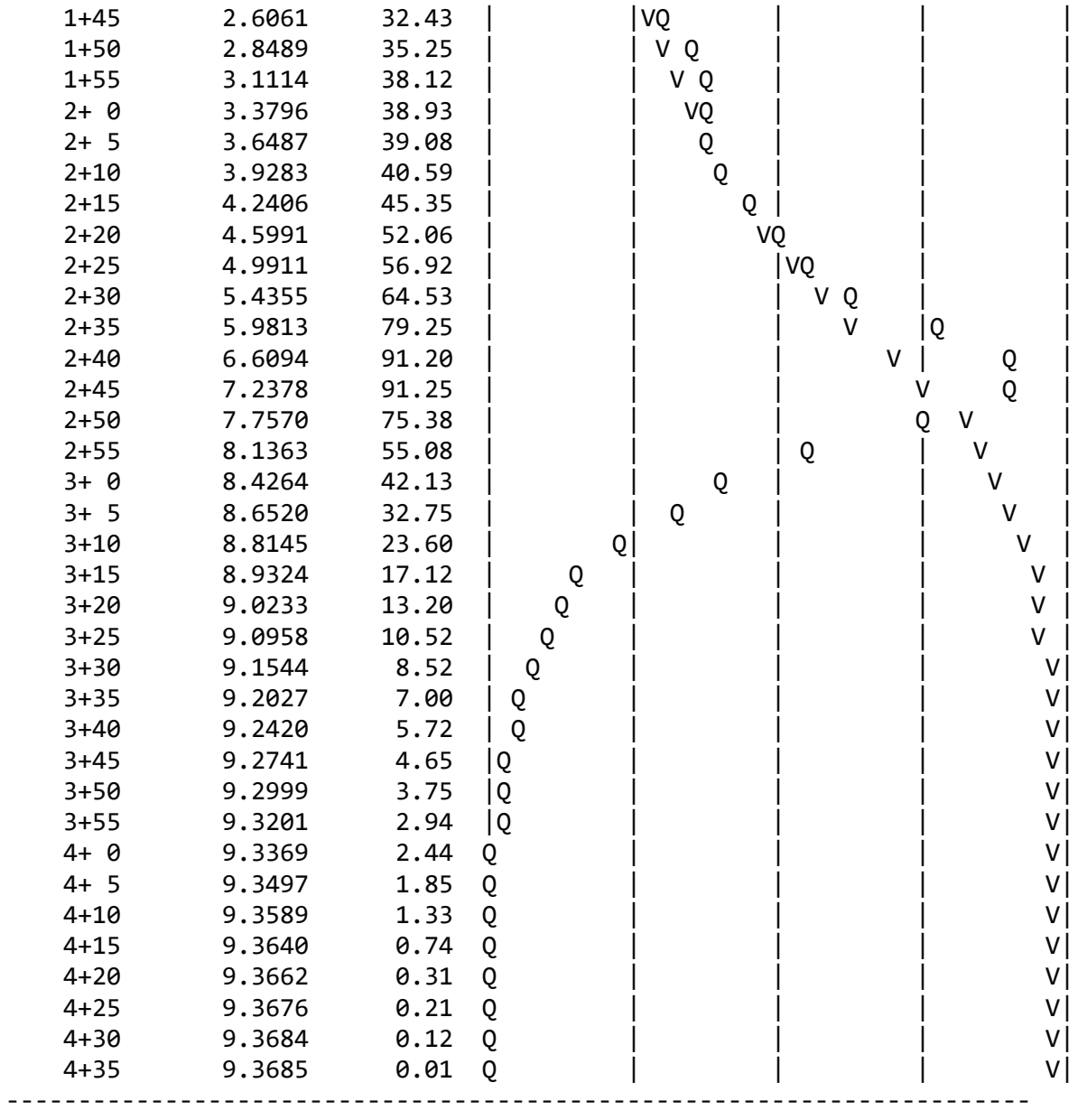
7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
		Sum = 100.000	Sum=	61.366

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.343	0.118	(0.309)	0.225
2	0.17	1.30	0.343	0.118	(0.309)	0.225
3	0.25	1.10	0.290	0.118	(0.261)	0.173
4	0.33	1.50	0.396	0.118	(0.356)	0.278
5	0.42	1.50	0.396	0.118	(0.356)	0.278
6	0.50	1.80	0.475	0.118	(0.428)	0.357
7	0.58	1.50	0.396	0.118	(0.356)	0.278
8	0.67	1.80	0.475	0.118	(0.428)	0.357
9	0.75	1.80	0.475	0.118	(0.428)	0.357
10	0.83	1.50	0.396	0.118	(0.356)	0.278
11	0.92	1.60	0.422	0.118	(0.380)	0.305
12	1.00	1.80	0.475	0.118	(0.428)	0.357
13	1.08	2.20	0.581	0.118	(0.523)	0.463
14	1.17	2.20	0.581	0.118	(0.523)	0.463
15	1.25	2.20	0.581	0.118	(0.523)	0.463
16	1.33	2.00	0.528	0.118	(0.475)	0.410
17	1.42	2.60	0.686	0.118	(0.618)	0.569
18	1.50	2.70	0.713	0.118	(0.641)	0.595
19	1.58	2.40	0.633	0.118	(0.570)	0.516
20	1.67	2.70	0.713	0.118	(0.641)	0.595
21	1.75	3.30	0.871	0.118	(0.784)	0.753
22	1.83	3.10	0.818	0.118	(0.736)	0.700
23	1.92	2.90	0.765	0.118	(0.689)	0.648
24	2.00	3.00	0.792	0.118	(0.713)	0.674
25	2.08	3.10	0.818	0.118	(0.736)	0.700
26	2.17	4.20	1.109	0.118	(0.998)	0.991
27	2.25	5.00	1.320	0.118	(1.188)	1.202

```
28   2.33     3.50      0.924          0.118    (  0.831)        0.806
29   2.42     6.80      1.795          0.118    (  1.615)        1.677
30   2.50     7.30      1.927          0.118    (  1.734)        1.809
31   2.58     8.20      2.164          0.118    (  1.948)        2.047
32   2.67     5.90      1.557          0.118    (  1.401)        1.439
33   2.75     2.00      0.528          0.118    (  0.475)        0.410
34   2.83     1.80      0.475          0.118    (  0.428)        0.357
35   2.92     1.80      0.475          0.118    (  0.428)        0.357
36   3.00     0.60      0.158          0.118    (  0.143)        0.041
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    22.2
      Flood volume = Effective rainfall      1.85(In)
       times area      60.9(Ac.)/[(In)/(Ft.)] =       9.4(Ac.Ft)
      Total soil loss =      0.35(In)
      Total soil loss =     1.792(Ac.Ft)
      Total rainfall =      2.20(In)
      Flood volume =      408090.2 Cubic Feet
      Total soil loss =       78047.8 Cubic Feet
      ------------------------------------------------------------------
       Peak flow rate of this hydrograph =     91.246(CFS)
      ------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       25.0      50.0      75.0     100.0
-------------------------------------------------------------------------
  0+ 5       0.0042      0.62  Q         |         |         |         |
  0+10       0.0260      3.16  VQ        |         |         |         |
  0+15       0.0726      6.76  V Q       |         |         |         |
  0+20       0.1334      8.83  V  Q      |         |         |         |
  0+25       0.2043     10.30  V   Q     |         |         |         |
  0+30       0.2900     12.45  |V  Q     |         |         |         |
  0+35       0.3900     14.52  |V   Q    |         |         |         |
  0+40       0.4998     15.95  | V   Q   |         |         |         |
  0+45       0.6163     16.91  | V   Q   |         |         |         |
  0+50       0.7403     18.00  |  V   Q  |         |         |         |
  0+55       0.8656     18.19  |  V   Q  |         |         |         |
  1+ 0       0.9891     17.93  |   V  Q  |         |         |         |
  1+ 5       1.1190     18.87  |   V  Q  |         |         |         |
  1+10       1.2646     21.15  |    V  Q |         |         |         |
  1+15       1.4272     23.61  |     V  Q|         |         |         |
  1+20       1.5991     24.96  |     V  Q|         |         |         |
  1+25       1.7755     25.62  |      V  Q         |         |         |
  1+30       1.9625     27.15  |       V Q         |         |         |
  1+35       2.1674     29.74  |        V|Q        |         |         |
  1+40       2.3827     31.27  |         V Q       |         |         |
```


1+45 2.6061 32.43
1+50 2.8489 35.25
1+55 3.1114 38.12
2+ 0 3.3796 38.93
2+ 5 3.6487 39.08
2+10 3.9283 40.59
2+15 4.2406 45.35
2+20 4.5991 52.06
2+25 4.9911 56.92
2+30 5.4355 64.53
2+35 5.9813 79.25
2+40 6.6094 91.20
2+45 7.2378 91.25
2+50 7.7570 75.38
2+55 8.1363 55.08
3+ 0 8.4264 42.13
3+ 5 8.6520 32.75
3+10 8.8145 23.60
3+15 8.9324 17.12
3+20 9.0233 13.20
3+25 9.0958 10.52
3+30 9.1544 8.52
3+35 9.2027 7.00
3+40 9.2420 5.72
3+45 9.2741 4.65
3+50 9.2999 3.75
3+55 9.3201 2.94
4+ 0 9.3369 2.44
4+ 5 9.3497 1.85
4+10 9.3589 1.33
4+15 9.3640 0.74
4+20 9.3662 0.31
4+25 9.3676 0.21
4+30 9.3684 0.12
4+35 9.3685 0.01

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

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Study date 11/13/24 File: hemetuhex1006100.out

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing COndition 100-Year Unit Hydrographs
100-Year Design Storm

Drainage Area = 60.89(Ac.) = 0.095 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            1.18                  71.85

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            2.92                 177.80

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    2.920(In)
Areal adjustment factor =   99.98 %
Adjusted average point rain =    2.919(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  84.4      0.194     0.000        0.194       0.295      0.057
84.0  93.4      0.086     0.000        0.086       0.705      0.060
                                                 Sum (F) =   0.118
Area averaged mean soil loss (F) (In/Hr) =  0.118
Minimum soil loss rate ((In/Hr)) =  0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
    5   0.417        203.070          8.355              5.127
    6   0.500        243.683          5.319              3.264
```

7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
		Sum = 100.000	Sum=	61.366

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.175	0.118	(0.158)	0.057
2	0.17	0.60	0.210	0.118	(0.189)	0.092
3	0.25	0.60	0.210	0.118	(0.189)	0.092
4	0.33	0.60	0.210	0.118	(0.189)	0.092
5	0.42	0.60	0.210	0.118	(0.189)	0.092
6	0.50	0.70	0.245	0.118	(0.221)	0.128
7	0.58	0.70	0.245	0.118	(0.221)	0.128
8	0.67	0.70	0.245	0.118	(0.221)	0.128
9	0.75	0.70	0.245	0.118	(0.221)	0.128
10	0.83	0.70	0.245	0.118	(0.221)	0.128
11	0.92	0.70	0.245	0.118	(0.221)	0.128
12	1.00	0.80	0.280	0.118	(0.252)	0.163
13	1.08	0.80	0.280	0.118	(0.252)	0.163
14	1.17	0.80	0.280	0.118	(0.252)	0.163
15	1.25	0.80	0.280	0.118	(0.252)	0.163
16	1.33	0.80	0.280	0.118	(0.252)	0.163
17	1.42	0.80	0.280	0.118	(0.252)	0.163
18	1.50	0.80	0.280	0.118	(0.252)	0.163
19	1.58	0.80	0.280	0.118	(0.252)	0.163
20	1.67	0.80	0.280	0.118	(0.252)	0.163
21	1.75	0.80	0.280	0.118	(0.252)	0.163
22	1.83	0.80	0.280	0.118	(0.252)	0.163
23	1.92	0.80	0.280	0.118	(0.252)	0.163
24	2.00	0.90	0.315	0.118	(0.284)	0.198
25	2.08	0.80	0.280	0.118	(0.252)	0.163
26	2.17	0.90	0.315	0.118	(0.284)	0.198
27	2.25	0.90	0.315	0.118	(0.284)	0.198

28	2.33	0.90	0.315	0.118	(0.284)	0.198
29	2.42	0.90	0.315	0.118	(0.284)	0.198
30	2.50	0.90	0.315	0.118	(0.284)	0.198
31	2.58	0.90	0.315	0.118	(0.284)	0.198
32	2.67	0.90	0.315	0.118	(0.284)	0.198
33	2.75	1.00	0.350	0.118	(0.315)	0.233
34	2.83	1.00	0.350	0.118	(0.315)	0.233
35	2.92	1.00	0.350	0.118	(0.315)	0.233
36	3.00	1.00	0.350	0.118	(0.315)	0.233
37	3.08	1.00	0.350	0.118	(0.315)	0.233
38	3.17	1.10	0.385	0.118	(0.347)	0.268
39	3.25	1.10	0.385	0.118	(0.347)	0.268
40	3.33	1.10	0.385	0.118	(0.347)	0.268
41	3.42	1.20	0.420	0.118	(0.378)	0.303
42	3.50	1.30	0.455	0.118	(0.410)	0.338
43	3.58	1.40	0.490	0.118	(0.441)	0.373
44	3.67	1.40	0.490	0.118	(0.441)	0.373
45	3.75	1.50	0.525	0.118	(0.473)	0.408
46	3.83	1.50	0.525	0.118	(0.473)	0.408
47	3.92	1.60	0.561	0.118	(0.504)	0.443
48	4.00	1.60	0.561	0.118	(0.504)	0.443
49	4.08	1.70	0.596	0.118	(0.536)	0.478
50	4.17	1.80	0.631	0.118	(0.568)	0.513
51	4.25	1.90	0.666	0.118	(0.599)	0.548
52	4.33	2.00	0.701	0.118	(0.631)	0.583
53	4.42	2.10	0.736	0.118	(0.662)	0.618
54	4.50	2.10	0.736	0.118	(0.662)	0.618
55	4.58	2.20	0.771	0.118	(0.694)	0.653
56	4.67	2.30	0.806	0.118	(0.725)	0.688
57	4.75	2.40	0.841	0.118	(0.757)	0.723
58	4.83	2.40	0.841	0.118	(0.757)	0.723
59	4.92	2.50	0.876	0.118	(0.788)	0.758
60	5.00	2.60	0.911	0.118	(0.820)	0.793
61	5.08	3.10	1.086	0.118	(0.977)	0.968
62	5.17	3.60	1.261	0.118	(1.135)	1.143
63	5.25	3.90	1.366	0.118	(1.230)	1.249
64	5.33	4.20	1.471	0.118	(1.324)	1.354
65	5.42	4.70	1.647	0.118	(1.482)	1.529
66	5.50	5.60	1.962	0.118	(1.766)	1.844
67	5.58	1.90	0.666	0.118	(0.599)	0.548
68	5.67	0.90	0.315	0.118	(0.284)	0.198
69	5.75	0.60	0.210	0.118	(0.189)	0.092
70	5.83	0.50	0.175	0.118	(0.158)	0.057
71	5.92	0.30	0.105	(0.118)	0.095	0.011
72	6.00	0.20	0.070	(0.118)	0.063	0.007

(Loss Rate Not Used)

Sum = 100.0 Sum = 26.6

Flood volume = Effective rainfall 2.22(In)
times area 60.9(Ac.)/[(In)/(Ft.)] = 11.3(Ac.Ft)
Total soil loss = 0.70(In)

Total soil loss = 3.551(Ac.Ft)
Total rainfall = 2.92(In)
Flood volume = 490611.3 Cubic Feet
Total soil loss = 154663.3 Cubic Feet

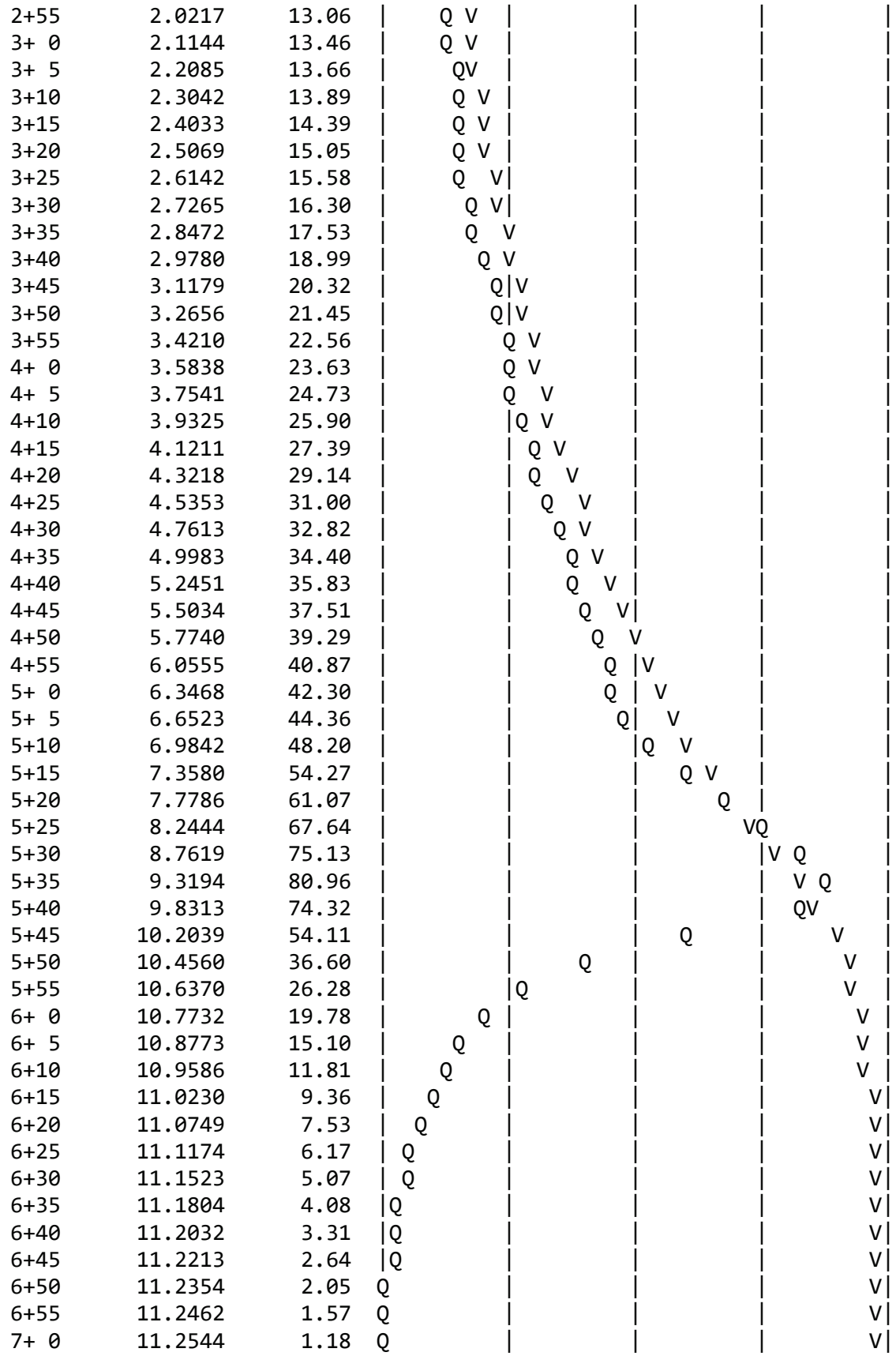
Peak flow rate of this hydrograph = 80.958(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	22.5	45.0	67.5	90.0
0+ 5	0.0011	0.16	Q				
0+10	0.0073	0.90	Q				
0+15	0.0228	2.25	VQ				
0+20	0.0465	3.44	VQ				
0+25	0.0747	4.10	VQ				
0+30	0.1062	4.57	V Q				
0+35	0.1421	5.22	V Q				
0+40	0.1834	5.99	V Q				
0+45	0.2282	6.51	V Q				
0+50	0.2751	6.81	V Q				
0+55	0.3234	7.02	V Q				
1+ 0	0.3735	7.27	V Q				
1+ 5	0.4273	7.80	V Q				
1+10	0.4857	8.49	V Q				
1+15	0.5474	8.95	V Q				
1+20	0.6107	9.20	V Q				
1+25	0.6753	9.37	V Q				
1+30	0.7407	9.51	V Q				
1+35	0.8069	9.61	V Q				
1+40	0.8738	9.71	VQ				
1+45	0.9411	9.77	VQ				
1+50	1.0087	9.81	VQ				
1+55	1.0765	9.85	VQ				
2+ 0	1.1452	9.98	Q				
2+ 5	1.2162	10.31	Q				
2+10	1.2893	10.61	Q				
2+15	1.3637	10.80	Q				
2+20	1.4408	11.21	QV				
2+25	1.5202	11.52	Q				
2+30	1.6006	11.68	Q				
2+35	1.6817	11.78	Q				
2+40	1.7634	11.85	QV				
2+45	1.8461	12.00	QV				
2+50	1.9317	12.44	QV				



```
    7+ 5      11.2599      0.79  Q         |         |         |        V|
    7+10      11.2617      0.26  Q         |         |         |        V|
    7+15      11.2624      0.10  Q         |         |         |        V|
    7+20      11.2627      0.05  Q         |         |         |        V|
    7+25      11.2628      0.02  Q         |         |         |        V|
    7+30      11.2629      0.00  Q         |         |         |        V|
    7+35      11.2629      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

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

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Study date 11/13/24 File: hemetuhex10024100.out

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

Program License Serial Number 6679

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

English Units used in output format

Hemet 63 Acre Development
Existing COndition 100-Year Unit Hydrographs
100-Year Design Storm

Drainage Area = 60.89(Ac.) = 0.095 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.89(Ac.) = 0.095 Sq. Mi.
Length along longest watercourse = 2925.00(Ft.)
Length along longest watercourse measured to centroid = 1717.30(Ft.)
Length along longest watercourse = 0.554 Mi.
Length along longest watercourse measured to centroid = 0.325 Mi.
Difference in elevation = 5.10(Ft.)
Slope along watercourse = 9.2062 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.205 Hr.
Lag time = 12.31 Min.
25% of lag time = 3.08 Min.
40% of lag time = 4.92 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]
       60.89            2.07                 126.04

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       60.89            5.42                 330.02

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    5.420(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    5.419(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.980           69.00         0.000
    42.910           84.00         0.000
 Total Area Entered =     60.89(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  84.4      0.194     0.000        0.194       0.295      0.057
84.0  93.4      0.086     0.000        0.086       0.705      0.060
                                                 Sum (F) =   0.118
Area averaged mean soil loss (F) (In/Hr) =  0.118
Minimum soil loss rate ((In/Hr)) =  0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------
    1   0.083         40.614          4.457              2.735
    2   0.167         81.228         18.373             11.275
    3   0.250        121.842         27.072             16.613
    4   0.333        162.456         17.143             10.520
    5   0.417        203.070          8.355              5.127
    6   0.500        243.683          5.319              3.264
```

7	0.583	284.297	3.989	2.448
8	0.667	324.911	3.032	1.860
9	0.750	365.525	2.426	1.489
10	0.833	406.139	1.905	1.169
11	0.917	446.753	1.475	0.905
12	1.000	487.367	1.265	0.776
13	1.083	527.981	1.142	0.701
14	1.167	568.595	0.892	0.548
15	1.250	609.209	0.751	0.461
16	1.333	649.823	0.617	0.379
17	1.417	690.436	0.488	0.300
18	1.500	731.050	0.406	0.249
19	1.583	771.664	0.406	0.249
20	1.667	812.278	0.486	0.298
		Sum = 100.000	Sum=	61.366

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	0.043	(0.209)	0.039	0.004
2	0.17	0.07	0.043	(0.208)	0.039	0.004
3	0.25	0.07	0.043	(0.207)	0.039	0.004
4	0.33	0.10	0.065	(0.206)	0.059	0.007
5	0.42	0.10	0.065	(0.205)	0.059	0.007
6	0.50	0.10	0.065	(0.205)	0.059	0.007
7	0.58	0.10	0.065	(0.204)	0.059	0.007
8	0.67	0.10	0.065	(0.203)	0.059	0.007
9	0.75	0.10	0.065	(0.202)	0.059	0.007
10	0.83	0.13	0.087	(0.201)	0.078	0.009
11	0.92	0.13	0.087	(0.201)	0.078	0.009
12	1.00	0.13	0.087	(0.200)	0.078	0.009
13	1.08	0.10	0.065	(0.199)	0.059	0.007
14	1.17	0.10	0.065	(0.198)	0.059	0.007
15	1.25	0.10	0.065	(0.198)	0.059	0.007
16	1.33	0.10	0.065	(0.197)	0.059	0.007
17	1.42	0.10	0.065	(0.196)	0.059	0.007
18	1.50	0.10	0.065	(0.195)	0.059	0.007
19	1.58	0.10	0.065	(0.194)	0.059	0.007
20	1.67	0.10	0.065	(0.194)	0.059	0.007
21	1.75	0.10	0.065	(0.193)	0.059	0.007
22	1.83	0.13	0.087	(0.192)	0.078	0.009
23	1.92	0.13	0.087	(0.191)	0.078	0.009
24	2.00	0.13	0.087	(0.190)	0.078	0.009
25	2.08	0.13	0.087	(0.190)	0.078	0.009
26	2.17	0.13	0.087	(0.189)	0.078	0.009
27	2.25	0.13	0.087	(0.188)	0.078	0.009

28	2.33	0.13	0.087	(	0.187)	0.078	0.009
29	2.42	0.13	0.087	(	0.187)	0.078	0.009
30	2.50	0.13	0.087	(	0.186)	0.078	0.009
31	2.58	0.17	0.108	(	0.185)	0.098	0.011
32	2.67	0.17	0.108	(	0.184)	0.098	0.011
33	2.75	0.17	0.108	(	0.184)	0.098	0.011
34	2.83	0.17	0.108	(	0.183)	0.098	0.011
35	2.92	0.17	0.108	(	0.182)	0.098	0.011
36	3.00	0.17	0.108	(	0.181)	0.098	0.011
37	3.08	0.17	0.108	(	0.181)	0.098	0.011
38	3.17	0.17	0.108	(	0.180)	0.098	0.011
39	3.25	0.17	0.108	(	0.179)	0.098	0.011
40	3.33	0.17	0.108	(	0.178)	0.098	0.011
41	3.42	0.17	0.108	(	0.178)	0.098	0.011
42	3.50	0.17	0.108	(	0.177)	0.098	0.011
43	3.58	0.17	0.108	(	0.176)	0.098	0.011
44	3.67	0.17	0.108	(	0.175)	0.098	0.011
45	3.75	0.17	0.108	(	0.175)	0.098	0.011
46	3.83	0.20	0.130	(	0.174)	0.117	0.013
47	3.92	0.20	0.130	(	0.173)	0.117	0.013
48	4.00	0.20	0.130	(	0.172)	0.117	0.013
49	4.08	0.20	0.130	(	0.172)	0.117	0.013
50	4.17	0.20	0.130	(	0.171)	0.117	0.013
51	4.25	0.20	0.130	(	0.170)	0.117	0.013
52	4.33	0.23	0.152	(	0.170)	0.137	0.015
53	4.42	0.23	0.152	(	0.169)	0.137	0.015
54	4.50	0.23	0.152	(	0.168)	0.137	0.015
55	4.58	0.23	0.152	(	0.167)	0.137	0.015
56	4.67	0.23	0.152	(	0.167)	0.137	0.015
57	4.75	0.23	0.152	(	0.166)	0.137	0.015
58	4.83	0.27	0.173	(	0.165)	0.156	0.017
59	4.92	0.27	0.173	(	0.164)	0.156	0.017
60	5.00	0.27	0.173	(	0.164)	0.156	0.017
61	5.08	0.20	0.130	(	0.163)	0.117	0.013
62	5.17	0.20	0.130	(	0.162)	0.117	0.013
63	5.25	0.20	0.130	(	0.162)	0.117	0.013
64	5.33	0.23	0.152	(	0.161)	0.137	0.015
65	5.42	0.23	0.152	(	0.160)	0.137	0.015
66	5.50	0.23	0.152	(	0.160)	0.137	0.015
67	5.58	0.27	0.173	(	0.159)	0.156	0.017
68	5.67	0.27	0.173	(	0.158)	0.156	0.017
69	5.75	0.27	0.173	(	0.157)	0.156	0.017
70	5.83	0.27	0.173	(	0.157)	0.156	0.017
71	5.92	0.27	0.173		0.156	(0.156)	0.017
72	6.00	0.27	0.173		0.155	(0.156)	0.018
73	6.08	0.30	0.195		0.155	(0.176)	0.040
74	6.17	0.30	0.195		0.154	(0.176)	0.041
75	6.25	0.30	0.195		0.153	(0.176)	0.042
76	6.33	0.30	0.195		0.153	(0.176)	0.042
77	6.42	0.30	0.195		0.152	(0.176)	0.043

78	6.50	0.30	0.195	0.151	(	0.176)	0.044
79	6.58	0.33	0.217	0.151	(	0.195)	0.066
80	6.67	0.33	0.217	0.150	(	0.195)	0.067
81	6.75	0.33	0.217	0.149	(	0.195)	0.068
82	6.83	0.33	0.217	0.149	(	0.195)	0.068
83	6.92	0.33	0.217	0.148	(	0.195)	0.069
84	7.00	0.33	0.217	0.147	(	0.195)	0.070
85	7.08	0.33	0.217	0.147	(	0.195)	0.070
86	7.17	0.33	0.217	0.146	(	0.195)	0.071
87	7.25	0.33	0.217	0.145	(	0.195)	0.072
88	7.33	0.37	0.238	0.145	(	0.215)	0.094
89	7.42	0.37	0.238	0.144	(	0.215)	0.095
90	7.50	0.37	0.238	0.143	(	0.215)	0.095
91	7.58	0.40	0.260	0.143	(	0.234)	0.118
92	7.67	0.40	0.260	0.142	(	0.234)	0.118
93	7.75	0.40	0.260	0.141	(	0.234)	0.119
94	7.83	0.43	0.282	0.141	(	0.254)	0.141
95	7.92	0.43	0.282	0.140	(	0.254)	0.142
96	8.00	0.43	0.282	0.139	(	0.254)	0.143
97	8.08	0.50	0.325	0.139	(	0.293)	0.187
98	8.17	0.50	0.325	0.138	(	0.293)	0.187
99	8.25	0.50	0.325	0.137	(	0.293)	0.188
100	8.33	0.50	0.325	0.137	(	0.293)	0.188
101	8.42	0.50	0.325	0.136	(	0.293)	0.189
102	8.50	0.50	0.325	0.135	(	0.293)	0.190
103	8.58	0.53	0.347	0.135	(	0.312)	0.212
104	8.67	0.53	0.347	0.134	(	0.312)	0.213
105	8.75	0.53	0.347	0.134	(	0.312)	0.213
106	8.83	0.57	0.369	0.133	(	0.332)	0.236
107	8.92	0.57	0.369	0.132	(	0.332)	0.236
108	9.00	0.57	0.369	0.132	(	0.332)	0.237
109	9.08	0.63	0.412	0.131	(	0.371)	0.281
110	9.17	0.63	0.412	0.130	(	0.371)	0.281
111	9.25	0.63	0.412	0.130	(	0.371)	0.282
112	9.33	0.67	0.434	0.129	(	0.390)	0.304
113	9.42	0.67	0.434	0.129	(	0.390)	0.305
114	9.50	0.67	0.434	0.128	(	0.390)	0.306
115	9.58	0.70	0.455	0.127	(	0.410)	0.328
116	9.67	0.70	0.455	0.127	(	0.410)	0.329
117	9.75	0.70	0.455	0.126	(	0.410)	0.329
118	9.83	0.73	0.477	0.126	(	0.429)	0.351
119	9.92	0.73	0.477	0.125	(	0.429)	0.352
120	10.00	0.73	0.477	0.124	(	0.429)	0.353
121	10.08	0.50	0.325	0.124	(	0.293)	0.201
122	10.17	0.50	0.325	0.123	(	0.293)	0.202
123	10.25	0.50	0.325	0.122	(	0.293)	0.203
124	10.33	0.50	0.325	0.122	(	0.293)	0.203
125	10.42	0.50	0.325	0.121	(	0.293)	0.204
126	10.50	0.50	0.325	0.121	(	0.293)	0.204
127	10.58	0.67	0.434	0.120	(	0.390)	0.313

128	10.67	0.67	0.434	0.120	(	0.390)	0.314
129	10.75	0.67	0.434	0.119	(	0.390)	0.315
130	10.83	0.67	0.434	0.118	(	0.390)	0.315
131	10.92	0.67	0.434	0.118	(	0.390)	0.316
132	11.00	0.67	0.434	0.117	(	0.390)	0.316
133	11.08	0.63	0.412	0.117	(	0.371)	0.295
134	11.17	0.63	0.412	0.116	(	0.371)	0.296
135	11.25	0.63	0.412	0.115	(	0.371)	0.296
136	11.33	0.63	0.412	0.115	(	0.371)	0.297
137	11.42	0.63	0.412	0.114	(	0.371)	0.298
138	11.50	0.63	0.412	0.114	(	0.371)	0.298
139	11.58	0.57	0.369	0.113	(	0.332)	0.255
140	11.67	0.57	0.369	0.113	(	0.332)	0.256
141	11.75	0.57	0.369	0.112	(	0.332)	0.256
142	11.83	0.60	0.390	0.112	(	0.351)	0.279
143	11.92	0.60	0.390	0.111	(	0.351)	0.279
144	12.00	0.60	0.390	0.110	(	0.351)	0.280
145	12.08	0.83	0.542	0.110	(	0.488)	0.432
146	12.17	0.83	0.542	0.109	(	0.488)	0.433
147	12.25	0.83	0.542	0.109	(	0.488)	0.433
148	12.33	0.87	0.564	0.108	(	0.507)	0.455
149	12.42	0.87	0.564	0.108	(	0.507)	0.456
150	12.50	0.87	0.564	0.107	(	0.507)	0.456
151	12.58	0.93	0.607	0.107	(	0.546)	0.500
152	12.67	0.93	0.607	0.106	(	0.546)	0.501
153	12.75	0.93	0.607	0.106	(	0.546)	0.501
154	12.83	0.97	0.629	0.105	(	0.566)	0.524
155	12.92	0.97	0.629	0.104	(	0.566)	0.524
156	13.00	0.97	0.629	0.104	(	0.566)	0.525
157	13.08	1.13	0.737	0.103	(	0.663)	0.634
158	13.17	1.13	0.737	0.103	(	0.663)	0.634
159	13.25	1.13	0.737	0.102	(	0.663)	0.635
160	13.33	1.13	0.737	0.102	(	0.663)	0.635
161	13.42	1.13	0.737	0.101	(	0.663)	0.636
162	13.50	1.13	0.737	0.101	(	0.663)	0.636
163	13.58	0.77	0.499	0.100	(	0.449)	0.398
164	13.67	0.77	0.499	0.100	(	0.449)	0.399
165	13.75	0.77	0.499	0.099	(	0.449)	0.399
166	13.83	0.77	0.499	0.099	(	0.449)	0.400
167	13.92	0.77	0.499	0.098	(	0.449)	0.400
168	14.00	0.77	0.499	0.098	(	0.449)	0.401
169	14.08	0.90	0.585	0.097	(	0.527)	0.488
170	14.17	0.90	0.585	0.097	(	0.527)	0.489
171	14.25	0.90	0.585	0.096	(	0.527)	0.489
172	14.33	0.87	0.564	0.096	(	0.507)	0.468
173	14.42	0.87	0.564	0.095	(	0.507)	0.468
174	14.50	0.87	0.564	0.095	(	0.507)	0.469
175	14.58	0.87	0.564	0.094	(	0.507)	0.469
176	14.67	0.87	0.564	0.094	(	0.507)	0.470
177	14.75	0.87	0.564	0.093	(	0.507)	0.470

178	14.83	0.83	0.542		0.093	(	0.488)	0.449
179	14.92	0.83	0.542		0.092	(	0.488)	0.450
180	15.00	0.83	0.542		0.092	(	0.488)	0.450
181	15.08	0.80	0.520		0.091	(	0.468)	0.429
182	15.17	0.80	0.520		0.091	(	0.468)	0.429
183	15.25	0.80	0.520		0.091	(	0.468)	0.430
184	15.33	0.77	0.499		0.090	(	0.449)	0.409
185	15.42	0.77	0.499		0.090	(	0.449)	0.409
186	15.50	0.77	0.499		0.089	(	0.449)	0.409
187	15.58	0.63	0.412		0.089	(	0.371)	0.323
188	15.67	0.63	0.412		0.088	(	0.371)	0.324
189	15.75	0.63	0.412		0.088	(	0.371)	0.324
190	15.83	0.63	0.412		0.087	(	0.371)	0.325
191	15.92	0.63	0.412		0.087	(	0.371)	0.325
192	16.00	0.63	0.412		0.086	(	0.371)	0.325
193	16.08	0.13	0.087	(	0.086)		0.078	0.009
194	16.17	0.13	0.087	(	0.086)		0.078	0.009
195	16.25	0.13	0.087	(	0.085)		0.078	0.009
196	16.33	0.13	0.087	(	0.085)		0.078	0.009
197	16.42	0.13	0.087	(	0.084)		0.078	0.009
198	16.50	0.13	0.087	(	0.084)		0.078	0.009
199	16.58	0.10	0.065	(	0.083)		0.059	0.007
200	16.67	0.10	0.065	(	0.083)		0.059	0.007
201	16.75	0.10	0.065	(	0.083)		0.059	0.007
202	16.83	0.10	0.065	(	0.082)		0.059	0.007
203	16.92	0.10	0.065	(	0.082)		0.059	0.007
204	17.00	0.10	0.065	(	0.081)		0.059	0.007
205	17.08	0.17	0.108		0.081	(	0.098)	0.027
206	17.17	0.17	0.108		0.080	(	0.098)	0.028
207	17.25	0.17	0.108		0.080	(	0.098)	0.028
208	17.33	0.17	0.108		0.080	(	0.098)	0.029
209	17.42	0.17	0.108		0.079	(	0.098)	0.029
210	17.50	0.17	0.108		0.079	(	0.098)	0.030
211	17.58	0.17	0.108		0.078	(	0.098)	0.030
212	17.67	0.17	0.108		0.078	(	0.098)	0.030
213	17.75	0.17	0.108		0.078	(	0.098)	0.031
214	17.83	0.13	0.087		0.077	(	0.078)	0.009
215	17.92	0.13	0.087		0.077	(	0.078)	0.010
216	18.00	0.13	0.087		0.077	(	0.078)	0.010
217	18.08	0.13	0.087		0.076	(	0.078)	0.011
218	18.17	0.13	0.087		0.076	(	0.078)	0.011
219	18.25	0.13	0.087		0.075	(	0.078)	0.011
220	18.33	0.13	0.087		0.075	(	0.078)	0.012
221	18.42	0.13	0.087		0.075	(	0.078)	0.012
222	18.50	0.13	0.087		0.074	(	0.078)	0.012
223	18.58	0.10	0.065	(	0.074)		0.059	0.007
224	18.67	0.10	0.065	(	0.074)		0.059	0.007
225	18.75	0.10	0.065	(	0.073)		0.059	0.007
226	18.83	0.07	0.043	(	0.073)		0.039	0.004
227	18.92	0.07	0.043	(	0.073)		0.039	0.004

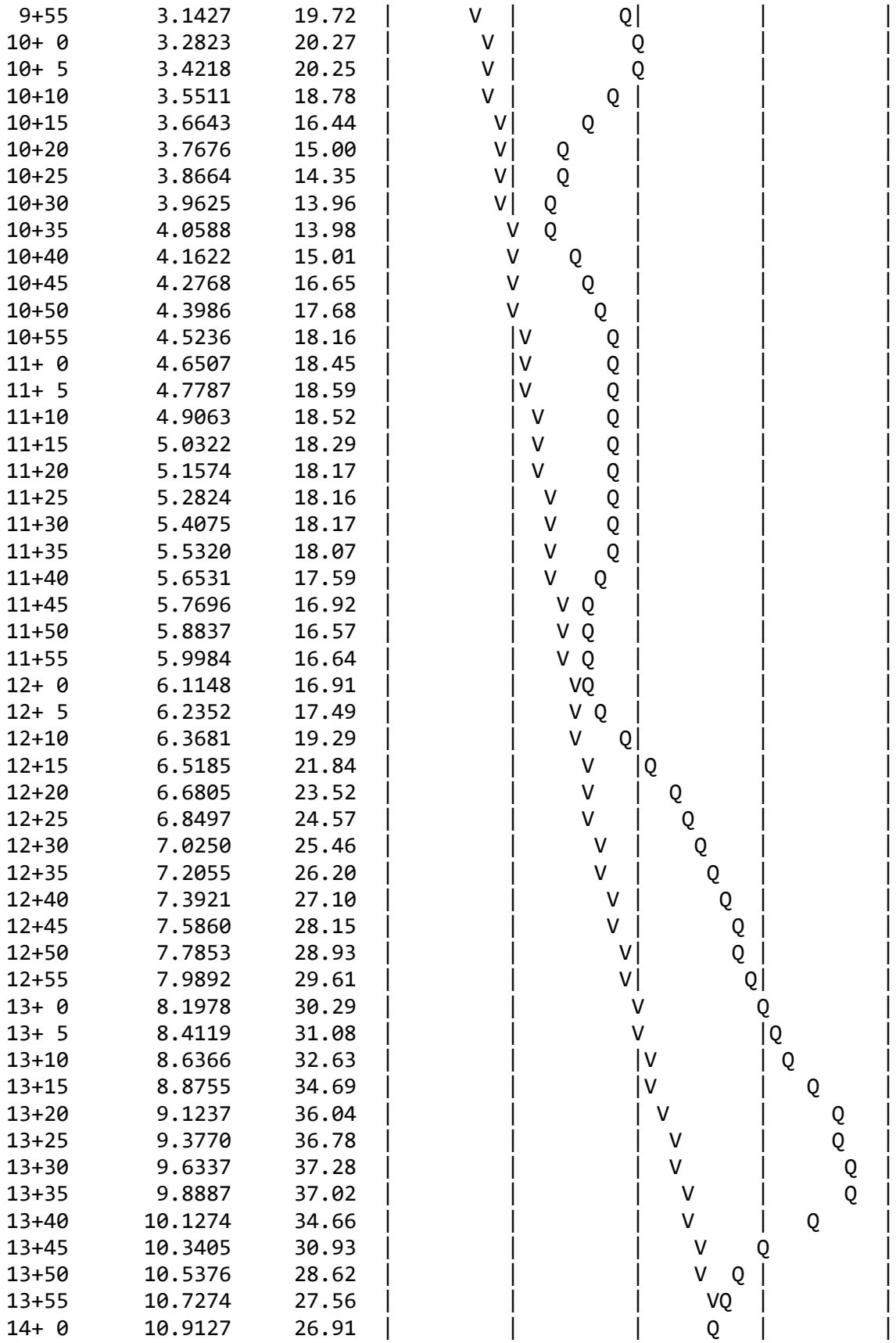
228	19.00	0.07	0.043	(	0.072)	0.039		0.004
229	19.08	0.10	0.065	(	0.072)	0.059		0.007
230	19.17	0.10	0.065	(	0.072)	0.059		0.007
231	19.25	0.10	0.065	(	0.071)	0.059		0.007
232	19.33	0.13	0.087		0.071	(	0.078)	0.016
233	19.42	0.13	0.087		0.071	(	0.078)	0.016
234	19.50	0.13	0.087		0.070	(	0.078)	0.016
235	19.58	0.10	0.065	(	0.070)	0.059		0.007
236	19.67	0.10	0.065	(	0.070)	0.059		0.007
237	19.75	0.10	0.065	(	0.069)	0.059		0.007
238	19.83	0.07	0.043	(	0.069)	0.039		0.004
239	19.92	0.07	0.043	(	0.069)	0.039		0.004
240	20.00	0.07	0.043	(	0.068)	0.039		0.004
241	20.08	0.10	0.065	(	0.068)	0.059		0.007
242	20.17	0.10	0.065	(	0.068)	0.059		0.007
243	20.25	0.10	0.065	(	0.067)	0.059		0.007
244	20.33	0.10	0.065	(	0.067)	0.059		0.007
245	20.42	0.10	0.065	(	0.067)	0.059		0.007
246	20.50	0.10	0.065	(	0.067)	0.059		0.007
247	20.58	0.10	0.065	(	0.066)	0.059		0.007
248	20.67	0.10	0.065	(	0.066)	0.059		0.007
249	20.75	0.10	0.065	(	0.066)	0.059		0.007
250	20.83	0.07	0.043	(	0.065)	0.039		0.004
251	20.92	0.07	0.043	(	0.065)	0.039		0.004
252	21.00	0.07	0.043	(	0.065)	0.039		0.004
253	21.08	0.10	0.065	(	0.065)	0.059		0.007
254	21.17	0.10	0.065	(	0.064)	0.059		0.007
255	21.25	0.10	0.065	(	0.064)	0.059		0.007
256	21.33	0.07	0.043	(	0.064)	0.039		0.004
257	21.42	0.07	0.043	(	0.064)	0.039		0.004
258	21.50	0.07	0.043	(	0.063)	0.039		0.004
259	21.58	0.10	0.065	(	0.063)	0.059		0.007
260	21.67	0.10	0.065	(	0.063)	0.059		0.007
261	21.75	0.10	0.065	(	0.063)	0.059		0.007
262	21.83	0.07	0.043	(	0.063)	0.039		0.004
263	21.92	0.07	0.043	(	0.062)	0.039		0.004
264	22.00	0.07	0.043	(	0.062)	0.039		0.004
265	22.08	0.10	0.065	(	0.062)	0.059		0.007
266	22.17	0.10	0.065	(	0.062)	0.059		0.007
267	22.25	0.10	0.065	(	0.062)	0.059		0.007
268	22.33	0.07	0.043	(	0.061)	0.039		0.004
269	22.42	0.07	0.043	(	0.061)	0.039		0.004
270	22.50	0.07	0.043	(	0.061)	0.039		0.004
271	22.58	0.07	0.043	(	0.061)	0.039		0.004
272	22.67	0.07	0.043	(	0.061)	0.039		0.004
273	22.75	0.07	0.043	(	0.060)	0.039		0.004
274	22.83	0.07	0.043	(	0.060)	0.039		0.004
275	22.92	0.07	0.043	(	0.060)	0.039		0.004
276	23.00	0.07	0.043	(	0.060)	0.039		0.004
277	23.08	0.07	0.043	(	0.060)	0.039		0.004

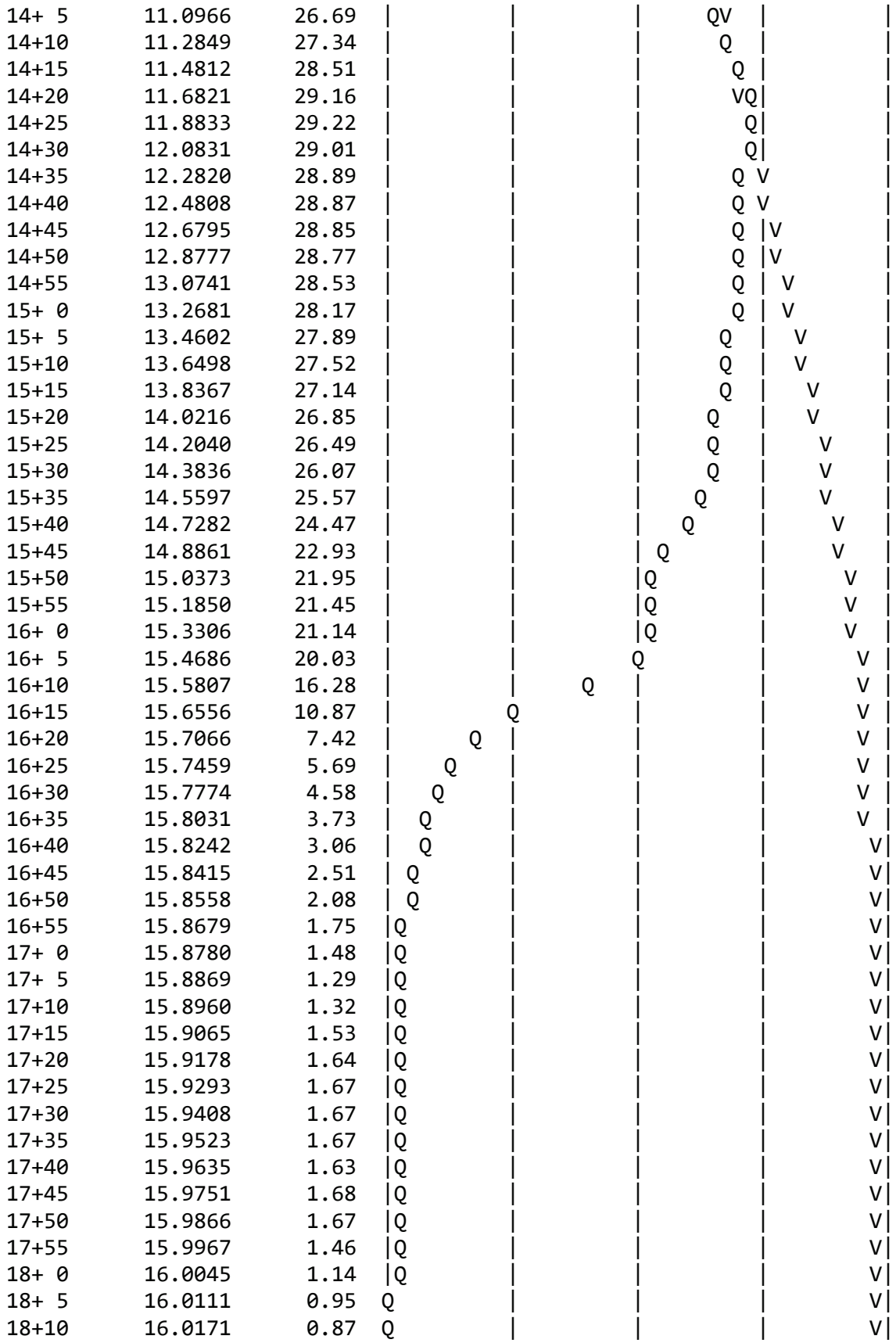
```
278  23.17     0.07      0.043       (  0.060)       0.039        0.004
279  23.25     0.07      0.043       (  0.060)       0.039        0.004
280  23.33     0.07      0.043       (  0.059)       0.039        0.004
281  23.42     0.07      0.043       (  0.059)       0.039        0.004
282  23.50     0.07      0.043       (  0.059)       0.039        0.004
283  23.58     0.07      0.043       (  0.059)       0.039        0.004
284  23.67     0.07      0.043       (  0.059)       0.039        0.004
285  23.75     0.07      0.043       (  0.059)       0.039        0.004
286  23.83     0.07      0.043       (  0.059)       0.039        0.004
287  23.92     0.07      0.043       (  0.059)       0.039        0.004
288  24.00     0.07      0.043       (  0.059)       0.039        0.004
                (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    38.4
       Flood volume = Effective rainfall      3.20(In)
        times area      60.9(Ac.)/[(In)/(Ft.)] =      16.2(Ac.Ft)
       Total soil loss =      2.22(In)
       Total soil loss =    11.278(Ac.Ft)
       Total rainfall =      5.42(In)
       Flood volume =      706577.3 Cubic Feet
       Total soil loss =      491266.6 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     37.276(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                            24 - H O U R    S T O R M
                       R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                    Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0       10.0      20.0      30.0      40.0
 ---------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q         |         |         |         |
   0+10       0.0005      0.06  Q         |         |         |         |
   0+15       0.0014      0.13  Q         |         |         |         |
   0+20       0.0027      0.18  Q         |         |         |         |
   0+25       0.0043      0.23  Q         |         |         |         |
   0+30       0.0062      0.28  Q         |         |         |         |
   0+35       0.0084      0.31  Q         |         |         |         |
   0+40       0.0107      0.33  Q         |         |         |         |
   0+45       0.0131      0.35  Q         |         |         |         |
   0+50       0.0156      0.36  Q         |         |         |         |
   0+55       0.0183      0.40  Q         |         |         |         |
   1+ 0       0.0213      0.44  Q         |         |         |         |
   1+ 5       0.0245      0.46  Q         |         |         |         |
   1+10       0.0276      0.45  Q         |         |         |         |
   1+15       0.0306      0.43  Q         |         |         |         |
   1+20       0.0334      0.41  Q         |         |         |         |
   1+25       0.0362      0.41  Q         |         |         |         |
   1+30       0.0390      0.41  Q         |         |         |         |
```

1+35	0.0418	0.41	Q	|	|	|	|
1+40	0.0446	0.41	Q	|	|	|	|
1+45	0.0474	0.40	Q	|	|	|	|
1+50	0.0502	0.41	Q	|	|	|	|
1+55	0.0532	0.43	Q	|	|	|	|
2+ 0	0.0564	0.47	Q	|	|	|	|
2+ 5	0.0598	0.49	Q	|	|	|	|
2+10	0.0633	0.50	Q	|	|	|	|
2+15	0.0668	0.51	Q	|	|	|	|
2+20	0.0703	0.51	Q	|	|	|	|
2+25	0.0739	0.52	Q	|	|	|	|
2+30	0.0775	0.52	Q	|	|	|	|
2+35	0.0811	0.53	Q	|	|	|	|
2+40	0.0849	0.55	Q	|	|	|	|
2+45	0.0890	0.59	Q	|	|	|	|
2+50	0.0932	0.62	Q	|	|	|	|
2+55	0.0976	0.63	Q	|	|	|	|
3+ 0	0.1019	0.64	Q	|	|	|	|
3+ 5	0.1064	0.64	Q	|	|	|	|
3+10	0.1108	0.65	Q	|	|	|	|
3+15	0.1153	0.65	Q	|	|	|	|
3+20	0.1198	0.65	Q	|	|	|	|
3+25	0.1243	0.66	Q	|	|	|	|
3+30	0.1289	0.66	Q	|	|	|	|
3+35	0.1334	0.66	Q	|	|	|	|
3+40	0.1380	0.66	Q	|	|	|	|
3+45	0.1425	0.66	Q	|	|	|	|
3+50	0.1472	0.67	Q	|	|	|	|
3+55	0.1519	0.69	Q	|	|	|	|
4+ 0	0.1570	0.73	Q	|	|	|	|
4+ 5	0.1622	0.75	Q	|	|	|	|
4+10	0.1674	0.77	Q	|	|	|	|
4+15	0.1728	0.77	Q	|	|	|	|
4+20	0.1782	0.78	Q	|	|	|	|
4+25	0.1838	0.81	Q	|	|	|	|
4+30	0.1896	0.85	Q	|	|	|	|
4+35	0.1957	0.88	Q	|	|	|	|
4+40	0.2018	0.89	Q	|	|	|	|
4+45	0.2080	0.90	Q	|	|	|	|
4+50	0.2143	0.91	Q	|	|	|	|
4+55	0.2207	0.94	Q	|	|	|	|
5+ 0	0.2275	0.98	Q	|	|	|	|
5+ 5	0.2344	1.00	Q	|	|	|	|
5+10	0.2410	0.96	Q	|	|	|	|
5+15	0.2472	0.90	Q	|	|	|	|
5+20	0.2531	0.87	Q	|	|	|	|
5+25	0.2592	0.87	Q	|	|	|	|
5+30	0.2654	0.90	Q	|	|	|	|
5+35	0.2717	0.92	Q	|	|	|	|
5+40	0.2783	0.95	Q	|	|	|	|

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5+45       0.2851      0.99  Q         |         |         |         |
5+50       0.2921      1.02  VQ        |         |         |         |
5+55       0.2992      1.03  VQ        |         |         |         |
6+ 0       0.3063      1.04  VQ        |         |         |         |
6+ 5       0.3140      1.11  VQ        |         |         |         |
6+10       0.3235      1.38  VQ        |         |         |         |
6+15       0.3357      1.78  VQ        |         |         |         |
6+20       0.3498      2.04  V Q       |         |         |         |
6+25       0.3649      2.19  V Q       |         |         |         |
6+30       0.3807      2.30  V Q       |         |         |         |
6+35       0.3975      2.45  V Q       |         |         |         |
6+40       0.4166      2.77  |VQ       |         |         |         |
6+45       0.4386      3.20  |V Q      |         |         |         |
6+50       0.4627      3.50  |V Q      |         |         |         |
6+55       0.4880      3.67  |V Q      |         |         |         |
7+ 0       0.5141      3.80  |V Q      |         |         |         |
7+ 5       0.5410      3.90  |V Q      |         |         |         |
7+10       0.5685      4.00  |V Q      |         |         |         |
7+15       0.5966      4.08  |V  Q     |         |         |         |
7+20       0.6256      4.21  |V  Q     |         |         |         |
7+25       0.6568      4.52  |V  Q     |         |         |         |
7+30       0.6909      4.95  |V  Q     |         |         |         |
7+35       0.7273      5.30  |V   Q    |         |         |         |
7+40       0.7667      5.71  |V   Q    |         |         |         |
7+45       0.8093      6.19  |V    Q   |         |         |         |
7+50       0.8547      6.58  | V   Q   |         |         |         |
7+55       0.9031      7.03  | V    Q  |         |         |         |
8+ 0       0.9550      7.53  | V    Q  |         |         |         |
8+ 5       1.0101      8.01  | V     Q |         |         |         |
8+10       1.0701      8.71  | V     Q |         |         |         |
8+15       1.1362      9.59  | V      Q|         |         |         |
8+20       1.2063     10.18  | V       Q         |         |         |
8+25       1.2787     10.52  |  V      Q         |         |         |
8+30       1.3528     10.76  |  V      Q         |         |         |
8+35       1.4286     11.01  |  V      |Q        |         |         |
8+40       1.5072     11.41  |  V      |Q        |         |         |
8+45       1.5892     11.91  |  V      |Q        |         |         |
8+50       1.6741     12.32  |   V     | Q       |         |         |
8+55       1.7620     12.77  |   V     | Q       |         |         |
9+ 0       1.8536     13.29  |   V     |  Q      |         |         |
9+ 5       1.9485     13.78  |   V     |  Q      |         |         |
9+10       2.0483     14.49  |    V    |   Q     |         |         |
9+15       2.1542     15.38  |    V    |    Q    |         |         |
9+20       2.2646     16.03  |    V    |     Q   |         |         |
9+25       2.3791     16.62  |    V    |     Q   |         |         |
9+30       2.4977     17.22  |     V   |      Q  |         |         |
9+35       2.6196     17.70  |     V   |      Q  |         |         |
9+40       2.7451     18.22  |     V   |       Q |         |         |
9+45       2.8744     18.78  |      V  |       Q |         |         |
9+50       3.0069     19.23  |      V  |        Q|         |         |
```





18+15	16.0228	0.83	Q	|	|	|	V|
18+20	16.0284	0.81	Q	|	|	|	V|
18+25	16.0339	0.80	Q	|	|	|	V|
18+30	16.0394	0.79	Q	|	|	|	V|
18+35	16.0447	0.78	Q	|	|	|	V|
18+40	16.0497	0.72	Q	|	|	|	V|
18+45	16.0539	0.61	Q	|	|	|	V|
18+50	16.0576	0.54	Q	|	|	|	V|
18+55	16.0609	0.48	Q	|	|	|	V|
19+ 0	16.0638	0.42	Q	|	|	|	V|
19+ 5	16.0664	0.38	Q	|	|	|	V|
19+10	16.0691	0.38	Q	|	|	|	V|
19+15	16.0718	0.40	Q	|	|	|	V|
19+20	16.0748	0.43	Q	|	|	|	V|
19+25	16.0784	0.53	Q	|	|	|	V|
19+30	16.0832	0.69	Q	|	|	|	V|
19+35	16.0885	0.77	Q	|	|	|	V|
19+40	16.0935	0.72	Q	|	|	|	V|
19+45	16.0975	0.59	Q	|	|	|	V|
19+50	16.1010	0.50	Q	|	|	|	V|
19+55	16.1040	0.44	Q	|	|	|	V|
20+ 0	16.1067	0.39	Q	|	|	|	V|
20+ 5	16.1091	0.36	Q	|	|	|	V|
20+10	16.1116	0.36	Q	|	|	|	V|
20+15	16.1143	0.38	Q	|	|	|	V|
20+20	16.1170	0.40	Q	|	|	|	V|
20+25	16.1198	0.40	Q	|	|	|	V|
20+30	16.1225	0.40	Q	|	|	|	V|
20+35	16.1253	0.40	Q	|	|	|	V|
20+40	16.1281	0.40	Q	|	|	|	V|
20+45	16.1309	0.40	Q	|	|	|	V|
20+50	16.1336	0.40	Q	|	|	|	V|
20+55	16.1361	0.37	Q	|	|	|	V|
21+ 0	16.1385	0.33	Q	|	|	|	V|
21+ 5	16.1406	0.32	Q	|	|	|	V|
21+10	16.1429	0.33	Q	|	|	|	V|
21+15	16.1453	0.36	Q	|	|	|	V|
21+20	16.1479	0.37	Q	|	|	|	V|
21+25	16.1503	0.35	Q	|	|	|	V|
21+30	16.1525	0.32	Q	|	|	|	V|
21+35	16.1546	0.31	Q	|	|	|	V|
21+40	16.1568	0.32	Q	|	|	|	V|
21+45	16.1592	0.35	Q	|	|	|	V|
21+50	16.1617	0.36	Q	|	|	|	V|
21+55	16.1641	0.35	Q	|	|	|	V|
22+ 0	16.1663	0.32	Q	|	|	|	V|
22+ 5	16.1684	0.30	Q	|	|	|	V|
22+10	16.1706	0.32	Q	|	|	|	V|
22+15	16.1730	0.35	Q	|	|	|	V|
22+20	16.1755	0.36	Q	|	|	|	V|

22+25	16.1779	0.35	Q	|	|	|	V|
22+30	16.1801	0.32	Q	|	|	|	V|
22+35	16.1821	0.30	Q	|	|	|	V|
22+40	16.1841	0.29	Q	|	|	|	V|
22+45	16.1861	0.28	Q	|	|	|	V|
22+50	16.1880	0.28	Q	|	|	|	V|
22+55	16.1899	0.28	Q	|	|	|	V|
23+ 0	16.1918	0.27	Q	|	|	|	V|
23+ 5	16.1937	0.27	Q	|	|	|	V|
23+10	16.1955	0.27	Q	|	|	|	V|
23+15	16.1974	0.27	Q	|	|	|	V|
23+20	16.1993	0.27	Q	|	|	|	V|
23+25	16.2011	0.27	Q	|	|	|	V|
23+30	16.2030	0.27	Q	|	|	|	V|
23+35	16.2048	0.27	Q	|	|	|	V|
23+40	16.2066	0.27	Q	|	|	|	V|
23+45	16.2085	0.27	Q	|	|	|	V|
23+50	16.2103	0.27	Q	|	|	|	V|
23+55	16.2122	0.27	Q	|	|	|	V|
24+ 0	16.2140	0.27	Q	|	|	|	V|
24+ 5	16.2157	0.25	Q	|	|	|	V|
24+10	16.2172	0.21	Q	|	|	|	V|
24+15	16.2181	0.13	Q	|	|	|	V|
24+20	16.2187	0.09	Q	|	|	|	V|
24+25	16.2191	0.07	Q	|	|	|	V|
24+30	16.2195	0.05	Q	|	|	|	V|
24+35	16.2198	0.04	Q	|	|	|	V|
24+40	16.2200	0.03	Q	|	|	|	V|
24+45	16.2202	0.03	Q	|	|	|	V|
24+50	16.2203	0.02	Q	|	|	|	V|
24+55	16.2204	0.02	Q	|	|	|	V|
25+ 0	16.2205	0.01	Q	|	|	|	V|
25+ 5	16.2206	0.01	Q	|	|	|	V|
25+10	16.2207	0.01	Q	|	|	|	V|
25+15	16.2207	0.01	Q	|	|	|	V|
25+20	16.2207	0.00	Q	|	|	|	V|
25+25	16.2208	0.00	Q	|	|	|	V|
25+30	16.2208	0.00	Q	|	|	|	V|
25+35	16.2208	0.00	Q	|	|	|	V

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 03/29/24
File:hemetratexareaa23100.out

Loctek Industrial Building
100-Year Rational Method Analysis
Area A2-A3, Existing Condition

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

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

Program License Serial Number 6385

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

Standard intensity-duration curves data (Plate D-4.1)
For the [Hemet] area used.
10 year storm 10 minute intensity = 1.960(In/Hr)
10 year storm 60 minute intensity = 0.760(In/Hr)
100 year storm 10 minute intensity = 3.050(In/Hr)
100 year storm 60 minute intensity = 1.180(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.180(In/Hr)
Slope of intensity duration curve = 0.5300

++
Process from Point/Station 3.000 to Point/Station 4.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1511.800(Ft.)
Bottom (of initial area) elevation = 1511.600(Ft.)
Difference in elevation = 0.200(Ft.)
Slope = 0.00020 s(percent)= 0.02
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 46.139 min.
Rainfall intensity = 1.356(In/Hr) for a 100.0 year storm

```
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.849
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
Initial subarea runoff =      1.267(CFS)
Total initial stream area =        1.100(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        5.000
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1511.600(Ft.)
Downstream point elevation =  1511.000(Ft.)
Channel length thru subarea  =   715.000(Ft.)
Channel base width     =    0.000(Ft.)
Slope or 'Z' of left channel bank =   4.000
Slope or 'Z' of right channel bank =   4.000
Estimated mean flow rate at midpoint of channel =      1.682(CFS)
Manning's 'N'    = 0.030
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =      1.682(CFS)
Depth of flow =   0.756(Ft.), Average velocity =   0.735(Ft/s)
Channel flow top width =    6.050(Ft.)
Flow Velocity =    0.74(Ft/s)
Travel time  =   16.21 min.
Time of concentration =   62.35 min.

Sub-Channel No. 1 Critical depth =      0.406(Ft.)
  '     '       '     Critical flow top width =      3.250(Ft.)
  '     '       '     Critical flow velocity=    2.548(Ft/s)
  '     '       '     Critical flow area =      0.660(Sq.Ft)

 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.843
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.250
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.750
RI index for soil(AMC 3)  =  94.50
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.156(In/Hr) for a   100.0 year storm
Subarea runoff =      0.761(CFS) for      0.780(Ac.)
Total runoff =      2.028(CFS)    Total area =       1.880(Ac.)
Depth of flow =   0.811(Ft.), Average velocity =   0.770(Ft/s)

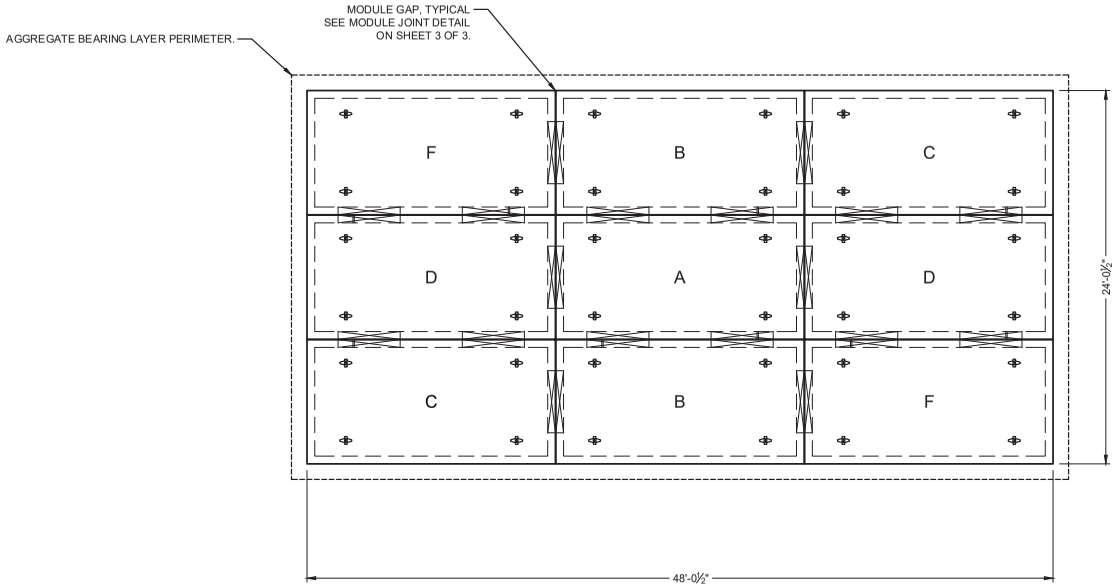
Sub-Channel No. 1 Critical depth =      0.438(Ft.)
  '     '       '     Critical flow top width =      3.500(Ft.)
  '     '       '     Critical flow velocity=    2.649(Ft/s)
  '     '       '     Critical flow area =      0.766(Sq.Ft)
```

End of computations, total study area = 1.88 (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 = 85.9

Appendix C – Hydrology and Basin Routing Calculations

CONTACT OLDCASTLE FOR
SITE-SPECIFIC CONFIGURATIONS.



EXAMPLE PLAN VIEW

SCALE: 1/8" = 1'

DESIGN NOTES

1. LIVE LOADING CRITERIA:
   - A. AASHTO HS-20-44 DESIGN TRUCK (WITH IMPACT AT 0.50FT MINIMUM COVER)
   - B. LATERAL LIVE LOAD SURCHARGE: 80 PSF (TO 8.00FT DEPTH)
   - C. NO LATERAL SURCHARGE(S) FROM ANY ADJACENT BUILDINGS, WALLS, FOUNDATIONS, OR ANY ADDITIONAL SITE ELEMENTS.
2. SOIL LOADING CRITERIA:
   - A. SOIL COVER DEPTH: 0.50FT (MIN.) - 5.00FT (MAX.)
   - B. SOIL UNIT WEIGHT: 120 PCF
   - C. ASSUMED WATER TABLE ELEVATION: BELOW BOTTOM OF PRECAST
   - D. REQUIRED ALLOWABLE BEARING PRESSURE: 3,000 PSF
   - E. EQUIVALENT LATERAL FLUID PRESSURE, ACTIVE: 45 PCF (DRAINED)
   - F. EQUIVALENT LATERAL FLUID PRESSURE, AT-REST: 60 PCF (DRAINED)
   - G. EQUIVALENT LATERAL FLUID PRESSURE, PASSIVE: 150 PCF (DRAINED)
   - H. ASSUMED COEFFICIENT OF FRICTION: 0.40
   - I. SEISMIC LATERAL EARTH PRESSURES: NOT APPLICABLE
3. STORMCAPTURE MODULE TYPE: INFILTRATION (SOILTIGHT).
4. CONCRETE (NORMALWEIGHT):
   - A. MIN. 28-DAY COMPRESSIVE STRENGTH: 6,000 PSI
   - B. CEMENT: ASTM C150
5. STEEL REINFORCEMENT: ASTM A615 / A706 (GRADE 60), ASTM A1064 (GRADE 80)
6. REFERENCE STANDARDS: ASTM C913 & C890, ACI 318-14

REV	DESCRIPTION	DATE
-	-	-

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STORMCAPTURE ® INFILTRATION SYSTEM	SYSTEM ID: -	PLAN-N
CUSTOMER: -		
JOB NAME: -		JOB NUMBER: -

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
-	-	-	-	-	-

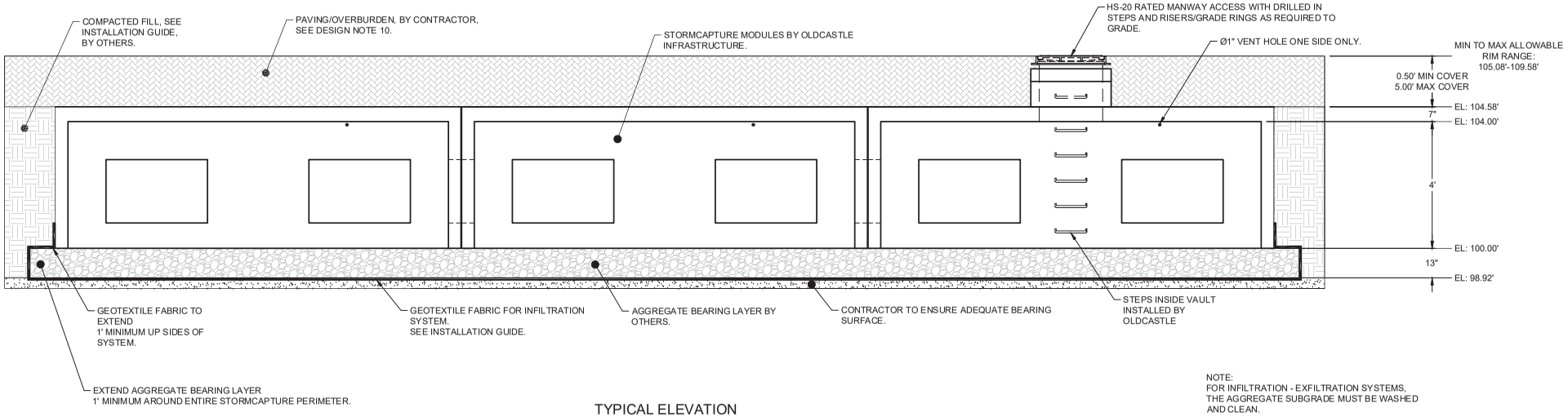
DRAWING NAME: SC1 4-0_INF

SHEET: 1 OF 3

Detention/
Infiltration

REVIEWING NOTES

1. THIS SYSTEM HAS BEEN DESIGNED PER THE DESIGN PARAMETERS SPECIFIED IN THE DESIGN NOTES. REVIEWING ENGINEER SHALL VERIFY THAT THESE PARAMETERS MEET OR EXCEED PROJECT SPECIFIC REQUIREMENTS. IF SITE CONDITIONS DIFFER FROM NOTED DESIGN PARAMETERS, REVIEWING ENGINEER SHALL NOTIFY OLDCASTLE FOR POTENTIAL REDESIGN AND/OR PRICING ADJUSTMENTS.
2. REVIEWING ENGINEER SHALL VERIFY ALL PIPE PENETRATION LOCATIONS, SIZES, AND INVERTS.
3. REVIEWING ENGINEER SHALL VERIFY ALL MANWAY ACCESS LOCATIONS AND RIM ELEVATIONS.
4. THIS SYSTEM IS DESIGNED FOR A GROUNDWATER TABLE ELEVATION PER DESIGN NOTE 2C. REVIEWING ENGINEER SHALL VERIFY THAT THE DESIGN GROUNDWATER ELEVATION MEETS OR EXCEEDS SITE CONDITION REQUIREMENTS. NOTIFY OLDCASTLE IF SITE CONDITIONS VARY FROM WHAT HAS BEEN SPECIFIED FOR POTENTIAL SYSTEM DESIGN CHANGES AND/OR PRICING ADJUSTMENTS.
5. STORMCAPTURE MODULES ARE NOT WATERTIGHT. IF A WATERTIGHT SOLUTION IS REQUIRED, CONTACT OLDCASTLE FOR RECOMMENDATIONS. THE WATERTIGHT APPLICATION TO BE PROVIDED AND IMPLEMENTED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SELECTED WATERTIGHT SOLUTION PERFORMS AS SPECIFIED BY THE MANUFACTURER.
6. DESIGN OF THE STORMCAPTURE PRECAST MODULE SYSTEM ASSUMES NO ADJACENT BUILDING(S), WALL(S), OR STRUCTURAL FOUNDATION(S) WITHIN A 1:1 INFLUENCE LINE FROM THE BOTTOM EDGE OF ANY SYSTEM MODULE. ANY SITE ELEMENTS BEYOND THIS ZONE OF INFLUENCE ARE ASSUMED TO HAVE NO IMPACT ON THE SYSTEM AND EXERT ZERO LATERAL SURCHARGE ONTO THE MODULES. THE CONTRACTOR SHALL VERIFY THAT ANY ADJACENT BUILDING(S), WALL(S), OR STRUCTURAL FOUNDATION(S) DO NOT LIE WITHIN THIS INFLUENCE ZONE OR DO NOT SURCHARGE THE PRECAST MODULES.
7. WRITTEN APPROVAL OF SUBMITTAL DRAWINGS ALONG WITH SIGNED PURCHASE ORDER REQUIRED FOR BEGINNING OF PRODUCT FABRICATION. ANY SYSTEM MODIFICATION POST-APPROVAL MAY RESULT IN CHANGE ORDER(S) AND/OR POTENTIAL DELIVERY DELAYS.
8. ALL SAND FILTER MEDIA, DRAIN ROCK AGGREGATE, PIPE, AND FITTINGS PROVIDED BY CONTRACTOR.



TYPICAL ELEVATION
NTS

NOTE:
FOR INFILTRATION - EXFILTRATION SYSTEMS, THE AGGREGATE SUBGRADE MUST BE WASHED AND CLEAN.

REV	DESCRIPTION	DATE
	-	-

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STORMCAPTURE ® INFILTRATION SYSTEM	SYSTEM ID: -
CUSTOMER: -	
JOB NAME: -	JOB NUMBER: -

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
-	-	-	-	-	-

DRAWING NAME: SC1 4-0_INF

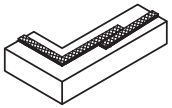
SHEET: 2 OF 3

Detention/ Infiltration

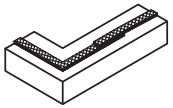
INSTALLATION NOTES

1. UNDERGROUND PRECAST CONCRETE SYSTEM INSTALLATION SHALL BE PER ASTM C891, "STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES" AND PER OLDCASTLE.
2. MODULE SUBBASE OR SUBGRADE SHALL BE LEVEL/SCREEDED AND COMPACTED ADEQUATELY FOR REQUIRED BEARING CAPACITY PER DESIGN NOTE 2D. CONTRACTOR AND/OR INSTALLING SUB-CONTRACTOR SHALL VERIFY THAT SOIL BEARING CONDITIONS MEET OR EXCEED DESIGN REQUIRED MINIMUMS PRIOR TO PLACEMENT AND INSTALLATION OF MODULES.
3. ANY CONSTRUCTION EQUIPMENT EXCEEDING NOTED DESIGN LOADING IS NOT PERMITTED OVER OR ADJACENT TO ANY MODULE WITHOUT FORMAL REVIEW AND WRITTEN APPROVAL BY OLDCASTLE ENGINEERING, ELSE PRODUCT WARRANTY MAY BE VOIDED. ANY DESIGN CONSTRAINT EXCEEDING THE DESIGN PARAMETERS NOTED ABOVE MAY REQUIRE CUSTOM STRUCTURAL DESIGN, SUBGRADE REVISIONS, AND/OR PRICING ADJUSTMENTS.
4. HEAVY VIBRATORY COMPACTION EQUIPMENT SHALL NOT BE OPERATED WITHIN 10 FEET OF MODULE EXTERIOR.
5. MINIMUM OF 0.50FT OF SOIL COVER REQUIRED FOR CONSTRUCTION EQUIPMENT OPERATION ON TOP OF SYSTEM. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND INSTALLING SUB-CONSTRACTOR TO ENSURE THAT NO MODULES ARE DAMAGED DURING CONSTRUCTION.
6. UNLESS NOTED OTHERWISE, ALL PIPE SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR MAY MODIFY AT RISK ANY OLDCASTLE PRODUCT(S) IN THE FIELD OR AFTER DELIVERY WITHOUT FORMAL REVIEW AND WRITTEN APPROVAL BY OLDCASTLE ENGINEERING. THE CONTRACTOR SHALL BE RESPOSIBLE FOR VERIFYING THAT ANY PRODUCT MODIFICATIONS DO NOT INVALIDATE THE PRODUCT WARRANTY.
8. MODULE PLACEMENT FIELD TOLERANCES SHALL NOT EXCEED 3/4" BETWEEN ADJACENT MODULES. IF MODULE GAP EXCEEDS 3/4", CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS AND RESET MODULE(S) TO BRING WITHIN NOTED TOLERANCES.
9. CONTRACTOR IS RESPONSIBLE FOR PRODUCTS ONCE DELIVERED TO THE SITE. OLDCASTLE IS NOT RESPONSIBLE FOR OFFLOADING PRODUCTS, MAINTENANCE, AND INSTALLATION OF PRODUCTS ONCE THEY ARRIVE TO THE SITE.
10. CONTRACTOR SHALL INSTALL SYSTEM PER PROJECT WATERPROOFING AND SOILTIGHTNESS REQUIREMENTS. WATERPROOFING AND SOILTIGHTNESS INSTALLATION IS NOT BY OLDCASTLE AND OLDCASTLE WILL PROVIDE NO GUARANTEE FOR THIS COMPONENT OF SYSTEM INSTALLATION.

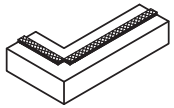
KEYWAYS MUST BE FREE OF DIRT, ROCKS, AND WATER. ROCKS AND DIRT PREVENT THE VAULT SECTIONS FROM SEATING AND SEALING PROPERLY. REMOVE ALL PROTECTIVE PAPER FROM RUBBER SEALANT MATERIAL. SPLICE RUBBER SEALANT MATERIAL WITH A "SIDE BY SIDE" JOINT, AWAY FROM CORNERS. CORNER SPLICING WILL NOT SEAL PROPERLY.



CORRECT - INSTALL RUBBER SEALANT MATERIAL AT THE OUTER EDGE OF THE KEYWAY. RUBBER SEALANT SHOULD BE CONTINUOUS AROUND CORNERS.



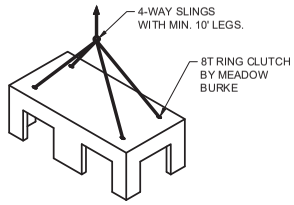
INCORRECT - DO NOT OVERLAP THE RUBBER SEALANT MATERIAL AT SPLICE.



INCORRECT - DO NOT SPLICE RUBBER SEALANT MATERIAL AT A CORNER. RUBBER SEALANT SHOULD BE CONTINUOUS AROUND CORNERS.

BUTYL RUBBER SEALANT (CONSEAL CS-102 OR EQUAL) PLACEMENT DETAIL

NTS



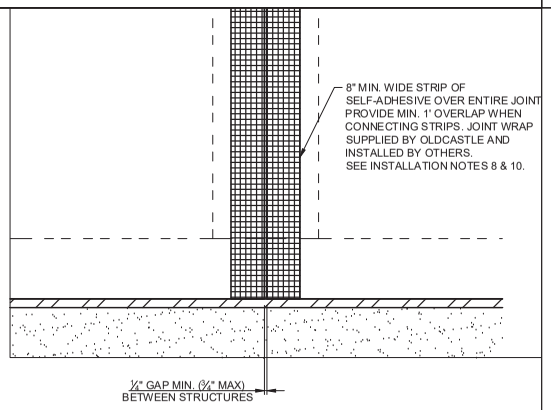
LIFTING DETAIL

N.T.S.

MAXIMUM EQUIPMENT OPERATING WEIGHT (OW) BY TRACK WIDTH				
TRACK WIDTH	12"	18"	24"	30"
MIN TRACK LENGTH	8'-0"	10'-0"	12'-0"	14'-0"
FILL DEPTH	OW (LBS)	OW (LBS)	OW (LBS)	OW (LBS)
0	35,000	45,000	52,500	54,500
1	35,000	45,000	56,000	60,500
2	35,000	45,000	56,000	64,000
3	76,000	78,500	83,500	88,000
4	94,000	100,000	106,000	113,000
5	100,000	116,000	132,000	149,000

NOTES:

1. IF CONSTRUCTION EQUIPMENT EXCEEDS THE ABOVE OPERATING WEIGHT LIMITS REFER TO INSTALLATION NOTE 3.
2. FOR WHEELED CONSTRUCTION EQUIPMENT LIMITS REFER TO INSTALLATION NOTE 3.
3. MINIMUM AXLE SPACING FOR ALL TRACK WIDTHS IS 6'-0".



MODULE JOINT DETAIL

SCALE: 1/2" = 1'-0"

Detention/
Infiltration

REV	DESCRIPTION	DATE
-	-	-

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STORMCAPTURE ® INFILTRATION SYSTEM	SYSTEM ID: -	
CUSTOMER: -		
JOB NAME: -		JOB NUMBER: -
DATE: -	SALES: -	DRAWN: -
ENGINEER: -	CHECKED: -	SALES ORDER: -
DRAWING NAME: SC1 4-0_INF		SHEET: 3 OF 3

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

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 03/28/24 File: hemetUHpra1212.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 1)
2-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 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]
14.20	0.49	7.01

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       14.20              1.59                 22.58

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    0.494(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.494(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.818      0.003
56.0  56.0      0.511     0.000        0.511       0.057      0.029
75.0  75.0      0.303     0.000        0.303       0.125      0.038
                                                  Sum (F) =   0.070
Area averaged mean soil loss (F) (In/Hr) =  0.070
Minimum soil loss rate ((In/Hr)) =  0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012             5.869
    2   0.167        373.455         44.304             6.340
    3   0.250        560.182          9.356             1.339
    4   0.333        746.910          3.760             0.538
    5   0.417        933.637          1.568             0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

```
     (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
 1   0.08     3.40      0.202       (  0.070)       0.056        0.146
 2   0.17     4.70      0.279          0.070    (  0.077)        0.209
 3   0.25     4.70      0.279          0.070    (  0.077)        0.209
 4   0.33     5.10      0.302          0.070    (  0.083)        0.232
 5   0.42     5.80      0.344          0.070    (  0.095)        0.274
 6   0.50     5.90      0.350          0.070    (  0.097)        0.280
 7   0.58     7.10      0.421          0.070    (  0.116)        0.351
 8   0.67     8.70      0.516          0.070    (  0.142)        0.446
 9   0.75    13.20      0.782          0.070    (  0.216)        0.712
10   0.83    29.70      1.760          0.070    (  0.486)        1.690
11   0.92     7.70      0.456          0.070    (  0.126)        0.386
12   1.00     4.00      0.237       (  0.070)       0.065        0.172
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     5.1
    Flood volume = Effective rainfall      0.43(In)
     times area      14.2(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
    Total soil loss =      0.07(In)
    Total soil loss =     0.081(Ac.Ft)
    Total rainfall =      0.49(In)
    Flood volume =       21934.0 Cubic Feet
    Total soil loss =        3526.4 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     15.294(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                  R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
 ---------------------------------------------------------------------------
   0+ 5       0.0059      0.86  VQ        |         |         |         |
   0+10       0.0207      2.15  |V  Q     |         |         |         |
   0+15       0.0396      2.74  |  V Q    |         |         |         |
   0+20       0.0606      3.05  |   V Q   |         |         |         |
   0+25       0.0847      3.51  |     VQ  |         |         |         |
   0+30       0.1112      3.85  |      QV |         |         |         |
   0+35       0.1414      4.37  |       Q |V        |         |         |
   0+40       0.1787      5.42  |         Q   V     |         |         |
   0+45       0.2316      7.69  |         |    Q  V |         |         |
   0+50       0.3370     15.29  |         |         |     V   Q         |
   0+55       0.4352     14.27  |         |         |       Q |   V     |
   1+ 0       0.4780      6.21  |         | Q       |         |      V  |
   1+ 5       0.4964      2.68  |    Q    |         |         |        V|
   1+10       0.5020      0.82  |Q        |         |         |        V|
   1+15       0.5033      0.18  Q         |         |         |        V|
   1+20       0.5035      0.04  Q         |         |         |        V|
---------------------------------------------------------------------------
```

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

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Study date 03/28/24 File: hemetUHpra1232.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 1)
2-Year Design Storm

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Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
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Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.20	0.85	12.03

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              2.20                 31.24

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    0.847(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.847(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.818      0.003
56.0  56.0      0.511     0.000        0.511       0.057      0.029
75.0  75.0      0.303     0.000        0.303       0.125      0.038
                                                  Sum (F) =   0.070
Area averaged mean soil loss (F) (In/Hr) =  0.070
Minimum soil loss rate ((In/Hr)) =  0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                  VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012             5.869
    2   0.167        373.455         44.304             6.340
    3   0.250        560.182          9.356             1.339
    4   0.333        746.910          3.760             0.538
    5   0.417        933.637          1.568             0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
```

1	0.08	1.30	0.132	(0.070)	0.036	0.096
2	0.17	1.30	0.132	(0.070)	0.036	0.096
3	0.25	1.10	0.112	(0.070)	0.031	0.081
4	0.33	1.50	0.152	(0.070)	0.042	0.110
5	0.42	1.50	0.152	(0.070)	0.042	0.110
6	0.50	1.80	0.183	(0.070)	0.050	0.132
7	0.58	1.50	0.152	(0.070)	0.042	0.110
8	0.67	1.80	0.183	(0.070)	0.050	0.132
9	0.75	1.80	0.183	(0.070)	0.050	0.132
10	0.83	1.50	0.152	(0.070)	0.042	0.110
11	0.92	1.60	0.163	(0.070)	0.045	0.118
12	1.00	1.80	0.183	(0.070)	0.050	0.132
13	1.08	2.20	0.224	(0.070)	0.062	0.162
14	1.17	2.20	0.224	(0.070)	0.062	0.162
15	1.25	2.20	0.224	(0.070)	0.062	0.162
16	1.33	2.00	0.203	(0.070)	0.056	0.147
17	1.42	2.60	0.264	0.070	(0.073)	0.194
18	1.50	2.70	0.274	0.070	(0.076)	0.204
19	1.58	2.40	0.244	(0.070)	0.067	0.177
20	1.67	2.70	0.274	0.070	(0.076)	0.204
21	1.75	3.30	0.335	0.070	(0.093)	0.265
22	1.83	3.10	0.315	0.070	(0.087)	0.245
23	1.92	2.90	0.295	0.070	(0.081)	0.225
24	2.00	3.00	0.305	0.070	(0.084)	0.235
25	2.08	3.10	0.315	0.070	(0.087)	0.245
26	2.17	4.20	0.427	0.070	(0.118)	0.357
27	2.25	5.00	0.508	0.070	(0.140)	0.438
28	2.33	3.50	0.356	0.070	(0.098)	0.286
29	2.42	6.80	0.691	0.070	(0.191)	0.621
30	2.50	7.30	0.742	0.070	(0.205)	0.672
31	2.58	8.20	0.833	0.070	(0.230)	0.763
32	2.67	5.90	0.600	0.070	(0.166)	0.530
33	2.75	2.00	0.203	(0.070)	0.056	0.147
34	2.83	1.80	0.183	(0.070)	0.050	0.132
35	2.92	1.80	0.183	(0.070)	0.050	0.132
36	3.00	0.60	0.061	(0.070)	0.017	0.044

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.1

Flood volume = Effective rainfall 0.68(In)
times area 14.2(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.202(Ac.Ft)
Total rainfall = 0.85(In)
Flood volume = 34845.5 Cubic Feet
Total soil loss = 8811.3 Cubic Feet

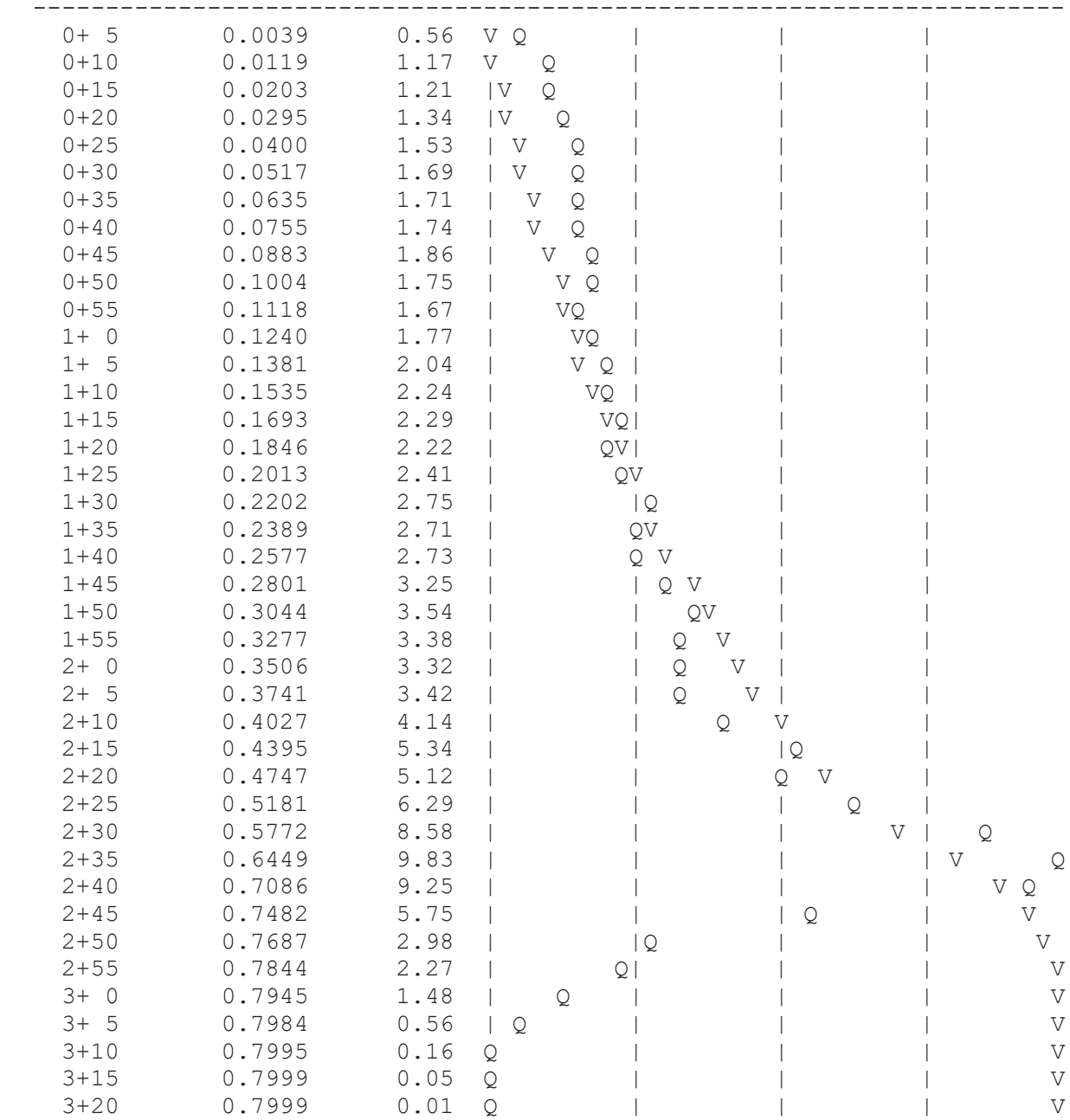
Peak flow rate of this hydrograph = 9.830(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

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



0+ 5	0.0039	0.56	V Q
0+10	0.0119	1.17	V Q
0+15	0.0203	1.21	V Q
0+20	0.0295	1.34	V Q
0+25	0.0400	1.53	V Q
0+30	0.0517	1.69	V Q
0+35	0.0635	1.71	V Q
0+40	0.0755	1.74	V Q
0+45	0.0883	1.86	V Q
0+50	0.1004	1.75	V Q
0+55	0.1118	1.67	VQ
1+ 0	0.1240	1.77	VQ
1+ 5	0.1381	2.04	V Q
1+10	0.1535	2.24	VQ
1+15	0.1693	2.29	VQ
1+20	0.1846	2.22	QV
1+25	0.2013	2.41	QV
1+30	0.2202	2.75	Q
1+35	0.2389	2.71	QV
1+40	0.2577	2.73	Q V
1+45	0.2801	3.25	Q V
1+50	0.3044	3.54	QV
1+55	0.3277	3.38	Q V
2+ 0	0.3506	3.32	Q V
2+ 5	0.3741	3.42	Q V
2+10	0.4027	4.14	Q V
2+15	0.4395	5.34	Q
2+20	0.4747	5.12	Q V
2+25	0.5181	6.29	Q
2+30	0.5772	8.58	V Q
2+35	0.6449	9.83	V Q
2+40	0.7086	9.25	V Q
2+45	0.7482	5.75	Q V
2+50	0.7687	2.98	Q V
2+55	0.7844	2.27	Q V
3+ 0	0.7945	1.48	Q V
3+ 5	0.7984	0.56	Q V
3+10	0.7995	0.16	Q V
3+15	0.7999	0.05	Q V
3+20	0.7999	0.01	Q V

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

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Study date 03/28/24 File: hemetUHpra1262.out

++

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 1)
2-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.20	1.18	16.76

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              2.92                 41.46

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    1.180(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.180(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.818      0.003
56.0  56.0      0.511     0.000        0.511       0.057      0.029
75.0  75.0      0.303     0.000        0.303       0.125      0.038
                                                  Sum (F) =   0.070
Area averaged mean soil loss (F) (In/Hr) =  0.070
Minimum soil loss rate ((In/Hr)) =  0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012              5.869
    2   0.167        373.455         44.304              6.340
    3   0.250        560.182          9.356              1.339
    4   0.333        746.910          3.760              0.538
    5   0.417        933.637          1.568              0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
```

1	0.08	0.50	0.071	(0.070)	0.020	0.051
2	0.17	0.60	0.085	(0.070)	0.023	0.062
3	0.25	0.60	0.085	(0.070)	0.023	0.062
4	0.33	0.60	0.085	(0.070)	0.023	0.062
5	0.42	0.60	0.085	(0.070)	0.023	0.062
6	0.50	0.70	0.099	(0.070)	0.027	0.072
7	0.58	0.70	0.099	(0.070)	0.027	0.072
8	0.67	0.70	0.099	(0.070)	0.027	0.072
9	0.75	0.70	0.099	(0.070)	0.027	0.072
10	0.83	0.70	0.099	(0.070)	0.027	0.072
11	0.92	0.70	0.099	(0.070)	0.027	0.072
12	1.00	0.80	0.113	(0.070)	0.031	0.082
13	1.08	0.80	0.113	(0.070)	0.031	0.082
14	1.17	0.80	0.113	(0.070)	0.031	0.082
15	1.25	0.80	0.113	(0.070)	0.031	0.082
16	1.33	0.80	0.113	(0.070)	0.031	0.082
17	1.42	0.80	0.113	(0.070)	0.031	0.082
18	1.50	0.80	0.113	(0.070)	0.031	0.082
19	1.58	0.80	0.113	(0.070)	0.031	0.082
20	1.67	0.80	0.113	(0.070)	0.031	0.082
21	1.75	0.80	0.113	(0.070)	0.031	0.082
22	1.83	0.80	0.113	(0.070)	0.031	0.082
23	1.92	0.80	0.113	(0.070)	0.031	0.082
24	2.00	0.90	0.127	(0.070)	0.035	0.092
25	2.08	0.80	0.113	(0.070)	0.031	0.082
26	2.17	0.90	0.127	(0.070)	0.035	0.092
27	2.25	0.90	0.127	(0.070)	0.035	0.092
28	2.33	0.90	0.127	(0.070)	0.035	0.092
29	2.42	0.90	0.127	(0.070)	0.035	0.092
30	2.50	0.90	0.127	(0.070)	0.035	0.092
31	2.58	0.90	0.127	(0.070)	0.035	0.092
32	2.67	0.90	0.127	(0.070)	0.035	0.092
33	2.75	1.00	0.142	(0.070)	0.039	0.103
34	2.83	1.00	0.142	(0.070)	0.039	0.103
35	2.92	1.00	0.142	(0.070)	0.039	0.103
36	3.00	1.00	0.142	(0.070)	0.039	0.103
37	3.08	1.00	0.142	(0.070)	0.039	0.103
38	3.17	1.10	0.156	(0.070)	0.043	0.113
39	3.25	1.10	0.156	(0.070)	0.043	0.113
40	3.33	1.10	0.156	(0.070)	0.043	0.113
41	3.42	1.20	0.170	(0.070)	0.047	0.123
42	3.50	1.30	0.184	(0.070)	0.051	0.133
43	3.58	1.40	0.198	(0.070)	0.055	0.144
44	3.67	1.40	0.198	(0.070)	0.055	0.144
45	3.75	1.50	0.212	(0.070)	0.059	0.154
46	3.83	1.50	0.212	(0.070)	0.059	0.154
47	3.92	1.60	0.227	(0.070)	0.063	0.164
48	4.00	1.60	0.227	(0.070)	0.063	0.164
49	4.08	1.70	0.241	(0.070)	0.066	0.174
50	4.17	1.80	0.255	0.070	(0.070)	0.185
51	4.25	1.90	0.269	0.070	(0.074)	0.199
52	4.33	2.00	0.283	0.070	(0.078)	0.213
53	4.42	2.10	0.297	0.070	(0.082)	0.227
54	4.50	2.10	0.297	0.070	(0.082)	0.227
55	4.58	2.20	0.312	0.070	(0.086)	0.242
56	4.67	2.30	0.326	0.070	(0.090)	0.256

57	4.75	2.40	0.340		0.070	(0.094)	0.270
58	4.83	2.40	0.340		0.070	(0.094)	0.270
59	4.92	2.50	0.354		0.070	(0.098)	0.284
60	5.00	2.60	0.368		0.070	(0.102)	0.298
61	5.08	3.10	0.439		0.070	(0.121)	0.369
62	5.17	3.60	0.510		0.070	(0.141)	0.440
63	5.25	3.90	0.552		0.070	(0.152)	0.482
64	5.33	4.20	0.595		0.070	(0.164)	0.525
65	5.42	4.70	0.665		0.070	(0.184)	0.595
66	5.50	5.60	0.793		0.070	(0.219)	0.723
67	5.58	1.90	0.269		0.070	(0.074)	0.199
68	5.67	0.90	0.127	(0.070)		0.035	0.092
69	5.75	0.60	0.085	(0.070)		0.023	0.062
70	5.83	0.50	0.071	(0.070)		0.020	0.051
71	5.92	0.30	0.042	(0.070)		0.012	0.031
72	6.00	0.20	0.028	(0.070)		0.008	0.021

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.0

Flood volume = Effective rainfall 0.92(In)
times area 14.2(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.312(Ac.Ft)
Total rainfall = 1.18(In)
Flood volume = 47234.6 Cubic Feet
Total soil loss = 13586.7 Cubic Feet

Peak flow rate of this hydrograph = 9.084(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0021	0.30	VQ				
0+10	0.0068	0.69	V Q				
0+15	0.0124	0.82	V Q				
0+20	0.0184	0.86	V Q				
0+25	0.0244	0.88	V Q				
0+30	0.0309	0.94	|V Q				
0+35	0.0378	1.01	|V Q				
0+40	0.0449	1.02	|V Q				
0+45	0.0519	1.03	|V Q				
0+50	0.0590	1.03	| V Q				
0+55	0.0661	1.03	| V Q				
1+ 0	0.0736	1.09	| V Q				
1+ 5	0.0815	1.15	| VQ				
1+10	0.0895	1.17	| VQ				
1+15	0.0976	1.17	| VQ				
1+20	0.1057	1.17	| VQ				
1+25	0.1138	1.17	| Q				
1+30	0.1219	1.17	| Q				
1+35	0.1300	1.17	| Q				

1+40	0.1380	1.17	QV				
1+45	0.1461	1.17	QV				
1+50	0.1542	1.17	QV				
1+55	0.1623	1.17	QV				
2+ 0	0.1708	1.23	Q V				
2+ 5	0.1793	1.24	Q V				
2+10	0.1879	1.25	Q V				
2+15	0.1969	1.31	Q V				
2+20	0.2060	1.32	Q V				
2+25	0.2151	1.32	Q V				
2+30	0.2242	1.32	Q V				
2+35	0.2333	1.32	Q V				
2+40	0.2424	1.32	Q V				
2+45	0.2519	1.38	Q V				
2+50	0.2618	1.45	Q V				
2+55	0.2719	1.46	Q V				
3+ 0	0.2820	1.47	Q V				
3+ 5	0.2921	1.47	Q V				
3+10	0.3026	1.53	Q V				
3+15	0.3136	1.59	Q V				
3+20	0.3247	1.61	Q V				
3+25	0.3362	1.67	Q V				
3+30	0.3486	1.80	Q V				
3+35	0.3619	1.94	Q V				
3+40	0.3759	2.02	Q V				
3+45	0.3904	2.11	Q V				
3+50	0.4054	2.18	Q V				
3+55	0.4209	2.25	Q V				
4+ 0	0.4369	2.32	Q V				
4+ 5	0.4534	2.40	Q V				
4+10	0.4709	2.53	Q V				
4+15	0.4895	2.70	Q V				
4+20	0.5094	2.89	Q V				
4+25	0.5307	3.09	Q V				
4+30	0.5528	3.21	Q V				
4+35	0.5757	3.32	Q V				
4+40	0.5999	3.51	Q V				
4+45	0.6254	3.70	Q V				
4+50	0.6517	3.82	Q V				
4+55	0.6788	3.93	Q V				
5+ 0	0.7071	4.12	Q V				
5+ 5	0.7391	4.64	Q V				
5+10	0.7772	5.54	Q V				
5+15	0.8209	6.34	Q V				
5+20	0.8691	6.99	Q V				
5+25	0.9227	7.79	Q V				
5+30	0.9853	9.08	Q				
5+35	1.0331	6.94	Q V				
5+40	1.0552	3.21	Q V				
5+45	1.0672	1.74	Q V				
5+50	1.0746	1.08	Q V				
5+55	1.0793	0.68	Q V				
6+ 0	1.0824	0.44	Q V				
6+ 5	1.0838	0.21	Q V				
6+10	1.0842	0.06	Q V				
6+15	1.0843	0.02	Q V				

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    6+20       1.0844      0.00  Q          |          |          |         V|
-------------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/28/24 File: hemetUHpra12242.out

++

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 1)
2-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 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]
14.20	2.07	29.39

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              5.42                 76.96

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    2.070(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.070(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.818      0.003
56.0  56.0      0.511     0.000        0.511       0.057      0.029
75.0  75.0      0.303     0.000        0.303       0.125      0.038
                                                  Sum (F) =   0.070
Area averaged mean soil loss (F) (In/Hr) =  0.070
Minimum soil loss rate ((In/Hr)) =  0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                  VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012              5.869
    2   0.167        373.455         44.304              6.340
    3   0.250        560.182          9.356              1.339
    4   0.333        746.910          3.760              0.538
    5   0.417        933.637          1.568              0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
```

1	0.08	0.07	0.017	(0.124)	0.005	0.012
2	0.17	0.07	0.017	(0.124)	0.005	0.012
3	0.25	0.07	0.017	(0.123)	0.005	0.012
4	0.33	0.10	0.025	(0.123)	0.007	0.018
5	0.42	0.10	0.025	(0.122)	0.007	0.018
6	0.50	0.10	0.025	(0.122)	0.007	0.018
7	0.58	0.10	0.025	(0.121)	0.007	0.018
8	0.67	0.10	0.025	(0.121)	0.007	0.018
9	0.75	0.10	0.025	(0.120)	0.007	0.018
10	0.83	0.13	0.033	(0.120)	0.009	0.024
11	0.92	0.13	0.033	(0.119)	0.009	0.024
12	1.00	0.13	0.033	(0.119)	0.009	0.024
13	1.08	0.10	0.025	(0.118)	0.007	0.018
14	1.17	0.10	0.025	(0.118)	0.007	0.018
15	1.25	0.10	0.025	(0.117)	0.007	0.018
16	1.33	0.10	0.025	(0.117)	0.007	0.018
17	1.42	0.10	0.025	(0.117)	0.007	0.018
18	1.50	0.10	0.025	(0.116)	0.007	0.018
19	1.58	0.10	0.025	(0.116)	0.007	0.018
20	1.67	0.10	0.025	(0.115)	0.007	0.018
21	1.75	0.10	0.025	(0.115)	0.007	0.018
22	1.83	0.13	0.033	(0.114)	0.009	0.024
23	1.92	0.13	0.033	(0.114)	0.009	0.024
24	2.00	0.13	0.033	(0.113)	0.009	0.024
25	2.08	0.13	0.033	(0.113)	0.009	0.024
26	2.17	0.13	0.033	(0.112)	0.009	0.024
27	2.25	0.13	0.033	(0.112)	0.009	0.024
28	2.33	0.13	0.033	(0.111)	0.009	0.024
29	2.42	0.13	0.033	(0.111)	0.009	0.024
30	2.50	0.13	0.033	(0.111)	0.009	0.024
31	2.58	0.17	0.041	(0.110)	0.011	0.030
32	2.67	0.17	0.041	(0.110)	0.011	0.030
33	2.75	0.17	0.041	(0.109)	0.011	0.030
34	2.83	0.17	0.041	(0.109)	0.011	0.030
35	2.92	0.17	0.041	(0.108)	0.011	0.030
36	3.00	0.17	0.041	(0.108)	0.011	0.030
37	3.08	0.17	0.041	(0.107)	0.011	0.030
38	3.17	0.17	0.041	(0.107)	0.011	0.030
39	3.25	0.17	0.041	(0.107)	0.011	0.030
40	3.33	0.17	0.041	(0.106)	0.011	0.030
41	3.42	0.17	0.041	(0.106)	0.011	0.030
42	3.50	0.17	0.041	(0.105)	0.011	0.030
43	3.58	0.17	0.041	(0.105)	0.011	0.030
44	3.67	0.17	0.041	(0.104)	0.011	0.030
45	3.75	0.17	0.041	(0.104)	0.011	0.030
46	3.83	0.20	0.050	(0.103)	0.014	0.036
47	3.92	0.20	0.050	(0.103)	0.014	0.036
48	4.00	0.20	0.050	(0.103)	0.014	0.036
49	4.08	0.20	0.050	(0.102)	0.014	0.036
50	4.17	0.20	0.050	(0.102)	0.014	0.036
51	4.25	0.20	0.050	(0.101)	0.014	0.036
52	4.33	0.23	0.058	(0.101)	0.016	0.042
53	4.42	0.23	0.058	(0.100)	0.016	0.042
54	4.50	0.23	0.058	(0.100)	0.016	0.042
55	4.58	0.23	0.058	(0.100)	0.016	0.042
56	4.67	0.23	0.058	(0.099)	0.016	0.042

57	4.75	0.23	0.058	(0.099)	0.016	0.042
58	4.83	0.27	0.066	(0.098)	0.018	0.048
59	4.92	0.27	0.066	(0.098)	0.018	0.048
60	5.00	0.27	0.066	(0.097)	0.018	0.048
61	5.08	0.20	0.050	(0.097)	0.014	0.036
62	5.17	0.20	0.050	(0.097)	0.014	0.036
63	5.25	0.20	0.050	(0.096)	0.014	0.036
64	5.33	0.23	0.058	(0.096)	0.016	0.042
65	5.42	0.23	0.058	(0.095)	0.016	0.042
66	5.50	0.23	0.058	(0.095)	0.016	0.042
67	5.58	0.27	0.066	(0.094)	0.018	0.048
68	5.67	0.27	0.066	(0.094)	0.018	0.048
69	5.75	0.27	0.066	(0.094)	0.018	0.048
70	5.83	0.27	0.066	(0.093)	0.018	0.048
71	5.92	0.27	0.066	(0.093)	0.018	0.048
72	6.00	0.27	0.066	(0.092)	0.018	0.048
73	6.08	0.30	0.075	(0.092)	0.021	0.054
74	6.17	0.30	0.075	(0.092)	0.021	0.054
75	6.25	0.30	0.075	(0.091)	0.021	0.054
76	6.33	0.30	0.075	(0.091)	0.021	0.054
77	6.42	0.30	0.075	(0.090)	0.021	0.054
78	6.50	0.30	0.075	(0.090)	0.021	0.054
79	6.58	0.33	0.083	(0.090)	0.023	0.060
80	6.67	0.33	0.083	(0.089)	0.023	0.060
81	6.75	0.33	0.083	(0.089)	0.023	0.060
82	6.83	0.33	0.083	(0.088)	0.023	0.060
83	6.92	0.33	0.083	(0.088)	0.023	0.060
84	7.00	0.33	0.083	(0.088)	0.023	0.060
85	7.08	0.33	0.083	(0.087)	0.023	0.060
86	7.17	0.33	0.083	(0.087)	0.023	0.060
87	7.25	0.33	0.083	(0.086)	0.023	0.060
88	7.33	0.37	0.091	(0.086)	0.025	0.066
89	7.42	0.37	0.091	(0.086)	0.025	0.066
90	7.50	0.37	0.091	(0.085)	0.025	0.066
91	7.58	0.40	0.099	(0.085)	0.027	0.072
92	7.67	0.40	0.099	(0.084)	0.027	0.072
93	7.75	0.40	0.099	(0.084)	0.027	0.072
94	7.83	0.43	0.108	(0.084)	0.030	0.078
95	7.92	0.43	0.108	(0.083)	0.030	0.078
96	8.00	0.43	0.108	(0.083)	0.030	0.078
97	8.08	0.50	0.124	(0.082)	0.034	0.090
98	8.17	0.50	0.124	(0.082)	0.034	0.090
99	8.25	0.50	0.124	(0.082)	0.034	0.090
100	8.33	0.50	0.124	(0.081)	0.034	0.090
101	8.42	0.50	0.124	(0.081)	0.034	0.090
102	8.50	0.50	0.124	(0.081)	0.034	0.090
103	8.58	0.53	0.132	(0.080)	0.037	0.096
104	8.67	0.53	0.132	(0.080)	0.037	0.096
105	8.75	0.53	0.132	(0.079)	0.037	0.096
106	8.83	0.57	0.141	(0.079)	0.039	0.102
107	8.92	0.57	0.141	(0.079)	0.039	0.102
108	9.00	0.57	0.141	(0.078)	0.039	0.102
109	9.08	0.63	0.157	(0.078)	0.043	0.114
110	9.17	0.63	0.157	(0.078)	0.043	0.114
111	9.25	0.63	0.157	(0.077)	0.043	0.114
112	9.33	0.67	0.166	(0.077)	0.046	0.120

113	9.42	0.67	0.166	(0.076)	0.046	0.120
114	9.50	0.67	0.166	(0.076)	0.046	0.120
115	9.58	0.70	0.174	(0.076)	0.048	0.126
116	9.67	0.70	0.174	(0.075)	0.048	0.126
117	9.75	0.70	0.174	(0.075)	0.048	0.126
118	9.83	0.73	0.182	(0.075)	0.050	0.132
119	9.92	0.73	0.182	(0.074)	0.050	0.132
120	10.00	0.73	0.182	(0.074)	0.050	0.132
121	10.08	0.50	0.124	(0.074)	0.034	0.090
122	10.17	0.50	0.124	(0.073)	0.034	0.090
123	10.25	0.50	0.124	(0.073)	0.034	0.090
124	10.33	0.50	0.124	(0.072)	0.034	0.090
125	10.42	0.50	0.124	(0.072)	0.034	0.090
126	10.50	0.50	0.124	(0.072)	0.034	0.090
127	10.58	0.67	0.166	(0.071)	0.046	0.120
128	10.67	0.67	0.166	(0.071)	0.046	0.120
129	10.75	0.67	0.166	(0.071)	0.046	0.120
130	10.83	0.67	0.166	(0.070)	0.046	0.120
131	10.92	0.67	0.166	(0.070)	0.046	0.120
132	11.00	0.67	0.166	(0.070)	0.046	0.120
133	11.08	0.63	0.157	(0.069)	0.043	0.114
134	11.17	0.63	0.157	(0.069)	0.043	0.114
135	11.25	0.63	0.157	(0.069)	0.043	0.114
136	11.33	0.63	0.157	(0.068)	0.043	0.114
137	11.42	0.63	0.157	(0.068)	0.043	0.114
138	11.50	0.63	0.157	(0.068)	0.043	0.114
139	11.58	0.57	0.141	(0.067)	0.039	0.102
140	11.67	0.57	0.141	(0.067)	0.039	0.102
141	11.75	0.57	0.141	(0.067)	0.039	0.102
142	11.83	0.60	0.149	(0.066)	0.041	0.108
143	11.92	0.60	0.149	(0.066)	0.041	0.108
144	12.00	0.60	0.149	(0.066)	0.041	0.108
145	12.08	0.83	0.207	(0.065)	0.057	0.150
146	12.17	0.83	0.207	(0.065)	0.057	0.150
147	12.25	0.83	0.207	(0.065)	0.057	0.150
148	12.33	0.87	0.215	(0.064)	0.059	0.156
149	12.42	0.87	0.215	(0.064)	0.059	0.156
150	12.50	0.87	0.215	(0.064)	0.059	0.156
151	12.58	0.93	0.232	0.063	(0.064)	0.168
152	12.67	0.93	0.232	0.063	(0.064)	0.169
153	12.75	0.93	0.232	0.063	(0.064)	0.169
154	12.83	0.97	0.240	0.062	(0.066)	0.178
155	12.92	0.97	0.240	0.062	(0.066)	0.178
156	13.00	0.97	0.240	0.062	(0.066)	0.178
157	13.08	1.13	0.282	0.061	(0.078)	0.220
158	13.17	1.13	0.282	0.061	(0.078)	0.220
159	13.25	1.13	0.282	0.061	(0.078)	0.221
160	13.33	1.13	0.282	0.061	(0.078)	0.221
161	13.42	1.13	0.282	0.060	(0.078)	0.221
162	13.50	1.13	0.282	0.060	(0.078)	0.222
163	13.58	0.77	0.190	(0.060)	0.053	0.138
164	13.67	0.77	0.190	(0.059)	0.053	0.138
165	13.75	0.77	0.190	(0.059)	0.053	0.138
166	13.83	0.77	0.190	(0.059)	0.053	0.138
167	13.92	0.77	0.190	(0.058)	0.053	0.138
168	14.00	0.77	0.190	(0.058)	0.053	0.138

169	14.08	0.90	0.224	0.058	(0.062)	0.166
170	14.17	0.90	0.224	0.058	(0.062)	0.166
171	14.25	0.90	0.224	0.057	(0.062)	0.166
172	14.33	0.87	0.215	0.057	(0.059)	0.158
173	14.42	0.87	0.215	0.057	(0.059)	0.159
174	14.50	0.87	0.215	0.056	(0.059)	0.159
175	14.58	0.87	0.215	0.056	(0.059)	0.159
176	14.67	0.87	0.215	0.056	(0.059)	0.159
177	14.75	0.87	0.215	0.056	(0.059)	0.160
178	14.83	0.83	0.207	0.055	(0.057)	0.152
179	14.92	0.83	0.207	0.055	(0.057)	0.152
180	15.00	0.83	0.207	0.055	(0.057)	0.152
181	15.08	0.80	0.199	0.054	(0.055)	0.144
182	15.17	0.80	0.199	0.054	(0.055)	0.145
183	15.25	0.80	0.199	0.054	(0.055)	0.145
184	15.33	0.77	0.190	(0.054)	0.053	0.138
185	15.42	0.77	0.190	(0.053)	0.053	0.138
186	15.50	0.77	0.190	(0.053)	0.053	0.138
187	15.58	0.63	0.157	(0.053)	0.043	0.114
188	15.67	0.63	0.157	(0.052)	0.043	0.114
189	15.75	0.63	0.157	(0.052)	0.043	0.114
190	15.83	0.63	0.157	(0.052)	0.043	0.114
191	15.92	0.63	0.157	(0.052)	0.043	0.114
192	16.00	0.63	0.157	(0.051)	0.043	0.114
193	16.08	0.13	0.033	(0.051)	0.009	0.024
194	16.17	0.13	0.033	(0.051)	0.009	0.024
195	16.25	0.13	0.033	(0.051)	0.009	0.024
196	16.33	0.13	0.033	(0.050)	0.009	0.024
197	16.42	0.13	0.033	(0.050)	0.009	0.024
198	16.50	0.13	0.033	(0.050)	0.009	0.024
199	16.58	0.10	0.025	(0.050)	0.007	0.018
200	16.67	0.10	0.025	(0.049)	0.007	0.018
201	16.75	0.10	0.025	(0.049)	0.007	0.018
202	16.83	0.10	0.025	(0.049)	0.007	0.018
203	16.92	0.10	0.025	(0.049)	0.007	0.018
204	17.00	0.10	0.025	(0.048)	0.007	0.018
205	17.08	0.17	0.041	(0.048)	0.011	0.030
206	17.17	0.17	0.041	(0.048)	0.011	0.030
207	17.25	0.17	0.041	(0.048)	0.011	0.030
208	17.33	0.17	0.041	(0.047)	0.011	0.030
209	17.42	0.17	0.041	(0.047)	0.011	0.030
210	17.50	0.17	0.041	(0.047)	0.011	0.030
211	17.58	0.17	0.041	(0.047)	0.011	0.030
212	17.67	0.17	0.041	(0.046)	0.011	0.030
213	17.75	0.17	0.041	(0.046)	0.011	0.030
214	17.83	0.13	0.033	(0.046)	0.009	0.024
215	17.92	0.13	0.033	(0.046)	0.009	0.024
216	18.00	0.13	0.033	(0.046)	0.009	0.024
217	18.08	0.13	0.033	(0.045)	0.009	0.024
218	18.17	0.13	0.033	(0.045)	0.009	0.024
219	18.25	0.13	0.033	(0.045)	0.009	0.024
220	18.33	0.13	0.033	(0.045)	0.009	0.024
221	18.42	0.13	0.033	(0.044)	0.009	0.024
222	18.50	0.13	0.033	(0.044)	0.009	0.024
223	18.58	0.10	0.025	(0.044)	0.007	0.018
224	18.67	0.10	0.025	(0.044)	0.007	0.018

225	18.75	0.10	0.025	(0.044)	0.007	0.018
226	18.83	0.07	0.017	(0.043)	0.005	0.012
227	18.92	0.07	0.017	(0.043)	0.005	0.012
228	19.00	0.07	0.017	(0.043)	0.005	0.012
229	19.08	0.10	0.025	(0.043)	0.007	0.018
230	19.17	0.10	0.025	(0.043)	0.007	0.018
231	19.25	0.10	0.025	(0.042)	0.007	0.018
232	19.33	0.13	0.033	(0.042)	0.009	0.024
233	19.42	0.13	0.033	(0.042)	0.009	0.024
234	19.50	0.13	0.033	(0.042)	0.009	0.024
235	19.58	0.10	0.025	(0.042)	0.007	0.018
236	19.67	0.10	0.025	(0.041)	0.007	0.018
237	19.75	0.10	0.025	(0.041)	0.007	0.018
238	19.83	0.07	0.017	(0.041)	0.005	0.012
239	19.92	0.07	0.017	(0.041)	0.005	0.012
240	20.00	0.07	0.017	(0.041)	0.005	0.012
241	20.08	0.10	0.025	(0.040)	0.007	0.018
242	20.17	0.10	0.025	(0.040)	0.007	0.018
243	20.25	0.10	0.025	(0.040)	0.007	0.018
244	20.33	0.10	0.025	(0.040)	0.007	0.018
245	20.42	0.10	0.025	(0.040)	0.007	0.018
246	20.50	0.10	0.025	(0.040)	0.007	0.018
247	20.58	0.10	0.025	(0.039)	0.007	0.018
248	20.67	0.10	0.025	(0.039)	0.007	0.018
249	20.75	0.10	0.025	(0.039)	0.007	0.018
250	20.83	0.07	0.017	(0.039)	0.005	0.012
251	20.92	0.07	0.017	(0.039)	0.005	0.012
252	21.00	0.07	0.017	(0.039)	0.005	0.012
253	21.08	0.10	0.025	(0.038)	0.007	0.018
254	21.17	0.10	0.025	(0.038)	0.007	0.018
255	21.25	0.10	0.025	(0.038)	0.007	0.018
256	21.33	0.07	0.017	(0.038)	0.005	0.012
257	21.42	0.07	0.017	(0.038)	0.005	0.012
258	21.50	0.07	0.017	(0.038)	0.005	0.012
259	21.58	0.10	0.025	(0.038)	0.007	0.018
260	21.67	0.10	0.025	(0.037)	0.007	0.018
261	21.75	0.10	0.025	(0.037)	0.007	0.018
262	21.83	0.07	0.017	(0.037)	0.005	0.012
263	21.92	0.07	0.017	(0.037)	0.005	0.012
264	22.00	0.07	0.017	(0.037)	0.005	0.012
265	22.08	0.10	0.025	(0.037)	0.007	0.018
266	22.17	0.10	0.025	(0.037)	0.007	0.018
267	22.25	0.10	0.025	(0.037)	0.007	0.018
268	22.33	0.07	0.017	(0.036)	0.005	0.012
269	22.42	0.07	0.017	(0.036)	0.005	0.012
270	22.50	0.07	0.017	(0.036)	0.005	0.012
271	22.58	0.07	0.017	(0.036)	0.005	0.012
272	22.67	0.07	0.017	(0.036)	0.005	0.012
273	22.75	0.07	0.017	(0.036)	0.005	0.012
274	22.83	0.07	0.017	(0.036)	0.005	0.012
275	22.92	0.07	0.017	(0.036)	0.005	0.012
276	23.00	0.07	0.017	(0.036)	0.005	0.012
277	23.08	0.07	0.017	(0.036)	0.005	0.012
278	23.17	0.07	0.017	(0.036)	0.005	0.012
279	23.25	0.07	0.017	(0.035)	0.005	0.012
280	23.33	0.07	0.017	(0.035)	0.005	0.012

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281  23.42     0.07      0.017       (  0.035)       0.005        0.012
282  23.50     0.07      0.017       (  0.035)       0.005        0.012
283  23.58     0.07      0.017       (  0.035)       0.005        0.012
284  23.67     0.07      0.017       (  0.035)       0.005        0.012
285  23.75     0.07      0.017       (  0.035)       0.005        0.012
286  23.83     0.07      0.017       (  0.035)       0.005        0.012
287  23.92     0.07      0.017       (  0.035)       0.005        0.012
288  24.00     0.07      0.017       (  0.035)       0.005        0.012
          (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    18.1
     Flood volume = Effective rainfall      1.51(In)
      times area      14.2(Ac.)/[(In)/(Ft.)] =       1.8(Ac.Ft)
     Total soil loss =      0.56(In)
     Total soil loss =     0.661(Ac.Ft)
     Total rainfall =      2.07(In)
     Flood volume =       77924.9 Cubic Feet
     Total soil loss =       28772.4 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      3.169(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       0.0005      0.07  Q          |         |         |         |
   0+10       0.0015      0.15  Q          |         |         |         |
   0+15       0.0026      0.16  Q          |         |         |         |
   0+20       0.0040      0.20  Q          |         |         |         |
   0+25       0.0057      0.24  Q          |         |         |         |
   0+30       0.0074      0.25  VQ         |         |         |         |
   0+35       0.0092      0.26  VQ         |         |         |         |
   0+40       0.0110      0.26  VQ         |         |         |         |
   0+45       0.0128      0.26  VQ         |         |         |         |
   0+50       0.0148      0.29  VQ         |         |         |         |
   0+55       0.0171      0.33  VQ         |         |         |         |
   1+ 0       0.0194      0.34  VQ         |         |         |         |
   1+ 5       0.0215      0.31  VQ         |         |         |         |
   1+10       0.0234      0.27  VQ         |         |         |         |
   1+15       0.0252      0.26  VQ         |         |         |         |
   1+20       0.0269      0.26  VQ         |         |         |         |
   1+25       0.0287      0.26  VQ         |         |         |         |
   1+30       0.0305      0.26  VQ         |         |         |         |
   1+35       0.0323      0.26  VQ         |         |         |         |
   1+40       0.0340      0.26  VQ         |         |         |         |
   1+45       0.0358      0.26  VQ         |         |         |         |
   1+50       0.0378      0.29  VQ         |         |         |         |
   1+55       0.0401      0.33  VQ         |         |         |         |
   2+ 0       0.0424      0.34  VQ         |         |         |         |
   2+ 5       0.0448      0.34  |Q         |         |         |         |
   2+10       0.0472      0.34  |Q         |         |         |         |
   2+15       0.0495      0.34  |Q         |         |         |         |
```

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2+20       0.0519      0.34  |Q        |         |         |         |
2+25       0.0543      0.34  |Q        |         |         |         |
2+30       0.0566      0.34  |Q        |         |         |         |
2+35       0.0592      0.38  |Q        |         |         |         |
2+40       0.0621      0.42  |Q        |         |         |         |
2+45       0.0650      0.42  |Q        |         |         |         |
2+50       0.0680      0.43  |Q        |         |         |         |
2+55       0.0709      0.43  |Q        |         |         |         |
3+ 0       0.0739      0.43  |Q        |         |         |         |
3+ 5       0.0768      0.43  |Q        |         |         |         |
3+10       0.0798      0.43  |Q        |         |         |         |
3+15       0.0827      0.43  |Q        |         |         |         |
3+20       0.0857      0.43  |Q        |         |         |         |
3+25       0.0887      0.43  |Q        |         |         |         |
3+30       0.0916      0.43  |QV       |         |         |         |
3+35       0.0946      0.43  |QV       |         |         |         |
3+40       0.0975      0.43  |QV       |         |         |         |
3+45       0.1005      0.43  |QV       |         |         |         |
3+50       0.1037      0.46  |QV       |         |         |         |
3+55       0.1071      0.50  | Q       |         |         |         |
4+ 0       0.1106      0.51  | Q       |         |         |         |
4+ 5       0.1142      0.51  | Q       |         |         |         |
4+10       0.1177      0.51  | Q       |         |         |         |
4+15       0.1213      0.51  | Q       |         |         |         |
4+20       0.1251      0.55  | Q       |         |         |         |
4+25       0.1291      0.59  | Q       |         |         |         |
4+30       0.1332      0.60  | Q       |         |         |         |
4+35       0.1374      0.60  | QV      |         |         |         |
4+40       0.1415      0.60  | QV      |         |         |         |
4+45       0.1456      0.60  | QV      |         |         |         |
4+50       0.1500      0.64  | QV      |         |         |         |
4+55       0.1547      0.67  | QV      |         |         |         |
5+ 0       0.1594      0.68  | QV      |         |         |         |
5+ 5       0.1636      0.61  | QV      |         |         |         |
5+10       0.1673      0.54  | QV      |         |         |         |
5+15       0.1709      0.52  | QV      |         |         |         |
5+20       0.1747      0.55  | QV      |         |         |         |
5+25       0.1788      0.59  | QV      |         |         |         |
5+30       0.1829      0.60  | Q V     |         |         |         |
5+35       0.1873      0.63  | Q V     |         |         |         |
5+40       0.1919      0.67  | Q V     |         |         |         |
5+45       0.1966      0.68  | Q V     |         |         |         |
5+50       0.2013      0.69  | Q V     |         |         |         |
5+55       0.2060      0.69  | Q V     |         |         |         |
6+ 0       0.2108      0.69  | Q V     |         |         |         |
6+ 5       0.2157      0.72  | Q V     |         |         |         |
6+10       0.2210      0.76  |  QV     |         |         |         |
6+15       0.2263      0.77  |  Q V    |         |         |         |
6+20       0.2316      0.77  |  Q V    |         |         |         |
6+25       0.2369      0.77  |  Q V    |         |         |         |
6+30       0.2422      0.77  |  Q V    |         |         |         |
6+35       0.2478      0.81  |  Q V    |         |         |         |
6+40       0.2536      0.85  |  Q V    |         |         |         |
6+45       0.2595      0.85  |  Q V    |         |         |         |
6+50       0.2654      0.86  |  Q V    |         |         |         |
6+55       0.2713      0.86  |  Q  V   |         |         |         |
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 7+ 0       0.2772      0.86  |  Q  V   |         |         |         |
 7+ 5       0.2831      0.86  |  Q  V   |         |         |         |
 7+10       0.2890      0.86  |  Q  V   |         |         |         |
 7+15       0.2949      0.86  |  Q  V   |         |         |         |
 7+20       0.3011      0.89  |  Q  V   |         |         |         |
 7+25       0.3075      0.93  |  Q  V   |         |         |         |
 7+30       0.3140      0.94  |  Q   V  |         |         |         |
 7+35       0.3207      0.98  |  Q   V  |         |         |         |
 7+40       0.3277      1.02  |   Q  V  |         |         |         |
 7+45       0.3348      1.03  |   Q  V  |         |         |         |
 7+50       0.3421      1.06  |   Q  V  |         |         |         |
 7+55       0.3497      1.10  |   Q  V  |         |         |         |
 8+ 0       0.3574      1.11  |   Q  V  |         |         |         |
 8+ 5       0.3655      1.18  |   Q   V |         |         |         |
 8+10       0.3742      1.26  |    Q  V |         |         |         |
 8+15       0.3830      1.28  |    Q  V |         |         |         |
 8+20       0.3919      1.28  |    Q  V |         |         |         |
 8+25       0.4007      1.29  |    Q  V |         |         |         |
 8+30       0.4096      1.29  |    Q   V|         |         |         |
 8+35       0.4187      1.32  |    Q   V|         |         |         |
 8+40       0.4281      1.36  |    Q   V|         |         |         |
 8+45       0.4375      1.37  |    Q   V|         |         |         |
 8+50       0.4472      1.41  |    Q   V|         |         |         |
 8+55       0.4572      1.45  |    Q    V         |         |         |
 9+ 0       0.4672      1.45  |    Q    V         |         |         |
 9+ 5       0.4777      1.53  |     Q   V         |         |         |
 9+10       0.4888      1.61  |     Q   V         |         |         |
 9+15       0.4999      1.62  |     Q   |V        |         |         |
 9+20       0.5114      1.66  |     Q   |V        |         |         |
 9+25       0.5231      1.70  |     Q   |V        |         |         |
 9+30       0.5349      1.71  |     Q   |V        |         |         |
 9+35       0.5470      1.75  |      Q  | V       |         |         |
 9+40       0.5593      1.79  |      Q  | V       |         |         |
 9+45       0.5717      1.80  |      Q  | V       |         |         |
 9+50       0.5843      1.84  |      Q  |  V      |         |         |
 9+55       0.5972      1.88  |      Q  |  V      |         |         |
10+ 0       0.6102      1.88  |      Q  |  V      |         |         |
10+ 5       0.6215      1.64  |     Q   |  V      |         |         |
10+10       0.6310      1.38  |    Q    |   V     |         |         |
10+15       0.6401      1.32  |    Q    |   V     |         |         |
10+20       0.6490      1.30  |    Q    |   V     |         |         |
10+25       0.6579      1.29  |    Q    |   V     |         |         |
10+30       0.6667      1.29  |    Q    |   V     |         |         |
10+35       0.6768      1.46  |    Q    |    V    |         |         |
10+40       0.6882      1.65  |     Q   |    V    |         |         |
10+45       0.6999      1.69  |     Q   |    V    |         |         |
10+50       0.7117      1.71  |     Q   |    V    |         |         |
10+55       0.7235      1.72  |     Q   |     V   |         |         |
11+ 0       0.7353      1.72  |     Q   |     V   |         |         |
11+ 5       0.7469      1.68  |     Q   |     V   |         |         |
11+10       0.7582      1.64  |     Q   |     V   |         |         |
11+15       0.7695      1.64  |     Q   |      V  |         |         |
11+20       0.7807      1.63  |     Q   |      V  |         |         |
11+25       0.7919      1.63  |     Q   |      V  |         |         |
11+30       0.8032      1.63  |     Q   |      V  |         |         |
11+35       0.8139      1.56  |     Q   |       V |         |         |
```

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11+40       0.8241      1.48  |    Q    |       V |         |         |
11+45       0.8342      1.47  |    Q    |       V |         |         |
11+50       0.8446      1.50  |    Q    |       V |         |         |
11+55       0.8551      1.53  |     Q   |        V|         |         |
12+ 0       0.8657      1.54  |     Q   |        V|         |         |
12+ 5       0.8780      1.79  |      Q  |        V|         |         |
12+10       0.8922      2.06  |       Q |        V|         |         |
12+15       0.9068      2.11  |       Q |         V         |         |
12+20       0.9217      2.17  |       Q |         V         |         |
12+25       0.9370      2.22  |       Q |         V         |         |
12+30       0.9523      2.23  |       Q |          |V        |         |
12+35       0.9682      2.30  |        Q|          |V        |         |
12+40       0.9847      2.39  |        Q|          | V       |         |
12+45       1.0012      2.41  |        Q|          | V       |         |
12+50       1.0182      2.47  |        Q|          | V       |         |
12+55       1.0356      2.53  |         Q          |  V      |         |
13+ 0       1.0532      2.54  |         Q          |  V      |         |
13+ 5       1.0724      2.80  |          |Q        |  V      |         |
13+10       1.0935      3.06  |          | Q       |   V     |         |
13+15       1.1150      3.12  |          | Q       |   V     |         |
13+20       1.1367      3.15  |          | Q       |    V    |         |
13+25       1.1585      3.16  |          | Q       |    V    |         |
13+30       1.1803      3.17  |          | Q       |     V   |         |
13+35       1.1988      2.68  |         Q          |     V   |         |
13+40       1.2136      2.15  |       Q |          |      V  |         |
13+45       1.2276      2.04  |       Q |          |      V  |         |
13+50       1.2414      1.99  |      Q  |          |      V  |         |
13+55       1.2550      1.97  |      Q  |          |       V |         |
14+ 0       1.2686      1.97  |      Q  |          |       V |         |
14+ 5       1.2833      2.14  |       Q |          |       V |         |
14+10       1.2992      2.32  |        Q|          |        V|         |
14+15       1.3155      2.36  |        Q|          |        V|         |
14+20       1.3315      2.33  |        Q|          |        V|         |
14+25       1.3472      2.29  |        Q|          |         V         |
14+30       1.3629      2.28  |        Q|          |         V         |
14+35       1.3786      2.28  |        Q|          |         V         |
14+40       1.3943      2.28  |        Q|          |          |V       |
14+45       1.4100      2.28  |        Q|          |          |V       |
14+50       1.4255      2.24  |       Q |          |          |V       |
14+55       1.4406      2.19  |       Q |          |          | V      |
15+ 0       1.4556      2.18  |       Q |          |          | V      |
15+ 5       1.4703      2.14  |       Q |          |          | V      |
15+10       1.4847      2.08  |       Q |          |          |  V     |
15+15       1.4990      2.08  |       Q |          |          |  V     |
15+20       1.5130      2.03  |       Q |          |          |  V     |
15+25       1.5267      1.99  |      Q  |          |          |   V    |
15+30       1.5403      1.98  |      Q  |          |          |   V    |
15+35       1.5529      1.83  |      Q  |          |          |   V    |
15+40       1.5645      1.68  |     Q   |          |          |   V    |
15+45       1.5759      1.65  |     Q   |          |          |    V   |
15+50       1.5872      1.64  |     Q   |          |          |    V   |
15+55       1.5984      1.63  |     Q   |          |          |    V   |
16+ 0       1.6096      1.63  |     Q   |          |          |    V   |
16+ 5       1.6172      1.10  |   Q     |          |          |     V  |
16+10       1.6209      0.53  | Q       |          |          |     V  |
16+15       1.6237      0.41  |Q        |          |          |     V  |
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16+20	1.6262	0.36	|Q	|	|	|	V |
16+25	1.6286	0.34	|Q	|	|	|	V |
16+30	1.6309	0.34	|Q	|	|	|	V |
16+35	1.6331	0.31	|Q	|	|	|	V |
16+40	1.6349	0.27	|Q	|	|	|	V |
16+45	1.6367	0.26	|Q	|	|	|	V |
16+50	1.6385	0.26	|Q	|	|	|	V |
16+55	1.6403	0.26	|Q	|	|	|	V |
17+ 0	1.6421	0.26	|Q	|	|	|	V |
17+ 5	1.6443	0.33	|Q	|	|	|	V |
17+10	1.6471	0.40	|Q	|	|	|	V |
17+15	1.6500	0.42	|Q	|	|	|	V |
17+20	1.6529	0.43	|Q	|	|	|	V |
17+25	1.6559	0.43	|Q	|	|	|	V |
17+30	1.6588	0.43	|Q	|	|	|	V |
17+35	1.6618	0.43	|Q	|	|	|	V |
17+40	1.6648	0.43	|Q	|	|	|	V |
17+45	1.6677	0.43	|Q	|	|	|	V |
17+50	1.6704	0.39	|Q	|	|	|	V |
17+55	1.6729	0.36	|Q	|	|	|	V |
18+ 0	1.6753	0.35	|Q	|	|	|	V |
18+ 5	1.6776	0.34	|Q	|	|	|	V |
18+10	1.6800	0.34	|Q	|	|	|	V |
18+15	1.6824	0.34	|Q	|	|	|	V |
18+20	1.6847	0.34	|Q	|	|	|	V |
18+25	1.6871	0.34	|Q	|	|	|	V |
18+30	1.6895	0.34	|Q	|	|	|	V |
18+35	1.6916	0.31	|Q	|	|	|	V |
18+40	1.6934	0.27	|Q	|	|	|	V |
18+45	1.6953	0.26	|Q	|	|	|	V |
18+50	1.6968	0.22	Q	|	|	|	V |
18+55	1.6981	0.18	Q	|	|	|	V |
19+ 0	1.6993	0.18	Q	|	|	|	V |
19+ 5	1.7007	0.21	Q	|	|	|	V |
19+10	1.7024	0.24	Q	|	|	|	V |
19+15	1.7041	0.25	|Q	|	|	|	V |
19+20	1.7061	0.29	|Q	|	|	|	V |
19+25	1.7084	0.33	|Q	|	|	|	V |
19+30	1.7108	0.34	|Q	|	|	|	V |
19+35	1.7129	0.31	|Q	|	|	|	V |
19+40	1.7147	0.27	|Q	|	|	|	V |
19+45	1.7165	0.26	|Q	|	|	|	V |
19+50	1.7181	0.22	Q	|	|	|	V |
19+55	1.7193	0.18	Q	|	|	|	V |
20+ 0	1.7206	0.18	Q	|	|	|	V |
20+ 5	1.7220	0.21	Q	|	|	|	V |
20+10	1.7237	0.24	Q	|	|	|	V |
20+15	1.7254	0.25	|Q	|	|	|	V |
20+20	1.7272	0.26	|Q	|	|	|	V |
20+25	1.7290	0.26	|Q	|	|	|	V |
20+30	1.7307	0.26	|Q	|	|	|	V |
20+35	1.7325	0.26	|Q	|	|	|	V |
20+40	1.7343	0.26	|Q	|	|	|	V |
20+45	1.7361	0.26	|Q	|	|	|	V |
20+50	1.7376	0.22	Q	|	|	|	V |
20+55	1.7389	0.18	Q	|	|	|	V |

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   21+ 0       1.7401      0.18  Q          |          |          |        V |
   21+ 5       1.7415      0.21  Q          |          |          |        V |
   21+10       1.7432      0.24  Q          |          |          |        V |
   21+15       1.7449      0.25  |Q         |          |          |         V|
   21+20       1.7464      0.22  Q          |          |          |         V|
   21+25       1.7477      0.18  Q          |          |          |         V|
   21+30       1.7489      0.18  Q          |          |          |         V|
   21+35       1.7504      0.21  Q          |          |          |         V|
   21+40       1.7521      0.24  Q          |          |          |         V|
   21+45       1.7538      0.25  |Q         |          |          |         V|
   21+50       1.7553      0.22  Q          |          |          |         V|
   21+55       1.7566      0.18  Q          |          |          |         V|
   22+ 0       1.7578      0.18  Q          |          |          |         V|
   22+ 5       1.7592      0.21  Q          |          |          |         V|
   22+10       1.7609      0.24  Q          |          |          |         V|
   22+15       1.7627      0.25  |Q         |          |          |         V|
   22+20       1.7642      0.22  Q          |          |          |         V|
   22+25       1.7655      0.18  Q          |          |          |         V|
   22+30       1.7667      0.18  Q          |          |          |         V|
   22+35       1.7679      0.17  Q          |          |          |         V|
   22+40       1.7690      0.17  Q          |          |          |         V|
   22+45       1.7702      0.17  Q          |          |          |         V|
   22+50       1.7714      0.17  Q          |          |          |         V|
   22+55       1.7726      0.17  Q          |          |          |         V|
   23+ 0       1.7738      0.17  Q          |          |          |         V|
   23+ 5       1.7750      0.17  Q          |          |          |         V|
   23+10       1.7761      0.17  Q          |          |          |         V|
   23+15       1.7773      0.17  Q          |          |          |         V|
   23+20       1.7785      0.17  Q          |          |          |         V|
   23+25       1.7797      0.17  Q          |          |          |         V|
   23+30       1.7809      0.17  Q          |          |          |         V|
   23+35       1.7820      0.17  Q          |          |          |         V|
   23+40       1.7832      0.17  Q          |          |          |         V|
   23+45       1.7844      0.17  Q          |          |          |         V|
   23+50       1.7856      0.17  Q          |          |          |         V|
   23+55       1.7868      0.17  Q          |          |          |         V|
   24+ 0       1.7880      0.17  Q          |          |          |         V|
   24+ 5       1.7887      0.10  Q          |          |          |         V|
   24+10       1.7888      0.03  Q          |          |          |         V|
   24+15       1.7889      0.01  Q          |          |          |         V|
   24+20       1.7889      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

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

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Study date 03/28/24 File: hemetuhpra110110.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 1)
10-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 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]
14.20	0.49	7.01

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       14.20              1.59                 22.58

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    0.945(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.945(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.818      0.003
56.0  56.0      0.511     0.000        0.511       0.057      0.029
75.0  75.0      0.303     0.000        0.303       0.125      0.038
                                                  Sum (F) =   0.070
Area averaged mean soil loss (F) (In/Hr) =  0.070
Minimum soil loss rate ((In/Hr)) =  0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012             5.869
    2   0.167        373.455         44.304             6.340
    3   0.250        560.182          9.356             1.339
    4   0.333        746.910          3.760             0.538
    5   0.417        933.637          1.568             0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.385	0.070	(0.106)	0.315
2	0.17	4.70	0.533	0.070	(0.147)	0.463
3	0.25	4.70	0.533	0.070	(0.147)	0.463
4	0.33	5.10	0.578	0.070	(0.160)	0.508
5	0.42	5.80	0.658	0.070	(0.181)	0.588
6	0.50	5.90	0.669	0.070	(0.185)	0.599
7	0.58	7.10	0.805	0.070	(0.222)	0.735
8	0.67	8.70	0.986	0.070	(0.272)	0.916
9	0.75	13.20	1.497	0.070	(0.413)	1.427
10	0.83	29.70	3.367	0.070	(0.929)	3.297
11	0.92	7.70	0.873	0.070	(0.241)	0.803
12	1.00	4.00	0.453	0.070	(0.125)	0.384

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.5

Flood volume = Effective rainfall 0.87(In)
times area 14.2(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 0.083(Ac.Ft)
Total rainfall = 0.94(In)
Flood volume = 45092.0 Cubic Feet
Total soil loss = 3607.7 Cubic Feet

Peak flow rate of this hydrograph = 30.169(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	10.0	20.0	30.0	40.0
0+ 5	0.0128	1.85	VQ				
0+10	0.0453	4.72	V Q				
0+15	0.0871	6.08	V Q				
0+20	0.1333	6.71	VQ				
0+25	0.1858	7.61	Q				
0+30	0.2428	8.28	QV				
0+35	0.3067	9.28	Q V				
0+40	0.3844	11.28	Q V				
0+45	0.4920	15.63	Q V				
0+50	0.6998	30.17	V Q				
0+55	0.8940	28.20	Q V				
1+ 0	0.9817	12.74	Q V				
1+ 5	1.0203	5.60	Q				V
1+10	1.0319	1.69	Q				V
1+15	1.0346	0.39	Q				V
1+20	1.0352	0.09	Q				V

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 1)
10-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.20	0.85	12.03

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              2.20                 31.24

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    1.404(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.404(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.818      0.003
56.0  56.0      0.511     0.000        0.511       0.057      0.029
75.0  75.0      0.303     0.000        0.303       0.125      0.038
                                                  Sum (F) =   0.070
Area averaged mean soil loss (F) (In/Hr) =  0.070
Minimum soil loss rate ((In/Hr)) =  0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012             5.869
    2   0.167        373.455         44.304             6.340
    3   0.250        560.182          9.356             1.339
    4   0.333        746.910          3.760             0.538
    5   0.417        933.637          1.568             0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
```

1	0.08	1.30	0.219	(0.070)	0.060	0.159
2	0.17	1.30	0.219	(0.070)	0.060	0.159
3	0.25	1.10	0.185	(0.070)	0.051	0.134
4	0.33	1.50	0.253	(0.070)	0.070	0.183
5	0.42	1.50	0.253	(0.070)	0.070	0.183
6	0.50	1.80	0.303	0.070	(0.084)	0.233
7	0.58	1.50	0.253	(0.070)	0.070	0.183
8	0.67	1.80	0.303	0.070	(0.084)	0.233
9	0.75	1.80	0.303	0.070	(0.084)	0.233
10	0.83	1.50	0.253	(0.070)	0.070	0.183
11	0.92	1.60	0.269	0.070	(0.074)	0.199
12	1.00	1.80	0.303	0.070	(0.084)	0.233
13	1.08	2.20	0.371	0.070	(0.102)	0.301
14	1.17	2.20	0.371	0.070	(0.102)	0.301
15	1.25	2.20	0.371	0.070	(0.102)	0.301
16	1.33	2.00	0.337	0.070	(0.093)	0.267
17	1.42	2.60	0.438	0.070	(0.121)	0.368
18	1.50	2.70	0.455	0.070	(0.126)	0.385
19	1.58	2.40	0.404	0.070	(0.112)	0.334
20	1.67	2.70	0.455	0.070	(0.126)	0.385
21	1.75	3.30	0.556	0.070	(0.153)	0.486
22	1.83	3.10	0.522	0.070	(0.144)	0.452
23	1.92	2.90	0.488	0.070	(0.135)	0.418
24	2.00	3.00	0.505	0.070	(0.139)	0.435
25	2.08	3.10	0.522	0.070	(0.144)	0.452
26	2.17	4.20	0.707	0.070	(0.195)	0.637
27	2.25	5.00	0.842	0.070	(0.232)	0.772
28	2.33	3.50	0.589	0.070	(0.163)	0.519
29	2.42	6.80	1.145	0.070	(0.316)	1.075
30	2.50	7.30	1.230	0.070	(0.339)	1.160
31	2.58	8.20	1.381	0.070	(0.381)	1.311
32	2.67	5.90	0.994	0.070	(0.274)	0.924
33	2.75	2.00	0.337	0.070	(0.093)	0.267
34	2.83	1.80	0.303	0.070	(0.084)	0.233
35	2.92	1.80	0.303	0.070	(0.084)	0.233
36	3.00	0.60	0.101	(0.070)	0.028	0.073

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.4

Flood volume = Effective rainfall 1.20(In)
times area 14.2(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)
Total soil loss = 0.20(In)
Total soil loss = 0.240(Ac.Ft)
Total rainfall = 1.40(In)
Flood volume = 61872.6 Cubic Feet
Total soil loss = 10474.7 Cubic Feet

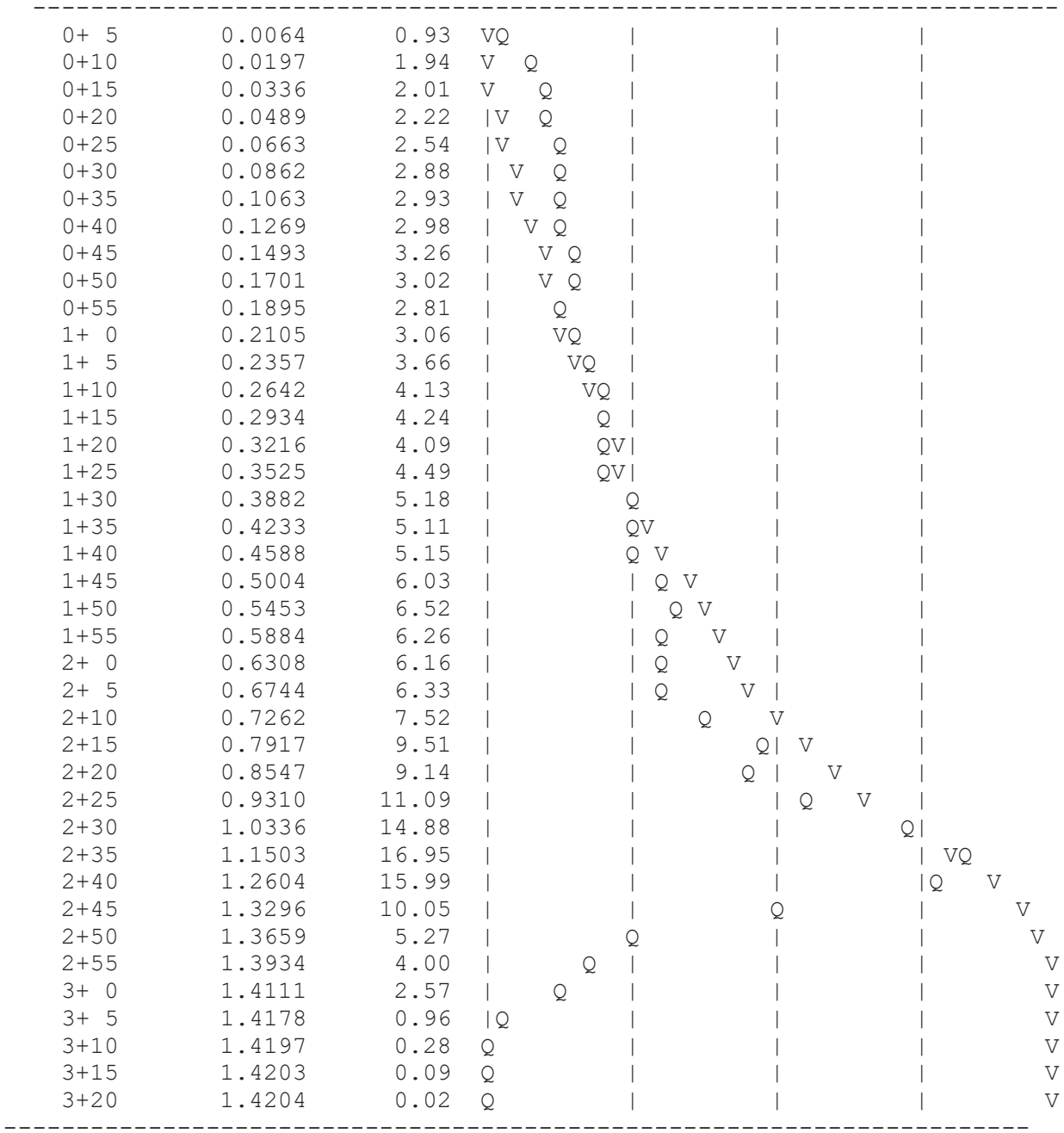
Peak flow rate of this hydrograph = 16.948(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m) Volume Ac.Ft Q(CFS) 0 5.0 10.0 15.0 20.0



0+ 5	0.0064	0.93	VQ
0+10	0.0197	1.94	V Q
0+15	0.0336	2.01	V Q
0+20	0.0489	2.22	V Q
0+25	0.0663	2.54	V Q
0+30	0.0862	2.88	V Q
0+35	0.1063	2.93	V Q
0+40	0.1269	2.98	V Q
0+45	0.1493	3.26	V Q
0+50	0.1701	3.02	V Q
0+55	0.1895	2.81	Q
1+ 0	0.2105	3.06	VQ
1+ 5	0.2357	3.66	VQ
1+10	0.2642	4.13	VQ
1+15	0.2934	4.24	Q
1+20	0.3216	4.09	QV
1+25	0.3525	4.49	QV
1+30	0.3882	5.18	Q
1+35	0.4233	5.11	QV
1+40	0.4588	5.15	Q V
1+45	0.5004	6.03	Q V
1+50	0.5453	6.52	Q V
1+55	0.5884	6.26	Q V
2+ 0	0.6308	6.16	Q V
2+ 5	0.6744	6.33	Q V
2+10	0.7262	7.52	Q V
2+15	0.7917	9.51	Q V
2+20	0.8547	9.14	Q V
2+25	0.9310	11.09	Q V
2+30	1.0336	14.88	Q
2+35	1.1503	16.95	VQ
2+40	1.2604	15.99	Q V
2+45	1.3296	10.05	Q V
2+50	1.3659	5.27	Q V
2+55	1.3934	4.00	Q V
3+ 0	1.4111	2.57	Q V
3+ 5	1.4178	0.96	Q V
3+10	1.4197	0.28	Q V
3+15	1.4203	0.09	Q V
3+20	1.4204	0.02	Q V

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 1)
10-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.20	1.18	16.76

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              2.92                 41.46

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    1.896(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.896(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.818      0.003
56.0  56.0      0.511     0.000        0.511       0.057      0.029
75.0  75.0      0.303     0.000        0.303       0.125      0.038
                                                  Sum (F) =   0.070
Area averaged mean soil loss (F) (In/Hr) =  0.070
Minimum soil loss rate ((In/Hr)) =  0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012              5.869
    2   0.167        373.455         44.304              6.340
    3   0.250        560.182          9.356              1.339
    4   0.333        746.910          3.760              0.538
    5   0.417        933.637          1.568              0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
```

1	0.08	0.50	0.114	(0.070)	0.031	0.082
2	0.17	0.60	0.136	(0.070)	0.038	0.099
3	0.25	0.60	0.136	(0.070)	0.038	0.099
4	0.33	0.60	0.136	(0.070)	0.038	0.099
5	0.42	0.60	0.136	(0.070)	0.038	0.099
6	0.50	0.70	0.159	(0.070)	0.044	0.115
7	0.58	0.70	0.159	(0.070)	0.044	0.115
8	0.67	0.70	0.159	(0.070)	0.044	0.115
9	0.75	0.70	0.159	(0.070)	0.044	0.115
10	0.83	0.70	0.159	(0.070)	0.044	0.115
11	0.92	0.70	0.159	(0.070)	0.044	0.115
12	1.00	0.80	0.182	(0.070)	0.050	0.132
13	1.08	0.80	0.182	(0.070)	0.050	0.132
14	1.17	0.80	0.182	(0.070)	0.050	0.132
15	1.25	0.80	0.182	(0.070)	0.050	0.132
16	1.33	0.80	0.182	(0.070)	0.050	0.132
17	1.42	0.80	0.182	(0.070)	0.050	0.132
18	1.50	0.80	0.182	(0.070)	0.050	0.132
19	1.58	0.80	0.182	(0.070)	0.050	0.132
20	1.67	0.80	0.182	(0.070)	0.050	0.132
21	1.75	0.80	0.182	(0.070)	0.050	0.132
22	1.83	0.80	0.182	(0.070)	0.050	0.132
23	1.92	0.80	0.182	(0.070)	0.050	0.132
24	2.00	0.90	0.205	(0.070)	0.057	0.148
25	2.08	0.80	0.182	(0.070)	0.050	0.132
26	2.17	0.90	0.205	(0.070)	0.057	0.148
27	2.25	0.90	0.205	(0.070)	0.057	0.148
28	2.33	0.90	0.205	(0.070)	0.057	0.148
29	2.42	0.90	0.205	(0.070)	0.057	0.148
30	2.50	0.90	0.205	(0.070)	0.057	0.148
31	2.58	0.90	0.205	(0.070)	0.057	0.148
32	2.67	0.90	0.205	(0.070)	0.057	0.148
33	2.75	1.00	0.227	(0.070)	0.063	0.165
34	2.83	1.00	0.227	(0.070)	0.063	0.165
35	2.92	1.00	0.227	(0.070)	0.063	0.165
36	3.00	1.00	0.227	(0.070)	0.063	0.165
37	3.08	1.00	0.227	(0.070)	0.063	0.165
38	3.17	1.10	0.250	(0.070)	0.069	0.181
39	3.25	1.10	0.250	(0.070)	0.069	0.181
40	3.33	1.10	0.250	(0.070)	0.069	0.181
41	3.42	1.20	0.273	0.070	(0.075)	0.203
42	3.50	1.30	0.296	0.070	(0.082)	0.226
43	3.58	1.40	0.318	0.070	(0.088)	0.248
44	3.67	1.40	0.318	0.070	(0.088)	0.248
45	3.75	1.50	0.341	0.070	(0.094)	0.271
46	3.83	1.50	0.341	0.070	(0.094)	0.271
47	3.92	1.60	0.364	0.070	(0.100)	0.294
48	4.00	1.60	0.364	0.070	(0.100)	0.294
49	4.08	1.70	0.387	0.070	(0.107)	0.317
50	4.17	1.80	0.409	0.070	(0.113)	0.339
51	4.25	1.90	0.432	0.070	(0.119)	0.362
52	4.33	2.00	0.455	0.070	(0.126)	0.385
53	4.42	2.10	0.478	0.070	(0.132)	0.408
54	4.50	2.10	0.478	0.070	(0.132)	0.408
55	4.58	2.20	0.500	0.070	(0.138)	0.430
56	4.67	2.30	0.523	0.070	(0.144)	0.453

57	4.75	2.40	0.546		0.070	(0.151)	0.476
58	4.83	2.40	0.546		0.070	(0.151)	0.476
59	4.92	2.50	0.569		0.070	(0.157)	0.499
60	5.00	2.60	0.591		0.070	(0.163)	0.521
61	5.08	3.10	0.705		0.070	(0.195)	0.635
62	5.17	3.60	0.819		0.070	(0.226)	0.749
63	5.25	3.90	0.887		0.070	(0.245)	0.817
64	5.33	4.20	0.955		0.070	(0.264)	0.885
65	5.42	4.70	1.069		0.070	(0.295)	0.999
66	5.50	5.60	1.274		0.070	(0.352)	1.204
67	5.58	1.90	0.432		0.070	(0.119)	0.362
68	5.67	0.90	0.205	(0.070)		0.057	0.148
69	5.75	0.60	0.136	(0.070)		0.038	0.099
70	5.83	0.50	0.114	(0.070)		0.031	0.082
71	5.92	0.30	0.068	(0.070)		0.019	0.049
72	6.00	0.20	0.045	(0.070)		0.013	0.033

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.6

Flood volume = Effective rainfall 1.55(In)
times area 14.2(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)
Total soil loss = 0.34(In)
Total soil loss = 0.406(Ac.Ft)
Total rainfall = 1.90(In)
Flood volume = 80026.8 Cubic Feet
Total soil loss = 17691.9 Cubic Feet

Peak flow rate of this hydrograph = 15.203(CFS)

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

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	0.0033	0.48	Q				
0+10	0.0109	1.10	V Q				
0+15	0.0200	1.32	V Q				
0+20	0.0295	1.38	V Q				
0+25	0.0392	1.41	V Q				
0+30	0.0497	1.51	|V Q				
0+35	0.0608	1.62	|V Q				
0+40	0.0721	1.64	|V Q				
0+45	0.0834	1.65	|V Q				
0+50	0.0948	1.65	| VQ				
0+55	0.1062	1.65	| VQ				
1+ 0	0.1182	1.75	| VQ				
1+ 5	0.1309	1.85	| VQ				
1+10	0.1439	1.87	| Q				
1+15	0.1568	1.88	| Q				
1+20	0.1698	1.89	| Q				
1+25	0.1828	1.89	| Q				
1+30	0.1958	1.89	| QV				
1+35	0.2088	1.89	| QV				

1+40	0.2218	1.89	QV				
1+45	0.2348	1.89	Q V				
1+50	0.2478	1.89	Q V				
1+55	0.2608	1.89	Q V				
2+ 0	0.2744	1.98	Q V				
2+ 5	0.2881	1.99	Q V				
2+10	0.3019	2.01	Q V				
2+15	0.3164	2.10	Q V				
2+20	0.3309	2.11	Q V				
2+25	0.3455	2.12	Q V				
2+30	0.3602	2.12	Q V				
2+35	0.3748	2.12	Q V				
2+40	0.3894	2.12	Q V				
2+45	0.4047	2.22	Q V				
2+50	0.4207	2.32	Q V				
2+55	0.4368	2.35	Q V				
3+ 0	0.4530	2.35	Q V				
3+ 5	0.4693	2.36	Q V				
3+10	0.4862	2.45	Q V				
3+15	0.5038	2.56	Q V				
3+20	0.5216	2.58	Q V				
3+25	0.5403	2.72	Q V				
3+30	0.5609	2.99	Q V				
3+35	0.5837	3.30	Q V				
3+40	0.6077	3.49	Q V				
3+45	0.6330	3.67	Q V				
3+50	0.6594	3.83	Q V				
3+55	0.6869	4.00	Q V				
4+ 0	0.7155	4.16	Q V				
4+ 5	0.7453	4.33	Q V				
4+10	0.7771	4.62	Q V				
4+15	0.8111	4.93	Q V				
4+20	0.8472	5.25	Q V				
4+25	0.8856	5.58	Q V				
4+30	0.9253	5.77	Q V				
4+35	0.9663	5.95	Q V				
4+40	1.0093	6.24	Q V				
4+45	1.0545	6.56	Q V				
4+50	1.1009	6.75	Q V				
4+55	1.1486	6.93	Q V				
5+ 0	1.1984	7.22	Q V				
5+ 5	1.2540	8.07	Q V				
5+10	1.3194	9.50	Q V				
5+15	1.3937	10.79	Q V				
5+20	1.4753	11.85	Q V				
5+25	1.5657	13.13	Q V				
5+30	1.6704	15.20	Q V				
5+35	1.7514	11.76	Q V				
5+40	1.7894	5.52	Q V				
5+45	1.8093	2.88	Q V				
5+50	1.8215	1.77	Q V				
5+55	1.8291	1.11	Q V				
6+ 0	1.8339	0.70	Q V				
6+ 5	1.8363	0.34	Q V				
6+10	1.8369	0.09	Q V				
6+15	1.8371	0.03	Q V				

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    6+20       1.8372      0.01  Q          |          |          |          V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/28/24 File: hemetuhpra1102410.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 1)
10-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 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]
14.20	2.07	29.39

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              5.42                 76.96

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    3.448(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.448(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.818      0.003
56.0  56.0      0.511     0.000        0.511       0.057      0.029
75.0  75.0      0.303     0.000        0.303       0.125      0.038
                                                  Sum (F) =   0.070
Area averaged mean soil loss (F) (In/Hr) =  0.070
Minimum soil loss rate ((In/Hr)) =  0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012              5.869
    2   0.167        373.455         44.304              6.340
    3   0.250        560.182          9.356              1.339
    4   0.333        746.910          3.760              0.538
    5   0.417        933.637          1.568              0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
       (Hr.)  Percent   (In/Hr)         Max    |    Low        (In/Hr)
```

1	0.08	0.07	0.028	(0.124)	0.008	0.020
2	0.17	0.07	0.028	(0.124)	0.008	0.020
3	0.25	0.07	0.028	(0.123)	0.008	0.020
4	0.33	0.10	0.041	(0.123)	0.011	0.030
5	0.42	0.10	0.041	(0.122)	0.011	0.030
6	0.50	0.10	0.041	(0.122)	0.011	0.030
7	0.58	0.10	0.041	(0.121)	0.011	0.030
8	0.67	0.10	0.041	(0.121)	0.011	0.030
9	0.75	0.10	0.041	(0.120)	0.011	0.030
10	0.83	0.13	0.055	(0.120)	0.015	0.040
11	0.92	0.13	0.055	(0.119)	0.015	0.040
12	1.00	0.13	0.055	(0.119)	0.015	0.040
13	1.08	0.10	0.041	(0.118)	0.011	0.030
14	1.17	0.10	0.041	(0.118)	0.011	0.030
15	1.25	0.10	0.041	(0.117)	0.011	0.030
16	1.33	0.10	0.041	(0.117)	0.011	0.030
17	1.42	0.10	0.041	(0.117)	0.011	0.030
18	1.50	0.10	0.041	(0.116)	0.011	0.030
19	1.58	0.10	0.041	(0.116)	0.011	0.030
20	1.67	0.10	0.041	(0.115)	0.011	0.030
21	1.75	0.10	0.041	(0.115)	0.011	0.030
22	1.83	0.13	0.055	(0.114)	0.015	0.040
23	1.92	0.13	0.055	(0.114)	0.015	0.040
24	2.00	0.13	0.055	(0.113)	0.015	0.040
25	2.08	0.13	0.055	(0.113)	0.015	0.040
26	2.17	0.13	0.055	(0.112)	0.015	0.040
27	2.25	0.13	0.055	(0.112)	0.015	0.040
28	2.33	0.13	0.055	(0.111)	0.015	0.040
29	2.42	0.13	0.055	(0.111)	0.015	0.040
30	2.50	0.13	0.055	(0.111)	0.015	0.040
31	2.58	0.17	0.069	(0.110)	0.019	0.050
32	2.67	0.17	0.069	(0.110)	0.019	0.050
33	2.75	0.17	0.069	(0.109)	0.019	0.050
34	2.83	0.17	0.069	(0.109)	0.019	0.050
35	2.92	0.17	0.069	(0.108)	0.019	0.050
36	3.00	0.17	0.069	(0.108)	0.019	0.050
37	3.08	0.17	0.069	(0.107)	0.019	0.050
38	3.17	0.17	0.069	(0.107)	0.019	0.050
39	3.25	0.17	0.069	(0.107)	0.019	0.050
40	3.33	0.17	0.069	(0.106)	0.019	0.050
41	3.42	0.17	0.069	(0.106)	0.019	0.050
42	3.50	0.17	0.069	(0.105)	0.019	0.050
43	3.58	0.17	0.069	(0.105)	0.019	0.050
44	3.67	0.17	0.069	(0.104)	0.019	0.050
45	3.75	0.17	0.069	(0.104)	0.019	0.050
46	3.83	0.20	0.083	(0.103)	0.023	0.060
47	3.92	0.20	0.083	(0.103)	0.023	0.060
48	4.00	0.20	0.083	(0.103)	0.023	0.060
49	4.08	0.20	0.083	(0.102)	0.023	0.060
50	4.17	0.20	0.083	(0.102)	0.023	0.060
51	4.25	0.20	0.083	(0.101)	0.023	0.060
52	4.33	0.23	0.097	(0.101)	0.027	0.070
53	4.42	0.23	0.097	(0.100)	0.027	0.070
54	4.50	0.23	0.097	(0.100)	0.027	0.070
55	4.58	0.23	0.097	(0.100)	0.027	0.070
56	4.67	0.23	0.097	(0.099)	0.027	0.070

57	4.75	0.23	0.097	(0.099)	0.027	0.070
58	4.83	0.27	0.110	(0.098)	0.030	0.080
59	4.92	0.27	0.110	(0.098)	0.030	0.080
60	5.00	0.27	0.110	(0.097)	0.030	0.080
61	5.08	0.20	0.083	(0.097)	0.023	0.060
62	5.17	0.20	0.083	(0.097)	0.023	0.060
63	5.25	0.20	0.083	(0.096)	0.023	0.060
64	5.33	0.23	0.097	(0.096)	0.027	0.070
65	5.42	0.23	0.097	(0.095)	0.027	0.070
66	5.50	0.23	0.097	(0.095)	0.027	0.070
67	5.58	0.27	0.110	(0.094)	0.030	0.080
68	5.67	0.27	0.110	(0.094)	0.030	0.080
69	5.75	0.27	0.110	(0.094)	0.030	0.080
70	5.83	0.27	0.110	(0.093)	0.030	0.080
71	5.92	0.27	0.110	(0.093)	0.030	0.080
72	6.00	0.27	0.110	(0.092)	0.030	0.080
73	6.08	0.30	0.124	(0.092)	0.034	0.090
74	6.17	0.30	0.124	(0.092)	0.034	0.090
75	6.25	0.30	0.124	(0.091)	0.034	0.090
76	6.33	0.30	0.124	(0.091)	0.034	0.090
77	6.42	0.30	0.124	(0.090)	0.034	0.090
78	6.50	0.30	0.124	(0.090)	0.034	0.090
79	6.58	0.33	0.138	(0.090)	0.038	0.100
80	6.67	0.33	0.138	(0.089)	0.038	0.100
81	6.75	0.33	0.138	(0.089)	0.038	0.100
82	6.83	0.33	0.138	(0.088)	0.038	0.100
83	6.92	0.33	0.138	(0.088)	0.038	0.100
84	7.00	0.33	0.138	(0.088)	0.038	0.100
85	7.08	0.33	0.138	(0.087)	0.038	0.100
86	7.17	0.33	0.138	(0.087)	0.038	0.100
87	7.25	0.33	0.138	(0.086)	0.038	0.100
88	7.33	0.37	0.152	(0.086)	0.042	0.110
89	7.42	0.37	0.152	(0.086)	0.042	0.110
90	7.50	0.37	0.152	(0.085)	0.042	0.110
91	7.58	0.40	0.166	(0.085)	0.046	0.120
92	7.67	0.40	0.166	(0.084)	0.046	0.120
93	7.75	0.40	0.166	(0.084)	0.046	0.120
94	7.83	0.43	0.179	(0.084)	0.049	0.130
95	7.92	0.43	0.179	(0.083)	0.049	0.130
96	8.00	0.43	0.179	(0.083)	0.049	0.130
97	8.08	0.50	0.207	(0.082)	0.057	0.150
98	8.17	0.50	0.207	(0.082)	0.057	0.150
99	8.25	0.50	0.207	(0.082)	0.057	0.150
100	8.33	0.50	0.207	(0.081)	0.057	0.150
101	8.42	0.50	0.207	(0.081)	0.057	0.150
102	8.50	0.50	0.207	(0.081)	0.057	0.150
103	8.58	0.53	0.221	(0.080)	0.061	0.160
104	8.67	0.53	0.221	(0.080)	0.061	0.160
105	8.75	0.53	0.221	(0.079)	0.061	0.160
106	8.83	0.57	0.234	(0.079)	0.065	0.170
107	8.92	0.57	0.234	(0.079)	0.065	0.170
108	9.00	0.57	0.234	(0.078)	0.065	0.170
109	9.08	0.63	0.262	(0.078)	0.072	0.190
110	9.17	0.63	0.262	(0.078)	0.072	0.190
111	9.25	0.63	0.262	(0.077)	0.072	0.190
112	9.33	0.67	0.276	(0.077)	0.076	0.200

113	9.42	0.67	0.276	(0.076)	0.076	0.200
114	9.50	0.67	0.276	0.076	(0.076)	0.200
115	9.58	0.70	0.290	0.076	(0.080)	0.214
116	9.67	0.70	0.290	0.075	(0.080)	0.214
117	9.75	0.70	0.290	0.075	(0.080)	0.215
118	9.83	0.73	0.303	0.075	(0.084)	0.229
119	9.92	0.73	0.303	0.074	(0.084)	0.229
120	10.00	0.73	0.303	0.074	(0.084)	0.230
121	10.08	0.50	0.207	(0.074)	0.057	0.150
122	10.17	0.50	0.207	(0.073)	0.057	0.150
123	10.25	0.50	0.207	(0.073)	0.057	0.150
124	10.33	0.50	0.207	(0.072)	0.057	0.150
125	10.42	0.50	0.207	(0.072)	0.057	0.150
126	10.50	0.50	0.207	(0.072)	0.057	0.150
127	10.58	0.67	0.276	0.071	(0.076)	0.204
128	10.67	0.67	0.276	0.071	(0.076)	0.205
129	10.75	0.67	0.276	0.071	(0.076)	0.205
130	10.83	0.67	0.276	0.070	(0.076)	0.205
131	10.92	0.67	0.276	0.070	(0.076)	0.206
132	11.00	0.67	0.276	0.070	(0.076)	0.206
133	11.08	0.63	0.262	0.069	(0.072)	0.193
134	11.17	0.63	0.262	0.069	(0.072)	0.193
135	11.25	0.63	0.262	0.069	(0.072)	0.193
136	11.33	0.63	0.262	0.068	(0.072)	0.194
137	11.42	0.63	0.262	0.068	(0.072)	0.194
138	11.50	0.63	0.262	0.068	(0.072)	0.194
139	11.58	0.57	0.234	(0.067)	0.065	0.170
140	11.67	0.57	0.234	(0.067)	0.065	0.170
141	11.75	0.57	0.234	(0.067)	0.065	0.170
142	11.83	0.60	0.248	0.066	(0.069)	0.182
143	11.92	0.60	0.248	0.066	(0.069)	0.182
144	12.00	0.60	0.248	0.066	(0.069)	0.183
145	12.08	0.83	0.345	0.065	(0.095)	0.279
146	12.17	0.83	0.345	0.065	(0.095)	0.280
147	12.25	0.83	0.345	0.065	(0.095)	0.280
148	12.33	0.87	0.359	0.064	(0.099)	0.294
149	12.42	0.87	0.359	0.064	(0.099)	0.295
150	12.50	0.87	0.359	0.064	(0.099)	0.295
151	12.58	0.93	0.386	0.063	(0.107)	0.323
152	12.67	0.93	0.386	0.063	(0.107)	0.323
153	12.75	0.93	0.386	0.063	(0.107)	0.323
154	12.83	0.97	0.400	0.062	(0.110)	0.338
155	12.92	0.97	0.400	0.062	(0.110)	0.338
156	13.00	0.97	0.400	0.062	(0.110)	0.338
157	13.08	1.13	0.469	0.061	(0.129)	0.407
158	13.17	1.13	0.469	0.061	(0.129)	0.408
159	13.25	1.13	0.469	0.061	(0.129)	0.408
160	13.33	1.13	0.469	0.061	(0.129)	0.408
161	13.42	1.13	0.469	0.060	(0.129)	0.409
162	13.50	1.13	0.469	0.060	(0.129)	0.409
163	13.58	0.77	0.317	0.060	(0.088)	0.258
164	13.67	0.77	0.317	0.059	(0.088)	0.258
165	13.75	0.77	0.317	0.059	(0.088)	0.258
166	13.83	0.77	0.317	0.059	(0.088)	0.258
167	13.92	0.77	0.317	0.058	(0.088)	0.259
168	14.00	0.77	0.317	0.058	(0.088)	0.259

169	14.08	0.90	0.372	0.058	(0.103)	0.315
170	14.17	0.90	0.372	0.058	(0.103)	0.315
171	14.25	0.90	0.372	0.057	(0.103)	0.315
172	14.33	0.87	0.359	0.057	(0.099)	0.302
173	14.42	0.87	0.359	0.057	(0.099)	0.302
174	14.50	0.87	0.359	0.056	(0.099)	0.302
175	14.58	0.87	0.359	0.056	(0.099)	0.303
176	14.67	0.87	0.359	0.056	(0.099)	0.303
177	14.75	0.87	0.359	0.056	(0.099)	0.303
178	14.83	0.83	0.345	0.055	(0.095)	0.290
179	14.92	0.83	0.345	0.055	(0.095)	0.290
180	15.00	0.83	0.345	0.055	(0.095)	0.290
181	15.08	0.80	0.331	0.054	(0.091)	0.277
182	15.17	0.80	0.331	0.054	(0.091)	0.277
183	15.25	0.80	0.331	0.054	(0.091)	0.277
184	15.33	0.77	0.317	0.054	(0.088)	0.264
185	15.42	0.77	0.317	0.053	(0.088)	0.264
186	15.50	0.77	0.317	0.053	(0.088)	0.264
187	15.58	0.63	0.262	0.053	(0.072)	0.209
188	15.67	0.63	0.262	0.052	(0.072)	0.210
189	15.75	0.63	0.262	0.052	(0.072)	0.210
190	15.83	0.63	0.262	0.052	(0.072)	0.210
191	15.92	0.63	0.262	0.052	(0.072)	0.210
192	16.00	0.63	0.262	0.051	(0.072)	0.211
193	16.08	0.13	0.055	(0.051)	0.015	0.040
194	16.17	0.13	0.055	(0.051)	0.015	0.040
195	16.25	0.13	0.055	(0.051)	0.015	0.040
196	16.33	0.13	0.055	(0.050)	0.015	0.040
197	16.42	0.13	0.055	(0.050)	0.015	0.040
198	16.50	0.13	0.055	(0.050)	0.015	0.040
199	16.58	0.10	0.041	(0.050)	0.011	0.030
200	16.67	0.10	0.041	(0.049)	0.011	0.030
201	16.75	0.10	0.041	(0.049)	0.011	0.030
202	16.83	0.10	0.041	(0.049)	0.011	0.030
203	16.92	0.10	0.041	(0.049)	0.011	0.030
204	17.00	0.10	0.041	(0.048)	0.011	0.030
205	17.08	0.17	0.069	(0.048)	0.019	0.050
206	17.17	0.17	0.069	(0.048)	0.019	0.050
207	17.25	0.17	0.069	(0.048)	0.019	0.050
208	17.33	0.17	0.069	(0.047)	0.019	0.050
209	17.42	0.17	0.069	(0.047)	0.019	0.050
210	17.50	0.17	0.069	(0.047)	0.019	0.050
211	17.58	0.17	0.069	(0.047)	0.019	0.050
212	17.67	0.17	0.069	(0.046)	0.019	0.050
213	17.75	0.17	0.069	(0.046)	0.019	0.050
214	17.83	0.13	0.055	(0.046)	0.015	0.040
215	17.92	0.13	0.055	(0.046)	0.015	0.040
216	18.00	0.13	0.055	(0.046)	0.015	0.040
217	18.08	0.13	0.055	(0.045)	0.015	0.040
218	18.17	0.13	0.055	(0.045)	0.015	0.040
219	18.25	0.13	0.055	(0.045)	0.015	0.040
220	18.33	0.13	0.055	(0.045)	0.015	0.040
221	18.42	0.13	0.055	(0.044)	0.015	0.040
222	18.50	0.13	0.055	(0.044)	0.015	0.040
223	18.58	0.10	0.041	(0.044)	0.011	0.030
224	18.67	0.10	0.041	(0.044)	0.011	0.030

225	18.75	0.10	0.041	(0.044)	0.011	0.030
226	18.83	0.07	0.028	(0.043)	0.008	0.020
227	18.92	0.07	0.028	(0.043)	0.008	0.020
228	19.00	0.07	0.028	(0.043)	0.008	0.020
229	19.08	0.10	0.041	(0.043)	0.011	0.030
230	19.17	0.10	0.041	(0.043)	0.011	0.030
231	19.25	0.10	0.041	(0.042)	0.011	0.030
232	19.33	0.13	0.055	(0.042)	0.015	0.040
233	19.42	0.13	0.055	(0.042)	0.015	0.040
234	19.50	0.13	0.055	(0.042)	0.015	0.040
235	19.58	0.10	0.041	(0.042)	0.011	0.030
236	19.67	0.10	0.041	(0.041)	0.011	0.030
237	19.75	0.10	0.041	(0.041)	0.011	0.030
238	19.83	0.07	0.028	(0.041)	0.008	0.020
239	19.92	0.07	0.028	(0.041)	0.008	0.020
240	20.00	0.07	0.028	(0.041)	0.008	0.020
241	20.08	0.10	0.041	(0.040)	0.011	0.030
242	20.17	0.10	0.041	(0.040)	0.011	0.030
243	20.25	0.10	0.041	(0.040)	0.011	0.030
244	20.33	0.10	0.041	(0.040)	0.011	0.030
245	20.42	0.10	0.041	(0.040)	0.011	0.030
246	20.50	0.10	0.041	(0.040)	0.011	0.030
247	20.58	0.10	0.041	(0.039)	0.011	0.030
248	20.67	0.10	0.041	(0.039)	0.011	0.030
249	20.75	0.10	0.041	(0.039)	0.011	0.030
250	20.83	0.07	0.028	(0.039)	0.008	0.020
251	20.92	0.07	0.028	(0.039)	0.008	0.020
252	21.00	0.07	0.028	(0.039)	0.008	0.020
253	21.08	0.10	0.041	(0.038)	0.011	0.030
254	21.17	0.10	0.041	(0.038)	0.011	0.030
255	21.25	0.10	0.041	(0.038)	0.011	0.030
256	21.33	0.07	0.028	(0.038)	0.008	0.020
257	21.42	0.07	0.028	(0.038)	0.008	0.020
258	21.50	0.07	0.028	(0.038)	0.008	0.020
259	21.58	0.10	0.041	(0.038)	0.011	0.030
260	21.67	0.10	0.041	(0.037)	0.011	0.030
261	21.75	0.10	0.041	(0.037)	0.011	0.030
262	21.83	0.07	0.028	(0.037)	0.008	0.020
263	21.92	0.07	0.028	(0.037)	0.008	0.020
264	22.00	0.07	0.028	(0.037)	0.008	0.020
265	22.08	0.10	0.041	(0.037)	0.011	0.030
266	22.17	0.10	0.041	(0.037)	0.011	0.030
267	22.25	0.10	0.041	(0.037)	0.011	0.030
268	22.33	0.07	0.028	(0.036)	0.008	0.020
269	22.42	0.07	0.028	(0.036)	0.008	0.020
270	22.50	0.07	0.028	(0.036)	0.008	0.020
271	22.58	0.07	0.028	(0.036)	0.008	0.020
272	22.67	0.07	0.028	(0.036)	0.008	0.020
273	22.75	0.07	0.028	(0.036)	0.008	0.020
274	22.83	0.07	0.028	(0.036)	0.008	0.020
275	22.92	0.07	0.028	(0.036)	0.008	0.020
276	23.00	0.07	0.028	(0.036)	0.008	0.020
277	23.08	0.07	0.028	(0.036)	0.008	0.020
278	23.17	0.07	0.028	(0.036)	0.008	0.020
279	23.25	0.07	0.028	(0.035)	0.008	0.020
280	23.33	0.07	0.028	(0.035)	0.008	0.020

281	23.42	0.07	0.028	(0.035)	0.008	0.020
282	23.50	0.07	0.028	(0.035)	0.008	0.020
283	23.58	0.07	0.028	(0.035)	0.008	0.020
284	23.67	0.07	0.028	(0.035)	0.008	0.020
285	23.75	0.07	0.028	(0.035)	0.008	0.020
286	23.83	0.07	0.028	(0.035)	0.008	0.020
287	23.92	0.07	0.028	(0.035)	0.008	0.020
288	24.00	0.07	0.028	(0.035)	0.008	0.020

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.0

Flood volume = Effective rainfall 2.66(In)
times area 14.2(Ac.)/[(In)/(Ft.)] = 3.2(Ac.Ft)
Total soil loss = 0.78(In)
Total soil loss = 0.928(Ac.Ft)
Total rainfall = 3.45(In)
Flood volume = 137316.0 Cubic Feet
Total soil loss = 40420.9 Cubic Feet

Peak flow rate of this hydrograph = 5.853(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	0.0008	0.12	Q				
0+10	0.0025	0.24	Q				
0+15	0.0044	0.27	VQ				
0+20	0.0067	0.34	VQ				
0+25	0.0095	0.41	VQ				
0+30	0.0124	0.42	VQ				
0+35	0.0153	0.43	VQ				
0+40	0.0183	0.43	VQ				
0+45	0.0213	0.43	VQ				
0+50	0.0246	0.49	VQ				
0+55	0.0284	0.55	V Q				
1+ 0	0.0323	0.56	V Q				
1+ 5	0.0358	0.51	V Q				
1+10	0.0389	0.45	VQ				
1+15	0.0419	0.44	VQ				
1+20	0.0449	0.43	VQ				
1+25	0.0478	0.43	VQ				
1+30	0.0508	0.43	VQ				
1+35	0.0537	0.43	VQ				
1+40	0.0567	0.43	VQ				
1+45	0.0597	0.43	VQ				
1+50	0.0630	0.49	VQ				
1+55	0.0668	0.55	V Q				
2+ 0	0.0707	0.56	V Q				
2+ 5	0.0746	0.57	V Q				
2+10	0.0786	0.57	V Q				
2+15	0.0825	0.57	|VQ				

2+20	0.0864	0.57	VQ				
2+25	0.0904	0.57	VQ				
2+30	0.0943	0.57	VQ				
2+35	0.0987	0.63	VQ				
2+40	0.1034	0.69	VQ				
2+45	0.1083	0.71	VQ				
2+50	0.1132	0.71	VQ				
2+55	0.1181	0.71	VQ				
3+ 0	0.1231	0.71	VQ				
3+ 5	0.1280	0.71	VQ				
3+10	0.1329	0.71	VQ				
3+15	0.1378	0.71	VQ				
3+20	0.1428	0.71	VQ				
3+25	0.1477	0.71	VQ				
3+30	0.1526	0.71	VQ				
3+35	0.1575	0.71	VQ				
3+40	0.1624	0.71	Q				
3+45	0.1674	0.71	Q				
3+50	0.1727	0.77	VQ				
3+55	0.1785	0.84	VQ				
4+ 0	0.1843	0.85	VQ				
4+ 5	0.1902	0.86	VQ				
4+10	0.1961	0.86	VQ				
4+15	0.2020	0.86	VQ				
4+20	0.2083	0.92	VQ				
4+25	0.2151	0.98	VQ				
4+30	0.2219	0.99	VQ				
4+35	0.2288	1.00	VQ				
4+40	0.2357	1.00	V Q				
4+45	0.2426	1.00	VQ				
4+50	0.2499	1.06	VQ				
4+55	0.2576	1.12	VQ				
5+ 0	0.2654	1.14	VQ				
5+ 5	0.2725	1.02	VQ				
5+10	0.2787	0.90	Q				
5+15	0.2847	0.87	Q				
5+20	0.2911	0.92	Q				
5+25	0.2978	0.98	Q				
5+30	0.3046	0.99	Q				
5+35	0.3119	1.06	VQ				
5+40	0.3197	1.12	Q				
5+45	0.3275	1.14	Q				
5+50	0.3353	1.14	Q				
5+55	0.3432	1.14	Q				
6+ 0	0.3511	1.14	Q				
6+ 5	0.3594	1.20	Q				
6+10	0.3681	1.27	VQ				
6+15	0.3769	1.28	VQ				
6+20	0.3858	1.28	VQ				
6+25	0.3946	1.29	Q				
6+30	0.4035	1.29	Q				
6+35	0.4127	1.35	Q				
6+40	0.4225	1.41	Q				
6+45	0.4322	1.42	Q				
6+50	0.4421	1.43	Q				
6+55	0.4519	1.43	Q				

7+ 0	0.4618	1.43	Q			
7+ 5	0.4716	1.43	Q			
7+10	0.4815	1.43	QV			
7+15	0.4913	1.43	QV			
7+20	0.5016	1.49	QV			
7+25	0.5123	1.55	Q			
7+30	0.5230	1.57	Q			
7+35	0.5343	1.63	Q			
7+40	0.5459	1.69	Q			
7+45	0.5577	1.71	QV			
7+50	0.5699	1.77	Q			
7+55	0.5825	1.84	Q			
8+ 0	0.5953	1.85	Q			
8+ 5	0.6089	1.97	Q			
8+10	0.6234	2.10	VQ			
8+15	0.6380	2.13	Q			
8+20	0.6528	2.14	Q			
8+25	0.6675	2.14	Q			
8+30	0.6823	2.14	Q			
8+35	0.6975	2.20	Q			
8+40	0.7131	2.27	Q			
8+45	0.7288	2.28	Q			
8+50	0.7449	2.34	Q			
8+55	0.7615	2.41	Q			
9+ 0	0.7782	2.42	Q			
9+ 5	0.7958	2.55	Q			
9+10	0.8142	2.67	Q			
9+15	0.8328	2.70	Q			
9+20	0.8519	2.77	VQ			
9+25	0.8714	2.84	Q			
9+30	0.8911	2.85	Q			
9+35	0.9113	2.94	Q			
9+40	0.9322	3.04	VQ			
9+45	0.9533	3.06	Q			
9+50	0.9750	3.15	Q			
9+55	0.9974	3.25	Q			
10+ 0	1.0199	3.27	VQ			
10+ 5	1.0393	2.81	Q V			
10+10	1.0552	2.31	Q V			
10+15	1.0704	2.21	Q V			
10+20	1.0853	2.16	Q V			
10+25	1.1001	2.14	Q V			
10+30	1.1148	2.14	Q V			
10+35	1.1318	2.47	Q V			
10+40	1.1512	2.81	Q V			
10+45	1.1711	2.89	Q V			
10+50	1.1913	2.93	Q V			
10+55	1.2115	2.94	Q V			
11+ 0	1.2318	2.95	Q V			
11+ 5	1.2516	2.87	Q V			
11+10	1.2708	2.79	Q V			
11+15	1.2899	2.78	Q V			
11+20	1.3090	2.77	Q V			
11+25	1.3281	2.77	Q V			
11+30	1.3473	2.78	Q V			
11+35	1.3654	2.64	Q V			

11+40	1.3825	2.48	| Q| V | | |
11+45	1.3994	2.45	| Q| V | | |
11+50	1.4167	2.51	| Q V | | |
11+55	1.4345	2.58	| Q V | | |
12+ 0	1.4524	2.60	| Q V | | |
12+ 5	1.4743	3.18	| | Q V | | |
12+10	1.5004	3.80	| | Q V| | |
12+15	1.5275	3.93	| | Q V| | |
12+20	1.5556	4.07	| | Q V| | |
12+25	1.5844	4.19	| | Q V | |
12+30	1.6134	4.21	| | Q V | |
12+35	1.6436	4.38	| | Q V | |
12+40	1.6750	4.56	| | Q |V | |
12+45	1.7067	4.61	| | Q |V | |
12+50	1.7391	4.71	| | Q | V | |
12+55	1.7722	4.80	| | Q| V | |
13+ 0	1.8055	4.83	| | Q| V | |
13+ 5	1.8416	5.24	| | Q V | |
13+10	1.8808	5.69	| | | QV | |
13+15	1.9206	5.79	| | | QV | |
13+20	1.9608	5.83	| | | QV | |
13+25	2.0011	5.85	| | | Q V | |
13+30	2.0414	5.85	| | | Q V | |
13+35	2.0756	4.97	| | Q| V | |
13+40	2.1032	4.01	| | Q | V | |
13+45	2.1294	3.81	| | Q | V | |
13+50	2.1551	3.73	| | Q | V | |
13+55	2.1806	3.70	| | Q | V | |
14+ 0	2.2061	3.71	| | Q | V | |
14+ 5	2.2339	4.03	| | Q | V | |
14+10	2.2641	4.39	| | Q | V | |
14+15	2.2949	4.47	| | Q | V| |
14+20	2.3253	4.42	| | Q | V| |
14+25	2.3553	4.35	| | Q | V| |
14+30	2.3851	4.33	| | Q | V |
14+35	2.4150	4.33	| | Q | V |
14+40	2.4448	4.33	| | Q | |V |
14+45	2.4747	4.34	| | Q | |V |
14+50	2.5040	4.26	| | Q | |V |
14+55	2.5328	4.18	| | Q | | V |
15+ 0	2.5614	4.16	| | Q | | V |
15+ 5	2.5895	4.08	| | Q | | V |
15+10	2.6170	3.99	| | Q | | V |
15+15	2.6444	3.98	| | Q | | V |
15+20	2.6712	3.89	| | Q | | V |
15+25	2.6974	3.81	| | Q | | V |
15+30	2.7235	3.79	| | Q | | V |
15+35	2.7473	3.46	| Q | | V |
15+40	2.7688	3.11	| Q | | V |
15+45	2.7898	3.04	| Q | | V |
15+50	2.8105	3.02	| Q | | V |
15+55	2.8313	3.01	| Q | | V |
16+ 0	2.8520	3.01	| Q | | V |
16+ 5	2.8659	2.01	| Q | | V |
16+10	2.8723	0.93	| Q | | V |
16+15	2.8771	0.70	| Q | | V |

16+20	2.8813	0.61	Q				V
16+25	2.8853	0.57	Q				V
16+30	2.8892	0.57	Q				V
16+35	2.8927	0.51	Q				V
16+40	2.8958	0.45	Q				V
16+45	2.8988	0.44	Q				V
16+50	2.9018	0.43	Q				V
16+55	2.9048	0.43	Q				V
17+ 0	2.9077	0.43	Q				V
17+ 5	2.9115	0.55	Q				V
17+10	2.9161	0.67	Q				V
17+15	2.9209	0.70	Q				V
17+20	2.9258	0.71	Q				V
17+25	2.9308	0.71	Q				V
17+30	2.9357	0.71	Q				V
17+35	2.9406	0.71	Q				V
17+40	2.9455	0.71	Q				V
17+45	2.9504	0.71	Q				V
17+50	2.9550	0.66	Q				V
17+55	2.9591	0.59	Q				V
18+ 0	2.9630	0.58	Q				V
18+ 5	2.9670	0.57	Q				V
18+10	2.9709	0.57	Q				V
18+15	2.9749	0.57	Q				V
18+20	2.9788	0.57	Q				V
18+25	2.9828	0.57	Q				V
18+30	2.9867	0.57	Q				V
18+35	2.9902	0.51	Q				V
18+40	2.9933	0.45	Q				V
18+45	2.9963	0.44	Q				V
18+50	2.9989	0.37	Q				V
18+55	3.0010	0.31	Q				V
19+ 0	3.0030	0.29	Q				V
19+ 5	3.0054	0.35	Q				V
19+10	3.0082	0.41	Q				V
19+15	3.0111	0.42	Q				V
19+20	3.0145	0.49	Q				V
19+25	3.0183	0.55	Q				V
19+30	3.0222	0.56	Q				V
19+35	3.0257	0.51	Q				V
19+40	3.0288	0.45	Q				V
19+45	3.0318	0.44	Q				V
19+50	3.0343	0.37	Q				V
19+55	3.0365	0.31	Q				V
20+ 0	3.0385	0.29	Q				V
20+ 5	3.0409	0.35	Q				V
20+10	3.0437	0.41	Q				V
20+15	3.0466	0.42	Q				V
20+20	3.0495	0.43	Q				V
20+25	3.0525	0.43	Q				V
20+30	3.0554	0.43	Q				V
20+35	3.0584	0.43	Q				V
20+40	3.0613	0.43	Q				V
20+45	3.0643	0.43	Q				V
20+50	3.0668	0.37	Q				V
20+55	3.0690	0.31	Q				V

```
  21+ 0       3.0710      0.29  |Q        |         |         |        V |
  21+ 5       3.0734      0.35  |Q        |         |         |        V |
  21+10       3.0762      0.41  |Q        |         |         |         V|
  21+15       3.0791      0.42  |Q        |         |         |         V|
  21+20       3.0816      0.37  |Q        |         |         |         V|
  21+25       3.0837      0.31  |Q        |         |         |         V|
  21+30       3.0857      0.29  |Q        |         |         |         V|
  21+35       3.0881      0.35  |Q        |         |         |         V|
  21+40       3.0909      0.41  |Q        |         |         |         V|
  21+45       3.0938      0.42  |Q        |         |         |         V|
  21+50       3.0964      0.37  |Q        |         |         |         V|
  21+55       3.0985      0.31  |Q        |         |         |         V|
  22+ 0       3.1005      0.29  |Q        |         |         |         V|
  22+ 5       3.1029      0.35  |Q        |         |         |         V|
  22+10       3.1057      0.41  |Q        |         |         |         V|
  22+15       3.1086      0.42  |Q        |         |         |         V|
  22+20       3.1112      0.37  |Q        |         |         |         V|
  22+25       3.1133      0.31  |Q        |         |         |         V|
  22+30       3.1153      0.29  |Q        |         |         |         V|
  22+35       3.1173      0.29  |Q        |         |         |         V|
  22+40       3.1192      0.29  |Q        |         |         |         V|
  22+45       3.1212      0.29  |Q        |         |         |         V|
  22+50       3.1232      0.29  |Q        |         |         |         V|
  22+55       3.1252      0.29  |Q        |         |         |         V|
  23+ 0       3.1271      0.29  |Q        |         |         |         V|
  23+ 5       3.1291      0.29  |Q        |         |         |         V|
  23+10       3.1311      0.29  |Q        |         |         |         V|
  23+15       3.1330      0.29  |Q        |         |         |         V|
  23+20       3.1350      0.29  |Q        |         |         |         V|
  23+25       3.1370      0.29  |Q        |         |         |         V|
  23+30       3.1389      0.29  |Q        |         |         |         V|
  23+35       3.1409      0.29  |Q        |         |         |         V|
  23+40       3.1429      0.29  |Q        |         |         |         V|
  23+45       3.1448      0.29  |Q        |         |         |         V|
  23+50       3.1468      0.29  |Q        |         |         |         V|
  23+55       3.1488      0.29  |Q        |         |         |         V|
  24+ 0       3.1508      0.29  |Q        |         |         |         V|
  24+ 5       3.1519      0.17  Q         |         |         |         V|
  24+10       3.1522      0.04  Q         |         |         |         V|
  24+15       3.1523      0.02  Q         |         |         |         V|
  24+20       3.1523      0.00  Q         |         |         |         V|
-------------------------------------------------------------------------
```

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 1)
100-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 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]
14.20	0.49	7.01

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              1.59                 22.58

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    1.590(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.590(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.818      0.001
56.0  74.8      0.305     0.000        0.305       0.057      0.017
75.0  88.0      0.153     0.000        0.153       0.125      0.019
                                                  Sum (F) =   0.038
Area averaged mean soil loss (F) (In/Hr) =  0.038
Minimum soil loss rate ((In/Hr)) =  0.019
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012             5.869
    2   0.167        373.455         44.304             6.340
    3   0.250        560.182          9.356             1.339
    4   0.333        746.910          3.760             0.538
    5   0.417        933.637          1.568             0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.649	0.038	(0.179)	0.611
2	0.17	4.70	0.897	0.038	(0.247)	0.859
3	0.25	4.70	0.897	0.038	(0.247)	0.859
4	0.33	5.10	0.973	0.038	(0.269)	0.935
5	0.42	5.80	1.106	0.038	(0.305)	1.069
6	0.50	5.90	1.126	0.038	(0.311)	1.088
7	0.58	7.10	1.355	0.038	(0.374)	1.317
8	0.67	8.70	1.660	0.038	(0.458)	1.622
9	0.75	13.20	2.518	0.038	(0.695)	2.481
10	0.83	29.70	5.666	0.038	(1.564)	5.628
11	0.92	7.70	1.469	0.038	(0.405)	1.431
12	1.00	4.00	0.763	0.038	(0.211)	0.725

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.6

Flood volume = Effective rainfall 1.55(In)
times area 14.2(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)
Total soil loss = 0.04(In)
Total soil loss = 0.045(Ac.Ft)
Total rainfall = 1.59(In)
Flood volume = 80004.4 Cubic Feet
Total soil loss = 1943.2 Cubic Feet

Peak flow rate of this hydrograph = 51.912(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	15.0	30.0	45.0	60.0
0+ 5	0.0247	3.59	V Q	|	|	|	|
0+10	0.0861	8.92	|V Q	|	|	|	|
0+15	0.1640	11.31	| V Q	|	|	|	|
0+20	0.2496	12.42	| V Q	|	|	|	|
0+25	0.3457	13.96	| V Q|	|	|	|	|
0+30	0.4495	15.08	| VQ	|	|	|	|
0+35	0.5650	16.76	| |QV	|	|	|	|
0+40	0.7036	20.12	| | Q V	|	|	|	|
0+45	0.8926	27.45	| | QV|	|	|	|	|
0+50	1.2501	51.91	| | | V	| Q	|	|
0+55	1.5848	48.60	| | | | Q V	|	|
1+ 0	1.7403	22.58	| | Q	| | V	|
1+ 5	1.8099	10.11	| Q	| | | V|
1+10	1.8306	3.01	| Q | | | V|
1+15	1.8355	0.71	Q | | | V|
1+20	1.8366	0.16	Q | | | V

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

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Study date 03/28/24 File: hemetuhpra11003100.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 1)
100-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.20	0.85	12.03

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              2.20                 31.24

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    2.200(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    2.200(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.818      0.001
56.0  74.8      0.305     0.000        0.305       0.057      0.017
75.0  88.0      0.153     0.000        0.153       0.125      0.019
                                                  Sum (F) =   0.038
Area averaged mean soil loss (F) (In/Hr) =  0.038
Minimum soil loss rate ((In/Hr)) =  0.019
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012             5.869
    2   0.167        373.455         44.304             6.340
    3   0.250        560.182          9.356             1.339
    4   0.333        746.910          3.760             0.538
    5   0.417        933.637          1.568             0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
```

1	0.08	1.30	0.343	0.038	(0.095)	0.305
2	0.17	1.30	0.343	0.038	(0.095)	0.305
3	0.25	1.10	0.290	0.038	(0.080)	0.253
4	0.33	1.50	0.396	0.038	(0.109)	0.358
5	0.42	1.50	0.396	0.038	(0.109)	0.358
6	0.50	1.80	0.475	0.038	(0.131)	0.437
7	0.58	1.50	0.396	0.038	(0.109)	0.358
8	0.67	1.80	0.475	0.038	(0.131)	0.437
9	0.75	1.80	0.475	0.038	(0.131)	0.437
10	0.83	1.50	0.396	0.038	(0.109)	0.358
11	0.92	1.60	0.422	0.038	(0.117)	0.385
12	1.00	1.80	0.475	0.038	(0.131)	0.437
13	1.08	2.20	0.581	0.038	(0.160)	0.543
14	1.17	2.20	0.581	0.038	(0.160)	0.543
15	1.25	2.20	0.581	0.038	(0.160)	0.543
16	1.33	2.00	0.528	0.038	(0.146)	0.490
17	1.42	2.60	0.686	0.038	(0.189)	0.649
18	1.50	2.70	0.713	0.038	(0.197)	0.675
19	1.58	2.40	0.634	0.038	(0.175)	0.596
20	1.67	2.70	0.713	0.038	(0.197)	0.675
21	1.75	3.30	0.871	0.038	(0.240)	0.833
22	1.83	3.10	0.818	0.038	(0.226)	0.781
23	1.92	2.90	0.766	0.038	(0.211)	0.728
24	2.00	3.00	0.792	0.038	(0.219)	0.754
25	2.08	3.10	0.818	0.038	(0.226)	0.781
26	2.17	4.20	1.109	0.038	(0.306)	1.071
27	2.25	5.00	1.320	0.038	(0.364)	1.282
28	2.33	3.50	0.924	0.038	(0.255)	0.886
29	2.42	6.80	1.795	0.038	(0.495)	1.757
30	2.50	7.30	1.927	0.038	(0.532)	1.889
31	2.58	8.20	2.165	0.038	(0.597)	2.127
32	2.67	5.90	1.558	0.038	(0.430)	1.520
33	2.75	2.00	0.528	0.038	(0.146)	0.490
34	2.83	1.80	0.475	0.038	(0.131)	0.437
35	2.92	1.80	0.475	0.038	(0.131)	0.437
36	3.00	0.60	0.158	0.038	(0.044)	0.121

(Loss Rate Not Used)

Sum = 100.0 Sum = 25.0

Flood volume = Effective rainfall 2.09(In)
times area 14.2(Ac.)/[(In)/(Ft.)] = 2.5(Ac.Ft)
Total soil loss = 0.11(In)
Total soil loss = 0.134(Ac.Ft)
Total rainfall = 2.20(In)
Flood volume = 107564.5 Cubic Feet
Total soil loss = 5829.6 Cubic Feet

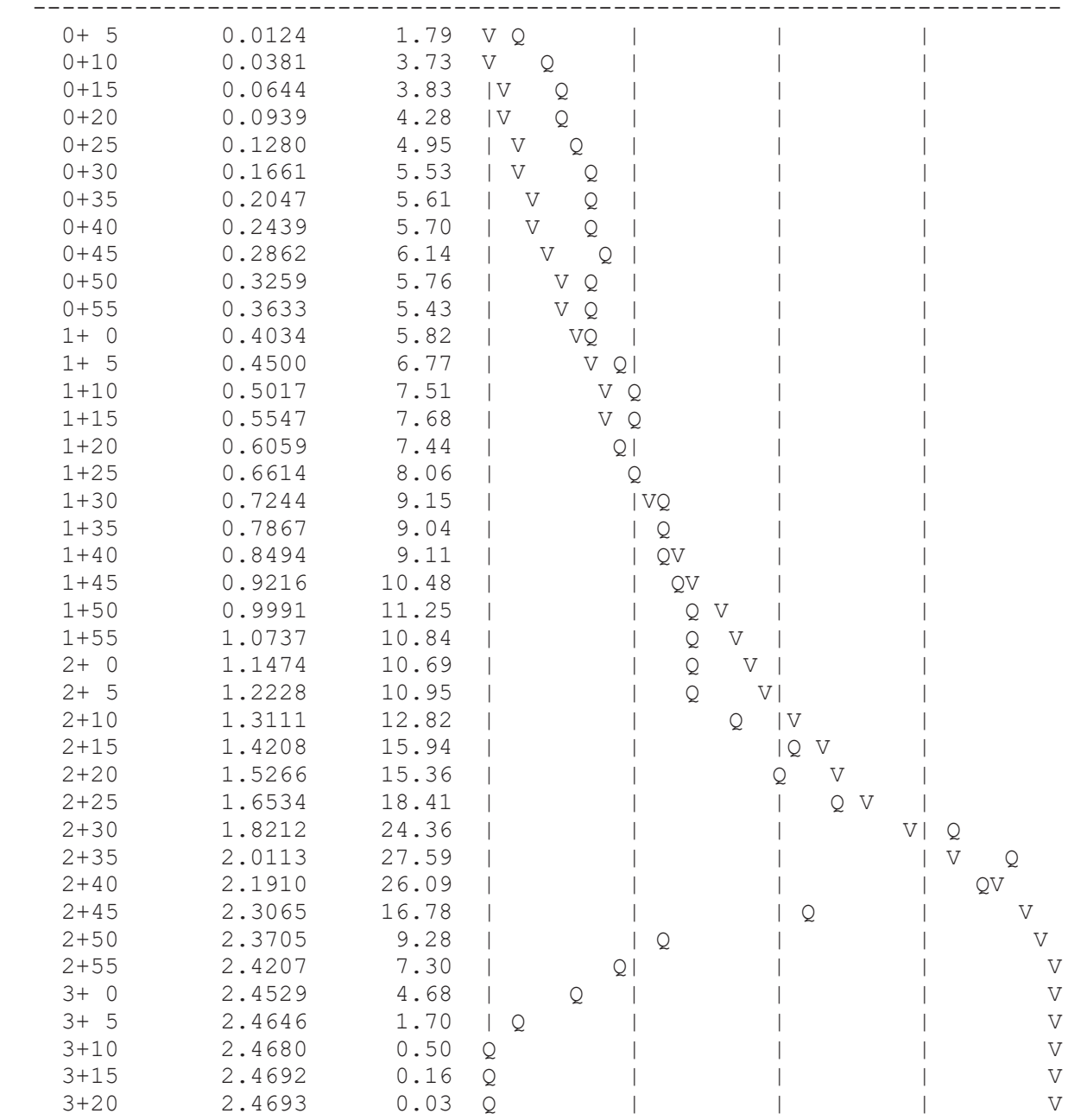
Peak flow rate of this hydrograph = 27.595(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m) Volume Ac.Ft Q(CFS) 0 7.5 15.0 22.5 30.0



0+ 5	0.0124	1.79	V Q
0+10	0.0381	3.73	V Q
0+15	0.0644	3.83	V Q
0+20	0.0939	4.28	V Q
0+25	0.1280	4.95	V Q
0+30	0.1661	5.53	V Q
0+35	0.2047	5.61	V Q
0+40	0.2439	5.70	V Q
0+45	0.2862	6.14	V Q
0+50	0.3259	5.76	V Q
0+55	0.3633	5.43	V Q
1+ 0	0.4034	5.82	VQ
1+ 5	0.4500	6.77	V Q
1+10	0.5017	7.51	V Q
1+15	0.5547	7.68	V Q
1+20	0.6059	7.44	Q
1+25	0.6614	8.06	Q
1+30	0.7244	9.15	VQ
1+35	0.7867	9.04	Q
1+40	0.8494	9.11	QV
1+45	0.9216	10.48	QV
1+50	0.9991	11.25	Q V
1+55	1.0737	10.84	Q V
2+ 0	1.1474	10.69	Q V
2+ 5	1.2228	10.95	Q V
2+10	1.3111	12.82	Q V
2+15	1.4208	15.94	Q V
2+20	1.5266	15.36	Q V
2+25	1.6534	18.41	Q V
2+30	1.8212	24.36	V Q
2+35	2.0113	27.59	V Q
2+40	2.1910	26.09	QV
2+45	2.3065	16.78	Q V
2+50	2.3705	9.28	Q V
2+55	2.4207	7.30	V
3+ 0	2.4529	4.68	Q V
3+ 5	2.4646	1.70	Q V
3+10	2.4680	0.50	Q V
3+15	2.4692	0.16	Q V
3+20	2.4693	0.03	Q V

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

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Study date 03/28/24 File: hemetuhpra11006100.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 1)
100-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.20	1.18	16.76

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              2.92                 41.46

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    2.920(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.920(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.818      0.001
56.0  74.8      0.305     0.000        0.305       0.057      0.017
75.0  88.0      0.153     0.000        0.153       0.125      0.019
                                                  Sum (F) =   0.038
Area averaged mean soil loss (F) (In/Hr) =  0.038
Minimum soil loss rate ((In/Hr)) =  0.019
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012              5.869
    2   0.167        373.455         44.304              6.340
    3   0.250        560.182          9.356              1.339
    4   0.333        746.910          3.760              0.538
    5   0.417        933.637          1.568              0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
       (Hr.)  Percent   (In/Hr)         Max    |    Low        (In/Hr)
```

1	0.08	0.50	0.175	0.038	(0.048)	0.137
2	0.17	0.60	0.210	0.038	(0.058)	0.173
3	0.25	0.60	0.210	0.038	(0.058)	0.173
4	0.33	0.60	0.210	0.038	(0.058)	0.173
5	0.42	0.60	0.210	0.038	(0.058)	0.173
6	0.50	0.70	0.245	0.038	(0.068)	0.208
7	0.58	0.70	0.245	0.038	(0.068)	0.208
8	0.67	0.70	0.245	0.038	(0.068)	0.208
9	0.75	0.70	0.245	0.038	(0.068)	0.208
10	0.83	0.70	0.245	0.038	(0.068)	0.208
11	0.92	0.70	0.245	0.038	(0.068)	0.208
12	1.00	0.80	0.280	0.038	(0.077)	0.243
13	1.08	0.80	0.280	0.038	(0.077)	0.243
14	1.17	0.80	0.280	0.038	(0.077)	0.243
15	1.25	0.80	0.280	0.038	(0.077)	0.243
16	1.33	0.80	0.280	0.038	(0.077)	0.243
17	1.42	0.80	0.280	0.038	(0.077)	0.243
18	1.50	0.80	0.280	0.038	(0.077)	0.243
19	1.58	0.80	0.280	0.038	(0.077)	0.243
20	1.67	0.80	0.280	0.038	(0.077)	0.243
21	1.75	0.80	0.280	0.038	(0.077)	0.243
22	1.83	0.80	0.280	0.038	(0.077)	0.243
23	1.92	0.80	0.280	0.038	(0.077)	0.243
24	2.00	0.90	0.315	0.038	(0.087)	0.278
25	2.08	0.80	0.280	0.038	(0.077)	0.243
26	2.17	0.90	0.315	0.038	(0.087)	0.278
27	2.25	0.90	0.315	0.038	(0.087)	0.278
28	2.33	0.90	0.315	0.038	(0.087)	0.278
29	2.42	0.90	0.315	0.038	(0.087)	0.278
30	2.50	0.90	0.315	0.038	(0.087)	0.278
31	2.58	0.90	0.315	0.038	(0.087)	0.278
32	2.67	0.90	0.315	0.038	(0.087)	0.278
33	2.75	1.00	0.350	0.038	(0.097)	0.313
34	2.83	1.00	0.350	0.038	(0.097)	0.313
35	2.92	1.00	0.350	0.038	(0.097)	0.313
36	3.00	1.00	0.350	0.038	(0.097)	0.313
37	3.08	1.00	0.350	0.038	(0.097)	0.313
38	3.17	1.10	0.385	0.038	(0.106)	0.348
39	3.25	1.10	0.385	0.038	(0.106)	0.348
40	3.33	1.10	0.385	0.038	(0.106)	0.348
41	3.42	1.20	0.420	0.038	(0.116)	0.383
42	3.50	1.30	0.455	0.038	(0.126)	0.418
43	3.58	1.40	0.491	0.038	(0.135)	0.453
44	3.67	1.40	0.491	0.038	(0.135)	0.453
45	3.75	1.50	0.526	0.038	(0.145)	0.488
46	3.83	1.50	0.526	0.038	(0.145)	0.488
47	3.92	1.60	0.561	0.038	(0.155)	0.523
48	4.00	1.60	0.561	0.038	(0.155)	0.523
49	4.08	1.70	0.596	0.038	(0.164)	0.558
50	4.17	1.80	0.631	0.038	(0.174)	0.593
51	4.25	1.90	0.666	0.038	(0.184)	0.628
52	4.33	2.00	0.701	0.038	(0.193)	0.663
53	4.42	2.10	0.736	0.038	(0.203)	0.698
54	4.50	2.10	0.736	0.038	(0.203)	0.698
55	4.58	2.20	0.771	0.038	(0.213)	0.733
56	4.67	2.30	0.806	0.038	(0.222)	0.768

57	4.75	2.40	0.841	0.038	(0.232)	0.803	
58	4.83	2.40	0.841	0.038	(0.232)	0.803	
59	4.92	2.50	0.876	0.038	(0.242)	0.838	
60	5.00	2.60	0.911	0.038	(0.251)	0.873	
61	5.08	3.10	1.086	0.038	(0.300)	1.048	
62	5.17	3.60	1.261	0.038	(0.348)	1.224	
63	5.25	3.90	1.366	0.038	(0.377)	1.329	
64	5.33	4.20	1.472	0.038	(0.406)	1.434	
65	5.42	4.70	1.647	0.038	(0.455)	1.609	
66	5.50	5.60	1.962	0.038	(0.542)	1.924	
67	5.58	1.90	0.666	0.038	(0.184)	0.628	
68	5.67	0.90	0.315	0.038	(0.087)	0.278	
69	5.75	0.60	0.210	0.038	(0.058)	0.173	
70	5.83	0.50	0.175	0.038	(0.048)	0.137	
71	5.92	0.30	0.105	(0.038)	0.029	0.076	
72	6.00	0.20	0.070	(0.038)	0.019	0.051	

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.4

Flood volume = Effective rainfall 2.70(In)
times area 14.2(Ac.)/[(In)/(Ft.)] = 3.2(Ac.Ft)
Total soil loss = 0.22(In)
Total soil loss = 0.265(Ac.Ft)
Total rainfall = 2.92(In)
Flood volume = 138963.9 Cubic Feet
Total soil loss = 11543.1 Cubic Feet

Peak flow rate of this hydrograph = 24.419(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0056	0.81	VQ				
0+10	0.0185	1.89	V Q				
0+15	0.0343	2.29	V Q				
0+20	0.0509	2.41	V Q				
0+25	0.0679	2.46	V Q				
0+30	0.0863	2.68	|V Q				
0+35	0.1063	2.90	|V Q				
0+40	0.1266	2.95	|V Q				
0+45	0.1470	2.96	|V Q				
0+50	0.1675	2.97	| VQ				
0+55	0.1879	2.97	| VQ				
1+ 0	0.2098	3.18	| V Q				
1+ 5	0.2332	3.40	| V Q				
1+10	0.2570	3.45	| VQ				
1+15	0.2808	3.47	| VQ				
1+20	0.3048	3.47	| VQ				
1+25	0.3287	3.47	| Q				
1+30	0.3526	3.47	| Q				
1+35	0.3765	3.47	| Q				

```
1+40       0.4005      3.47  |   QV    |         |         |         |
1+45       0.4244      3.47  |   QV    |         |         |         |
1+50       0.4483      3.47  |   QV    |         |         |         |
1+55       0.4722      3.47  |   QV    |         |         |         |
2+ 0       0.4976      3.68  |   Q V   |         |         |         |
2+ 5       0.5230      3.70  |   Q V   |         |         |         |
2+10       0.5487      3.73  |   Q V   |         |         |         |
2+15       0.5757      3.92  |    Q V  |         |         |         |
2+20       0.6029      3.96  |    Q V  |         |         |         |
2+25       0.6303      3.97  |    Q V  |         |         |         |
2+30       0.6576      3.98  |    Q  V |         |         |         |
2+35       0.6850      3.98  |    Q  V |         |         |         |
2+40       0.7124      3.98  |    Q  V |         |         |         |
2+45       0.7412      4.18  |    Q   V|         |         |         |
2+50       0.7715      4.40  |    Q   V|         |         |         |
2+55       0.8022      4.45  |    Q    V         |         |         |
3+ 0       0.8330      4.47  |    Q    V         |         |         |
3+ 5       0.8638      4.48  |    Q    V         |         |         |
3+10       0.8960      4.68  |     Q   |V        |         |         |
3+15       0.9298      4.91  |     Q   |V        |         |         |
3+20       0.9639      4.95  |     Q   | V       |         |         |
3+25       0.9996      5.18  |     Q   | V       |         |         |
3+30       1.0382      5.61  |      Q  |  V      |         |         |
3+35       1.0802      6.09  |       Q |  V      |         |         |
3+40       1.1241      6.38  |       Q |   V     |         |         |
3+45       1.1699      6.66  |       Q |   V     |         |         |
3+50       1.2175      6.90  |        Q|    V    |         |         |
3+55       1.2668      7.16  |        Q|    V    |         |         |
4+ 0       1.3178      7.41  |        Q|     V   |         |         |
4+ 5       1.3706      7.67  |         Q      V  |         |         |
4+10       1.4265      8.11  |         Q      V  |         |         |
4+15       1.4857      8.60  |         |Q      V |         |         |
4+20       1.5483      9.09  |         | Q      V|         |         |
4+25       1.6143      9.59  |         | Q       V         |         |
4+30       1.6824      9.89  |         |  Q      |V        |         |
4+35       1.7524     10.17  |         |  Q      |V        |         |
4+40       1.8256     10.62  |         |   Q     | V       |         |
4+45       1.9021     11.10  |         |   Q     |  V      |         |
4+50       1.9805     11.39  |         |    Q    |   V     |         |
4+55       2.0609     11.67  |         |    Q    |    V    |         |
5+ 0       2.1444     12.13  |         |     Q   |     V   |         |
5+ 5       2.2370     13.43  |         |      Q  |       V |         |
5+10       2.3447     15.64  |         |         Q        V|         |
5+15       2.4661     17.63  |         |         |  Q      V         |
5+20       2.5986     19.25  |         |         |    Q    | V       |
5+25       2.7448     21.22  |         |         |       Q |   V     |
5+30       2.9130     24.42  |         |         |         | Q   V   |
5+35       3.0446     19.12  |         |         |    Q    |       V |
5+40       3.1092      9.38  |         | Q       |         |       V |
5+45       3.1438      5.01  |     Q   |         |         |        V|
5+50       3.1647      3.04  |   Q     |         |         |        V|
5+55       3.1774      1.84  | Q       |         |         |        V|
6+ 0       3.1851      1.12  |Q        |         |         |        V|
6+ 5       3.1888      0.54  Q         |         |         |        V|
6+10       3.1898      0.14  Q         |         |         |        V|
6+15       3.1901      0.04  Q         |         |         |        V|
```

```
    6+20       3.1902      0.01  Q          |          |          |          V
-------------------------------------------------------------------------------
```

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

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Study date 03/28/24 File: hemetuhpra110024100.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 1)
100-Year Design Storm

Drainage Area = 14.20(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.20(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1330.00(Ft.)
Length along longest watercourse measured to centroid = 665.00(Ft.)
Length along longest watercourse = 0.252 Mi.
Length along longest watercourse measured to centroid = 0.126 Mi.
Difference in elevation = 15.00(Ft.)
Slope along watercourse = 59.5489 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.68 Min.
25% of lag time = 0.67 Min.
40% of lag time = 1.07 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]
14.20	2.07	29.39

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      14.20              5.42                 76.96

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    5.420(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.420(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.620           98.00         0.950
     0.810           56.00         0.000
     1.770           75.00         0.000
 Total Area Entered =     14.20(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.818      0.001
56.0  74.8      0.305     0.000        0.305       0.057      0.017
75.0  88.0      0.153     0.000        0.153       0.125      0.019
                                                  Sum (F) =   0.038
Area averaged mean soil loss (F) (In/Hr) =  0.038
Minimum soil loss rate ((In/Hr)) =  0.019
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.276
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                  VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        186.727         41.012              5.869
    2   0.167        373.455         44.304              6.340
    3   0.250        560.182          9.356              1.339
    4   0.333        746.910          3.760              0.538
    5   0.417        933.637          1.568              0.224
                              Sum = 100.000   Sum=      14.311
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
```

1	0.08	0.07	0.043	(0.067)	0.012	0.031
2	0.17	0.07	0.043	(0.067)	0.012	0.031
3	0.25	0.07	0.043	(0.066)	0.012	0.031
4	0.33	0.10	0.065	(0.066)	0.018	0.047
5	0.42	0.10	0.065	(0.066)	0.018	0.047
6	0.50	0.10	0.065	(0.066)	0.018	0.047
7	0.58	0.10	0.065	(0.065)	0.018	0.047
8	0.67	0.10	0.065	(0.065)	0.018	0.047
9	0.75	0.10	0.065	(0.065)	0.018	0.047
10	0.83	0.13	0.087	(0.065)	0.024	0.063
11	0.92	0.13	0.087	(0.064)	0.024	0.063
12	1.00	0.13	0.087	(0.064)	0.024	0.063
13	1.08	0.10	0.065	(0.064)	0.018	0.047
14	1.17	0.10	0.065	(0.064)	0.018	0.047
15	1.25	0.10	0.065	(0.063)	0.018	0.047
16	1.33	0.10	0.065	(0.063)	0.018	0.047
17	1.42	0.10	0.065	(0.063)	0.018	0.047
18	1.50	0.10	0.065	(0.063)	0.018	0.047
19	1.58	0.10	0.065	(0.062)	0.018	0.047
20	1.67	0.10	0.065	(0.062)	0.018	0.047
21	1.75	0.10	0.065	(0.062)	0.018	0.047
22	1.83	0.13	0.087	(0.062)	0.024	0.063
23	1.92	0.13	0.087	(0.061)	0.024	0.063
24	2.00	0.13	0.087	(0.061)	0.024	0.063
25	2.08	0.13	0.087	(0.061)	0.024	0.063
26	2.17	0.13	0.087	(0.061)	0.024	0.063
27	2.25	0.13	0.087	(0.060)	0.024	0.063
28	2.33	0.13	0.087	(0.060)	0.024	0.063
29	2.42	0.13	0.087	(0.060)	0.024	0.063
30	2.50	0.13	0.087	(0.060)	0.024	0.063
31	2.58	0.17	0.108	(0.059)	0.030	0.078
32	2.67	0.17	0.108	(0.059)	0.030	0.078
33	2.75	0.17	0.108	(0.059)	0.030	0.078
34	2.83	0.17	0.108	(0.059)	0.030	0.078
35	2.92	0.17	0.108	(0.058)	0.030	0.078
36	3.00	0.17	0.108	(0.058)	0.030	0.078
37	3.08	0.17	0.108	(0.058)	0.030	0.078
38	3.17	0.17	0.108	(0.058)	0.030	0.078
39	3.25	0.17	0.108	(0.057)	0.030	0.078
40	3.33	0.17	0.108	(0.057)	0.030	0.078
41	3.42	0.17	0.108	(0.057)	0.030	0.078
42	3.50	0.17	0.108	(0.057)	0.030	0.078
43	3.58	0.17	0.108	(0.056)	0.030	0.078
44	3.67	0.17	0.108	(0.056)	0.030	0.078
45	3.75	0.17	0.108	(0.056)	0.030	0.078
46	3.83	0.20	0.130	(0.056)	0.036	0.094
47	3.92	0.20	0.130	(0.055)	0.036	0.094
48	4.00	0.20	0.130	(0.055)	0.036	0.094
49	4.08	0.20	0.130	(0.055)	0.036	0.094
50	4.17	0.20	0.130	(0.055)	0.036	0.094
51	4.25	0.20	0.130	(0.055)	0.036	0.094
52	4.33	0.23	0.152	(0.054)	0.042	0.110
53	4.42	0.23	0.152	(0.054)	0.042	0.110
54	4.50	0.23	0.152	(0.054)	0.042	0.110
55	4.58	0.23	0.152	(0.054)	0.042	0.110
56	4.67	0.23	0.152	(0.053)	0.042	0.110

57	4.75	0.23	0.152	(0.053)	0.042	0.110
58	4.83	0.27	0.173	(0.053)	0.048	0.126
59	4.92	0.27	0.173	(0.053)	0.048	0.126
60	5.00	0.27	0.173	(0.052)	0.048	0.126
61	5.08	0.20	0.130	(0.052)	0.036	0.094
62	5.17	0.20	0.130	(0.052)	0.036	0.094
63	5.25	0.20	0.130	(0.052)	0.036	0.094
64	5.33	0.23	0.152	(0.052)	0.042	0.110
65	5.42	0.23	0.152	(0.051)	0.042	0.110
66	5.50	0.23	0.152	(0.051)	0.042	0.110
67	5.58	0.27	0.173	(0.051)	0.048	0.126
68	5.67	0.27	0.173	(0.051)	0.048	0.126
69	5.75	0.27	0.173	(0.050)	0.048	0.126
70	5.83	0.27	0.173	(0.050)	0.048	0.126
71	5.92	0.27	0.173	(0.050)	0.048	0.126
72	6.00	0.27	0.173	(0.050)	0.048	0.126
73	6.08	0.30	0.195	0.050	(0.054)	0.146
74	6.17	0.30	0.195	0.049	(0.054)	0.146
75	6.25	0.30	0.195	0.049	(0.054)	0.146
76	6.33	0.30	0.195	0.049	(0.054)	0.146
77	6.42	0.30	0.195	0.049	(0.054)	0.146
78	6.50	0.30	0.195	0.048	(0.054)	0.147
79	6.58	0.33	0.217	0.048	(0.060)	0.169
80	6.67	0.33	0.217	0.048	(0.060)	0.169
81	6.75	0.33	0.217	0.048	(0.060)	0.169
82	6.83	0.33	0.217	0.048	(0.060)	0.169
83	6.92	0.33	0.217	0.047	(0.060)	0.169
84	7.00	0.33	0.217	0.047	(0.060)	0.170
85	7.08	0.33	0.217	0.047	(0.060)	0.170
86	7.17	0.33	0.217	0.047	(0.060)	0.170
87	7.25	0.33	0.217	0.047	(0.060)	0.170
88	7.33	0.37	0.238	0.046	(0.066)	0.192
89	7.42	0.37	0.238	0.046	(0.066)	0.192
90	7.50	0.37	0.238	0.046	(0.066)	0.193
91	7.58	0.40	0.260	0.046	(0.072)	0.214
92	7.67	0.40	0.260	0.045	(0.072)	0.215
93	7.75	0.40	0.260	0.045	(0.072)	0.215
94	7.83	0.43	0.282	0.045	(0.078)	0.237
95	7.92	0.43	0.282	0.045	(0.078)	0.237
96	8.00	0.43	0.282	0.045	(0.078)	0.237
97	8.08	0.50	0.325	0.044	(0.090)	0.281
98	8.17	0.50	0.325	0.044	(0.090)	0.281
99	8.25	0.50	0.325	0.044	(0.090)	0.281
100	8.33	0.50	0.325	0.044	(0.090)	0.281
101	8.42	0.50	0.325	0.044	(0.090)	0.282
102	8.50	0.50	0.325	0.043	(0.090)	0.282
103	8.58	0.53	0.347	0.043	(0.096)	0.304
104	8.67	0.53	0.347	0.043	(0.096)	0.304
105	8.75	0.53	0.347	0.043	(0.096)	0.304
106	8.83	0.57	0.369	0.043	(0.102)	0.326
107	8.92	0.57	0.369	0.042	(0.102)	0.326
108	9.00	0.57	0.369	0.042	(0.102)	0.326
109	9.08	0.63	0.412	0.042	(0.114)	0.370
110	9.17	0.63	0.412	0.042	(0.114)	0.370
111	9.25	0.63	0.412	0.042	(0.114)	0.370
112	9.33	0.67	0.434	0.041	(0.120)	0.392

113	9.42	0.67	0.434	0.041	(0.120)	0.392
114	9.50	0.67	0.434	0.041	(0.120)	0.393
115	9.58	0.70	0.455	0.041	(0.126)	0.414
116	9.67	0.70	0.455	0.041	(0.126)	0.415
117	9.75	0.70	0.455	0.040	(0.126)	0.415
118	9.83	0.73	0.477	0.040	(0.132)	0.437
119	9.92	0.73	0.477	0.040	(0.132)	0.437
120	10.00	0.73	0.477	0.040	(0.132)	0.437
121	10.08	0.50	0.325	0.040	(0.090)	0.286
122	10.17	0.50	0.325	0.039	(0.090)	0.286
123	10.25	0.50	0.325	0.039	(0.090)	0.286
124	10.33	0.50	0.325	0.039	(0.090)	0.286
125	10.42	0.50	0.325	0.039	(0.090)	0.286
126	10.50	0.50	0.325	0.039	(0.090)	0.287
127	10.58	0.67	0.434	0.038	(0.120)	0.395
128	10.67	0.67	0.434	0.038	(0.120)	0.395
129	10.75	0.67	0.434	0.038	(0.120)	0.395
130	10.83	0.67	0.434	0.038	(0.120)	0.396
131	10.92	0.67	0.434	0.038	(0.120)	0.396
132	11.00	0.67	0.434	0.038	(0.120)	0.396
133	11.08	0.63	0.412	0.037	(0.114)	0.375
134	11.17	0.63	0.412	0.037	(0.114)	0.375
135	11.25	0.63	0.412	0.037	(0.114)	0.375
136	11.33	0.63	0.412	0.037	(0.114)	0.375
137	11.42	0.63	0.412	0.037	(0.114)	0.375
138	11.50	0.63	0.412	0.036	(0.114)	0.375
139	11.58	0.57	0.369	0.036	(0.102)	0.332
140	11.67	0.57	0.369	0.036	(0.102)	0.332
141	11.75	0.57	0.369	0.036	(0.102)	0.333
142	11.83	0.60	0.390	0.036	(0.108)	0.355
143	11.92	0.60	0.390	0.036	(0.108)	0.355
144	12.00	0.60	0.390	0.035	(0.108)	0.355
145	12.08	0.83	0.542	0.035	(0.150)	0.507
146	12.17	0.83	0.542	0.035	(0.150)	0.507
147	12.25	0.83	0.542	0.035	(0.150)	0.507
148	12.33	0.87	0.564	0.035	(0.156)	0.529
149	12.42	0.87	0.564	0.034	(0.156)	0.529
150	12.50	0.87	0.564	0.034	(0.156)	0.529
151	12.58	0.93	0.607	0.034	(0.168)	0.573
152	12.67	0.93	0.607	0.034	(0.168)	0.573
153	12.75	0.93	0.607	0.034	(0.168)	0.573
154	12.83	0.97	0.629	0.034	(0.174)	0.595
155	12.92	0.97	0.629	0.033	(0.174)	0.595
156	13.00	0.97	0.629	0.033	(0.174)	0.595
157	13.08	1.13	0.737	0.033	(0.203)	0.704
158	13.17	1.13	0.737	0.033	(0.203)	0.704
159	13.25	1.13	0.737	0.033	(0.203)	0.704
160	13.33	1.13	0.737	0.033	(0.203)	0.704
161	13.42	1.13	0.737	0.032	(0.203)	0.705
162	13.50	1.13	0.737	0.032	(0.203)	0.705
163	13.58	0.77	0.499	0.032	(0.138)	0.467
164	13.67	0.77	0.499	0.032	(0.138)	0.467
165	13.75	0.77	0.499	0.032	(0.138)	0.467
166	13.83	0.77	0.499	0.032	(0.138)	0.467
167	13.92	0.77	0.499	0.031	(0.138)	0.467
168	14.00	0.77	0.499	0.031	(0.138)	0.467

169	14.08	0.90	0.585	0.031	(0.162)	0.554
170	14.17	0.90	0.585	0.031	(0.162)	0.554
171	14.25	0.90	0.585	0.031	(0.162)	0.555
172	14.33	0.87	0.564	0.031	(0.156)	0.533
173	14.42	0.87	0.564	0.031	(0.156)	0.533
174	14.50	0.87	0.564	0.030	(0.156)	0.533
175	14.58	0.87	0.564	0.030	(0.156)	0.533
176	14.67	0.87	0.564	0.030	(0.156)	0.534
177	14.75	0.87	0.564	0.030	(0.156)	0.534
178	14.83	0.83	0.542	0.030	(0.150)	0.512
179	14.92	0.83	0.542	0.030	(0.150)	0.512
180	15.00	0.83	0.542	0.029	(0.150)	0.513
181	15.08	0.80	0.520	0.029	(0.144)	0.491
182	15.17	0.80	0.520	0.029	(0.144)	0.491
183	15.25	0.80	0.520	0.029	(0.144)	0.491
184	15.33	0.77	0.499	0.029	(0.138)	0.470
185	15.42	0.77	0.499	0.029	(0.138)	0.470
186	15.50	0.77	0.499	0.029	(0.138)	0.470
187	15.58	0.63	0.412	0.028	(0.114)	0.384
188	15.67	0.63	0.412	0.028	(0.114)	0.384
189	15.75	0.63	0.412	0.028	(0.114)	0.384
190	15.83	0.63	0.412	0.028	(0.114)	0.384
191	15.92	0.63	0.412	0.028	(0.114)	0.384
192	16.00	0.63	0.412	0.028	(0.114)	0.384
193	16.08	0.13	0.087	(0.028)	0.024	0.063
194	16.17	0.13	0.087	(0.027)	0.024	0.063
195	16.25	0.13	0.087	(0.027)	0.024	0.063
196	16.33	0.13	0.087	(0.027)	0.024	0.063
197	16.42	0.13	0.087	(0.027)	0.024	0.063
198	16.50	0.13	0.087	(0.027)	0.024	0.063
199	16.58	0.10	0.065	(0.027)	0.018	0.047
200	16.67	0.10	0.065	(0.027)	0.018	0.047
201	16.75	0.10	0.065	(0.026)	0.018	0.047
202	16.83	0.10	0.065	(0.026)	0.018	0.047
203	16.92	0.10	0.065	(0.026)	0.018	0.047
204	17.00	0.10	0.065	(0.026)	0.018	0.047
205	17.08	0.17	0.108	0.026	(0.030)	0.082
206	17.17	0.17	0.108	0.026	(0.030)	0.083
207	17.25	0.17	0.108	0.026	(0.030)	0.083
208	17.33	0.17	0.108	0.026	(0.030)	0.083
209	17.42	0.17	0.108	0.025	(0.030)	0.083
210	17.50	0.17	0.108	0.025	(0.030)	0.083
211	17.58	0.17	0.108	0.025	(0.030)	0.083
212	17.67	0.17	0.108	0.025	(0.030)	0.083
213	17.75	0.17	0.108	0.025	(0.030)	0.084
214	17.83	0.13	0.087	(0.025)	0.024	0.063
215	17.92	0.13	0.087	(0.025)	0.024	0.063
216	18.00	0.13	0.087	(0.025)	0.024	0.063
217	18.08	0.13	0.087	(0.024)	0.024	0.063
218	18.17	0.13	0.087	(0.024)	0.024	0.063
219	18.25	0.13	0.087	(0.024)	0.024	0.063
220	18.33	0.13	0.087	(0.024)	0.024	0.063
221	18.42	0.13	0.087	0.024	(0.024)	0.063
222	18.50	0.13	0.087	0.024	(0.024)	0.063
223	18.58	0.10	0.065	(0.024)	0.018	0.047
224	18.67	0.10	0.065	(0.024)	0.018	0.047

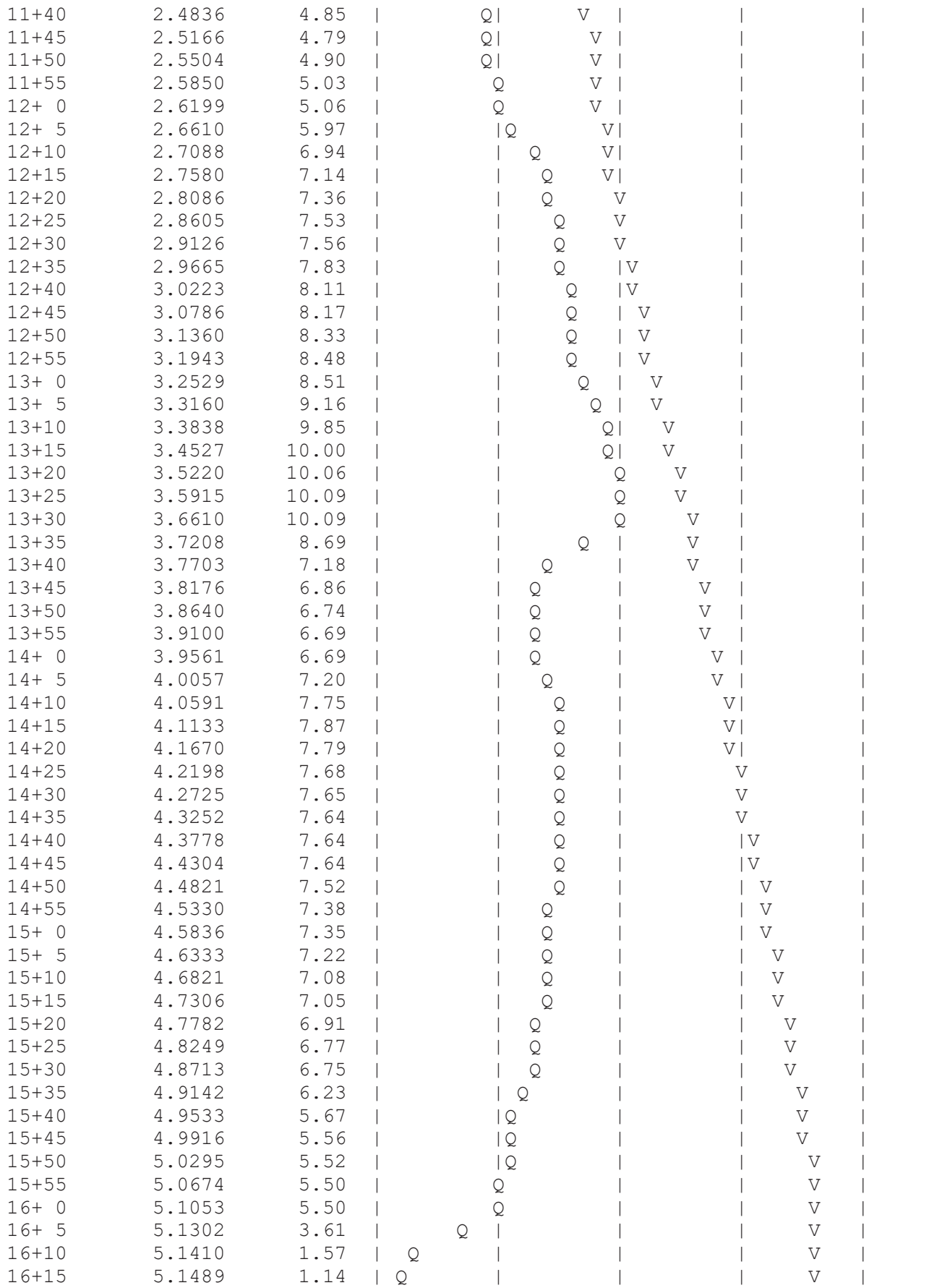
225	18.75	0.10	0.065	(0.023)	0.018	0.047
226	18.83	0.07	0.043	(0.023)	0.012	0.031
227	18.92	0.07	0.043	(0.023)	0.012	0.031
228	19.00	0.07	0.043	(0.023)	0.012	0.031
229	19.08	0.10	0.065	(0.023)	0.018	0.047
230	19.17	0.10	0.065	(0.023)	0.018	0.047
231	19.25	0.10	0.065	(0.023)	0.018	0.047
232	19.33	0.13	0.087	0.023	(0.024)	0.064
233	19.42	0.13	0.087	0.023	(0.024)	0.064
234	19.50	0.13	0.087	0.022	(0.024)	0.064
235	19.58	0.10	0.065	(0.022)	0.018	0.047
236	19.67	0.10	0.065	(0.022)	0.018	0.047
237	19.75	0.10	0.065	(0.022)	0.018	0.047
238	19.83	0.07	0.043	(0.022)	0.012	0.031
239	19.92	0.07	0.043	(0.022)	0.012	0.031
240	20.00	0.07	0.043	(0.022)	0.012	0.031
241	20.08	0.10	0.065	(0.022)	0.018	0.047
242	20.17	0.10	0.065	(0.022)	0.018	0.047
243	20.25	0.10	0.065	(0.022)	0.018	0.047
244	20.33	0.10	0.065	(0.022)	0.018	0.047
245	20.42	0.10	0.065	(0.021)	0.018	0.047
246	20.50	0.10	0.065	(0.021)	0.018	0.047
247	20.58	0.10	0.065	(0.021)	0.018	0.047
248	20.67	0.10	0.065	(0.021)	0.018	0.047
249	20.75	0.10	0.065	(0.021)	0.018	0.047
250	20.83	0.07	0.043	(0.021)	0.012	0.031
251	20.92	0.07	0.043	(0.021)	0.012	0.031
252	21.00	0.07	0.043	(0.021)	0.012	0.031
253	21.08	0.10	0.065	(0.021)	0.018	0.047
254	21.17	0.10	0.065	(0.021)	0.018	0.047
255	21.25	0.10	0.065	(0.021)	0.018	0.047
256	21.33	0.07	0.043	(0.020)	0.012	0.031
257	21.42	0.07	0.043	(0.020)	0.012	0.031
258	21.50	0.07	0.043	(0.020)	0.012	0.031
259	21.58	0.10	0.065	(0.020)	0.018	0.047
260	21.67	0.10	0.065	(0.020)	0.018	0.047
261	21.75	0.10	0.065	(0.020)	0.018	0.047
262	21.83	0.07	0.043	(0.020)	0.012	0.031
263	21.92	0.07	0.043	(0.020)	0.012	0.031
264	22.00	0.07	0.043	(0.020)	0.012	0.031
265	22.08	0.10	0.065	(0.020)	0.018	0.047
266	22.17	0.10	0.065	(0.020)	0.018	0.047
267	22.25	0.10	0.065	(0.020)	0.018	0.047
268	22.33	0.07	0.043	(0.020)	0.012	0.031
269	22.42	0.07	0.043	(0.020)	0.012	0.031
270	22.50	0.07	0.043	(0.020)	0.012	0.031
271	22.58	0.07	0.043	(0.019)	0.012	0.031
272	22.67	0.07	0.043	(0.019)	0.012	0.031
273	22.75	0.07	0.043	(0.019)	0.012	0.031
274	22.83	0.07	0.043	(0.019)	0.012	0.031
275	22.92	0.07	0.043	(0.019)	0.012	0.031
276	23.00	0.07	0.043	(0.019)	0.012	0.031
277	23.08	0.07	0.043	(0.019)	0.012	0.031
278	23.17	0.07	0.043	(0.019)	0.012	0.031
279	23.25	0.07	0.043	(0.019)	0.012	0.031
280	23.33	0.07	0.043	(0.019)	0.012	0.031

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281  23.42     0.07      0.043       (  0.019)       0.012        0.031
282  23.50     0.07      0.043       (  0.019)       0.012        0.031
283  23.58     0.07      0.043       (  0.019)       0.012        0.031
284  23.67     0.07      0.043       (  0.019)       0.012        0.031
285  23.75     0.07      0.043       (  0.019)       0.012        0.031
286  23.83     0.07      0.043       (  0.019)       0.012        0.031
287  23.92     0.07      0.043       (  0.019)       0.012        0.031
288  24.00     0.07      0.043       (  0.019)       0.012        0.031
          (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    56.6
     Flood volume = Effective rainfall      4.72(In)
      times area      14.2(Ac.)/[(In)/(Ft.)] =       5.6(Ac.Ft)
     Total soil loss =      0.70(In)
     Total soil loss =     0.827(Ac.Ft)
     Total rainfall =      5.42(In)
     Flood volume =      243325.9 Cubic Feet
     Total soil loss =       36045.6 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     10.090(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        5.0      10.0      15.0      20.0
 ---------------------------------------------------------------------------
   0+ 5       0.0013      0.18  Q         |         |         |         |
   0+10       0.0039      0.38  Q         |         |         |         |
   0+15       0.0068      0.43  Q         |         |         |         |
   0+20       0.0105      0.53  VQ        |         |         |         |
   0+25       0.0149      0.64  VQ        |         |         |         |
   0+30       0.0195      0.66  VQ        |         |         |         |
   0+35       0.0241      0.67  VQ        |         |         |         |
   0+40       0.0288      0.67  VQ        |         |         |         |
   0+45       0.0334      0.67  VQ        |         |         |         |
   0+50       0.0387      0.77  VQ        |         |         |         |
   0+55       0.0446      0.87  VQ        |         |         |         |
   1+ 0       0.0508      0.89  VQ        |         |         |         |
   1+ 5       0.0563      0.80  VQ        |         |         |         |
   1+10       0.0612      0.71  VQ        |         |         |         |
   1+15       0.0659      0.69  VQ        |         |         |         |
   1+20       0.0706      0.68  VQ        |         |         |         |
   1+25       0.0752      0.67  VQ        |         |         |         |
   1+30       0.0798      0.67  VQ        |         |         |         |
   1+35       0.0845      0.67  VQ        |         |         |         |
   1+40       0.0891      0.67  VQ        |         |         |         |
   1+45       0.0938      0.67  VQ        |         |         |         |
   1+50       0.0990      0.77  VQ        |         |         |         |
   1+55       0.1050      0.87  VQ        |         |         |         |
   2+ 0       0.1111      0.89  VQ        |         |         |         |
   2+ 5       0.1173      0.90  VQ        |         |         |         |
   2+10       0.1235      0.90  VQ        |         |         |         |
   2+15       0.1297      0.90  VQ        |         |         |         |
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2+20       0.1359      0.90  VQ        |         |         |         |
2+25       0.1421      0.90  |Q        |         |         |         |
2+30       0.1482      0.90  |Q        |         |         |         |
2+35       0.1551      0.99  |Q        |         |         |         |
2+40       0.1626      1.09  |VQ       |         |         |         |
2+45       0.1702      1.11  |VQ       |         |         |         |
2+50       0.1780      1.12  |VQ       |         |         |         |
2+55       0.1857      1.12  |VQ       |         |         |         |
3+ 0       0.1934      1.12  |VQ       |         |         |         |
3+ 5       0.2012      1.12  |VQ       |         |         |         |
3+10       0.2089      1.12  |VQ       |         |         |         |
3+15       0.2166      1.12  |VQ       |         |         |         |
3+20       0.2244      1.12  |VQ       |         |         |         |
3+25       0.2321      1.12  |VQ       |         |         |         |
3+30       0.2399      1.12  |VQ       |         |         |         |
3+35       0.2476      1.12  |VQ       |         |         |         |
3+40       0.2553      1.12  |VQ       |         |         |         |
3+45       0.2631      1.12  |VQ       |         |         |         |
3+50       0.2715      1.22  |VQ       |         |         |         |
3+55       0.2805      1.32  | Q       |         |         |         |
4+ 0       0.2897      1.34  | Q       |         |         |         |
4+ 5       0.2990      1.34  | Q       |         |         |         |
4+10       0.3083      1.35  | Q       |         |         |         |
4+15       0.3176      1.35  | Q       |         |         |         |
4+20       0.3275      1.44  | Q       |         |         |         |
4+25       0.3381      1.54  | VQ      |         |         |         |
4+30       0.3488      1.56  | VQ      |         |         |         |
4+35       0.3596      1.57  | VQ      |         |         |         |
4+40       0.3705      1.57  | VQ      |         |         |         |
4+45       0.3813      1.57  | VQ      |         |         |         |
4+50       0.3928      1.67  | VQ      |         |         |         |
4+55       0.4049      1.76  | VQ      |         |         |         |
5+ 0       0.4172      1.79  | VQ      |         |         |         |
5+ 5       0.4283      1.61  |  Q      |         |         |         |
5+10       0.4381      1.41  | QV      |         |         |         |
5+15       0.4475      1.37  | QV      |         |         |         |
5+20       0.4575      1.45  | QV      |         |         |         |
5+25       0.4681      1.54  |  Q      |         |         |         |
5+30       0.4788      1.56  |  Q      |         |         |         |
5+35       0.4903      1.66  |  Q      |         |         |         |
5+40       0.5024      1.76  |  Q      |         |         |         |
5+45       0.5147      1.79  |  Q      |         |         |         |
5+50       0.5271      1.79  |  Q      |         |         |         |
5+55       0.5395      1.80  |  Q      |         |         |         |
6+ 0       0.5519      1.80  |  Q      |         |         |         |
6+ 5       0.5651      1.92  |  QV     |         |         |         |
6+10       0.5791      2.04  |   Q     |         |         |         |
6+15       0.5934      2.07  |   Q     |         |         |         |
6+20       0.6078      2.09  |   Q     |         |         |         |
6+25       0.6222      2.09  |   Q     |         |         |         |
6+30       0.6367      2.10  |   Q     |         |         |         |
6+35       0.6520      2.23  |   Q     |         |         |         |
6+40       0.6683      2.37  |   Q     |         |         |         |
6+45       0.6848      2.40  |   Q     |         |         |         |
6+50       0.7015      2.42  |   QV    |         |         |         |
6+55       0.7182      2.42  |   QV    |         |         |         |
```

```
 7+ 0       0.7349      2.43  |   QV    |         |         |         |
 7+ 5       0.7516      2.43  |   QV    |         |         |         |
 7+10       0.7684      2.43  |   QV    |         |         |         |
 7+15       0.7852      2.44  |   QV    |         |         |         |
 7+20       0.8028      2.57  |    Q    |         |         |         |
 7+25       0.8215      2.71  |    Q    |         |         |         |
 7+30       0.8403      2.74  |    QV   |         |         |         |
 7+35       0.8602      2.88  |    QV   |         |         |         |
 7+40       0.8810      3.03  |     Q   |         |         |         |
 7+45       0.9021      3.06  |     Q   |         |         |         |
 7+50       0.9241      3.20  |     Q   |         |         |         |
 7+55       0.9472      3.35  |     Q   |         |         |         |
 8+ 0       0.9704      3.38  |     Q   |         |         |         |
 8+ 5       0.9955      3.65  |      Q  |         |         |         |
 8+10       1.0226      3.93  |      Q  |         |         |         |
 8+15       1.0501      3.99  |      Q  |         |         |         |
 8+20       1.0777      4.02  |      VQ |         |         |         |
 8+25       1.1055      4.03  |      VQ |         |         |         |
 8+30       1.1333      4.03  |       Q |         |         |         |
 8+35       1.1619      4.16  |       Q |         |         |         |
 8+40       1.1916      4.30  |       Q |         |         |         |
 8+45       1.2214      4.34  |       Q |         |         |         |
 8+50       1.2523      4.48  |       Q |         |         |         |
 8+55       1.2841      4.62  |        Q|         |         |         |
 9+ 0       1.3162      4.65  |        Q|         |         |         |
 9+ 5       1.3501      4.92  |        Q|         |         |         |
 9+10       1.3859      5.21  |        VQ         |         |         |
 9+15       1.4222      5.27  |         Q         |         |         |
 9+20       1.4595      5.42  |         Q         |         |         |
 9+25       1.4979      5.57  |         VQ        |         |         |
 9+30       1.5365      5.60  |          |Q       |         |         |
 9+35       1.5761      5.74  |          |Q       |         |         |
 9+40       1.6166      5.89  |          |Q       |         |         |
 9+45       1.6574      5.92  |          |Q       |         |         |
 9+50       1.6992      6.06  |          | Q      |         |         |
 9+55       1.7419      6.21  |          | Q      |         |         |
10+ 0       1.7849      6.24  |          | Q      |         |         |
10+ 5       1.8218      5.36  |         Q  V      |         |         |
10+10       1.8522      4.41  |       Q |  V      |         |         |
10+15       1.8812      4.21  |       Q |  V      |         |         |
10+20       1.9096      4.13  |       Q |  V      |         |         |
10+25       1.9378      4.10  |       Q |  V      |         |         |
10+30       1.9661      4.10  |       Q |   V     |         |         |
10+35       1.9987      4.74  |        Q|   V     |         |         |
10+40       2.0361      5.43  |         Q   V     |         |         |
10+45       2.0745      5.58  |         |Q  V     |         |         |
10+50       2.1134      5.64  |         |Q   V    |         |         |
10+55       2.1524      5.67  |         |Q   V    |         |         |
11+ 0       2.1914      5.67  |         |Q   V    |         |         |
11+ 5       2.2296      5.54  |         |Q   V    |         |         |
11+10       2.2669      5.41  |         Q     V   |         |         |
11+15       2.3039      5.38  |         Q     V   |         |         |
11+20       2.3409      5.37  |         Q     V   |         |         |
11+25       2.3779      5.37  |         Q      V  |         |         |
11+30       2.4149      5.37  |         Q      V  |         |         |
11+35       2.4502      5.12  |         Q      V  |         |         |
```



11+40	2.4836	4.85	Q V
11+45	2.5166	4.79	Q V
11+50	2.5504	4.90	Q V
11+55	2.5850	5.03	Q V
12+ 0	2.6199	5.06	Q V
12+ 5	2.6610	5.97	Q V
12+10	2.7088	6.94	Q V
12+15	2.7580	7.14	Q V
12+20	2.8086	7.36	Q V
12+25	2.8605	7.53	Q V
12+30	2.9126	7.56	Q V
12+35	2.9665	7.83	Q V
12+40	3.0223	8.11	Q V
12+45	3.0786	8.17	Q V
12+50	3.1360	8.33	Q V
12+55	3.1943	8.48	Q V
13+ 0	3.2529	8.51	Q V
13+ 5	3.3160	9.16	Q V
13+10	3.3838	9.85	Q V
13+15	3.4527	10.00	Q V
13+20	3.5220	10.06	Q V
13+25	3.5915	10.09	Q V
13+30	3.6610	10.09	Q V
13+35	3.7208	8.69	Q V
13+40	3.7703	7.18	Q V
13+45	3.8176	6.86	Q V
13+50	3.8640	6.74	Q V
13+55	3.9100	6.69	Q V
14+ 0	3.9561	6.69	Q V
14+ 5	4.0057	7.20	Q V
14+10	4.0591	7.75	Q V
14+15	4.1133	7.87	Q V
14+20	4.1670	7.79	Q V
14+25	4.2198	7.68	Q V
14+30	4.2725	7.65	Q V
14+35	4.3252	7.64	Q V
14+40	4.3778	7.64	Q V
14+45	4.4304	7.64	Q V
14+50	4.4821	7.52	Q V
14+55	4.5330	7.38	Q V
15+ 0	4.5836	7.35	Q V
15+ 5	4.6333	7.22	Q V
15+10	4.6821	7.08	Q V
15+15	4.7306	7.05	Q V
15+20	4.7782	6.91	Q V
15+25	4.8249	6.77	Q V
15+30	4.8713	6.75	Q V
15+35	4.9142	6.23	Q V
15+40	4.9533	5.67	Q V
15+45	4.9916	5.56	Q V
15+50	5.0295	5.52	Q V
15+55	5.0674	5.50	Q V
16+ 0	5.1053	5.50	Q V
16+ 5	5.1302	3.61	Q V
16+10	5.1410	1.57	Q V
16+15	5.1489	1.14	Q V

```
16+20       5.1556      0.97  |Q        |         |         |     V   |
16+25       5.1618      0.90  |Q        |         |         |     V   |
16+30       5.1680      0.90  |Q        |         |         |      V  |
16+35       5.1735      0.81  |Q        |         |         |      V  |
16+40       5.1784      0.71  |Q        |         |         |      V  |
16+45       5.1831      0.69  |Q        |         |         |      V  |
16+50       5.1878      0.68  |Q        |         |         |      V  |
16+55       5.1924      0.67  |Q        |         |         |      V  |
17+ 0       5.1971      0.67  |Q        |         |         |      V  |
17+ 5       5.2032      0.88  |Q        |         |         |      V  |
17+10       5.2108      1.11  | Q       |         |         |      V  |
17+15       5.2187      1.16  | Q       |         |         |      V  |
17+20       5.2268      1.18  | Q       |         |         |      V  |
17+25       5.2350      1.19  | Q       |         |         |      V  |
17+30       5.2432      1.19  | Q       |         |         |      V  |
17+35       5.2514      1.19  | Q       |         |         |      V  |
17+40       5.2596      1.19  | Q       |         |         |      V  |
17+45       5.2679      1.19  | Q       |         |         |      V  |
17+50       5.2752      1.07  | Q       |         |         |      V  |
17+55       5.2817      0.94  |Q        |         |         |      V  |
18+ 0       5.2880      0.91  |Q        |         |         |      V  |
18+ 5       5.2943      0.90  |Q        |         |         |      V  |
18+10       5.3004      0.90  |Q        |         |         |      V  |
18+15       5.3066      0.90  |Q        |         |         |      V  |
18+20       5.3128      0.90  |Q        |         |         |       V |
18+25       5.3190      0.90  |Q        |         |         |       V |
18+30       5.3252      0.90  |Q        |         |         |       V |
18+35       5.3308      0.81  |Q        |         |         |       V |
18+40       5.3357      0.71  |Q        |         |         |       V |
18+45       5.3404      0.69  |Q        |         |         |       V |
18+50       5.3444      0.59  |Q        |         |         |       V |
18+55       5.3477      0.48  Q        |         |         |       V |
19+ 0       5.3509      0.46  Q        |         |         |       V |
19+ 5       5.3547      0.55  |Q        |         |         |       V |
19+10       5.3591      0.64  |Q        |         |         |       V |
19+15       5.3636      0.66  |Q        |         |         |       V |
19+20       5.3689      0.77  |Q        |         |         |       V |
19+25       5.3750      0.88  |Q        |         |         |       V |
19+30       5.3813      0.91  |Q        |         |         |       V |
19+35       5.3869      0.81  |Q        |         |         |       V |
19+40       5.3918      0.71  |Q        |         |         |       V |
19+45       5.3965      0.69  |Q        |         |         |       V |
19+50       5.4005      0.59  |Q        |         |         |       V |
19+55       5.4039      0.48  Q        |         |         |       V |
20+ 0       5.4070      0.46  Q        |         |         |       V |
20+ 5       5.4108      0.55  |Q        |         |         |       V |
20+10       5.4152      0.64  |Q        |         |         |       V |
20+15       5.4198      0.66  |Q        |         |         |       V |
20+20       5.4244      0.67  |Q        |         |         |       V |
20+25       5.4290      0.67  |Q        |         |         |       V |
20+30       5.4337      0.67  |Q        |         |         |       V |
20+35       5.4383      0.67  |Q        |         |         |       V |
20+40       5.4430      0.67  |Q        |         |         |       V |
20+45       5.4476      0.67  |Q        |         |         |        V|
20+50       5.4516      0.58  |Q        |         |         |        V|
20+55       5.4549      0.48  Q        |         |         |        V|
```

```
   21+ 0       5.4581      0.46  Q          |          |          |          V|
   21+ 5       5.4619      0.55  |Q         |          |          |          V|
   21+10       5.4663      0.64  |Q         |          |          |          V|
   21+15       5.4708      0.66  |Q         |          |          |          V|
   21+20       5.4748      0.58  |Q         |          |          |          V|
   21+25       5.4781      0.48  Q          |          |          |          V|
   21+30       5.4813      0.46  Q          |          |          |          V|
   21+35       5.4851      0.55  |Q         |          |          |          V|
   21+40       5.4895      0.64  |Q         |          |          |          V|
   21+45       5.4941      0.66  |Q         |          |          |          V|
   21+50       5.4980      0.58  |Q         |          |          |          V|
   21+55       5.5014      0.48  Q          |          |          |          V|
   22+ 0       5.5045      0.46  Q          |          |          |          V|
   22+ 5       5.5083      0.55  |Q         |          |          |          V|
   22+10       5.5127      0.64  |Q         |          |          |          V|
   22+15       5.5173      0.66  |Q         |          |          |          V|
   22+20       5.5213      0.58  |Q         |          |          |          V|
   22+25       5.5246      0.48  Q          |          |          |          V|
   22+30       5.5278      0.46  Q          |          |          |          V|
   22+35       5.5309      0.45  Q          |          |          |          V|
   22+40       5.5340      0.45  Q          |          |          |          V|
   22+45       5.5371      0.45  Q          |          |          |          V|
   22+50       5.5402      0.45  Q          |          |          |          V|
   22+55       5.5433      0.45  Q          |          |          |          V|
   23+ 0       5.5464      0.45  Q          |          |          |          V|
   23+ 5       5.5494      0.45  Q          |          |          |          V|
   23+10       5.5525      0.45  Q          |          |          |          V|
   23+15       5.5556      0.45  Q          |          |          |          V|
   23+20       5.5587      0.45  Q          |          |          |          V|
   23+25       5.5618      0.45  Q          |          |          |          V|
   23+30       5.5649      0.45  Q          |          |          |          V|
   23+35       5.5680      0.45  Q          |          |          |          V|
   23+40       5.5711      0.45  Q          |          |          |          V|
   23+45       5.5742      0.45  Q          |          |          |          V|
   23+50       5.5773      0.45  Q          |          |          |          V|
   23+55       5.5804      0.45  Q          |          |          |          V|
   24+ 0       5.5835      0.45  Q          |          |          |          V|
   24+ 5       5.5853      0.27  Q          |          |          |          V|
   24+10       5.5858      0.07  Q          |          |          |          V|
   24+15       5.5859      0.02  Q          |          |          |          V|
   24+20       5.5860      0.01  Q          |          |          |           V
-------------------------------------------------------------------------------
```

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 2)
2-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 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]
25.58	0.49	12.64

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       25.58              1.59                 40.67

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    0.494(In)
Areal adjustment factor =   99.98 %
Adjusted average point rain =    0.494(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.878      0.003
56.0  56.0      0.511     0.000        0.511       0.043      0.022
75.0  75.0      0.303     0.000        0.303       0.079      0.024
                                                  Sum (F) =   0.049
Area averaged mean soil loss (F) (In/Hr) =  0.049
Minimum soil loss rate ((In/Hr)) =  0.025
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.202	(0.049)	0.048	0.154
2	0.17	4.70	0.279	0.049	(0.066)	0.229
3	0.25	4.70	0.279	0.049	(0.066)	0.229
4	0.33	5.10	0.302	0.049	(0.071)	0.253
5	0.42	5.80	0.344	0.049	(0.081)	0.294
6	0.50	5.90	0.350	0.049	(0.083)	0.300
7	0.58	7.10	0.421	0.049	(0.099)	0.371
8	0.67	8.70	0.516	0.049	(0.122)	0.466
9	0.75	13.20	0.782	0.049	(0.185)	0.733
10	0.83	29.70	1.760	0.049	(0.415)	1.711
11	0.92	7.70	0.456	0.049	(0.108)	0.407
12	1.00	4.00	0.237	0.049	(0.056)	0.188

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.3

Flood volume = Effective rainfall 0.44(In)
times area 25.6(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.05(In)
Total soil loss = 0.105(Ac.Ft)
Total rainfall = 0.49(In)
Flood volume = 41294.0 Cubic Feet
Total soil loss = 4566.0 Cubic Feet

Peak flow rate of this hydrograph = 27.269(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	7.5	15.0	22.5	30.0
0+ 5	0.0091	1.32	VQ				
0+10	0.0354	3.83	V Q				
0+15	0.0711	5.18	V Q				
0+20	0.1111	5.80	V Q				
0+25	0.1567	6.63	V Q				
0+30	0.2074	7.35	VQ				
0+35	0.2639	8.21	QV				
0+40	0.3326	9.97	Q V				
0+45	0.4265	13.64	VQ				
0+50	0.6030	25.62	V	Q			
0+55	0.7908	27.27	V Q				
1+ 0	0.8791	12.82	Q V				
1+ 5	0.9220	6.23	Q V				
1+10	0.9385	2.39	Q V				
1+15	0.9458	1.07	Q V				
1+20	0.9475	0.26	Q V				
1+25	0.9480	0.06	Q V				

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 2)
2-Year Design Storm

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Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
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Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
25.58	0.85	21.67

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      25.58              2.20                 56.28

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    0.847(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.847(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.878      0.003
56.0  56.0      0.511     0.000        0.511       0.043      0.022
75.0  75.0      0.303     0.000        0.303       0.079      0.024
                                                   Sum (F) =   0.049
Area averaged mean soil loss (F) (In/Hr) =  0.049
Minimum soil loss rate ((In/Hr)) =  0.025
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	1.30	0.132	(0.049)		0.031	0.101
2	0.17	1.30	0.132	(0.049)		0.031	0.101
3	0.25	1.10	0.112	(0.049)		0.026	0.085
4	0.33	1.50	0.152	(0.049)		0.036	0.116
5	0.42	1.50	0.152	(0.049)		0.036	0.116
6	0.50	1.80	0.183	(0.049)		0.043	0.140
7	0.58	1.50	0.152	(0.049)		0.036	0.116
8	0.67	1.80	0.183	(0.049)		0.043	0.140
9	0.75	1.80	0.183	(0.049)		0.043	0.140
10	0.83	1.50	0.152	(0.049)		0.036	0.116
11	0.92	1.60	0.163	(0.049)		0.038	0.124
12	1.00	1.80	0.183	(0.049)		0.043	0.140
13	1.08	2.20	0.224	0.049	(	0.053)	0.174
14	1.17	2.20	0.224	0.049	(	0.053)	0.174
15	1.25	2.20	0.224	0.049	(	0.053)	0.174
16	1.33	2.00	0.203	(0.049)		0.048	0.155
17	1.42	2.60	0.264	0.049	(	0.062)	0.215
18	1.50	2.70	0.274	0.049	(	0.065)	0.225
19	1.58	2.40	0.244	0.049	(	0.058)	0.195
20	1.67	2.70	0.274	0.049	(	0.065)	0.225
21	1.75	3.30	0.335	0.049	(	0.079)	0.286
22	1.83	3.10	0.315	0.049	(	0.074)	0.266
23	1.92	2.90	0.295	0.049	(	0.070)	0.245
24	2.00	3.00	0.305	0.049	(	0.072)	0.256
25	2.08	3.10	0.315	0.049	(	0.074)	0.266
26	2.17	4.20	0.427	0.049	(	0.101)	0.378
27	2.25	5.00	0.508	0.049	(	0.120)	0.459
28	2.33	3.50	0.356	0.049	(	0.084)	0.306
29	2.42	6.80	0.691	0.049	(	0.163)	0.642
30	2.50	7.30	0.742	0.049	(	0.175)	0.693
31	2.58	8.20	0.833	0.049	(	0.197)	0.784
32	2.67	5.90	0.600	0.049	(	0.142)	0.550
33	2.75	2.00	0.203	(0.049)		0.048	0.155
34	2.83	1.80	0.183	(0.049)		0.043	0.140
35	2.92	1.80	0.183	(0.049)		0.043	0.140
36	3.00	0.60	0.061	(0.049)		0.014	0.047

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.6

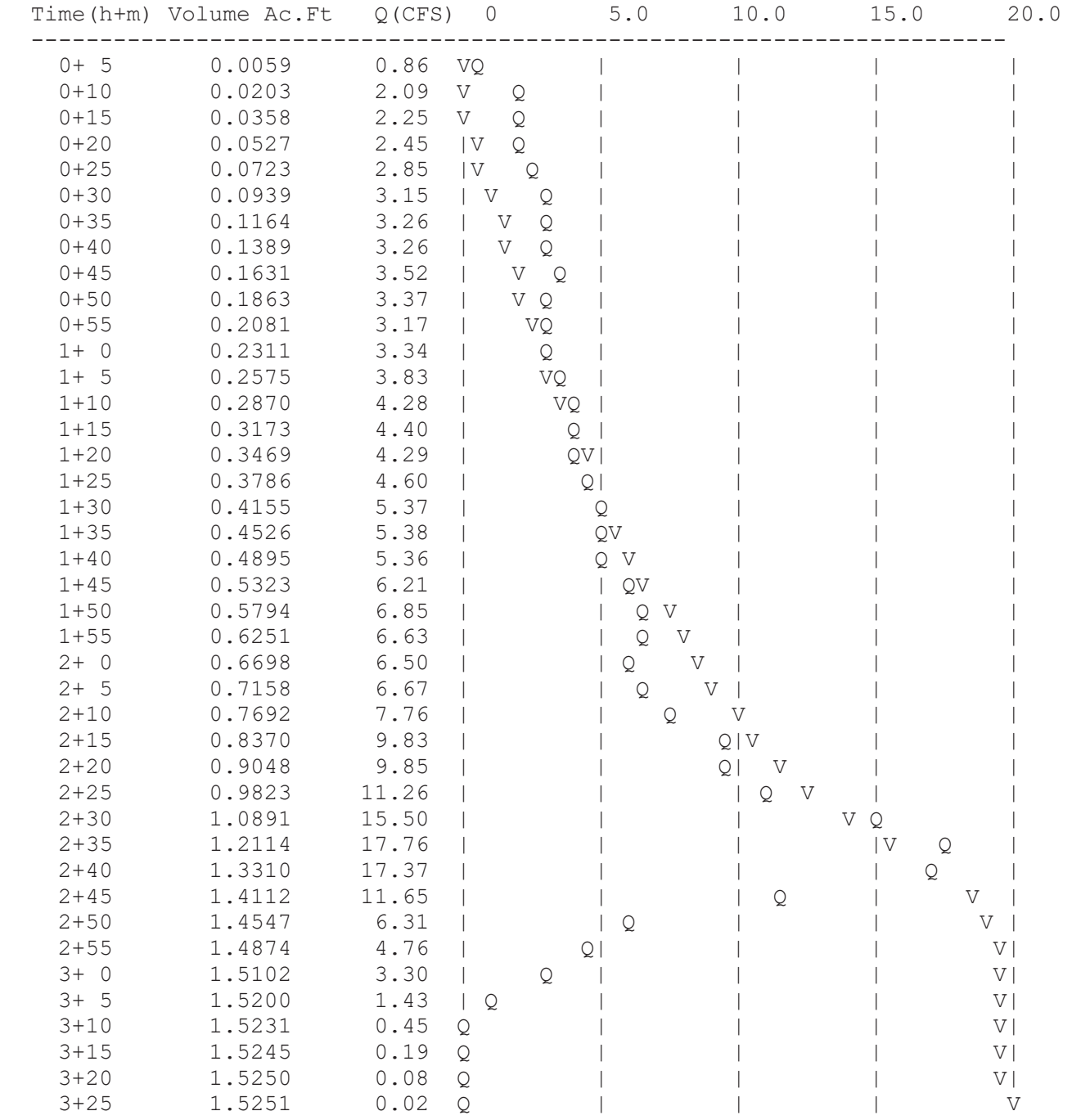
Flood volume = Effective rainfall 0.72(In)
times area 25.6(Ac.)/[(In)/(Ft.)] = 1.5(Ac.Ft)
Total soil loss = 0.13(In)
Total soil loss = 0.280(Ac.Ft)
Total rainfall = 0.85(In)
Flood volume = 66433.4 Cubic Feet
Total soil loss = 12206.3 Cubic Feet

Peak flow rate of this hydrograph = 17.758(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 5.0 10.0 15.0 20.0
0+ 5 0.0059 0.86
0+10 0.0203 2.09
0+15 0.0358 2.25
0+20 0.0527 2.45
0+25 0.0723 2.85
0+30 0.0939 3.15
0+35 0.1164 3.26
0+40 0.1389 3.26
0+45 0.1631 3.52
0+50 0.1863 3.37
0+55 0.2081 3.17
1+ 0 0.2311 3.34
1+ 5 0.2575 3.83
1+10 0.2870 4.28
1+15 0.3173 4.40
1+20 0.3469 4.29
1+25 0.3786 4.60
1+30 0.4155 5.37
1+35 0.4526 5.38
1+40 0.4895 5.36
1+45 0.5323 6.21
1+50 0.5794 6.85
1+55 0.6251 6.63
2+ 0 0.6698 6.50
2+ 5 0.7158 6.67
2+10 0.7692 7.76
2+15 0.8370 9.83
2+20 0.9048 9.85
2+25 0.9823 11.26
2+30 1.0891 15.50
2+35 1.2114 17.76
2+40 1.3310 17.37
2+45 1.4112 11.65
2+50 1.4547 6.31
2+55 1.4874 4.76
3+ 0 1.5102 3.30
3+ 5 1.5200 1.43
3+10 1.5231 0.45
3+15 1.5245 0.19
3+20 1.5250 0.08
3+25 1.5251 0.02

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

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Study date 03/28/24 File: hemetuhpra2262.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 2)
2-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
25.58	1.18	30.18

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      25.58              2.92                 74.69

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    1.180(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.180(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.878      0.003
56.0  56.0      0.511     0.000        0.511       0.043      0.022
75.0  75.0      0.303     0.000        0.303       0.079      0.024
                                                  Sum (F) =   0.049
Area averaged mean soil loss (F) (In/Hr) =  0.049
Minimum soil loss rate ((In/Hr)) =  0.025
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.50	0.071	(0.049)		0.017	0.054
2	0.17	0.60	0.085	(0.049)		0.020	0.065
3	0.25	0.60	0.085	(0.049)		0.020	0.065
4	0.33	0.60	0.085	(0.049)		0.020	0.065
5	0.42	0.60	0.085	(0.049)		0.020	0.065
6	0.50	0.70	0.099	(0.049)		0.023	0.076
7	0.58	0.70	0.099	(0.049)		0.023	0.076
8	0.67	0.70	0.099	(0.049)		0.023	0.076
9	0.75	0.70	0.099	(0.049)		0.023	0.076
10	0.83	0.70	0.099	(0.049)		0.023	0.076
11	0.92	0.70	0.099	(0.049)		0.023	0.076
12	1.00	0.80	0.113	(0.049)		0.027	0.087
13	1.08	0.80	0.113	(0.049)		0.027	0.087
14	1.17	0.80	0.113	(0.049)		0.027	0.087
15	1.25	0.80	0.113	(0.049)		0.027	0.087
16	1.33	0.80	0.113	(0.049)		0.027	0.087
17	1.42	0.80	0.113	(0.049)		0.027	0.087
18	1.50	0.80	0.113	(0.049)		0.027	0.087
19	1.58	0.80	0.113	(0.049)		0.027	0.087
20	1.67	0.80	0.113	(0.049)		0.027	0.087
21	1.75	0.80	0.113	(0.049)		0.027	0.087
22	1.83	0.80	0.113	(0.049)		0.027	0.087
23	1.92	0.80	0.113	(0.049)		0.027	0.087
24	2.00	0.90	0.127	(0.049)		0.030	0.097
25	2.08	0.80	0.113	(0.049)		0.027	0.087
26	2.17	0.90	0.127	(0.049)		0.030	0.097
27	2.25	0.90	0.127	(0.049)		0.030	0.097
28	2.33	0.90	0.127	(0.049)		0.030	0.097
29	2.42	0.90	0.127	(0.049)		0.030	0.097
30	2.50	0.90	0.127	(0.049)		0.030	0.097
31	2.58	0.90	0.127	(0.049)		0.030	0.097
32	2.67	0.90	0.127	(0.049)		0.030	0.097
33	2.75	1.00	0.142	(0.049)		0.033	0.108
34	2.83	1.00	0.142	(0.049)		0.033	0.108
35	2.92	1.00	0.142	(0.049)		0.033	0.108
36	3.00	1.00	0.142	(0.049)		0.033	0.108
37	3.08	1.00	0.142	(0.049)		0.033	0.108
38	3.17	1.10	0.156	(0.049)		0.037	0.119
39	3.25	1.10	0.156	(0.049)		0.037	0.119
40	3.33	1.10	0.156	(0.049)		0.037	0.119
41	3.42	1.20	0.170	(0.049)		0.040	0.130
42	3.50	1.30	0.184	(0.049)		0.043	0.141
43	3.58	1.40	0.198	(0.049)		0.047	0.151
44	3.67	1.40	0.198	(0.049)		0.047	0.151
45	3.75	1.50	0.212	0.049	(	0.050)	0.163
46	3.83	1.50	0.212	0.049	(	0.050)	0.163
47	3.92	1.60	0.227	0.049	(	0.053)	0.177
48	4.00	1.60	0.227	0.049	(	0.053)	0.177
49	4.08	1.70	0.241	0.049	(	0.057)	0.191
50	4.17	1.80	0.255	0.049	(	0.060)	0.206
51	4.25	1.90	0.269	0.049	(	0.063)	0.220
52	4.33	2.00	0.283	0.049	(	0.067)	0.234
53	4.42	2.10	0.297	0.049	(	0.070)	0.248
54	4.50	2.10	0.297	0.049	(	0.070)	0.248
55	4.58	2.20	0.311	0.049	(	0.074)	0.262

56	4.67	2.30	0.326	0.049	(0.077)		0.276
57	4.75	2.40	0.340	0.049	(0.080)		0.290
58	4.83	2.40	0.340	0.049	(0.080)		0.290
59	4.92	2.50	0.354	0.049	(0.084)		0.305
60	5.00	2.60	0.368	0.049	(0.087)		0.319
61	5.08	3.10	0.439	0.049	(0.104)		0.390
62	5.17	3.60	0.510	0.049	(0.120)		0.460
63	5.25	3.90	0.552	0.049	(0.130)		0.503
64	5.33	4.20	0.595	0.049	(0.140)		0.545
65	5.42	4.70	0.665	0.049	(0.157)		0.616
66	5.50	5.60	0.793	0.049	(0.187)		0.744
67	5.58	1.90	0.269	0.049	(0.063)		0.220
68	5.67	0.90	0.127	(0.049)		0.030	0.097
69	5.75	0.60	0.085	(0.049)		0.020	0.065
70	5.83	0.50	0.071	(0.049)		0.017	0.054
71	5.92	0.30	0.042	(0.049)		0.010	0.032
72	6.00	0.20	0.028	(0.049)		0.007	0.022

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.7

Flood volume = Effective rainfall 0.97(In)
times area 25.6(Ac.)/[(In)/(Ft.)] = 2.1(Ac.Ft)
Total soil loss = 0.21(In)
Total soil loss = 0.444(Ac.Ft)
Total rainfall = 1.18(In)
Flood volume = 90232.8 Cubic Feet
Total soil loss = 19326.9 Cubic Feet

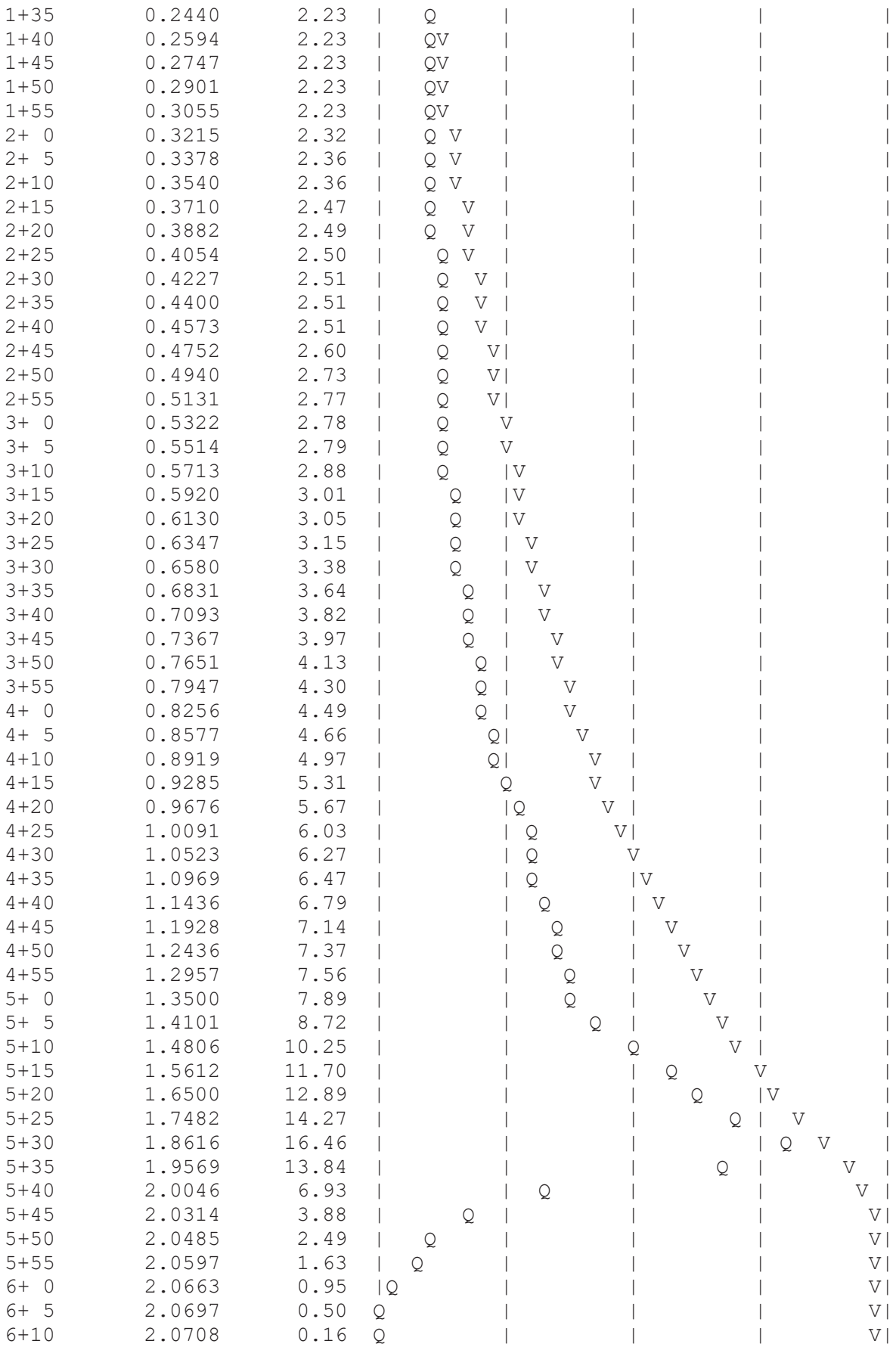
Peak flow rate of this hydrograph = 16.460(CFS)

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

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	0.0032	0.46	Q	|	|	|	|
0+10	0.0115	1.21	V Q	|	|	|	|
0+15	0.0218	1.50	V Q	|	|	|	|
0+20	0.0328	1.60	V Q	|	|	|	|
0+25	0.0442	1.65	V Q	|	|	|	|
0+30	0.0563	1.76	|V Q	|	|	|	|
0+35	0.0694	1.90	|V Q	|	|	|	|
0+40	0.0827	1.93	|V Q	|	|	|	|
0+45	0.0961	1.94	|V Q	|	|	|	|
0+50	0.1095	1.95	| VQ	|	|	|	|
0+55	0.1229	1.95	| VQ	|	|	|	|
1+ 0	0.1370	2.05	| V Q	|	|	|	|
1+ 5	0.1520	2.18	| V Q	|	|	|	|
1+10	0.1672	2.21	| VQ	|	|	|	|
1+15	0.1825	2.22	| VQ	|	|	|	|
1+20	0.1979	2.23	| VQ	|	|	|	|
1+25	0.2132	2.23	| Q	|	|	|	|
1+30	0.2286	2.23	| Q	|	|	|	|



1+35	0.2440	2.23	Q				
1+40	0.2594	2.23	QV				
1+45	0.2747	2.23	QV				
1+50	0.2901	2.23	QV				
1+55	0.3055	2.23	QV				
2+ 0	0.3215	2.32	Q V				
2+ 5	0.3378	2.36	Q V				
2+10	0.3540	2.36	Q V				
2+15	0.3710	2.47	Q V				
2+20	0.3882	2.49	Q V				
2+25	0.4054	2.50	Q V				
2+30	0.4227	2.51	Q V				
2+35	0.4400	2.51	Q V				
2+40	0.4573	2.51	Q V				
2+45	0.4752	2.60	Q V				
2+50	0.4940	2.73	Q V				
2+55	0.5131	2.77	Q V				
3+ 0	0.5322	2.78	Q V				
3+ 5	0.5514	2.79	Q V				
3+10	0.5713	2.88	Q V				
3+15	0.5920	3.01	Q V				
3+20	0.6130	3.05	Q V				
3+25	0.6347	3.15	Q V				
3+30	0.6580	3.38	Q V				
3+35	0.6831	3.64	Q V				
3+40	0.7093	3.82	Q V				
3+45	0.7367	3.97	Q V				
3+50	0.7651	4.13	Q V				
3+55	0.7947	4.30	Q V				
4+ 0	0.8256	4.49	Q V				
4+ 5	0.8577	4.66	Q V				
4+10	0.8919	4.97	Q V				
4+15	0.9285	5.31	Q V				
4+20	0.9676	5.67	Q V				
4+25	1.0091	6.03	Q V				
4+30	1.0523	6.27	Q V				
4+35	1.0969	6.47	Q V				
4+40	1.1436	6.79	Q V				
4+45	1.1928	7.14	Q V				
4+50	1.2436	7.37	Q V				
4+55	1.2957	7.56	Q V				
5+ 0	1.3500	7.89	Q V				
5+ 5	1.4101	8.72	Q V				
5+10	1.4806	10.25	Q V				
5+15	1.5612	11.70	Q V				
5+20	1.6500	12.89	Q V				
5+25	1.7482	14.27	Q V				
5+30	1.8616	16.46	Q V				
5+35	1.9569	13.84	Q V				
5+40	2.0046	6.93	Q V				
5+45	2.0314	3.88	Q V				
5+50	2.0485	2.49	Q V				
5+55	2.0597	1.63	Q V				
6+ 0	2.0663	0.95	Q V				
6+ 5	2.0697	0.50	Q V				
6+10	2.0708	0.16	Q V				

```
    6+15       2.0712      0.07  Q          |          |          |         V|
    6+20       2.0714      0.02  Q          |          |          |         V|
    6+25       2.0715      0.01  Q          |          |          |          V
-------------------------------------------------------------------------------
```

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

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Study date 03/28/24 File: hemetuhpra22242.out

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

Program License Serial Number 6385

English (in-lb) Input Units Used
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Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 2)
2-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 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]
25.58	2.07	52.95

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      25.58              5.42                138.64

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    2.070(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.070(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.878      0.003
56.0  56.0      0.511     0.000        0.511       0.043      0.022
75.0  75.0      0.303     0.000        0.303       0.079      0.024
                                                  Sum (F) =   0.049
Area averaged mean soil loss (F) (In/Hr) =  0.049
Minimum soil loss rate ((In/Hr)) =  0.025
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.07	0.017	(0.087)	0.004	0.013
2	0.17	0.07	0.017	(0.087)	0.004	0.013
3	0.25	0.07	0.017	(0.087)	0.004	0.013
4	0.33	0.10	0.025	(0.086)	0.006	0.019
5	0.42	0.10	0.025	(0.086)	0.006	0.019
6	0.50	0.10	0.025	(0.086)	0.006	0.019
7	0.58	0.10	0.025	(0.085)	0.006	0.019
8	0.67	0.10	0.025	(0.085)	0.006	0.019
9	0.75	0.10	0.025	(0.085)	0.006	0.019
10	0.83	0.13	0.033	(0.084)	0.008	0.025
11	0.92	0.13	0.033	(0.084)	0.008	0.025
12	1.00	0.13	0.033	(0.084)	0.008	0.025
13	1.08	0.10	0.025	(0.083)	0.006	0.019
14	1.17	0.10	0.025	(0.083)	0.006	0.019
15	1.25	0.10	0.025	(0.083)	0.006	0.019
16	1.33	0.10	0.025	(0.082)	0.006	0.019
17	1.42	0.10	0.025	(0.082)	0.006	0.019
18	1.50	0.10	0.025	(0.082)	0.006	0.019
19	1.58	0.10	0.025	(0.081)	0.006	0.019
20	1.67	0.10	0.025	(0.081)	0.006	0.019
21	1.75	0.10	0.025	(0.081)	0.006	0.019
22	1.83	0.13	0.033	(0.080)	0.008	0.025
23	1.92	0.13	0.033	(0.080)	0.008	0.025
24	2.00	0.13	0.033	(0.080)	0.008	0.025
25	2.08	0.13	0.033	(0.079)	0.008	0.025
26	2.17	0.13	0.033	(0.079)	0.008	0.025
27	2.25	0.13	0.033	(0.079)	0.008	0.025
28	2.33	0.13	0.033	(0.079)	0.008	0.025
29	2.42	0.13	0.033	(0.078)	0.008	0.025
30	2.50	0.13	0.033	(0.078)	0.008	0.025
31	2.58	0.17	0.041	(0.078)	0.010	0.032
32	2.67	0.17	0.041	(0.077)	0.010	0.032
33	2.75	0.17	0.041	(0.077)	0.010	0.032
34	2.83	0.17	0.041	(0.077)	0.010	0.032
35	2.92	0.17	0.041	(0.076)	0.010	0.032
36	3.00	0.17	0.041	(0.076)	0.010	0.032
37	3.08	0.17	0.041	(0.076)	0.010	0.032
38	3.17	0.17	0.041	(0.075)	0.010	0.032
39	3.25	0.17	0.041	(0.075)	0.010	0.032
40	3.33	0.17	0.041	(0.075)	0.010	0.032
41	3.42	0.17	0.041	(0.074)	0.010	0.032
42	3.50	0.17	0.041	(0.074)	0.010	0.032
43	3.58	0.17	0.041	(0.074)	0.010	0.032
44	3.67	0.17	0.041	(0.073)	0.010	0.032
45	3.75	0.17	0.041	(0.073)	0.010	0.032
46	3.83	0.20	0.050	(0.073)	0.012	0.038
47	3.92	0.20	0.050	(0.073)	0.012	0.038
48	4.00	0.20	0.050	(0.072)	0.012	0.038
49	4.08	0.20	0.050	(0.072)	0.012	0.038
50	4.17	0.20	0.050	(0.072)	0.012	0.038
51	4.25	0.20	0.050	(0.071)	0.012	0.038
52	4.33	0.23	0.058	(0.071)	0.014	0.044
53	4.42	0.23	0.058	(0.071)	0.014	0.044
54	4.50	0.23	0.058	(0.070)	0.014	0.044
55	4.58	0.23	0.058	(0.070)	0.014	0.044

56	4.67	0.23	0.058	(0.070)	0.014	0.044
57	4.75	0.23	0.058	(0.070)	0.014	0.044
58	4.83	0.27	0.066	(0.069)	0.016	0.051
59	4.92	0.27	0.066	(0.069)	0.016	0.051
60	5.00	0.27	0.066	(0.069)	0.016	0.051
61	5.08	0.20	0.050	(0.068)	0.012	0.038
62	5.17	0.20	0.050	(0.068)	0.012	0.038
63	5.25	0.20	0.050	(0.068)	0.012	0.038
64	5.33	0.23	0.058	(0.067)	0.014	0.044
65	5.42	0.23	0.058	(0.067)	0.014	0.044
66	5.50	0.23	0.058	(0.067)	0.014	0.044
67	5.58	0.27	0.066	(0.067)	0.016	0.051
68	5.67	0.27	0.066	(0.066)	0.016	0.051
69	5.75	0.27	0.066	(0.066)	0.016	0.051
70	5.83	0.27	0.066	(0.066)	0.016	0.051
71	5.92	0.27	0.066	(0.065)	0.016	0.051
72	6.00	0.27	0.066	(0.065)	0.016	0.051
73	6.08	0.30	0.075	(0.065)	0.018	0.057
74	6.17	0.30	0.075	(0.065)	0.018	0.057
75	6.25	0.30	0.075	(0.064)	0.018	0.057
76	6.33	0.30	0.075	(0.064)	0.018	0.057
77	6.42	0.30	0.075	(0.064)	0.018	0.057
78	6.50	0.30	0.075	(0.063)	0.018	0.057
79	6.58	0.33	0.083	(0.063)	0.020	0.063
80	6.67	0.33	0.083	(0.063)	0.020	0.063
81	6.75	0.33	0.083	(0.063)	0.020	0.063
82	6.83	0.33	0.083	(0.062)	0.020	0.063
83	6.92	0.33	0.083	(0.062)	0.020	0.063
84	7.00	0.33	0.083	(0.062)	0.020	0.063
85	7.08	0.33	0.083	(0.061)	0.020	0.063
86	7.17	0.33	0.083	(0.061)	0.020	0.063
87	7.25	0.33	0.083	(0.061)	0.020	0.063
88	7.33	0.37	0.091	(0.061)	0.021	0.070
89	7.42	0.37	0.091	(0.060)	0.021	0.070
90	7.50	0.37	0.091	(0.060)	0.021	0.070
91	7.58	0.40	0.099	(0.060)	0.023	0.076
92	7.67	0.40	0.099	(0.059)	0.023	0.076
93	7.75	0.40	0.099	(0.059)	0.023	0.076
94	7.83	0.43	0.108	(0.059)	0.025	0.082
95	7.92	0.43	0.108	(0.059)	0.025	0.082
96	8.00	0.43	0.108	(0.058)	0.025	0.082
97	8.08	0.50	0.124	(0.058)	0.029	0.095
98	8.17	0.50	0.124	(0.058)	0.029	0.095
99	8.25	0.50	0.124	(0.058)	0.029	0.095
100	8.33	0.50	0.124	(0.057)	0.029	0.095
101	8.42	0.50	0.124	(0.057)	0.029	0.095
102	8.50	0.50	0.124	(0.057)	0.029	0.095
103	8.58	0.53	0.132	(0.056)	0.031	0.101
104	8.67	0.53	0.132	(0.056)	0.031	0.101
105	8.75	0.53	0.132	(0.056)	0.031	0.101
106	8.83	0.57	0.141	(0.056)	0.033	0.108
107	8.92	0.57	0.141	(0.055)	0.033	0.108
108	9.00	0.57	0.141	(0.055)	0.033	0.108
109	9.08	0.63	0.157	(0.055)	0.037	0.120
110	9.17	0.63	0.157	(0.055)	0.037	0.120
111	9.25	0.63	0.157	(0.054)	0.037	0.120

112	9.33	0.67	0.166	(0.054)	0.039	0.127
113	9.42	0.67	0.166	(0.054)	0.039	0.127
114	9.50	0.67	0.166	(0.054)	0.039	0.127
115	9.58	0.70	0.174	(0.053)	0.041	0.133
116	9.67	0.70	0.174	(0.053)	0.041	0.133
117	9.75	0.70	0.174	(0.053)	0.041	0.133
118	9.83	0.73	0.182	(0.053)	0.043	0.139
119	9.92	0.73	0.182	(0.052)	0.043	0.139
120	10.00	0.73	0.182	(0.052)	0.043	0.139
121	10.08	0.50	0.124	(0.052)	0.029	0.095
122	10.17	0.50	0.124	(0.052)	0.029	0.095
123	10.25	0.50	0.124	(0.051)	0.029	0.095
124	10.33	0.50	0.124	(0.051)	0.029	0.095
125	10.42	0.50	0.124	(0.051)	0.029	0.095
126	10.50	0.50	0.124	(0.051)	0.029	0.095
127	10.58	0.67	0.166	(0.050)	0.039	0.127
128	10.67	0.67	0.166	(0.050)	0.039	0.127
129	10.75	0.67	0.166	(0.050)	0.039	0.127
130	10.83	0.67	0.166	(0.050)	0.039	0.127
131	10.92	0.67	0.166	(0.049)	0.039	0.127
132	11.00	0.67	0.166	(0.049)	0.039	0.127
133	11.08	0.63	0.157	(0.049)	0.037	0.120
134	11.17	0.63	0.157	(0.049)	0.037	0.120
135	11.25	0.63	0.157	(0.048)	0.037	0.120
136	11.33	0.63	0.157	(0.048)	0.037	0.120
137	11.42	0.63	0.157	(0.048)	0.037	0.120
138	11.50	0.63	0.157	(0.048)	0.037	0.120
139	11.58	0.57	0.141	(0.047)	0.033	0.108
140	11.67	0.57	0.141	(0.047)	0.033	0.108
141	11.75	0.57	0.141	(0.047)	0.033	0.108
142	11.83	0.60	0.149	(0.047)	0.035	0.114
143	11.92	0.60	0.149	(0.047)	0.035	0.114
144	12.00	0.60	0.149	(0.046)	0.035	0.114
145	12.08	0.83	0.207	0.046	(0.049)	0.161
146	12.17	0.83	0.207	0.046	(0.049)	0.161
147	12.25	0.83	0.207	0.046	(0.049)	0.161
148	12.33	0.87	0.215	0.045	(0.051)	0.170
149	12.42	0.87	0.215	0.045	(0.051)	0.170
150	12.50	0.87	0.215	0.045	(0.051)	0.170
151	12.58	0.93	0.232	0.045	(0.055)	0.187
152	12.67	0.93	0.232	0.044	(0.055)	0.187
153	12.75	0.93	0.232	0.044	(0.055)	0.188
154	12.83	0.97	0.240	0.044	(0.057)	0.196
155	12.92	0.97	0.240	0.044	(0.057)	0.196
156	13.00	0.97	0.240	0.044	(0.057)	0.197
157	13.08	1.13	0.282	0.043	(0.066)	0.238
158	13.17	1.13	0.282	0.043	(0.066)	0.238
159	13.25	1.13	0.282	0.043	(0.066)	0.239
160	13.33	1.13	0.282	0.043	(0.066)	0.239
161	13.42	1.13	0.282	0.042	(0.066)	0.239
162	13.50	1.13	0.282	0.042	(0.066)	0.239
163	13.58	0.77	0.190	0.042	(0.045)	0.148
164	13.67	0.77	0.190	0.042	(0.045)	0.149
165	13.75	0.77	0.190	0.042	(0.045)	0.149
166	13.83	0.77	0.190	0.041	(0.045)	0.149
167	13.92	0.77	0.190	0.041	(0.045)	0.149

168	14.00	0.77	0.190	0.041	(0.045)	0.149
169	14.08	0.90	0.224	0.041	(0.053)	0.183
170	14.17	0.90	0.224	0.041	(0.053)	0.183
171	14.25	0.90	0.224	0.040	(0.053)	0.183
172	14.33	0.87	0.215	0.040	(0.051)	0.175
173	14.42	0.87	0.215	0.040	(0.051)	0.175
174	14.50	0.87	0.215	0.040	(0.051)	0.176
175	14.58	0.87	0.215	0.040	(0.051)	0.176
176	14.67	0.87	0.215	0.039	(0.051)	0.176
177	14.75	0.87	0.215	0.039	(0.051)	0.176
178	14.83	0.83	0.207	0.039	(0.049)	0.168
179	14.92	0.83	0.207	0.039	(0.049)	0.168
180	15.00	0.83	0.207	0.039	(0.049)	0.168
181	15.08	0.80	0.199	0.038	(0.047)	0.160
182	15.17	0.80	0.199	0.038	(0.047)	0.161
183	15.25	0.80	0.199	0.038	(0.047)	0.161
184	15.33	0.77	0.190	0.038	(0.045)	0.153
185	15.42	0.77	0.190	0.038	(0.045)	0.153
186	15.50	0.77	0.190	0.037	(0.045)	0.153
187	15.58	0.63	0.157	(0.037)	0.037	0.120
188	15.67	0.63	0.157	0.037	(0.037)	0.120
189	15.75	0.63	0.157	0.037	(0.037)	0.121
190	15.83	0.63	0.157	0.037	(0.037)	0.121
191	15.92	0.63	0.157	0.036	(0.037)	0.121
192	16.00	0.63	0.157	0.036	(0.037)	0.121
193	16.08	0.13	0.033	(0.036)	0.008	0.025
194	16.17	0.13	0.033	(0.036)	0.008	0.025
195	16.25	0.13	0.033	(0.036)	0.008	0.025
196	16.33	0.13	0.033	(0.035)	0.008	0.025
197	16.42	0.13	0.033	(0.035)	0.008	0.025
198	16.50	0.13	0.033	(0.035)	0.008	0.025
199	16.58	0.10	0.025	(0.035)	0.006	0.019
200	16.67	0.10	0.025	(0.035)	0.006	0.019
201	16.75	0.10	0.025	(0.035)	0.006	0.019
202	16.83	0.10	0.025	(0.034)	0.006	0.019
203	16.92	0.10	0.025	(0.034)	0.006	0.019
204	17.00	0.10	0.025	(0.034)	0.006	0.019
205	17.08	0.17	0.041	(0.034)	0.010	0.032
206	17.17	0.17	0.041	(0.034)	0.010	0.032
207	17.25	0.17	0.041	(0.034)	0.010	0.032
208	17.33	0.17	0.041	(0.033)	0.010	0.032
209	17.42	0.17	0.041	(0.033)	0.010	0.032
210	17.50	0.17	0.041	(0.033)	0.010	0.032
211	17.58	0.17	0.041	(0.033)	0.010	0.032
212	17.67	0.17	0.041	(0.033)	0.010	0.032
213	17.75	0.17	0.041	(0.033)	0.010	0.032
214	17.83	0.13	0.033	(0.032)	0.008	0.025
215	17.92	0.13	0.033	(0.032)	0.008	0.025
216	18.00	0.13	0.033	(0.032)	0.008	0.025
217	18.08	0.13	0.033	(0.032)	0.008	0.025
218	18.17	0.13	0.033	(0.032)	0.008	0.025
219	18.25	0.13	0.033	(0.032)	0.008	0.025
220	18.33	0.13	0.033	(0.031)	0.008	0.025
221	18.42	0.13	0.033	(0.031)	0.008	0.025
222	18.50	0.13	0.033	(0.031)	0.008	0.025
223	18.58	0.10	0.025	(0.031)	0.006	0.019

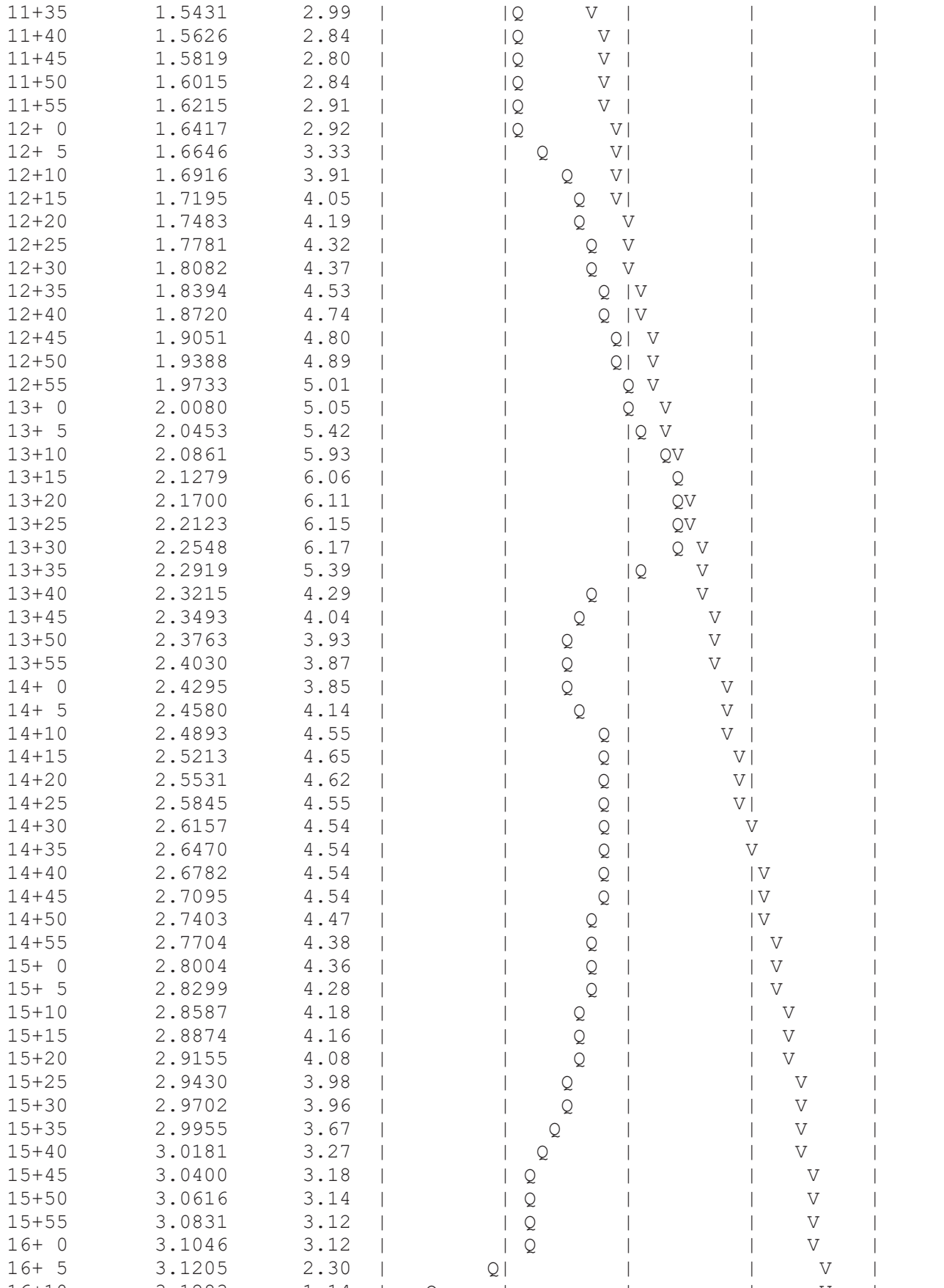
224	18.67	0.10	0.025	(0.031)	0.006	0.019
225	18.75	0.10	0.025	(0.031)	0.006	0.019
226	18.83	0.07	0.017	(0.031)	0.004	0.013
227	18.92	0.07	0.017	(0.030)	0.004	0.013
228	19.00	0.07	0.017	(0.030)	0.004	0.013
229	19.08	0.10	0.025	(0.030)	0.006	0.019
230	19.17	0.10	0.025	(0.030)	0.006	0.019
231	19.25	0.10	0.025	(0.030)	0.006	0.019
232	19.33	0.13	0.033	(0.030)	0.008	0.025
233	19.42	0.13	0.033	(0.030)	0.008	0.025
234	19.50	0.13	0.033	(0.029)	0.008	0.025
235	19.58	0.10	0.025	(0.029)	0.006	0.019
236	19.67	0.10	0.025	(0.029)	0.006	0.019
237	19.75	0.10	0.025	(0.029)	0.006	0.019
238	19.83	0.07	0.017	(0.029)	0.004	0.013
239	19.92	0.07	0.017	(0.029)	0.004	0.013
240	20.00	0.07	0.017	(0.029)	0.004	0.013
241	20.08	0.10	0.025	(0.029)	0.006	0.019
242	20.17	0.10	0.025	(0.028)	0.006	0.019
243	20.25	0.10	0.025	(0.028)	0.006	0.019
244	20.33	0.10	0.025	(0.028)	0.006	0.019
245	20.42	0.10	0.025	(0.028)	0.006	0.019
246	20.50	0.10	0.025	(0.028)	0.006	0.019
247	20.58	0.10	0.025	(0.028)	0.006	0.019
248	20.67	0.10	0.025	(0.028)	0.006	0.019
249	20.75	0.10	0.025	(0.028)	0.006	0.019
250	20.83	0.07	0.017	(0.027)	0.004	0.013
251	20.92	0.07	0.017	(0.027)	0.004	0.013
252	21.00	0.07	0.017	(0.027)	0.004	0.013
253	21.08	0.10	0.025	(0.027)	0.006	0.019
254	21.17	0.10	0.025	(0.027)	0.006	0.019
255	21.25	0.10	0.025	(0.027)	0.006	0.019
256	21.33	0.07	0.017	(0.027)	0.004	0.013
257	21.42	0.07	0.017	(0.027)	0.004	0.013
258	21.50	0.07	0.017	(0.027)	0.004	0.013
259	21.58	0.10	0.025	(0.027)	0.006	0.019
260	21.67	0.10	0.025	(0.026)	0.006	0.019
261	21.75	0.10	0.025	(0.026)	0.006	0.019
262	21.83	0.07	0.017	(0.026)	0.004	0.013
263	21.92	0.07	0.017	(0.026)	0.004	0.013
264	22.00	0.07	0.017	(0.026)	0.004	0.013
265	22.08	0.10	0.025	(0.026)	0.006	0.019
266	22.17	0.10	0.025	(0.026)	0.006	0.019
267	22.25	0.10	0.025	(0.026)	0.006	0.019
268	22.33	0.07	0.017	(0.026)	0.004	0.013
269	22.42	0.07	0.017	(0.026)	0.004	0.013
270	22.50	0.07	0.017	(0.026)	0.004	0.013
271	22.58	0.07	0.017	(0.025)	0.004	0.013
272	22.67	0.07	0.017	(0.025)	0.004	0.013
273	22.75	0.07	0.017	(0.025)	0.004	0.013
274	22.83	0.07	0.017	(0.025)	0.004	0.013
275	22.92	0.07	0.017	(0.025)	0.004	0.013
276	23.00	0.07	0.017	(0.025)	0.004	0.013
277	23.08	0.07	0.017	(0.025)	0.004	0.013
278	23.17	0.07	0.017	(0.025)	0.004	0.013
279	23.25	0.07	0.017	(0.025)	0.004	0.013

```
280  23.33     0.07      0.017       (  0.025)       0.004        0.013
281  23.42     0.07      0.017       (  0.025)       0.004        0.013
282  23.50     0.07      0.017       (  0.025)       0.004        0.013
283  23.58     0.07      0.017       (  0.025)       0.004        0.013
284  23.67     0.07      0.017       (  0.025)       0.004        0.013
285  23.75     0.07      0.017       (  0.025)       0.004        0.013
286  23.83     0.07      0.017       (  0.025)       0.004        0.013
287  23.92     0.07      0.017       (  0.025)       0.004        0.013
288  24.00     0.07      0.017       (  0.025)       0.004        0.013
          (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    19.4
     Flood volume = Effective rainfall      1.62(In)
      times area      25.6(Ac.)/[(In)/(Ft.)] =       3.4(Ac.Ft)
     Total soil loss =      0.45(In)
     Total soil loss =     0.963(Ac.Ft)
     Total rainfall =      2.07(In)
     Flood volume =      150272.9 Cubic Feet
     Total soil loss =       41928.2 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      6.166(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        24 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0007      0.11  Q         |         |         |         |
   0+10       0.0025      0.26  VQ        |         |         |         |
   0+15       0.0046      0.30  VQ        |         |         |         |
   0+20       0.0071      0.37  VQ        |         |         |         |
   0+25       0.0103      0.45  VQ        |         |         |         |
   0+30       0.0135      0.48  VQ        |         |         |         |
   0+35       0.0169      0.48  VQ        |         |         |         |
   0+40       0.0202      0.49  VQ        |         |         |         |
   0+45       0.0236      0.49  VQ        |         |         |         |
   0+50       0.0273      0.54  V Q       |         |         |         |
   0+55       0.0316      0.62  V Q       |         |         |         |
   1+ 0       0.0360      0.64  V Q       |         |         |         |
   1+ 5       0.0401      0.59  V Q       |         |         |         |
   1+10       0.0437      0.52  V Q       |         |         |         |
   1+15       0.0471      0.50  V Q       |         |         |         |
   1+20       0.0505      0.50  VQ        |         |         |         |
   1+25       0.0539      0.49  VQ        |         |         |         |
   1+30       0.0573      0.49  VQ        |         |         |         |
   1+35       0.0607      0.49  VQ        |         |         |         |
   1+40       0.0640      0.49  VQ        |         |         |         |
   1+45       0.0674      0.49  VQ        |         |         |         |
   1+50       0.0712      0.54  V Q       |         |         |         |
   1+55       0.0754      0.62  V Q       |         |         |         |
   2+ 0       0.0798      0.64  V Q       |         |         |         |
   2+ 5       0.0843      0.65  V Q       |         |         |         |
   2+10       0.0888      0.65  |VQ       |         |         |         |
```

2+15	0.0932	0.65	VQ				
2+20	0.0977	0.65	VQ				
2+25	0.1022	0.65	VQ				
2+30	0.1067	0.65	VQ				
2+35	0.1116	0.71	VQ				
2+40	0.1170	0.78	V Q				
2+45	0.1225	0.80	V Q				
2+50	0.1281	0.81	V Q				
2+55	0.1337	0.81	V Q				
3+ 0	0.1393	0.82	V Q				
3+ 5	0.1449	0.82	V Q				
3+10	0.1506	0.82	V Q				
3+15	0.1562	0.82	V Q				
3+20	0.1618	0.82	V Q				
3+25	0.1674	0.82	V Q				
3+30	0.1730	0.82	VQ				
3+35	0.1786	0.82	VQ				
3+40	0.1843	0.82	VQ				
3+45	0.1899	0.82	VQ				
3+50	0.1959	0.87	VQ				
3+55	0.2024	0.95	VQ				
4+ 0	0.2090	0.96	VQ				
4+ 5	0.2157	0.97	VQ				
4+10	0.2225	0.98	VQ				
4+15	0.2292	0.98	VQ				
4+20	0.2363	1.03	V Q				
4+25	0.2440	1.11	V Q				
4+30	0.2517	1.13	V Q				
4+35	0.2596	1.14	VQ				
4+40	0.2674	1.14	VQ				
4+45	0.2753	1.14	VQ				
4+50	0.2835	1.20	VQ				
4+55	0.2923	1.27	V Q				
5+ 0	0.3012	1.29	V Q				
5+ 5	0.3094	1.19	VQ				
5+10	0.3165	1.04	VQ				
5+15	0.3235	1.01	VQ				
5+20	0.3307	1.05	VQ				
5+25	0.3383	1.11	VQ				
5+30	0.3461	1.13	Q				
5+35	0.3543	1.19	Q				
5+40	0.3631	1.27	VQ				
5+45	0.3720	1.29	VQ				
5+50	0.3809	1.30	VQ				
5+55	0.3899	1.30	VQ				
6+ 0	0.3989	1.31	VQ				
6+ 5	0.4082	1.36	VQ				
6+10	0.4181	1.44	VQ				
6+15	0.4281	1.45	VQ				
6+20	0.4382	1.46	Q				
6+25	0.4483	1.47	Q				
6+30	0.4584	1.47	Q				
6+35	0.4689	1.52	VQ				
6+40	0.4799	1.60	VQ				
6+45	0.4911	1.62	VQ				
6+50	0.5023	1.63	VQ				

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 6+55       0.5135      1.63  |    VQ   |         |         |         |
 7+ 0       0.5247      1.63  |     Q   |         |         |         |
 7+ 5       0.5359      1.63  |     Q   |         |         |         |
 7+10       0.5472      1.63  |     Q   |         |         |         |
 7+15       0.5584      1.63  |     Q   |         |         |         |
 7+20       0.5700      1.69  |     Q   |         |         |         |
 7+25       0.5822      1.76  |     VQ  |         |         |         |
 7+30       0.5944      1.78  |     VQ  |         |         |         |
 7+35       0.6071      1.84  |      Q  |         |         |         |
 7+40       0.6204      1.92  |      Q  |         |         |         |
 7+45       0.6338      1.94  |      Q  |         |         |         |
 7+50       0.6476      2.01  |      VQ |         |         |         |
 7+55       0.6619      2.09  |      VQ |         |         |         |
 8+ 0       0.6765      2.11  |      VQ |         |         |         |
 8+ 5       0.6918      2.22  |       Q |         |         |         |
 8+10       0.7082      2.38  |       VQ|         |         |         |
 8+15       0.7248      2.42  |       VQ|         |         |         |
 8+20       0.7416      2.44  |       VQ|         |         |         |
 8+25       0.7584      2.44  |       VQ|         |         |         |
 8+30       0.7753      2.45  |       VQ|         |         |         |
 8+35       0.7925      2.50  |        VQ         |         |         |
 8+40       0.8103      2.58  |        VQ         |         |         |
 8+45       0.8281      2.60  |        VQ         |         |         |
 8+50       0.8464      2.66  |        VQ         |         |         |
 8+55       0.8653      2.74  |         Q         |         |         |
 9+ 0       0.8843      2.76  |         VQ        |         |         |
 9+ 5       0.9041      2.88  |         VQ        |         |         |
 9+10       0.9250      3.03  |         V Q       |         |         |
 9+15       0.9462      3.07  |         V Q       |         |         |
 9+20       0.9678      3.14  |          |VQ       |         |         |
 9+25       0.9900      3.23  |          |VQ       |         |         |
 9+30       1.0124      3.25  |          |VQ       |         |         |
 9+35       1.0352      3.31  |          | VQ      |         |         |
 9+40       1.0586      3.39  |          | VQ      |         |         |
 9+45       1.0821      3.41  |          | VQ      |         |         |
 9+50       1.1060      3.47  |          | VQ      |         |         |
 9+55       1.1305      3.55  |          |  VQ     |         |         |
10+ 0       1.1551      3.58  |          |  VQ     |         |         |
10+ 5       1.1772      3.20  |          | QV      |         |         |
10+10       1.1956      2.67  |         Q  V      |         |         |
10+15       1.2131      2.55  |         Q   V     |         |         |
10+20       1.2303      2.49  |        Q|   V     |         |         |
10+25       1.2472      2.46  |        Q|   V     |         |         |
10+30       1.2641      2.45  |        Q|   V     |         |         |
10+35       1.2828      2.72  |         Q   V     |         |         |
10+40       1.3041      3.10  |         | Q  V    |         |         |
10+45       1.3261      3.19  |         | Q  V    |         |         |
10+50       1.3484      3.23  |         | Q  V    |         |         |
10+55       1.3708      3.25  |         |  Q V    |         |         |
11+ 0       1.3933      3.26  |         |  Q  V   |         |         |
11+ 5       1.4154      3.21  |         | Q   V   |         |         |
11+10       1.4369      3.13  |         | Q   V   |         |         |
11+15       1.4584      3.11  |         | Q   V   |         |         |
11+20       1.4798      3.11  |         | Q    V  |         |         |
11+25       1.5011      3.10  |         | Q    V  |         |         |
11+30       1.5225      3.10  |         | Q    V  |         |         |
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11+35	1.5431	2.99	Q V
11+40	1.5626	2.84	Q V
11+45	1.5819	2.80	Q V
11+50	1.6015	2.84	Q V
11+55	1.6215	2.91	Q V
12+ 0	1.6417	2.92	Q V
12+ 5	1.6646	3.33	Q V
12+10	1.6916	3.91	Q V
12+15	1.7195	4.05	Q V
12+20	1.7483	4.19	Q V
12+25	1.7781	4.32	Q V
12+30	1.8082	4.37	Q V
12+35	1.8394	4.53	Q V
12+40	1.8720	4.74	Q V
12+45	1.9051	4.80	Q V
12+50	1.9388	4.89	Q V
12+55	1.9733	5.01	Q V
13+ 0	2.0080	5.05	Q V
13+ 5	2.0453	5.42	Q V
13+10	2.0861	5.93	QV
13+15	2.1279	6.06	Q
13+20	2.1700	6.11	QV
13+25	2.2123	6.15	QV
13+30	2.2548	6.17	Q V
13+35	2.2919	5.39	Q V
13+40	2.3215	4.29	Q V
13+45	2.3493	4.04	Q V
13+50	2.3763	3.93	Q V
13+55	2.4030	3.87	Q V
14+ 0	2.4295	3.85	Q V
14+ 5	2.4580	4.14	Q V
14+10	2.4893	4.55	Q V
14+15	2.5213	4.65	Q V
14+20	2.5531	4.62	Q V
14+25	2.5845	4.55	Q V
14+30	2.6157	4.54	Q V
14+35	2.6470	4.54	Q V
14+40	2.6782	4.54	Q V
14+45	2.7095	4.54	Q V
14+50	2.7403	4.47	Q V
14+55	2.7704	4.38	Q V
15+ 0	2.8004	4.36	Q V
15+ 5	2.8299	4.28	Q V
15+10	2.8587	4.18	Q V
15+15	2.8874	4.16	Q V
15+20	2.9155	4.08	Q V
15+25	2.9430	3.98	Q V
15+30	2.9702	3.96	Q V
15+35	2.9955	3.67	Q V
15+40	3.0181	3.27	Q V
15+45	3.0400	3.18	Q V
15+50	3.0616	3.14	Q V
15+55	3.0831	3.12	Q V
16+ 0	3.1046	3.12	Q V
16+ 5	3.1205	2.30	Q V
16+10	3.1283	1.14	Q V

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16+15       3.1343      0.87  |  Q      |         |         |     V   |
16+20       3.1394      0.75  | Q       |         |         |     V   |
16+25       3.1441      0.68  | Q       |         |         |     V   |
16+30       3.1486      0.65  | Q       |         |         |     V   |
16+35       3.1528      0.60  | Q       |         |         |     V   |
16+40       3.1563      0.52  | Q       |         |         |     V   |
16+45       3.1598      0.50  | Q       |         |         |     V   |
16+50       3.1632      0.50  |Q        |         |         |     V   |
16+55       3.1666      0.49  |Q        |         |         |     V   |
17+ 0       3.1700      0.49  |Q        |         |         |     V   |
17+ 5       3.1741      0.60  | Q       |         |         |     V   |
17+10       3.1793      0.75  |  Q      |         |         |     V   |
17+15       3.1847      0.79  |  Q      |         |         |     V   |
17+20       3.1902      0.80  |  Q      |         |         |     V   |
17+25       3.1958      0.81  |  Q      |         |         |      V  |
17+30       3.2014      0.82  |  Q      |         |         |      V  |
17+35       3.2071      0.82  |  Q      |         |         |      V  |
17+40       3.2127      0.82  |  Q      |         |         |      V  |
17+45       3.2183      0.82  |  Q      |         |         |      V  |
17+50       3.2235      0.76  |  Q      |         |         |      V  |
17+55       3.2283      0.68  | Q       |         |         |      V  |
18+ 0       3.2328      0.67  | Q       |         |         |      V  |
18+ 5       3.2374      0.66  | Q       |         |         |      V  |
18+10       3.2419      0.65  | Q       |         |         |      V  |
18+15       3.2464      0.65  | Q       |         |         |      V  |
18+20       3.2509      0.65  | Q       |         |         |      V  |
18+25       3.2554      0.65  | Q       |         |         |      V  |
18+30       3.2599      0.65  | Q       |         |         |      V  |
18+35       3.2640      0.60  | Q       |         |         |      V  |
18+40       3.2676      0.52  | Q       |         |         |      V  |
18+45       3.2711      0.50  | Q       |         |         |      V  |
18+50       3.2741      0.44  |Q        |         |         |      V  |
18+55       3.2766      0.36  |Q        |         |         |      V  |
19+ 0       3.2789      0.34  |Q        |         |         |       V |
19+ 5       3.2816      0.39  |Q        |         |         |       V |
19+10       3.2848      0.46  |Q        |         |         |       V |
19+15       3.2880      0.48  |Q        |         |         |       V |
19+20       3.2917      0.54  | Q       |         |         |       V |
19+25       3.2960      0.62  | Q       |         |         |       V |
19+30       3.3004      0.64  | Q       |         |         |       V |
19+35       3.3045      0.59  | Q       |         |         |       V |
19+40       3.3080      0.52  | Q       |         |         |       V |
19+45       3.3115      0.50  | Q       |         |         |       V |
19+50       3.3146      0.44  |Q        |         |         |       V |
19+55       3.3170      0.36  |Q        |         |         |       V |
20+ 0       3.3194      0.34  |Q        |         |         |       V |
20+ 5       3.3220      0.39  |Q        |         |         |       V |
20+10       3.3252      0.46  |Q        |         |         |       V |
20+15       3.3285      0.48  |Q        |         |         |       V |
20+20       3.3318      0.48  |Q        |         |         |       V |
20+25       3.3352      0.49  |Q        |         |         |       V |
20+30       3.3385      0.49  |Q        |         |         |       V |
20+35       3.3419      0.49  |Q        |         |         |       V |
20+40       3.3453      0.49  |Q        |         |         |       V |
20+45       3.3486      0.49  |Q        |         |         |       V |
20+50       3.3516      0.44  |Q        |         |         |       V |
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  20+55       3.3541      0.36  |Q        |         |         |        V |
  21+ 0       3.3565      0.34  |Q        |         |         |        V |
  21+ 5       3.3591      0.39  |Q        |         |         |        V |
  21+10       3.3623      0.46  |Q        |         |         |        V |
  21+15       3.3656      0.48  |Q        |         |         |         V|
  21+20       3.3685      0.43  |Q        |         |         |         V|
  21+25       3.3710      0.36  |Q        |         |         |         V|
  21+30       3.3733      0.34  |Q        |         |         |         V|
  21+35       3.3760      0.39  |Q        |         |         |         V|
  21+40       3.3791      0.46  |Q        |         |         |         V|
  21+45       3.3824      0.48  |Q        |         |         |         V|
  21+50       3.3854      0.43  |Q        |         |         |         V|
  21+55       3.3878      0.36  |Q        |         |         |         V|
  22+ 0       3.3902      0.34  |Q        |         |         |         V|
  22+ 5       3.3928      0.39  |Q        |         |         |         V|
  22+10       3.3960      0.46  |Q        |         |         |         V|
  22+15       3.3993      0.48  |Q        |         |         |         V|
  22+20       3.4022      0.43  |Q        |         |         |         V|
  22+25       3.4047      0.36  |Q        |         |         |         V|
  22+30       3.4070      0.34  |Q        |         |         |         V|
  22+35       3.4093      0.33  |Q        |         |         |         V|
  22+40       3.4116      0.33  |Q        |         |         |         V|
  22+45       3.4138      0.33  |Q        |         |         |         V|
  22+50       3.4161      0.33  |Q        |         |         |         V|
  22+55       3.4183      0.33  |Q        |         |         |         V|
  23+ 0       3.4206      0.33  |Q        |         |         |         V|
  23+ 5       3.4228      0.33  |Q        |         |         |         V|
  23+10       3.4251      0.33  |Q        |         |         |         V|
  23+15       3.4273      0.33  |Q        |         |         |         V|
  23+20       3.4296      0.33  |Q        |         |         |         V|
  23+25       3.4318      0.33  |Q        |         |         |         V|
  23+30       3.4341      0.33  |Q        |         |         |         V|
  23+35       3.4363      0.33  |Q        |         |         |         V|
  23+40       3.4385      0.33  |Q        |         |         |         V|
  23+45       3.4408      0.33  |Q        |         |         |         V|
  23+50       3.4430      0.33  |Q        |         |         |         V|
  23+55       3.4453      0.33  |Q        |         |         |         V|
  24+ 0       3.4475      0.33  |Q        |         |         |         V|
  24+ 5       3.4490      0.22  Q         |         |         |         V|
  24+10       3.4495      0.06  Q         |         |         |         V|
  24+15       3.4497      0.03  Q         |         |         |         V|
  24+20       3.4498      0.01  Q         |         |         |         V|
  24+25       3.4498      0.00  Q         |         |         |         V|
-------------------------------------------------------------------------
```

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 2)
10-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 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]
25.58	0.49	12.64

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       25.58              1.59                 40.67

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    0.945(In)
Areal adjustment factor =   99.98 %
Adjusted average point rain =    0.945(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.878      0.003
56.0  56.0      0.511     0.000        0.511       0.043      0.022
75.0  75.0      0.303     0.000        0.303       0.079      0.024
                                                  Sum (F) =   0.049
Area averaged mean soil loss (F) (In/Hr) =  0.049
Minimum soil loss rate ((In/Hr)) =  0.025
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.385	0.049	(0.091)	0.336
2	0.17	4.70	0.533	0.049	(0.126)	0.483
3	0.25	4.70	0.533	0.049	(0.126)	0.483
4	0.33	5.10	0.578	0.049	(0.136)	0.529
5	0.42	5.80	0.658	0.049	(0.155)	0.608
6	0.50	5.90	0.669	0.049	(0.158)	0.620
7	0.58	7.10	0.805	0.049	(0.190)	0.756
8	0.67	8.70	0.986	0.049	(0.233)	0.937
9	0.75	13.20	1.496	0.049	(0.353)	1.447
10	0.83	29.70	3.367	0.049	(0.795)	3.318
11	0.92	7.70	0.873	0.049	(0.206)	0.824
12	1.00	4.00	0.453	0.049	(0.107)	0.404

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.7

Flood volume = Effective rainfall 0.90(In)
times area 25.6(Ac.)/[(In)/(Ft.)] = 1.9(Ac.Ft)
Total soil loss = 0.05(In)
Total soil loss = 0.105(Ac.Ft)
Total rainfall = 0.94(In)
Flood volume = 83139.4 Cubic Feet
Total soil loss = 4579.6 Cubic Feet

Peak flow rate of this hydrograph = 53.320(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	15.0	30.0	45.0	60.0
0+ 5	0.0198	2.87	VQ				
0+10	0.0763	8.21	|V Q				
0+15	0.1519	10.97	| V Q |				
0+20	0.2359	12.20	| V Q |				
0+25	0.3312	13.83	| V Q|				
0+30	0.4360	15.23	| VQ				
0+35	0.5522	16.86	| |Q				
0+40	0.6915	20.23	| | QV				
0+45	0.8792	27.26	| | Q |				
0+50	1.2247	50.16	| | | V | Q |			
0+55	1.5919	53.32	| | | | V Q |			
1+ 0	1.7688	25.69	| | Q | | V |			
1+ 5	1.8562	12.69	| Q | | | V |			
1+10	1.8893	4.80	| Q | | | V|			
1+15	1.9040	2.14	|Q | | | V|			
1+20	1.9077	0.53	Q | | | V|			
1+25	1.9086	0.13	Q | | | V			

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 2)
10-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
25.58	0.85	21.67

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      25.58              2.20                 56.28

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    1.404(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.403(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.878      0.003
56.0  56.0      0.511     0.000        0.511       0.043      0.022
75.0  75.0      0.303     0.000        0.303       0.079      0.024
                                                   Sum (F) =   0.049
Area averaged mean soil loss (F) (In/Hr) =  0.049
Minimum soil loss rate ((In/Hr)) =  0.025
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	1.30	0.219	0.049	(	0.052)	0.170
2	0.17	1.30	0.219	0.049	(	0.052)	0.170
3	0.25	1.10	0.185	(0.049)		0.044	0.142
4	0.33	1.50	0.253	0.049	(	0.060)	0.203
5	0.42	1.50	0.253	0.049	(	0.060)	0.203
6	0.50	1.80	0.303	0.049	(	0.072)	0.254
7	0.58	1.50	0.253	0.049	(	0.060)	0.203
8	0.67	1.80	0.303	0.049	(	0.072)	0.254
9	0.75	1.80	0.303	0.049	(	0.072)	0.254
10	0.83	1.50	0.253	0.049	(	0.060)	0.203
11	0.92	1.60	0.269	0.049	(	0.064)	0.220
12	1.00	1.80	0.303	0.049	(	0.072)	0.254
13	1.08	2.20	0.371	0.049	(	0.087)	0.321
14	1.17	2.20	0.371	0.049	(	0.087)	0.321
15	1.25	2.20	0.371	0.049	(	0.087)	0.321
16	1.33	2.00	0.337	0.049	(	0.079)	0.288
17	1.42	2.60	0.438	0.049	(	0.103)	0.389
18	1.50	2.70	0.455	0.049	(	0.107)	0.405
19	1.58	2.40	0.404	0.049	(	0.095)	0.355
20	1.67	2.70	0.455	0.049	(	0.107)	0.405
21	1.75	3.30	0.556	0.049	(	0.131)	0.506
22	1.83	3.10	0.522	0.049	(	0.123)	0.473
23	1.92	2.90	0.488	0.049	(	0.115)	0.439
24	2.00	3.00	0.505	0.049	(	0.119)	0.456
25	2.08	3.10	0.522	0.049	(	0.123)	0.473
26	2.17	4.20	0.707	0.049	(	0.167)	0.658
27	2.25	5.00	0.842	0.049	(	0.199)	0.793
28	2.33	3.50	0.589	0.049	(	0.139)	0.540
29	2.42	6.80	1.145	0.049	(	0.270)	1.096
30	2.50	7.30	1.229	0.049	(	0.290)	1.180
31	2.58	8.20	1.381	0.049	(	0.326)	1.332
32	2.67	5.90	0.994	0.049	(	0.235)	0.944
33	2.75	2.00	0.337	0.049	(	0.079)	0.288
34	2.83	1.80	0.303	0.049	(	0.072)	0.254
35	2.92	1.80	0.303	0.049	(	0.072)	0.254
36	3.00	0.60	0.101	(0.049)		0.024	0.077

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.1

Flood volume = Effective rainfall 1.26(In)
times area 25.6(Ac.)/[(In)/(Ft.)] = 2.7(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.310(Ac.Ft)
Total rainfall = 1.40(In)
Flood volume = 116822.0 Cubic Feet
Total soil loss = 13498.5 Cubic Feet

Peak flow rate of this hydrograph = 30.265(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0100	1.45	VQ				
0+10	0.0341	3.51	V Q				
0+15	0.0600	3.76	V Q				
0+20	0.0886	4.16	V Q				
0+25	0.1226	4.93	V Q				
0+30	0.1610	5.57	V Q				
0+35	0.2009	5.81	V Q				
0+40	0.2409	5.80	V Q				
0+45	0.2846	6.35	V Q				
0+50	0.3262	6.03	V Q				
0+55	0.3649	5.61	Q				
1+ 0	0.4060	5.98	QV				
1+ 5	0.4540	6.96	Q				
1+10	0.5081	7.87	Q				
1+15	0.5639	8.10	Q				
1+20	0.6185	7.92	Q V				
1+25	0.6765	8.43	Q V				
1+30	0.7435	9.72	Q V				
1+35	0.8106	9.75	Q V				
1+40	0.8775	9.72	Q V				
1+45	0.9542	11.12	Q V				
1+50	1.0381	12.19	Q V				
1+55	1.1195	11.82	Q V				
2+ 0	1.1994	11.60	Q V				
2+ 5	1.2813	11.89	Q V				
2+10	1.3757	13.70	Q V				
2+15	1.4937	17.13	Q V				
2+20	1.6119	17.16	Q V				
2+25	1.7461	19.49	Q V				
2+30	1.9287	26.51	Q V				
2+35	2.1371	30.26	QV				
2+40	2.3411	29.62	Q V				
2+45	2.4797	20.12	Q V				
2+50	2.5567	11.18	Q V				
2+55	2.6153	8.51	Q V				
3+ 0	2.6558	5.88	Q V				
3+ 5	2.6729	2.49	Q V				
3+10	2.6784	0.80	Q V				
3+15	2.6808	0.34	Q V				
3+20	2.6817	0.13	Q V				
3+25	2.6819	0.03	Q V				

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 2)
10-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
25.58	1.18	30.18

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      25.58              2.92                 74.69

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    1.896(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.896(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.878      0.003
56.0  56.0      0.511     0.000        0.511       0.043      0.022
75.0  75.0      0.303     0.000        0.303       0.079      0.024
                                                  Sum (F) =   0.049
Area averaged mean soil loss (F) (In/Hr) =  0.049
Minimum soil loss rate ((In/Hr)) =  0.025
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.50	0.114	(0.049)		0.027	0.087
2	0.17	0.60	0.136	(0.049)		0.032	0.104
3	0.25	0.60	0.136	(0.049)		0.032	0.104
4	0.33	0.60	0.136	(0.049)		0.032	0.104
5	0.42	0.60	0.136	(0.049)		0.032	0.104
6	0.50	0.70	0.159	(0.049)		0.038	0.122
7	0.58	0.70	0.159	(0.049)		0.038	0.122
8	0.67	0.70	0.159	(0.049)		0.038	0.122
9	0.75	0.70	0.159	(0.049)		0.038	0.122
10	0.83	0.70	0.159	(0.049)		0.038	0.122
11	0.92	0.70	0.159	(0.049)		0.038	0.122
12	1.00	0.80	0.182	(0.049)		0.043	0.139
13	1.08	0.80	0.182	(0.049)		0.043	0.139
14	1.17	0.80	0.182	(0.049)		0.043	0.139
15	1.25	0.80	0.182	(0.049)		0.043	0.139
16	1.33	0.80	0.182	(0.049)		0.043	0.139
17	1.42	0.80	0.182	(0.049)		0.043	0.139
18	1.50	0.80	0.182	(0.049)		0.043	0.139
19	1.58	0.80	0.182	(0.049)		0.043	0.139
20	1.67	0.80	0.182	(0.049)		0.043	0.139
21	1.75	0.80	0.182	(0.049)		0.043	0.139
22	1.83	0.80	0.182	(0.049)		0.043	0.139
23	1.92	0.80	0.182	(0.049)		0.043	0.139
24	2.00	0.90	0.205	(0.049)		0.048	0.156
25	2.08	0.80	0.182	(0.049)		0.043	0.139
26	2.17	0.90	0.205	(0.049)		0.048	0.156
27	2.25	0.90	0.205	(0.049)		0.048	0.156
28	2.33	0.90	0.205	(0.049)		0.048	0.156
29	2.42	0.90	0.205	(0.049)		0.048	0.156
30	2.50	0.90	0.205	(0.049)		0.048	0.156
31	2.58	0.90	0.205	(0.049)		0.048	0.156
32	2.67	0.90	0.205	(0.049)		0.048	0.156
33	2.75	1.00	0.227	0.049	(	0.054)	0.178
34	2.83	1.00	0.227	0.049	(	0.054)	0.178
35	2.92	1.00	0.227	0.049	(	0.054)	0.178
36	3.00	1.00	0.227	0.049	(	0.054)	0.178
37	3.08	1.00	0.227	0.049	(	0.054)	0.178
38	3.17	1.10	0.250	0.049	(	0.059)	0.201
39	3.25	1.10	0.250	0.049	(	0.059)	0.201
40	3.33	1.10	0.250	0.049	(	0.059)	0.201
41	3.42	1.20	0.273	0.049	(	0.064)	0.224
42	3.50	1.30	0.296	0.049	(	0.070)	0.246
43	3.58	1.40	0.318	0.049	(	0.075)	0.269
44	3.67	1.40	0.318	0.049	(	0.075)	0.269
45	3.75	1.50	0.341	0.049	(	0.081)	0.292
46	3.83	1.50	0.341	0.049	(	0.081)	0.292
47	3.92	1.60	0.364	0.049	(	0.086)	0.315
48	4.00	1.60	0.364	0.049	(	0.086)	0.315
49	4.08	1.70	0.387	0.049	(	0.091)	0.337
50	4.17	1.80	0.409	0.049	(	0.097)	0.360
51	4.25	1.90	0.432	0.049	(	0.102)	0.383
52	4.33	2.00	0.455	0.049	(	0.107)	0.406
53	4.42	2.10	0.478	0.049	(	0.113)	0.428
54	4.50	2.10	0.478	0.049	(	0.113)	0.428
55	4.58	2.20	0.500	0.049	(	0.118)	0.451

56	4.67	2.30	0.523	0.049	(0.123)	0.474	
57	4.75	2.40	0.546	0.049	(0.129)	0.497	
58	4.83	2.40	0.546	0.049	(0.129)	0.497	
59	4.92	2.50	0.569	0.049	(0.134)	0.519	
60	5.00	2.60	0.591	0.049	(0.140)	0.542	
61	5.08	3.10	0.705	0.049	(0.166)	0.656	
62	5.17	3.60	0.819	0.049	(0.193)	0.770	
63	5.25	3.90	0.887	0.049	(0.209)	0.838	
64	5.33	4.20	0.955	0.049	(0.225)	0.906	
65	5.42	4.70	1.069	0.049	(0.252)	1.020	
66	5.50	5.60	1.274	0.049	(0.301)	1.225	
67	5.58	1.90	0.432	0.049	(0.102)	0.383	
68	5.67	0.90	0.205	(0.049)	0.048	0.156	
69	5.75	0.60	0.136	(0.049)	0.032	0.104	
70	5.83	0.50	0.114	(0.049)	0.027	0.087	
71	5.92	0.30	0.068	(0.049)	0.016	0.052	
72	6.00	0.20	0.045	(0.049)	0.011	0.035	

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.6

Flood volume = Effective rainfall 1.63(In)
times area 25.6(Ac.)/[(In)/(Ft.)] = 3.5(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.566(Ac.Ft)
Total rainfall = 1.90(In)
Flood volume = 151367.8 Cubic Feet
Total soil loss = 24656.6 Cubic Feet

Peak flow rate of this hydrograph = 27.217(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0051	0.74	Q	|	|	|	|
0+10	0.0185	1.95	V Q	|	|	|	|
0+15	0.0351	2.41	V Q	|	|	|	|
0+20	0.0528	2.57	V Q	|	|	|	|
0+25	0.0710	2.64	V Q	|	|	|	|
0+30	0.0905	2.83	|V Q	|	|	|	|
0+35	0.1115	3.05	|V Q	|	|	|	|
0+40	0.1328	3.10	|V Q	|	|	|	|
0+45	0.1543	3.12	|V Q	|	|	|	|
0+50	0.1759	3.13	| V Q	|	|	|	|
0+55	0.1975	3.14	| V Q	|	|	|	|
1+ 0	0.2201	3.29	| V Q	|	|	|	|
1+ 5	0.2442	3.50	| V Q	|	|	|	|
1+10	0.2687	3.55	| VQ	|	|	|	|
1+15	0.2932	3.57	| VQ	|	|	|	|
1+20	0.3179	3.58	| VQ	|	|	|	|
1+25	0.3426	3.59	| VQ	|	|	|	|
1+30	0.3673	3.59	| Q	|	|	|	|

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1+35       0.3920      3.59  |   Q     |         |         |         |
1+40       0.4167      3.59  |   Q     |         |         |         |
1+45       0.4414      3.59  |   QV    |         |         |         |
1+50       0.4661      3.59  |   QV    |         |         |         |
1+55       0.4908      3.59  |   QV    |         |         |         |
2+ 0       0.5165      3.73  |   QV    |         |         |         |
2+ 5       0.5427      3.80  |    QV   |         |         |         |
2+10       0.5687      3.78  |    QV   |         |         |         |
2+15       0.5960      3.97  |    QV   |         |         |         |
2+20       0.6236      4.01  |    Q V  |         |         |         |
2+25       0.6514      4.02  |    Q V  |         |         |         |
2+30       0.6791      4.03  |    Q V  |         |         |         |
2+35       0.7069      4.03  |    Q  V |         |         |         |
2+40       0.7347      4.03  |    Q  V |         |         |         |
2+45       0.7637      4.22  |    Q  V |         |         |         |
2+50       0.7946      4.48  |    Q   V|         |         |         |
2+55       0.8259      4.55  |     Q  V|         |         |         |
3+ 0       0.8574      4.57  |     Q  V|         |         |         |
3+ 5       0.8890      4.59  |     Q   V         |         |         |
3+10       0.9220      4.79  |     Q   V         |         |         |
3+15       0.9569      5.07  |     Q   |V        |         |         |
3+20       0.9922      5.13  |     Q   |V        |         |         |
3+25       1.0291      5.35  |      Q  |V        |         |         |
3+30       1.0693      5.84  |      Q  | V       |         |         |
3+35       1.1133      6.38  |       Q | V       |         |         |
3+40       1.1598      6.75  |        Q|  V      |         |         |
3+45       1.2084      7.06  |        Q|  V      |         |         |
3+50       1.2593      7.38  |        Q|   V     |         |         |
3+55       1.3120      7.67  |         Q    V    |         |         |
4+ 0       1.3670      7.98  |         Q    V    |         |         |
4+ 5       1.4238      8.25  |         |Q    V   |         |         |
4+10       1.4841      8.76  |         |Q     V  |         |         |
4+15       1.5483      9.31  |         | Q    V  |         |         |
4+20       1.6163      9.88  |         |  Q    V |         |         |
4+25       1.6883     10.46  |         |  Q     V|         |         |
4+30       1.7631     10.85  |         |   Q     V         |         |
4+35       1.8400     11.16  |         |   Q     |V        |         |
4+40       1.9205     11.68  |         |    Q    | V       |         |
4+45       2.0048     12.24  |         |     Q   |  V      |         |
4+50       2.0917     12.62  |         |     Q   |   V     |         |
4+55       2.1807     12.92  |         |      Q  |    V    |         |
5+ 0       2.2733     13.45  |         |      Q  |     V   |         |
5+ 5       2.3751     14.78  |         |        Q|      V  |         |
5+10       2.4938     17.23  |         |         | Q     V |         |
5+15       2.6286     19.57  |         |         |    Q  V         |
5+20       2.7764     21.47  |         |         |       Q |V        |
5+25       2.9396     23.69  |         |         |         |Q V      |
5+30       3.1271     27.22  |         |         |         |   VQ    |
5+35       3.2855     23.00  |         |         |         Q     V  |
5+40       3.3658     11.66  |         |    Q    |         |      V |
5+45       3.4098      6.39  |       Q |         |         |       V|
5+50       3.4377      4.06  |    Q    |         |         |       V|
5+55       3.4560      2.65  |  Q      |         |         |       V|
6+ 0       3.4666      1.54  | Q       |         |         |       V|
6+ 5       3.4721      0.80  |Q        |         |         |       V|
6+10       3.4738      0.26  Q         |         |         |       V|
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    6+15       3.4746      0.11  Q          |          |          |         V|
    6+20       3.4748      0.04  Q          |          |          |         V|
    6+25       3.4749      0.01  Q          |          |          |         V|
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/28/24 File: hemetuhpra2102410.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 2)
10-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 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]
25.58	2.07	52.95

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      25.58              5.42                138.64

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    3.448(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.448(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.878      0.003
56.0  56.0      0.511     0.000        0.511       0.043      0.022
75.0  75.0      0.303     0.000        0.303       0.079      0.024
                                                   Sum (F) =   0.049
Area averaged mean soil loss (F) (In/Hr) =  0.049
Minimum soil loss rate ((In/Hr)) =  0.025
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.07	0.028	(0.087)		0.007	0.021
2	0.17	0.07	0.028	(0.087)		0.007	0.021
3	0.25	0.07	0.028	(0.087)		0.007	0.021
4	0.33	0.10	0.041	(0.086)		0.010	0.032
5	0.42	0.10	0.041	(0.086)		0.010	0.032
6	0.50	0.10	0.041	(0.086)		0.010	0.032
7	0.58	0.10	0.041	(0.085)		0.010	0.032
8	0.67	0.10	0.041	(0.085)		0.010	0.032
9	0.75	0.10	0.041	(0.085)		0.010	0.032
10	0.83	0.13	0.055	(0.084)		0.013	0.042
11	0.92	0.13	0.055	(0.084)		0.013	0.042
12	1.00	0.13	0.055	(0.084)		0.013	0.042
13	1.08	0.10	0.041	(0.083)		0.010	0.032
14	1.17	0.10	0.041	(0.083)		0.010	0.032
15	1.25	0.10	0.041	(0.083)		0.010	0.032
16	1.33	0.10	0.041	(0.082)		0.010	0.032
17	1.42	0.10	0.041	(0.082)		0.010	0.032
18	1.50	0.10	0.041	(0.082)		0.010	0.032
19	1.58	0.10	0.041	(0.081)		0.010	0.032
20	1.67	0.10	0.041	(0.081)		0.010	0.032
21	1.75	0.10	0.041	(0.081)		0.010	0.032
22	1.83	0.13	0.055	(0.080)		0.013	0.042
23	1.92	0.13	0.055	(0.080)		0.013	0.042
24	2.00	0.13	0.055	(0.080)		0.013	0.042
25	2.08	0.13	0.055	(0.079)		0.013	0.042
26	2.17	0.13	0.055	(0.079)		0.013	0.042
27	2.25	0.13	0.055	(0.079)		0.013	0.042
28	2.33	0.13	0.055	(0.079)		0.013	0.042
29	2.42	0.13	0.055	(0.078)		0.013	0.042
30	2.50	0.13	0.055	(0.078)		0.013	0.042
31	2.58	0.17	0.069	(0.078)		0.016	0.053
32	2.67	0.17	0.069	(0.077)		0.016	0.053
33	2.75	0.17	0.069	(0.077)		0.016	0.053
34	2.83	0.17	0.069	(0.077)		0.016	0.053
35	2.92	0.17	0.069	(0.076)		0.016	0.053
36	3.00	0.17	0.069	(0.076)		0.016	0.053
37	3.08	0.17	0.069	(0.076)		0.016	0.053
38	3.17	0.17	0.069	(0.075)		0.016	0.053
39	3.25	0.17	0.069	(0.075)		0.016	0.053
40	3.33	0.17	0.069	(0.075)		0.016	0.053
41	3.42	0.17	0.069	(0.074)		0.016	0.053
42	3.50	0.17	0.069	(0.074)		0.016	0.053
43	3.58	0.17	0.069	(0.074)		0.016	0.053
44	3.67	0.17	0.069	(0.073)		0.016	0.053
45	3.75	0.17	0.069	(0.073)		0.016	0.053
46	3.83	0.20	0.083	(0.073)		0.020	0.063
47	3.92	0.20	0.083	(0.073)		0.020	0.063
48	4.00	0.20	0.083	(0.072)		0.020	0.063
49	4.08	0.20	0.083	(0.072)		0.020	0.063
50	4.17	0.20	0.083	(0.072)		0.020	0.063
51	4.25	0.20	0.083	(0.071)		0.020	0.063
52	4.33	0.23	0.097	(0.071)		0.023	0.074
53	4.42	0.23	0.097	(0.071)		0.023	0.074
54	4.50	0.23	0.097	(0.070)		0.023	0.074
55	4.58	0.23	0.097	(0.070)		0.023	0.074

56	4.67	0.23	0.097	(0.070)	0.023	0.074
57	4.75	0.23	0.097	(0.070)	0.023	0.074
58	4.83	0.27	0.110	(0.069)	0.026	0.084
59	4.92	0.27	0.110	(0.069)	0.026	0.084
60	5.00	0.27	0.110	(0.069)	0.026	0.084
61	5.08	0.20	0.083	(0.068)	0.020	0.063
62	5.17	0.20	0.083	(0.068)	0.020	0.063
63	5.25	0.20	0.083	(0.068)	0.020	0.063
64	5.33	0.23	0.097	(0.067)	0.023	0.074
65	5.42	0.23	0.097	(0.067)	0.023	0.074
66	5.50	0.23	0.097	(0.067)	0.023	0.074
67	5.58	0.27	0.110	(0.067)	0.026	0.084
68	5.67	0.27	0.110	(0.066)	0.026	0.084
69	5.75	0.27	0.110	(0.066)	0.026	0.084
70	5.83	0.27	0.110	(0.066)	0.026	0.084
71	5.92	0.27	0.110	(0.065)	0.026	0.084
72	6.00	0.27	0.110	(0.065)	0.026	0.084
73	6.08	0.30	0.124	(0.065)	0.029	0.095
74	6.17	0.30	0.124	(0.065)	0.029	0.095
75	6.25	0.30	0.124	(0.064)	0.029	0.095
76	6.33	0.30	0.124	(0.064)	0.029	0.095
77	6.42	0.30	0.124	(0.064)	0.029	0.095
78	6.50	0.30	0.124	(0.063)	0.029	0.095
79	6.58	0.33	0.138	(0.063)	0.033	0.105
80	6.67	0.33	0.138	(0.063)	0.033	0.105
81	6.75	0.33	0.138	(0.063)	0.033	0.105
82	6.83	0.33	0.138	(0.062)	0.033	0.105
83	6.92	0.33	0.138	(0.062)	0.033	0.105
84	7.00	0.33	0.138	(0.062)	0.033	0.105
85	7.08	0.33	0.138	(0.061)	0.033	0.105
86	7.17	0.33	0.138	(0.061)	0.033	0.105
87	7.25	0.33	0.138	(0.061)	0.033	0.105
88	7.33	0.37	0.152	(0.061)	0.036	0.116
89	7.42	0.37	0.152	(0.060)	0.036	0.116
90	7.50	0.37	0.152	(0.060)	0.036	0.116
91	7.58	0.40	0.166	(0.060)	0.039	0.126
92	7.67	0.40	0.166	(0.059)	0.039	0.126
93	7.75	0.40	0.166	(0.059)	0.039	0.126
94	7.83	0.43	0.179	(0.059)	0.042	0.137
95	7.92	0.43	0.179	(0.059)	0.042	0.137
96	8.00	0.43	0.179	(0.058)	0.042	0.137
97	8.08	0.50	0.207	(0.058)	0.049	0.158
98	8.17	0.50	0.207	(0.058)	0.049	0.158
99	8.25	0.50	0.207	(0.058)	0.049	0.158
100	8.33	0.50	0.207	(0.057)	0.049	0.158
101	8.42	0.50	0.207	(0.057)	0.049	0.158
102	8.50	0.50	0.207	(0.057)	0.049	0.158
103	8.58	0.53	0.221	(0.056)	0.052	0.169
104	8.67	0.53	0.221	(0.056)	0.052	0.169
105	8.75	0.53	0.221	(0.056)	0.052	0.169
106	8.83	0.57	0.234	(0.056)	0.055	0.179
107	8.92	0.57	0.234	(0.055)	0.055	0.179
108	9.00	0.57	0.234	0.055	(0.055)	0.179
109	9.08	0.63	0.262	0.055	(0.062)	0.207
110	9.17	0.63	0.262	0.055	(0.062)	0.207
111	9.25	0.63	0.262	0.054	(0.062)	0.208

112	9.33	0.67	0.276	0.054	(0.065)	0.222
113	9.42	0.67	0.276	0.054	(0.065)	0.222
114	9.50	0.67	0.276	0.054	(0.065)	0.222
115	9.58	0.70	0.290	0.053	(0.068)	0.236
116	9.67	0.70	0.290	0.053	(0.068)	0.237
117	9.75	0.70	0.290	0.053	(0.068)	0.237
118	9.83	0.73	0.303	0.053	(0.072)	0.251
119	9.92	0.73	0.303	0.052	(0.072)	0.251
120	10.00	0.73	0.303	0.052	(0.072)	0.251
121	10.08	0.50	0.207	(0.052)	0.049	0.158
122	10.17	0.50	0.207	(0.052)	0.049	0.158
123	10.25	0.50	0.207	(0.051)	0.049	0.158
124	10.33	0.50	0.207	(0.051)	0.049	0.158
125	10.42	0.50	0.207	(0.051)	0.049	0.158
126	10.50	0.50	0.207	(0.051)	0.049	0.158
127	10.58	0.67	0.276	0.050	(0.065)	0.226
128	10.67	0.67	0.276	0.050	(0.065)	0.226
129	10.75	0.67	0.276	0.050	(0.065)	0.226
130	10.83	0.67	0.276	0.050	(0.065)	0.226
131	10.92	0.67	0.276	0.049	(0.065)	0.226
132	11.00	0.67	0.276	0.049	(0.065)	0.227
133	11.08	0.63	0.262	0.049	(0.062)	0.213
134	11.17	0.63	0.262	0.049	(0.062)	0.213
135	11.25	0.63	0.262	0.048	(0.062)	0.214
136	11.33	0.63	0.262	0.048	(0.062)	0.214
137	11.42	0.63	0.262	0.048	(0.062)	0.214
138	11.50	0.63	0.262	0.048	(0.062)	0.214
139	11.58	0.57	0.234	0.047	(0.055)	0.187
140	11.67	0.57	0.234	0.047	(0.055)	0.187
141	11.75	0.57	0.234	0.047	(0.055)	0.187
142	11.83	0.60	0.248	0.047	(0.059)	0.202
143	11.92	0.60	0.248	0.047	(0.059)	0.202
144	12.00	0.60	0.248	0.046	(0.059)	0.202
145	12.08	0.83	0.345	0.046	(0.081)	0.299
146	12.17	0.83	0.345	0.046	(0.081)	0.299
147	12.25	0.83	0.345	0.046	(0.081)	0.299
148	12.33	0.87	0.359	0.045	(0.085)	0.313
149	12.42	0.87	0.359	0.045	(0.085)	0.313
150	12.50	0.87	0.359	0.045	(0.085)	0.314
151	12.58	0.93	0.386	0.045	(0.091)	0.342
152	12.67	0.93	0.386	0.044	(0.091)	0.342
153	12.75	0.93	0.386	0.044	(0.091)	0.342
154	12.83	0.97	0.400	0.044	(0.094)	0.356
155	12.92	0.97	0.400	0.044	(0.094)	0.356
156	13.00	0.97	0.400	0.044	(0.094)	0.356
157	13.08	1.13	0.469	0.043	(0.111)	0.426
158	13.17	1.13	0.469	0.043	(0.111)	0.426
159	13.25	1.13	0.469	0.043	(0.111)	0.426
160	13.33	1.13	0.469	0.043	(0.111)	0.426
161	13.42	1.13	0.469	0.042	(0.111)	0.426
162	13.50	1.13	0.469	0.042	(0.111)	0.427
163	13.58	0.77	0.317	0.042	(0.075)	0.275
164	13.67	0.77	0.317	0.042	(0.075)	0.275
165	13.75	0.77	0.317	0.042	(0.075)	0.276
166	13.83	0.77	0.317	0.041	(0.075)	0.276
167	13.92	0.77	0.317	0.041	(0.075)	0.276

168	14.00	0.77	0.317	0.041	(0.075)	0.276
169	14.08	0.90	0.372	0.041	(0.088)	0.332
170	14.17	0.90	0.372	0.041	(0.088)	0.332
171	14.25	0.90	0.372	0.040	(0.088)	0.332
172	14.33	0.87	0.359	0.040	(0.085)	0.318
173	14.42	0.87	0.359	0.040	(0.085)	0.319
174	14.50	0.87	0.359	0.040	(0.085)	0.319
175	14.58	0.87	0.359	0.040	(0.085)	0.319
176	14.67	0.87	0.359	0.039	(0.085)	0.319
177	14.75	0.87	0.359	0.039	(0.085)	0.319
178	14.83	0.83	0.345	0.039	(0.081)	0.306
179	14.92	0.83	0.345	0.039	(0.081)	0.306
180	15.00	0.83	0.345	0.039	(0.081)	0.306
181	15.08	0.80	0.331	0.038	(0.078)	0.293
182	15.17	0.80	0.331	0.038	(0.078)	0.293
183	15.25	0.80	0.331	0.038	(0.078)	0.293
184	15.33	0.77	0.317	0.038	(0.075)	0.279
185	15.42	0.77	0.317	0.038	(0.075)	0.280
186	15.50	0.77	0.317	0.037	(0.075)	0.280
187	15.58	0.63	0.262	0.037	(0.062)	0.225
188	15.67	0.63	0.262	0.037	(0.062)	0.225
189	15.75	0.63	0.262	0.037	(0.062)	0.225
190	15.83	0.63	0.262	0.037	(0.062)	0.225
191	15.92	0.63	0.262	0.036	(0.062)	0.226
192	16.00	0.63	0.262	0.036	(0.062)	0.226
193	16.08	0.13	0.055	(0.036)	0.013	0.042
194	16.17	0.13	0.055	(0.036)	0.013	0.042
195	16.25	0.13	0.055	(0.036)	0.013	0.042
196	16.33	0.13	0.055	(0.035)	0.013	0.042
197	16.42	0.13	0.055	(0.035)	0.013	0.042
198	16.50	0.13	0.055	(0.035)	0.013	0.042
199	16.58	0.10	0.041	(0.035)	0.010	0.032
200	16.67	0.10	0.041	(0.035)	0.010	0.032
201	16.75	0.10	0.041	(0.035)	0.010	0.032
202	16.83	0.10	0.041	(0.034)	0.010	0.032
203	16.92	0.10	0.041	(0.034)	0.010	0.032
204	17.00	0.10	0.041	(0.034)	0.010	0.032
205	17.08	0.17	0.069	(0.034)	0.016	0.053
206	17.17	0.17	0.069	(0.034)	0.016	0.053
207	17.25	0.17	0.069	(0.034)	0.016	0.053
208	17.33	0.17	0.069	(0.033)	0.016	0.053
209	17.42	0.17	0.069	(0.033)	0.016	0.053
210	17.50	0.17	0.069	(0.033)	0.016	0.053
211	17.58	0.17	0.069	(0.033)	0.016	0.053
212	17.67	0.17	0.069	(0.033)	0.016	0.053
213	17.75	0.17	0.069	(0.033)	0.016	0.053
214	17.83	0.13	0.055	(0.032)	0.013	0.042
215	17.92	0.13	0.055	(0.032)	0.013	0.042
216	18.00	0.13	0.055	(0.032)	0.013	0.042
217	18.08	0.13	0.055	(0.032)	0.013	0.042
218	18.17	0.13	0.055	(0.032)	0.013	0.042
219	18.25	0.13	0.055	(0.032)	0.013	0.042
220	18.33	0.13	0.055	(0.031)	0.013	0.042
221	18.42	0.13	0.055	(0.031)	0.013	0.042
222	18.50	0.13	0.055	(0.031)	0.013	0.042
223	18.58	0.10	0.041	(0.031)	0.010	0.032

224	18.67	0.10	0.041	(0.031)	0.010	0.032
225	18.75	0.10	0.041	(0.031)	0.010	0.032
226	18.83	0.07	0.028	(0.031)	0.007	0.021
227	18.92	0.07	0.028	(0.030)	0.007	0.021
228	19.00	0.07	0.028	(0.030)	0.007	0.021
229	19.08	0.10	0.041	(0.030)	0.010	0.032
230	19.17	0.10	0.041	(0.030)	0.010	0.032
231	19.25	0.10	0.041	(0.030)	0.010	0.032
232	19.33	0.13	0.055	(0.030)	0.013	0.042
233	19.42	0.13	0.055	(0.030)	0.013	0.042
234	19.50	0.13	0.055	(0.029)	0.013	0.042
235	19.58	0.10	0.041	(0.029)	0.010	0.032
236	19.67	0.10	0.041	(0.029)	0.010	0.032
237	19.75	0.10	0.041	(0.029)	0.010	0.032
238	19.83	0.07	0.028	(0.029)	0.007	0.021
239	19.92	0.07	0.028	(0.029)	0.007	0.021
240	20.00	0.07	0.028	(0.029)	0.007	0.021
241	20.08	0.10	0.041	(0.029)	0.010	0.032
242	20.17	0.10	0.041	(0.028)	0.010	0.032
243	20.25	0.10	0.041	(0.028)	0.010	0.032
244	20.33	0.10	0.041	(0.028)	0.010	0.032
245	20.42	0.10	0.041	(0.028)	0.010	0.032
246	20.50	0.10	0.041	(0.028)	0.010	0.032
247	20.58	0.10	0.041	(0.028)	0.010	0.032
248	20.67	0.10	0.041	(0.028)	0.010	0.032
249	20.75	0.10	0.041	(0.028)	0.010	0.032
250	20.83	0.07	0.028	(0.027)	0.007	0.021
251	20.92	0.07	0.028	(0.027)	0.007	0.021
252	21.00	0.07	0.028	(0.027)	0.007	0.021
253	21.08	0.10	0.041	(0.027)	0.010	0.032
254	21.17	0.10	0.041	(0.027)	0.010	0.032
255	21.25	0.10	0.041	(0.027)	0.010	0.032
256	21.33	0.07	0.028	(0.027)	0.007	0.021
257	21.42	0.07	0.028	(0.027)	0.007	0.021
258	21.50	0.07	0.028	(0.027)	0.007	0.021
259	21.58	0.10	0.041	(0.027)	0.010	0.032
260	21.67	0.10	0.041	(0.026)	0.010	0.032
261	21.75	0.10	0.041	(0.026)	0.010	0.032
262	21.83	0.07	0.028	(0.026)	0.007	0.021
263	21.92	0.07	0.028	(0.026)	0.007	0.021
264	22.00	0.07	0.028	(0.026)	0.007	0.021
265	22.08	0.10	0.041	(0.026)	0.010	0.032
266	22.17	0.10	0.041	(0.026)	0.010	0.032
267	22.25	0.10	0.041	(0.026)	0.010	0.032
268	22.33	0.07	0.028	(0.026)	0.007	0.021
269	22.42	0.07	0.028	(0.026)	0.007	0.021
270	22.50	0.07	0.028	(0.026)	0.007	0.021
271	22.58	0.07	0.028	(0.025)	0.007	0.021
272	22.67	0.07	0.028	(0.025)	0.007	0.021
273	22.75	0.07	0.028	(0.025)	0.007	0.021
274	22.83	0.07	0.028	(0.025)	0.007	0.021
275	22.92	0.07	0.028	(0.025)	0.007	0.021
276	23.00	0.07	0.028	(0.025)	0.007	0.021
277	23.08	0.07	0.028	(0.025)	0.007	0.021
278	23.17	0.07	0.028	(0.025)	0.007	0.021
279	23.25	0.07	0.028	(0.025)	0.007	0.021

280	23.33	0.07	0.028	(0.025)	0.007	0.021
281	23.42	0.07	0.028	(0.025)	0.007	0.021
282	23.50	0.07	0.028	(0.025)	0.007	0.021
283	23.58	0.07	0.028	(0.025)	0.007	0.021
284	23.67	0.07	0.028	(0.025)	0.007	0.021
285	23.75	0.07	0.028	(0.025)	0.007	0.021
286	23.83	0.07	0.028	(0.025)	0.007	0.021
287	23.92	0.07	0.028	(0.025)	0.007	0.021
288	24.00	0.07	0.028	(0.025)	0.007	0.021

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.1

Flood volume = Effective rainfall 2.84(In)
times area 25.6(Ac.)/[(In)/(Ft.)] = 6.0(Ac.Ft)
Total soil loss = 0.61(In)
Total soil loss = 1.301(Ac.Ft)
Total rainfall = 3.45(In)
Flood volume = 263496.9 Cubic Feet
Total soil loss = 56672.7 Cubic Feet

Peak flow rate of this hydrograph = 11.000(CFS)

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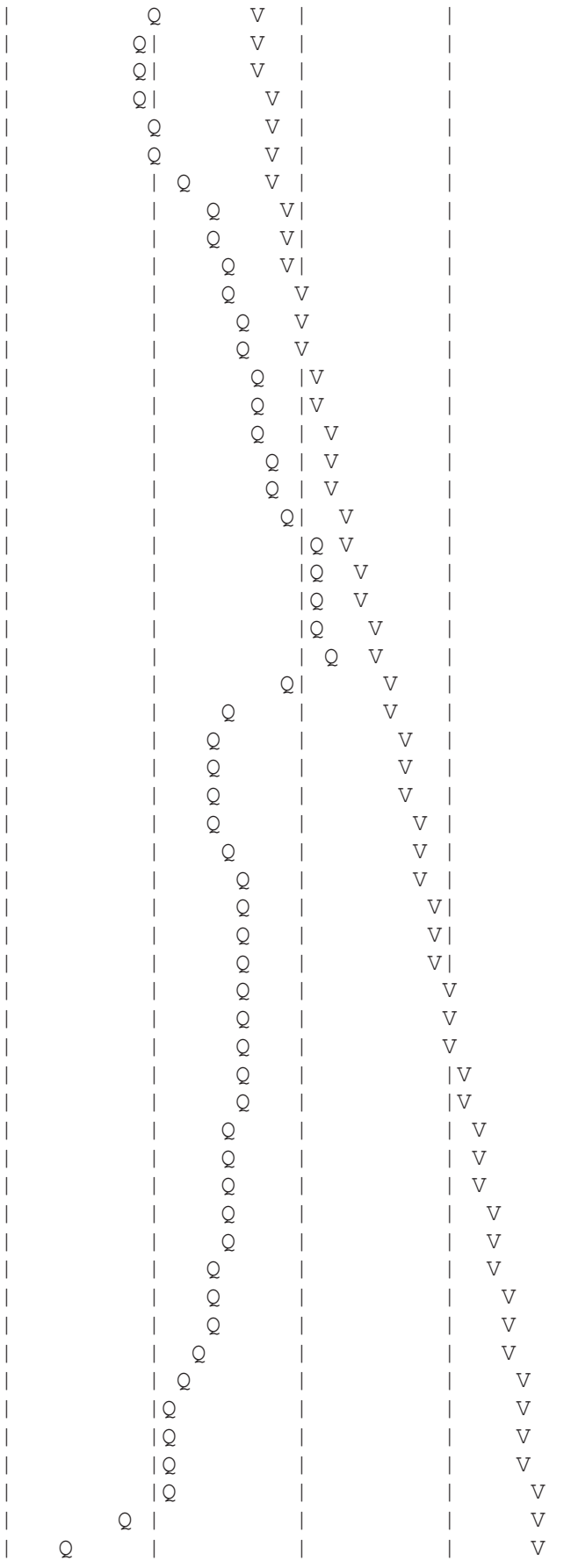
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0012	0.18	Q				
0+10	0.0042	0.44	Q				
0+15	0.0077	0.50	Q				
0+20	0.0119	0.61	VQ				
0+25	0.0171	0.75	VQ				
0+30	0.0225	0.79	VQ				
0+35	0.0281	0.81	VQ				
0+40	0.0337	0.81	VQ				
0+45	0.0393	0.82	VQ				
0+50	0.0455	0.91	VQ				
0+55	0.0526	1.03	V Q				
1+ 0	0.0600	1.06	V Q				
1+ 5	0.0668	0.99	VQ				
1+10	0.0727	0.87	VQ				
1+15	0.0785	0.84	VQ				
1+20	0.0842	0.83	VQ				
1+25	0.0898	0.82	VQ				
1+30	0.0954	0.82	VQ				
1+35	0.1011	0.82	VQ				
1+40	0.1067	0.82	VQ				
1+45	0.1123	0.82	VQ				
1+50	0.1185	0.91	VQ				
1+55	0.1256	1.03	V Q				
2+ 0	0.1330	1.06	V Q				
2+ 5	0.1404	1.08	V Q				
2+10	0.1478	1.08	V Q				

2+15	0.1553	1.09	|VQ	|	|	|	|
2+20	0.1628	1.09	|VQ	|	|	|	|
2+25	0.1703	1.09	|VQ	|	|	|	|
2+30	0.1778	1.09	|VQ	|	|	|	|
2+35	0.1859	1.18	|VQ	|	|	|	|
2+40	0.1949	1.31	|VQ	|	|	|	|
2+45	0.2041	1.34	|VQ	|	|	|	|
2+50	0.2134	1.35	|VQ	|	|	|	|
2+55	0.2227	1.36	|VQ	|	|	|	|
3+ 0	0.2321	1.36	|VQ	|	|	|	|
3+ 5	0.2414	1.36	|VQ	|	|	|	|
3+10	0.2508	1.36	|VQ	|	|	|	|
3+15	0.2601	1.36	|VQ	|	|	|	|
3+20	0.2695	1.36	|VQ	|	|	|	|
3+25	0.2789	1.36	|VQ	|	|	|	|
3+30	0.2882	1.36	|VQ	|	|	|	|
3+35	0.2976	1.36	|VQ	|	|	|	|
3+40	0.3069	1.36	| Q	|	|	|	|
3+45	0.3163	1.36	| Q	|	|	|	|
3+50	0.3263	1.45	| Q	|	|	|	|
3+55	0.3371	1.58	| VQ	|	|	|	|
4+ 0	0.3482	1.61	| VQ	|	|	|	|
4+ 5	0.3594	1.62	| VQ	|	|	|	|
4+10	0.3706	1.63	| VQ	|	|	|	|
4+15	0.3818	1.63	| VQ	|	|	|	|
4+20	0.3937	1.72	| VQ	|	|	|	|
4+25	0.4064	1.85	| VQ	|	|	|	|
4+30	0.4193	1.88	| VQ	|	|	|	|
4+35	0.4324	1.89	| VQ	|	|	|	|
4+40	0.4454	1.90	| VQ	|	|	|	|
4+45	0.4585	1.90	| Q	|	|	|	|
4+50	0.4723	1.99	| Q	|	|	|	|
4+55	0.4869	2.12	| VQ	|	|	|	|
5+ 0	0.5017	2.15	| VQ	|	|	|	|
5+ 5	0.5153	1.98	| Q	|	|	|	|
5+10	0.5273	1.74	| Q	|	|	|	|
5+15	0.5389	1.68	| Q	|	|	|	|
5+20	0.5508	1.74	| Q	|	|	|	|
5+25	0.5636	1.86	| Q	|	|	|	|
5+30	0.5766	1.88	| Q	|	|	|	|
5+35	0.5902	1.98	| Q	|	|	|	|
5+40	0.6048	2.12	| VQ	|	|	|	|
5+45	0.6196	2.15	| Q	|	|	|	|
5+50	0.6345	2.16	| Q	|	|	|	|
5+55	0.6495	2.17	| Q	|	|	|	|
6+ 0	0.6644	2.17	| Q	|	|	|	|
6+ 5	0.6800	2.26	| Q	|	|	|	|
6+10	0.6965	2.39	| Q	|	|	|	|
6+15	0.7132	2.42	| Q	|	|	|	|
6+20	0.7300	2.44	| Q	|	|	|	|
6+25	0.7468	2.44	| Q	|	|	|	|
6+30	0.7636	2.45	| QV	|	|	|	|
6+35	0.7811	2.54	| Q	|	|	|	|
6+40	0.7995	2.66	| Q	|	|	|	|
6+45	0.8180	2.69	| Q	|	|	|	|
6+50	0.8367	2.71	| Q	|	|	|	|

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 6+55       0.8553      2.71  |    Q     |          |          |          |
 7+ 0       0.8741      2.72  |    Q     |          |          |          |
 7+ 5       0.8928      2.72  |    Q     |          |          |          |
 7+10       0.9115      2.72  |    QV    |          |          |          |
 7+15       0.9302      2.72  |    QV    |          |          |          |
 7+20       0.9496      2.81  |    QV    |          |          |          |
 7+25       0.9698      2.94  |    QV    |          |          |          |
 7+30       0.9902      2.97  |    QV    |          |          |          |
 7+35       1.0113      3.07  |     Q    |          |          |          |
 7+40       1.0334      3.20  |     Q    |          |          |          |
 7+45       1.0557      3.24  |     Q    |          |          |          |
 7+50       1.0787      3.34  |     QV   |          |          |          |
 7+55       1.1027      3.48  |     QV   |          |          |          |
 8+ 0       1.1268      3.51  |      Q   |          |          |          |
 8+ 5       1.1523      3.70  |      Q   |          |          |          |
 8+10       1.1797      3.97  |      Q   |          |          |          |
 8+15       1.2074      4.03  |      VQ  |          |          |          |
 8+20       1.2353      4.06  |       Q  |          |          |          |
 8+25       1.2634      4.07  |       Q  |          |          |          |
 8+30       1.2914      4.08  |       Q  |          |          |          |
 8+35       1.3201      4.17  |       Q  |          |          |          |
 8+40       1.3497      4.29  |       Q  |          |          |          |
 8+45       1.3795      4.33  |       QV |          |          |          |
 8+50       1.4100      4.43  |       QV |          |          |          |
 8+55       1.4414      4.56  |        Q |          |          |          |
 9+ 0       1.4731      4.60  |        Q |          |          |          |
 9+ 5       1.5065      4.85  |        Q |          |          |          |
 9+10       1.5423      5.20  |         Q          |          |          |
 9+15       1.5787      5.29  |         Q          |          |          |
 9+20       1.6163      5.45  |         Q          |          |          |
 9+25       1.6551      5.64  |         VQ         |          |          |
 9+30       1.6943      5.69  |         |Q         |          |          |
 9+35       1.7345      5.84  |         |Q         |          |          |
 9+40       1.7760      6.02  |         |VQ        |          |          |
 9+45       1.8178      6.07  |         | Q        |          |          |
 9+50       1.8606      6.21  |         | Q        |          |          |
 9+55       1.9046      6.39  |         | Q        |          |          |
10+ 0       1.9490      6.45  |         | Q        |          |          |
10+ 5       1.9880      5.67  |         |Q V       |          |          |
10+10       2.0194      4.55  |        Q|  V       |          |          |
10+15       2.0489      4.28  |       Q |  V       |          |          |
10+20       2.0776      4.17  |       Q |  V       |          |          |
10+25       2.1059      4.11  |       Q |  V       |          |          |
10+30       2.1339      4.08  |       Q |   V      |          |          |
10+35       2.1660      4.65  |        Q|   V      |          |          |
10+40       2.2037      5.47  |         Q   V      |          |          |
10+45       2.2428      5.67  |         |Q  V      |          |          |
10+50       2.2825      5.76  |         |Q   V     |          |          |
10+55       2.3225      5.81  |         |Q   V     |          |          |
11+ 0       2.3627      5.84  |         |Q   V     |          |          |
11+ 5       2.4022      5.73  |         |Q   V     |          |          |
11+10       2.4405      5.57  |         |Q    V    |          |          |
11+15       2.4787      5.54  |         |Q    V    |          |          |
11+20       2.5167      5.52  |         |Q    V    |          |          |
11+25       2.5547      5.52  |         |Q    V    |          |          |
11+30       2.5928      5.52  |         |Q     V   |          |          |
```

11+35	2.6292	5.29	
11+40	2.6634	4.97	
11+45	2.6971	4.89	
11+50	2.7314	4.98	
11+55	2.7668	5.14	
12+ 0	2.8024	5.17	
12+ 5	2.8439	6.02	
12+10	2.8935	7.21	
12+15	2.9452	7.50	
12+20	2.9985	7.74	
12+25	3.0534	7.98	
12+30	3.1089	8.05	
12+35	3.1662	8.31	
12+40	3.2258	8.66	
12+45	3.2861	8.75	
12+50	3.3475	8.91	
12+55	3.4102	9.10	
13+ 0	3.4732	9.16	
13+ 5	3.5405	9.77	
13+10	3.6136	10.62	
13+15	3.6882	10.83	
13+20	3.7634	10.92	
13+25	3.8390	10.97	
13+30	3.9148	11.00	
13+35	3.9816	9.71	
13+40	4.0359	7.87	
13+45	4.0871	7.44	
13+50	4.1371	7.26	
13+55	4.1864	7.16	
14+ 0	4.2355	7.12	
14+ 5	4.2878	7.60	
14+10	4.3448	8.27	
14+15	4.4029	8.44	
14+20	4.4607	8.39	
14+25	4.5176	8.27	
14+30	4.5744	8.25	
14+35	4.6311	8.24	
14+40	4.6879	8.23	
14+45	4.7446	8.24	
14+50	4.8005	8.12	
14+55	4.8553	7.96	
15+ 0	4.9099	7.93	
15+ 5	4.9636	7.80	
15+10	5.0161	7.62	
15+15	5.0684	7.59	
15+20	5.1197	7.45	
15+25	5.1699	7.28	
15+30	5.2198	7.24	
15+35	5.2663	6.76	
15+40	5.3082	6.09	
15+45	5.3491	5.93	
15+50	5.3895	5.86	
15+55	5.4296	5.83	
16+ 0	5.4697	5.82	
16+ 5	5.4990	4.25	
16+10	5.5130	2.03	

```
16+15       5.5233      1.50  | Q       |         |         |     V   |
16+20       5.5320      1.27  | Q       |         |         |     V   |
16+25       5.5399      1.15  | Q       |         |         |     V   |
16+30       5.5474      1.09  | Q       |         |         |     V   |
16+35       5.5542      1.00  |Q        |         |         |     V   |
16+40       5.5602      0.87  |Q        |         |         |     V   |
16+45       5.5660      0.84  |Q        |         |         |     V   |
16+50       5.5717      0.83  |Q        |         |         |     V   |
16+55       5.5773      0.82  |Q        |         |         |     V   |
17+ 0       5.5830      0.82  |Q        |         |         |     V   |
17+ 5       5.5898      1.00  |Q        |         |         |     V   |
17+10       5.5984      1.25  | Q       |         |         |      V  |
17+15       5.6075      1.31  | Q       |         |         |      V  |
17+20       5.6167      1.34  | Q       |         |         |      V  |
17+25       5.6260      1.35  | Q       |         |         |      V  |
17+30       5.6353      1.36  | Q       |         |         |      V  |
17+35       5.6447      1.36  | Q       |         |         |      V  |
17+40       5.6541      1.36  | Q       |         |         |      V  |
17+45       5.6634      1.36  | Q       |         |         |      V  |
17+50       5.6722      1.27  | Q       |         |         |      V  |
17+55       5.6800      1.14  | Q       |         |         |      V  |
18+ 0       5.6877      1.11  | Q       |         |         |      V  |
18+ 5       5.6952      1.10  | Q       |         |         |      V  |
18+10       5.7027      1.09  | Q       |         |         |      V  |
18+15       5.7102      1.09  | Q       |         |         |      V  |
18+20       5.7177      1.09  | Q       |         |         |      V  |
18+25       5.7252      1.09  | Q       |         |         |      V  |
18+30       5.7327      1.09  | Q       |         |         |      V  |
18+35       5.7396      1.00  |Q        |         |         |      V  |
18+40       5.7455      0.87  |Q        |         |         |      V  |
18+45       5.7513      0.84  |Q        |         |         |       V |
18+50       5.7564      0.74  |Q        |         |         |       V |
18+55       5.7605      0.60  |Q        |         |         |       V |
19+ 0       5.7644      0.57  |Q        |         |         |       V |
19+ 5       5.7689      0.64  |Q        |         |         |       V |
19+10       5.7741      0.76  |Q        |         |         |       V |
19+15       5.7796      0.79  |Q        |         |         |       V |
19+20       5.7858      0.90  |Q        |         |         |       V |
19+25       5.7928      1.03  | Q       |         |         |       V |
19+30       5.8002      1.06  | Q       |         |         |       V |
19+35       5.8070      0.99  |Q        |         |         |       V |
19+40       5.8129      0.87  |Q        |         |         |       V |
19+45       5.8187      0.84  |Q        |         |         |       V |
19+50       5.8238      0.74  |Q        |         |         |       V |
19+55       5.8279      0.60  |Q        |         |         |       V |
20+ 0       5.8318      0.57  |Q        |         |         |       V |
20+ 5       5.8362      0.64  |Q        |         |         |       V |
20+10       5.8415      0.76  |Q        |         |         |       V |
20+15       5.8470      0.79  |Q        |         |         |       V |
20+20       5.8525      0.81  |Q        |         |         |       V |
20+25       5.8581      0.81  |Q        |         |         |       V |
20+30       5.8637      0.82  |Q        |         |         |       V |
20+35       5.8693      0.82  |Q        |         |         |       V |
20+40       5.8750      0.82  |Q        |         |         |       V |
20+45       5.8806      0.82  |Q        |         |         |       V |
20+50       5.8856      0.73  |Q        |         |         |       V |
```

20+55	5.8897	0.60	|Q	|	|	|	V |
21+ 0	5.8936	0.57	|Q	|	|	|	V |
21+ 5	5.8980	0.64	|Q	|	|	|	V|
21+10	5.9033	0.76	|Q	|	|	|	V|
21+15	5.9087	0.79	|Q	|	|	|	V|
21+20	5.9137	0.72	|Q	|	|	|	V|
21+25	5.9178	0.59	|Q	|	|	|	V|
21+30	5.9217	0.57	|Q	|	|	|	V|
21+35	5.9261	0.64	|Q	|	|	|	V|
21+40	5.9314	0.76	|Q	|	|	|	V|
21+45	5.9368	0.79	|Q	|	|	|	V|
21+50	5.9417	0.72	|Q	|	|	|	V|
21+55	5.9458	0.59	|Q	|	|	|	V|
22+ 0	5.9497	0.57	|Q	|	|	|	V|
22+ 5	5.9542	0.64	|Q	|	|	|	V|
22+10	5.9594	0.76	|Q	|	|	|	V|
22+15	5.9649	0.79	|Q	|	|	|	V|
22+20	5.9698	0.72	|Q	|	|	|	V|
22+25	5.9739	0.59	|Q	|	|	|	V|
22+30	5.9778	0.57	|Q	|	|	|	V|
22+35	5.9816	0.55	|Q	|	|	|	V|
22+40	5.9854	0.55	|Q	|	|	|	V|
22+45	5.9891	0.54	|Q	|	|	|	V|
22+50	5.9929	0.54	|Q	|	|	|	V|
22+55	5.9966	0.54	|Q	|	|	|	V|
23+ 0	6.0004	0.54	|Q	|	|	|	V|
23+ 5	6.0041	0.54	|Q	|	|	|	V|
23+10	6.0079	0.54	|Q	|	|	|	V|
23+15	6.0116	0.54	|Q	|	|	|	V|
23+20	6.0153	0.54	|Q	|	|	|	V|
23+25	6.0191	0.54	|Q	|	|	|	V|
23+30	6.0228	0.54	|Q	|	|	|	V|
23+35	6.0266	0.54	|Q	|	|	|	V|
23+40	6.0303	0.54	|Q	|	|	|	V|
23+45	6.0341	0.54	|Q	|	|	|	V|
23+50	6.0378	0.54	|Q	|	|	|	V|
23+55	6.0416	0.54	|Q	|	|	|	V|
24+ 0	6.0453	0.54	|Q	|	|	|	V|
24+ 5	6.0478	0.36	Q	|	|	|	V|
24+10	6.0485	0.11	Q	|	|	|	V|
24+15	6.0489	0.05	Q	|	|	|	V|
24+20	6.0490	0.02	Q	|	|	|	V|
24+25	6.0491	0.01	Q	|	|	|	V|

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

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Study date 03/28/24 File: hemetuhpra21001100.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 2)
100-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 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]
25.58	0.49	12.64

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       25.58              1.59                 40.67

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    1.590(In)
Areal adjustment factor =   99.98 %
Adjusted average point rain =    1.590(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.878      0.001
56.0  74.8      0.305     0.000        0.305       0.043      0.013
75.0  88.0      0.153     0.000        0.153       0.079      0.012
                                                  Sum (F) =   0.027
Area averaged mean soil loss (F) (In/Hr) =  0.027
Minimum soil loss rate ((In/Hr)) =  0.013
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.649	0.027	(0.153)	0.622
2	0.17	4.70	0.897	0.027	(0.212)	0.870
3	0.25	4.70	0.897	0.027	(0.212)	0.870
4	0.33	5.10	0.973	0.027	(0.230)	0.946
5	0.42	5.80	1.106	0.027	(0.261)	1.080
6	0.50	5.90	1.125	0.027	(0.266)	1.099
7	0.58	7.10	1.354	0.027	(0.320)	1.328
8	0.67	8.70	1.660	0.027	(0.392)	1.633
9	0.75	13.20	2.518	0.027	(0.594)	2.491
10	0.83	29.70	5.665	0.027	(1.337)	5.639
11	0.92	7.70	1.469	0.027	(0.347)	1.442
12	1.00	4.00	0.763	0.027	(0.180)	0.736

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.8

Flood volume = Effective rainfall 1.56(In)
times area 25.6(Ac.)/[(In)/(Ft.)] = 3.3(Ac.Ft)
Total soil loss = 0.03(In)
Total soil loss = 0.057(Ac.Ft)
Total rainfall = 1.59(In)
Flood volume = 145137.7 Cubic Feet
Total soil loss = 2468.2 Cubic Feet

Peak flow rate of this hydrograph = 91.177(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	25.0	50.0	75.0	100.0
0+ 5	0.0366	5.32	V Q				
0+10	0.1398	14.98	|V Q				
0+15	0.2760	19.78	| V Q |				
0+20	0.4271	21.94	| V Q |				
0+25	0.5973	24.71	| V Q|				
0+30	0.7838	27.08	| VQ				
0+35	0.9892	29.83	| |Q				
0+40	1.2336	35.49	| | Q				
0+45	1.5596	47.32	| | Q |				
0+50	2.1509	85.87	| | | V | Q |				
0+55	2.7789	91.18	| | | | V Q |				
1+ 0	3.0866	44.68	| | Q | | V |				
1+ 5	3.2404	22.33	| Q | | | V |				
1+10	3.2980	8.37	| Q | | | V|				
1+15	3.3237	3.72	|Q | | | V|				
1+20	3.3302	0.95	Q | | | V|				
1+25	3.3319	0.25	Q | | | V|				

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

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Study date 03/28/24 File: hemetuhpra21003100.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 2)
100-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
25.58	0.85	21.67

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      25.58              2.20                 56.28

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    2.200(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    2.200(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.878      0.001
56.0  74.8      0.305     0.000        0.305       0.043      0.013
75.0  88.0      0.153     0.000        0.153       0.079      0.012
                                                  Sum (F) =   0.027
Area averaged mean soil loss (F) (In/Hr) =  0.027
Minimum soil loss rate ((In/Hr)) =  0.013
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	1.30	0.343	0.027	(	0.081)	0.317
2	0.17	1.30	0.343	0.027	(	0.081)	0.317
3	0.25	1.10	0.290	0.027	(	0.069)	0.264
4	0.33	1.50	0.396	0.027	(	0.093)	0.369
5	0.42	1.50	0.396	0.027	(	0.093)	0.369
6	0.50	1.80	0.475	0.027	(	0.112)	0.449
7	0.58	1.50	0.396	0.027	(	0.093)	0.369
8	0.67	1.80	0.475	0.027	(	0.112)	0.449
9	0.75	1.80	0.475	0.027	(	0.112)	0.449
10	0.83	1.50	0.396	0.027	(	0.093)	0.369
11	0.92	1.60	0.422	0.027	(	0.100)	0.396
12	1.00	1.80	0.475	0.027	(	0.112)	0.449
13	1.08	2.20	0.581	0.027	(	0.137)	0.554
14	1.17	2.20	0.581	0.027	(	0.137)	0.554
15	1.25	2.20	0.581	0.027	(	0.137)	0.554
16	1.33	2.00	0.528	0.027	(	0.125)	0.501
17	1.42	2.60	0.686	0.027	(	0.162)	0.660
18	1.50	2.70	0.713	0.027	(	0.168)	0.686
19	1.58	2.40	0.634	0.027	(	0.150)	0.607
20	1.67	2.70	0.713	0.027	(	0.168)	0.686
21	1.75	3.30	0.871	0.027	(	0.206)	0.845
22	1.83	3.10	0.818	0.027	(	0.193)	0.792
23	1.92	2.90	0.766	0.027	(	0.181)	0.739
24	2.00	3.00	0.792	0.027	(	0.187)	0.765
25	2.08	3.10	0.818	0.027	(	0.193)	0.792
26	2.17	4.20	1.109	0.027	(	0.262)	1.082
27	2.25	5.00	1.320	0.027	(	0.311)	1.293
28	2.33	3.50	0.924	0.027	(	0.218)	0.897
29	2.42	6.80	1.795	0.027	(	0.424)	1.768
30	2.50	7.30	1.927	0.027	(	0.455)	1.900
31	2.58	8.20	2.165	0.027	(	0.511)	2.138
32	2.67	5.90	1.557	0.027	(	0.368)	1.531
33	2.75	2.00	0.528	0.027	(	0.125)	0.501
34	2.83	1.80	0.475	0.027	(	0.112)	0.449
35	2.92	1.80	0.475	0.027	(	0.112)	0.449
36	3.00	0.60	0.158	0.027	(	0.037)	0.132

(Loss Rate Not Used)

Sum = 100.0 Sum = 25.4

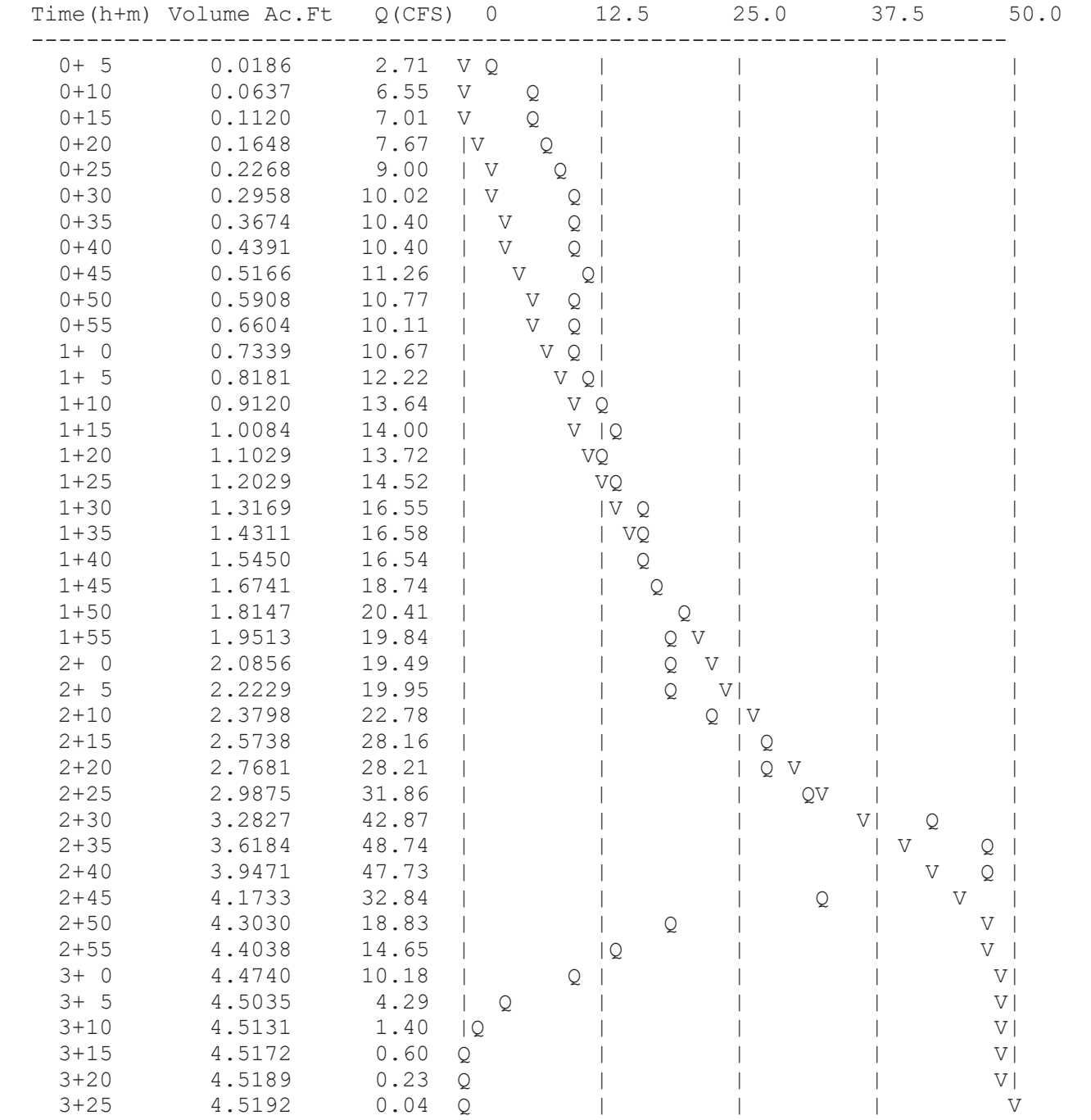
Flood volume = Effective rainfall 2.12(In)
times area 25.6(Ac.)/[(In)/(Ft.)] = 4.5(Ac.Ft)
Total soil loss = 0.08(In)
Total soil loss = 0.170(Ac.Ft)
Total rainfall = 2.20(In)
Flood volume = 196854.5 Cubic Feet
Total soil loss = 7404.5 Cubic Feet

Peak flow rate of this hydrograph = 48.744(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 12.5 25.0 37.5 50.0
0+ 5 0.0186 2.71
0+10 0.0637 6.55
0+15 0.1120 7.01
0+20 0.1648 7.67
0+25 0.2268 9.00
0+30 0.2958 10.02
0+35 0.3674 10.40
0+40 0.4391 10.40
0+45 0.5166 11.26
0+50 0.5908 10.77
0+55 0.6604 10.11
1+ 0 0.7339 10.67
1+ 5 0.8181 12.22
1+10 0.9120 13.64
1+15 1.0084 14.00
1+20 1.1029 13.72
1+25 1.2029 14.52
1+30 1.3169 16.55
1+35 1.4311 16.58
1+40 1.5450 16.54
1+45 1.6741 18.74
1+50 1.8147 20.41
1+55 1.9513 19.84
2+ 0 2.0856 19.49
2+ 5 2.2229 19.95
2+10 2.3798 22.78
2+15 2.5738 28.16
2+20 2.7681 28.21
2+25 2.9875 31.86
2+30 3.2827 42.87
2+35 3.6184 48.74
2+40 3.9471 47.73
2+45 4.1733 32.84
2+50 4.3030 18.83
2+55 4.4038 14.65
3+ 0 4.4740 10.18
3+ 5 4.5035 4.29
3+10 4.5131 1.40
3+15 4.5172 0.60
3+20 4.5189 0.23
3+25 4.5192 0.04

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

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Study date 03/28/24 File: hemetuhpra21006100.out

++

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 2)
100-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
25.58	1.18	30.18

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       25.58              2.92                 74.69

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    2.920(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    2.920(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.878      0.001
56.0  74.8      0.305     0.000        0.305       0.043      0.013
75.0  88.0      0.153     0.000        0.153       0.079      0.012
                                                  Sum (F) =   0.027
Area averaged mean soil loss (F) (In/Hr) =  0.027
Minimum soil loss rate ((In/Hr)) =  0.013
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.50	0.175	0.027	(	0.041)	0.149
2	0.17	0.60	0.210	0.027	(	0.050)	0.184
3	0.25	0.60	0.210	0.027	(	0.050)	0.184
4	0.33	0.60	0.210	0.027	(	0.050)	0.184
5	0.42	0.60	0.210	0.027	(	0.050)	0.184
6	0.50	0.70	0.245	0.027	(	0.058)	0.219
7	0.58	0.70	0.245	0.027	(	0.058)	0.219
8	0.67	0.70	0.245	0.027	(	0.058)	0.219
9	0.75	0.70	0.245	0.027	(	0.058)	0.219
10	0.83	0.70	0.245	0.027	(	0.058)	0.219
11	0.92	0.70	0.245	0.027	(	0.058)	0.219
12	1.00	0.80	0.280	0.027	(	0.066)	0.254
13	1.08	0.80	0.280	0.027	(	0.066)	0.254
14	1.17	0.80	0.280	0.027	(	0.066)	0.254
15	1.25	0.80	0.280	0.027	(	0.066)	0.254
16	1.33	0.80	0.280	0.027	(	0.066)	0.254
17	1.42	0.80	0.280	0.027	(	0.066)	0.254
18	1.50	0.80	0.280	0.027	(	0.066)	0.254
19	1.58	0.80	0.280	0.027	(	0.066)	0.254
20	1.67	0.80	0.280	0.027	(	0.066)	0.254
21	1.75	0.80	0.280	0.027	(	0.066)	0.254
22	1.83	0.80	0.280	0.027	(	0.066)	0.254
23	1.92	0.80	0.280	0.027	(	0.066)	0.254
24	2.00	0.90	0.315	0.027	(	0.074)	0.289
25	2.08	0.80	0.280	0.027	(	0.066)	0.254
26	2.17	0.90	0.315	0.027	(	0.074)	0.289
27	2.25	0.90	0.315	0.027	(	0.074)	0.289
28	2.33	0.90	0.315	0.027	(	0.074)	0.289
29	2.42	0.90	0.315	0.027	(	0.074)	0.289
30	2.50	0.90	0.315	0.027	(	0.074)	0.289
31	2.58	0.90	0.315	0.027	(	0.074)	0.289
32	2.67	0.90	0.315	0.027	(	0.074)	0.289
33	2.75	1.00	0.350	0.027	(	0.083)	0.324
34	2.83	1.00	0.350	0.027	(	0.083)	0.324
35	2.92	1.00	0.350	0.027	(	0.083)	0.324
36	3.00	1.00	0.350	0.027	(	0.083)	0.324
37	3.08	1.00	0.350	0.027	(	0.083)	0.324
38	3.17	1.10	0.385	0.027	(	0.091)	0.359
39	3.25	1.10	0.385	0.027	(	0.091)	0.359
40	3.33	1.10	0.385	0.027	(	0.091)	0.359
41	3.42	1.20	0.420	0.027	(	0.099)	0.394
42	3.50	1.30	0.455	0.027	(	0.107)	0.429
43	3.58	1.40	0.491	0.027	(	0.116)	0.464
44	3.67	1.40	0.491	0.027	(	0.116)	0.464
45	3.75	1.50	0.526	0.027	(	0.124)	0.499
46	3.83	1.50	0.526	0.027	(	0.124)	0.499
47	3.92	1.60	0.561	0.027	(	0.132)	0.534
48	4.00	1.60	0.561	0.027	(	0.132)	0.534
49	4.08	1.70	0.596	0.027	(	0.141)	0.569
50	4.17	1.80	0.631	0.027	(	0.149)	0.604
51	4.25	1.90	0.666	0.027	(	0.157)	0.639
52	4.33	2.00	0.701	0.027	(	0.165)	0.674
53	4.42	2.10	0.736	0.027	(	0.174)	0.709
54	4.50	2.10	0.736	0.027	(	0.174)	0.709
55	4.58	2.20	0.771	0.027	(	0.182)	0.744

```
56   4.67     2.30      0.806          0.027    (  0.190)        0.779
57   4.75     2.40      0.841          0.027    (  0.198)        0.814
58   4.83     2.40      0.841          0.027    (  0.198)        0.814
59   4.92     2.50      0.876          0.027    (  0.207)        0.849
60   5.00     2.60      0.911          0.027    (  0.215)        0.884
61   5.08     3.10      1.086          0.027    (  0.256)        1.060
62   5.17     3.60      1.261          0.027    (  0.298)        1.235
63   5.25     3.90      1.366          0.027    (  0.322)        1.340
64   5.33     4.20      1.472          0.027    (  0.347)        1.445
65   5.42     4.70      1.647          0.027    (  0.389)        1.620
66   5.50     5.60      1.962          0.027    (  0.463)        1.935
67   5.58     1.90      0.666          0.027    (  0.157)        0.639
68   5.67     0.90      0.315          0.027    (  0.074)        0.289
69   5.75     0.60      0.210          0.027    (  0.050)        0.184
70   5.83     0.50      0.175          0.027    (  0.041)        0.149
71   5.92     0.30      0.105       (  0.027)       0.025        0.080
72   6.00     0.20      0.070       (  0.027)       0.017        0.054
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    33.1
    Flood volume = Effective rainfall      2.76(In)
     times area      25.6(Ac.)/[(In)/(Ft.)] =       5.9(Ac.Ft)
    Total soil loss =      0.16(In)
    Total soil loss =     0.338(Ac.Ft)
    Total rainfall =      2.92(In)
    Flood volume =      256396.4 Cubic Feet
    Total soil loss =       14717.5 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     43.194(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       12.5      25.0      37.5      50.0
----------------------------------------------------------------------------
  0+ 5       0.0087      1.27  VQ        |         |         |         |
  0+10       0.0320      3.37  V Q       |         |         |         |
  0+15       0.0611      4.23  V  Q      |         |         |         |
  0+20       0.0922      4.51  V  Q      |         |         |         |
  0+25       0.1242      4.65  V  Q      |         |         |         |
  0+30       0.1588      5.02  |V  Q     |         |         |         |
  0+35       0.1964      5.46  |V  Q     |         |         |         |
  0+40       0.2347      5.56  |V  Q     |         |         |         |
  0+45       0.2734      5.61  |V  Q     |         |         |         |
  0+50       0.3121      5.63  | V Q     |         |         |         |
  0+55       0.3510      5.64  | V Q     |         |         |         |
  1+ 0       0.3919      5.94  | V Q     |         |         |         |
  1+ 5       0.4357      6.36  | V  Q    |         |         |         |
  1+10       0.4802      6.47  |  V Q    |         |         |         |
  1+15       0.5251      6.51  |  V Q    |         |         |         |
  1+20       0.5701      6.53  |  V Q    |         |         |         |
  1+25       0.6151      6.54  |   VQ    |         |         |         |
  1+30       0.6602      6.54  |   VQ    |         |         |         |
```

```
1+35       0.7053      6.54  |   VQ    |         |         |         |
1+40       0.7503      6.54  |    Q    |         |         |         |
1+45       0.7954      6.54  |    Q    |         |         |         |
1+50       0.8405      6.54  |    Q    |         |         |         |
1+55       0.8855      6.54  |    QV   |         |         |         |
2+ 0       0.9327      6.84  |    QV   |         |         |         |
2+ 5       0.9807      6.97  |    QV   |         |         |         |
2+10       1.0285      6.94  |    QV   |         |         |         |
2+15       1.0789      7.31  |    Q V  |         |         |         |
2+20       1.1298      7.39  |    Q V  |         |         |         |
2+25       1.1809      7.43  |    Q  V |         |         |         |
2+30       1.2321      7.44  |    Q  V |         |         |         |
2+35       1.2834      7.45  |    Q  V |         |         |         |
2+40       1.3347      7.45  |    Q   V|         |         |         |
2+45       1.3881      7.75  |     Q  V|         |         |         |
2+50       1.4444      8.17  |     Q  V|         |         |         |
2+55       1.5013      8.27  |     Q   V         |         |         |
3+ 0       1.5586      8.32  |     Q   V         |         |         |
3+ 5       1.6161      8.34  |     Q   V         |         |         |
3+10       1.6756      8.65  |     Q   |V        |         |         |
3+15       1.7381      9.08  |      Q  |V        |         |         |
3+20       1.8013      9.18  |      Q  | V       |         |         |
3+25       1.8669      9.52  |      Q  | V       |         |         |
3+30       1.9376     10.27  |       Q |  V      |         |         |
3+35       2.0141     11.10  |       Q |  V      |         |         |
3+40       2.0945     11.67  |        Q|   V     |         |         |
3+45       2.1781     12.14  |        Q|   V     |         |         |
3+50       2.2652     12.65  |         Q    V    |         |         |
3+55       2.3553     13.08  |         Q     V   |         |         |
4+ 0       2.4487     13.56  |         Q     V   |         |         |
4+ 5       2.5450     13.98  |         |Q     V  |         |         |
4+10       2.6467     14.76  |         |Q     V  |         |         |
4+15       2.7542     15.61  |         | Q     V |         |         |
4+20       2.8678     16.49  |         |  Q     V|         |         |
4+25       2.9875     17.39  |         |  Q      V         |         |
4+30       3.1114     17.99  |         |   Q     |V        |         |
4+35       3.2386     18.47  |         |   Q     | V       |         |
4+40       3.3713     19.27  |         |    Q    | V       |         |
4+45       3.5100     20.13  |         |     Q   |  V      |         |
4+50       3.6526     20.71  |         |     Q   |   V     |         |
4+55       3.7985     21.18  |         |     Q   |    V    |         |
5+ 0       3.9499     21.98  |         |      Q  |     V   |         |
5+ 5       4.1154     24.04  |         |        Q|      V  |         |
5+10       4.3070     27.82  |         |         | Q      V|         |
5+15       4.5234     31.41  |         |         |   Q    V         |
5+20       4.7599     34.35  |         |         |     Q  | V       |
5+25       5.0200     37.77  |         |         |        Q   V     |
5+30       5.3175     43.19  |         |         |         |   Q V   |
5+35       5.5702     36.70  |         |         |        Q|      V  |
5+40       5.7026     19.21  |         |    Q    |         |       V |
5+45       5.7774     10.87  |       Q |         |         |        V|
5+50       5.8250      6.91  |    Q    |         |         |        V|
5+55       5.8556      4.43  |  Q      |         |         |        V|
6+ 0       5.8727      2.49  |Q        |         |         |        V|
6+ 5       5.8815      1.28  |Q        |         |         |        V|
6+10       5.8844      0.41  Q         |         |         |        V|
```

```
    6+15       5.8855      0.17  Q          |          |          |         V|
    6+20       5.8859      0.06  Q          |          |          |         V|
    6+25       5.8861      0.02  Q          |          |          |         V|
-------------------------------------------------------------------------------
```

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

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Study date 03/28/24 File: hemetuhpra210024100.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 2)
100-Year Design Storm

Drainage Area = 25.58(Ac.) = 0.040 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 25.58(Ac.) = 0.040 Sq. Mi.
Length along longest watercourse = 1653.00(Ft.)
Length along longest watercourse measured to centroid = 827.00(Ft.)
Length along longest watercourse = 0.313 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 14.00(Ft.)
Slope along watercourse = 44.7187 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.056 Hr.
Lag time = 3.34 Min.
25% of lag time = 0.83 Min.
40% of lag time = 1.33 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]
25.58	2.07	52.95

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       25.58              5.42                138.64

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    5.420(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.420(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    22.450           98.00         0.950
     1.100           56.00         0.000
     2.030           75.00         0.000
 Total Area Entered =     25.58(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.878      0.001
56.0  74.8      0.305     0.000        0.305       0.043      0.013
75.0  88.0      0.153     0.000        0.153       0.079      0.012
                                                  Sum (F) =   0.027
Area averaged mean soil loss (F) (In/Hr) =  0.027
Minimum soil loss rate ((In/Hr)) =  0.013
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.236
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        149.870         33.144             8.544
    2   0.167        299.740         47.020            12.122
    3   0.250        449.610         11.189             2.885
    4   0.333        599.481          4.887             1.260
    5   0.417        749.351          2.471             0.637
    6   0.500        899.221          1.290             0.333
                              Sum = 100.000   Sum=      25.780
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.07	0.043	(0.047)	0.010	0.033
2	0.17	0.07	0.043	(0.047)	0.010	0.033
3	0.25	0.07	0.043	(0.047)	0.010	0.033
4	0.33	0.10	0.065	(0.047)	0.015	0.050
5	0.42	0.10	0.065	(0.046)	0.015	0.050
6	0.50	0.10	0.065	(0.046)	0.015	0.050
7	0.58	0.10	0.065	(0.046)	0.015	0.050
8	0.67	0.10	0.065	(0.046)	0.015	0.050
9	0.75	0.10	0.065	(0.046)	0.015	0.050
10	0.83	0.13	0.087	(0.045)	0.020	0.066
11	0.92	0.13	0.087	(0.045)	0.020	0.066
12	1.00	0.13	0.087	(0.045)	0.020	0.066
13	1.08	0.10	0.065	(0.045)	0.015	0.050
14	1.17	0.10	0.065	(0.045)	0.015	0.050
15	1.25	0.10	0.065	(0.045)	0.015	0.050
16	1.33	0.10	0.065	(0.044)	0.015	0.050
17	1.42	0.10	0.065	(0.044)	0.015	0.050
18	1.50	0.10	0.065	(0.044)	0.015	0.050
19	1.58	0.10	0.065	(0.044)	0.015	0.050
20	1.67	0.10	0.065	(0.044)	0.015	0.050
21	1.75	0.10	0.065	(0.044)	0.015	0.050
22	1.83	0.13	0.087	(0.043)	0.020	0.066
23	1.92	0.13	0.087	(0.043)	0.020	0.066
24	2.00	0.13	0.087	(0.043)	0.020	0.066
25	2.08	0.13	0.087	(0.043)	0.020	0.066
26	2.17	0.13	0.087	(0.043)	0.020	0.066
27	2.25	0.13	0.087	(0.042)	0.020	0.066
28	2.33	0.13	0.087	(0.042)	0.020	0.066
29	2.42	0.13	0.087	(0.042)	0.020	0.066
30	2.50	0.13	0.087	(0.042)	0.020	0.066
31	2.58	0.17	0.108	(0.042)	0.026	0.083
32	2.67	0.17	0.108	(0.042)	0.026	0.083
33	2.75	0.17	0.108	(0.041)	0.026	0.083
34	2.83	0.17	0.108	(0.041)	0.026	0.083
35	2.92	0.17	0.108	(0.041)	0.026	0.083
36	3.00	0.17	0.108	(0.041)	0.026	0.083
37	3.08	0.17	0.108	(0.041)	0.026	0.083
38	3.17	0.17	0.108	(0.041)	0.026	0.083
39	3.25	0.17	0.108	(0.040)	0.026	0.083
40	3.33	0.17	0.108	(0.040)	0.026	0.083
41	3.42	0.17	0.108	(0.040)	0.026	0.083
42	3.50	0.17	0.108	(0.040)	0.026	0.083
43	3.58	0.17	0.108	(0.040)	0.026	0.083
44	3.67	0.17	0.108	(0.040)	0.026	0.083
45	3.75	0.17	0.108	(0.039)	0.026	0.083
46	3.83	0.20	0.130	(0.039)	0.031	0.099
47	3.92	0.20	0.130	(0.039)	0.031	0.099
48	4.00	0.20	0.130	(0.039)	0.031	0.099
49	4.08	0.20	0.130	(0.039)	0.031	0.099
50	4.17	0.20	0.130	(0.039)	0.031	0.099
51	4.25	0.20	0.130	(0.038)	0.031	0.099
52	4.33	0.23	0.152	(0.038)	0.036	0.116
53	4.42	0.23	0.152	(0.038)	0.036	0.116
54	4.50	0.23	0.152	(0.038)	0.036	0.116
55	4.58	0.23	0.152	(0.038)	0.036	0.116

56	4.67	0.23	0.152	(0.038)	0.036	0.116
57	4.75	0.23	0.152	(0.037)	0.036	0.116
58	4.83	0.27	0.173	0.037	(0.041)	0.136
59	4.92	0.27	0.173	0.037	(0.041)	0.136
60	5.00	0.27	0.173	0.037	(0.041)	0.136
61	5.08	0.20	0.130	(0.037)	0.031	0.099
62	5.17	0.20	0.130	(0.037)	0.031	0.099
63	5.25	0.20	0.130	(0.037)	0.031	0.099
64	5.33	0.23	0.152	(0.036)	0.036	0.116
65	5.42	0.23	0.152	(0.036)	0.036	0.116
66	5.50	0.23	0.152	(0.036)	0.036	0.116
67	5.58	0.27	0.173	0.036	(0.041)	0.138
68	5.67	0.27	0.173	0.036	(0.041)	0.138
69	5.75	0.27	0.173	0.036	(0.041)	0.138
70	5.83	0.27	0.173	0.035	(0.041)	0.138
71	5.92	0.27	0.173	0.035	(0.041)	0.138
72	6.00	0.27	0.173	0.035	(0.041)	0.138
73	6.08	0.30	0.195	0.035	(0.046)	0.160
74	6.17	0.30	0.195	0.035	(0.046)	0.160
75	6.25	0.30	0.195	0.035	(0.046)	0.160
76	6.33	0.30	0.195	0.034	(0.046)	0.161
77	6.42	0.30	0.195	0.034	(0.046)	0.161
78	6.50	0.30	0.195	0.034	(0.046)	0.161
79	6.58	0.33	0.217	0.034	(0.051)	0.183
80	6.67	0.33	0.217	0.034	(0.051)	0.183
81	6.75	0.33	0.217	0.034	(0.051)	0.183
82	6.83	0.33	0.217	0.034	(0.051)	0.183
83	6.92	0.33	0.217	0.033	(0.051)	0.183
84	7.00	0.33	0.217	0.033	(0.051)	0.184
85	7.08	0.33	0.217	0.033	(0.051)	0.184
86	7.17	0.33	0.217	0.033	(0.051)	0.184
87	7.25	0.33	0.217	0.033	(0.051)	0.184
88	7.33	0.37	0.238	0.033	(0.056)	0.206
89	7.42	0.37	0.238	0.032	(0.056)	0.206
90	7.50	0.37	0.238	0.032	(0.056)	0.206
91	7.58	0.40	0.260	0.032	(0.061)	0.228
92	7.67	0.40	0.260	0.032	(0.061)	0.228
93	7.75	0.40	0.260	0.032	(0.061)	0.228
94	7.83	0.43	0.282	0.032	(0.067)	0.250
95	7.92	0.43	0.282	0.032	(0.067)	0.250
96	8.00	0.43	0.282	0.031	(0.067)	0.250
97	8.08	0.50	0.325	0.031	(0.077)	0.294
98	8.17	0.50	0.325	0.031	(0.077)	0.294
99	8.25	0.50	0.325	0.031	(0.077)	0.294
100	8.33	0.50	0.325	0.031	(0.077)	0.294
101	8.42	0.50	0.325	0.031	(0.077)	0.294
102	8.50	0.50	0.325	0.031	(0.077)	0.295
103	8.58	0.53	0.347	0.030	(0.082)	0.316
104	8.67	0.53	0.347	0.030	(0.082)	0.317
105	8.75	0.53	0.347	0.030	(0.082)	0.317
106	8.83	0.57	0.369	0.030	(0.087)	0.339
107	8.92	0.57	0.369	0.030	(0.087)	0.339
108	9.00	0.57	0.369	0.030	(0.087)	0.339
109	9.08	0.63	0.412	0.030	(0.097)	0.382
110	9.17	0.63	0.412	0.029	(0.097)	0.382
111	9.25	0.63	0.412	0.029	(0.097)	0.383

112	9.33	0.67	0.434	0.029	(0.102)	0.404
113	9.42	0.67	0.434	0.029	(0.102)	0.405
114	9.50	0.67	0.434	0.029	(0.102)	0.405
115	9.58	0.70	0.455	0.029	(0.107)	0.427
116	9.67	0.70	0.455	0.029	(0.107)	0.427
117	9.75	0.70	0.455	0.028	(0.107)	0.427
118	9.83	0.73	0.477	0.028	(0.113)	0.449
119	9.92	0.73	0.477	0.028	(0.113)	0.449
120	10.00	0.73	0.477	0.028	(0.113)	0.449
121	10.08	0.50	0.325	0.028	(0.077)	0.297
122	10.17	0.50	0.325	0.028	(0.077)	0.297
123	10.25	0.50	0.325	0.028	(0.077)	0.298
124	10.33	0.50	0.325	0.028	(0.077)	0.298
125	10.42	0.50	0.325	0.027	(0.077)	0.298
126	10.50	0.50	0.325	0.027	(0.077)	0.298
127	10.58	0.67	0.434	0.027	(0.102)	0.406
128	10.67	0.67	0.434	0.027	(0.102)	0.407
129	10.75	0.67	0.434	0.027	(0.102)	0.407
130	10.83	0.67	0.434	0.027	(0.102)	0.407
131	10.92	0.67	0.434	0.027	(0.102)	0.407
132	11.00	0.67	0.434	0.026	(0.102)	0.407
133	11.08	0.63	0.412	0.026	(0.097)	0.386
134	11.17	0.63	0.412	0.026	(0.097)	0.386
135	11.25	0.63	0.412	0.026	(0.097)	0.386
136	11.33	0.63	0.412	0.026	(0.097)	0.386
137	11.42	0.63	0.412	0.026	(0.097)	0.386
138	11.50	0.63	0.412	0.026	(0.097)	0.386
139	11.58	0.57	0.369	0.026	(0.087)	0.343
140	11.67	0.57	0.369	0.025	(0.087)	0.343
141	11.75	0.57	0.369	0.025	(0.087)	0.343
142	11.83	0.60	0.390	0.025	(0.092)	0.365
143	11.92	0.60	0.390	0.025	(0.092)	0.365
144	12.00	0.60	0.390	0.025	(0.092)	0.365
145	12.08	0.83	0.542	0.025	(0.128)	0.517
146	12.17	0.83	0.542	0.025	(0.128)	0.517
147	12.25	0.83	0.542	0.025	(0.128)	0.517
148	12.33	0.87	0.564	0.024	(0.133)	0.539
149	12.42	0.87	0.564	0.024	(0.133)	0.539
150	12.50	0.87	0.564	0.024	(0.133)	0.539
151	12.58	0.93	0.607	0.024	(0.143)	0.583
152	12.67	0.93	0.607	0.024	(0.143)	0.583
153	12.75	0.93	0.607	0.024	(0.143)	0.583
154	12.83	0.97	0.629	0.024	(0.148)	0.605
155	12.92	0.97	0.629	0.024	(0.148)	0.605
156	13.00	0.97	0.629	0.023	(0.148)	0.605
157	13.08	1.13	0.737	0.023	(0.174)	0.714
158	13.17	1.13	0.737	0.023	(0.174)	0.714
159	13.25	1.13	0.737	0.023	(0.174)	0.714
160	13.33	1.13	0.737	0.023	(0.174)	0.714
161	13.42	1.13	0.737	0.023	(0.174)	0.714
162	13.50	1.13	0.737	0.023	(0.174)	0.714
163	13.58	0.77	0.499	0.023	(0.118)	0.476
164	13.67	0.77	0.499	0.023	(0.118)	0.476
165	13.75	0.77	0.499	0.022	(0.118)	0.476
166	13.83	0.77	0.499	0.022	(0.118)	0.476
167	13.92	0.77	0.499	0.022	(0.118)	0.476

168	14.00	0.77	0.499	0.022	(0.118)	0.477
169	14.08	0.90	0.585	0.022	(0.138)	0.563
170	14.17	0.90	0.585	0.022	(0.138)	0.563
171	14.25	0.90	0.585	0.022	(0.138)	0.564
172	14.33	0.87	0.564	0.022	(0.133)	0.542
173	14.42	0.87	0.564	0.022	(0.133)	0.542
174	14.50	0.87	0.564	0.021	(0.133)	0.542
175	14.58	0.87	0.564	0.021	(0.133)	0.542
176	14.67	0.87	0.564	0.021	(0.133)	0.542
177	14.75	0.87	0.564	0.021	(0.133)	0.543
178	14.83	0.83	0.542	0.021	(0.128)	0.521
179	14.92	0.83	0.542	0.021	(0.128)	0.521
180	15.00	0.83	0.542	0.021	(0.128)	0.521
181	15.08	0.80	0.520	0.021	(0.123)	0.500
182	15.17	0.80	0.520	0.021	(0.123)	0.500
183	15.25	0.80	0.520	0.020	(0.123)	0.500
184	15.33	0.77	0.499	0.020	(0.118)	0.478
185	15.42	0.77	0.499	0.020	(0.118)	0.478
186	15.50	0.77	0.499	0.020	(0.118)	0.478
187	15.58	0.63	0.412	0.020	(0.097)	0.392
188	15.67	0.63	0.412	0.020	(0.097)	0.392
189	15.75	0.63	0.412	0.020	(0.097)	0.392
190	15.83	0.63	0.412	0.020	(0.097)	0.392
191	15.92	0.63	0.412	0.020	(0.097)	0.392
192	16.00	0.63	0.412	0.020	(0.097)	0.392
193	16.08	0.13	0.087	0.019	(0.020)	0.067
194	16.17	0.13	0.087	0.019	(0.020)	0.067
195	16.25	0.13	0.087	0.019	(0.020)	0.067
196	16.33	0.13	0.087	0.019	(0.020)	0.068
197	16.42	0.13	0.087	0.019	(0.020)	0.068
198	16.50	0.13	0.087	0.019	(0.020)	0.068
199	16.58	0.10	0.065	(0.019)	0.015	0.050
200	16.67	0.10	0.065	(0.019)	0.015	0.050
201	16.75	0.10	0.065	(0.019)	0.015	0.050
202	16.83	0.10	0.065	(0.019)	0.015	0.050
203	16.92	0.10	0.065	(0.018)	0.015	0.050
204	17.00	0.10	0.065	(0.018)	0.015	0.050
205	17.08	0.17	0.108	0.018	(0.026)	0.090
206	17.17	0.17	0.108	0.018	(0.026)	0.090
207	17.25	0.17	0.108	0.018	(0.026)	0.090
208	17.33	0.17	0.108	0.018	(0.026)	0.090
209	17.42	0.17	0.108	0.018	(0.026)	0.090
210	17.50	0.17	0.108	0.018	(0.026)	0.091
211	17.58	0.17	0.108	0.018	(0.026)	0.091
212	17.67	0.17	0.108	0.018	(0.026)	0.091
213	17.75	0.17	0.108	0.018	(0.026)	0.091
214	17.83	0.13	0.087	0.017	(0.020)	0.069
215	17.92	0.13	0.087	0.017	(0.020)	0.069
216	18.00	0.13	0.087	0.017	(0.020)	0.069
217	18.08	0.13	0.087	0.017	(0.020)	0.070
218	18.17	0.13	0.087	0.017	(0.020)	0.070
219	18.25	0.13	0.087	0.017	(0.020)	0.070
220	18.33	0.13	0.087	0.017	(0.020)	0.070
221	18.42	0.13	0.087	0.017	(0.020)	0.070
222	18.50	0.13	0.087	0.017	(0.020)	0.070
223	18.58	0.10	0.065	(0.017)	0.015	0.050

224	18.67	0.10	0.065	(0.017)	0.015	0.050
225	18.75	0.10	0.065	(0.017)	0.015	0.050
226	18.83	0.07	0.043	(0.016)	0.010	0.033
227	18.92	0.07	0.043	(0.016)	0.010	0.033
228	19.00	0.07	0.043	(0.016)	0.010	0.033
229	19.08	0.10	0.065	(0.016)	0.015	0.050
230	19.17	0.10	0.065	(0.016)	0.015	0.050
231	19.25	0.10	0.065	(0.016)	0.015	0.050
232	19.33	0.13	0.087	0.016	(0.020)	0.071
233	19.42	0.13	0.087	0.016	(0.020)	0.071
234	19.50	0.13	0.087	0.016	(0.020)	0.071
235	19.58	0.10	0.065	(0.016)	0.015	0.050
236	19.67	0.10	0.065	(0.016)	0.015	0.050
237	19.75	0.10	0.065	(0.016)	0.015	0.050
238	19.83	0.07	0.043	(0.016)	0.010	0.033
239	19.92	0.07	0.043	(0.016)	0.010	0.033
240	20.00	0.07	0.043	(0.015)	0.010	0.033
241	20.08	0.10	0.065	(0.015)	0.015	0.050
242	20.17	0.10	0.065	0.015	(0.015)	0.050
243	20.25	0.10	0.065	0.015	(0.015)	0.050
244	20.33	0.10	0.065	0.015	(0.015)	0.050
245	20.42	0.10	0.065	0.015	(0.015)	0.050
246	20.50	0.10	0.065	0.015	(0.015)	0.050
247	20.58	0.10	0.065	0.015	(0.015)	0.050
248	20.67	0.10	0.065	0.015	(0.015)	0.050
249	20.75	0.10	0.065	0.015	(0.015)	0.050
250	20.83	0.07	0.043	(0.015)	0.010	0.033
251	20.92	0.07	0.043	(0.015)	0.010	0.033
252	21.00	0.07	0.043	(0.015)	0.010	0.033
253	21.08	0.10	0.065	0.015	(0.015)	0.050
254	21.17	0.10	0.065	0.015	(0.015)	0.050
255	21.25	0.10	0.065	0.014	(0.015)	0.051
256	21.33	0.07	0.043	(0.014)	0.010	0.033
257	21.42	0.07	0.043	(0.014)	0.010	0.033
258	21.50	0.07	0.043	(0.014)	0.010	0.033
259	21.58	0.10	0.065	0.014	(0.015)	0.051
260	21.67	0.10	0.065	0.014	(0.015)	0.051
261	21.75	0.10	0.065	0.014	(0.015)	0.051
262	21.83	0.07	0.043	(0.014)	0.010	0.033
263	21.92	0.07	0.043	(0.014)	0.010	0.033
264	22.00	0.07	0.043	(0.014)	0.010	0.033
265	22.08	0.10	0.065	0.014	(0.015)	0.051
266	22.17	0.10	0.065	0.014	(0.015)	0.051
267	22.25	0.10	0.065	0.014	(0.015)	0.051
268	22.33	0.07	0.043	(0.014)	0.010	0.033
269	22.42	0.07	0.043	(0.014)	0.010	0.033
270	22.50	0.07	0.043	(0.014)	0.010	0.033
271	22.58	0.07	0.043	(0.014)	0.010	0.033
272	22.67	0.07	0.043	(0.014)	0.010	0.033
273	22.75	0.07	0.043	(0.014)	0.010	0.033
274	22.83	0.07	0.043	(0.014)	0.010	0.033
275	22.92	0.07	0.043	(0.014)	0.010	0.033
276	23.00	0.07	0.043	(0.014)	0.010	0.033
277	23.08	0.07	0.043	(0.014)	0.010	0.033
278	23.17	0.07	0.043	(0.013)	0.010	0.033
279	23.25	0.07	0.043	(0.013)	0.010	0.033

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280  23.33     0.07      0.043       (  0.013)       0.010        0.033
281  23.42     0.07      0.043       (  0.013)       0.010        0.033
282  23.50     0.07      0.043       (  0.013)       0.010        0.033
283  23.58     0.07      0.043       (  0.013)       0.010        0.033
284  23.67     0.07      0.043       (  0.013)       0.010        0.033
285  23.75     0.07      0.043       (  0.013)       0.010        0.033
286  23.83     0.07      0.043       (  0.013)       0.010        0.033
287  23.92     0.07      0.043       (  0.013)       0.010        0.033
288  24.00     0.07      0.043       (  0.013)       0.010        0.033
          (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    58.7
     Flood volume = Effective rainfall      4.89(In)
      times area      25.6(Ac.)/[(In)/(Ft.)] =      10.4(Ac.Ft)
     Total soil loss =      0.53(In)
     Total soil loss =     1.129(Ac.Ft)
     Total rainfall =      5.42(In)
     Flood volume =      454070.5 Cubic Feet
     Total soil loss =       49180.6 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     18.421(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        5.0      10.0      15.0      20.0
 ---------------------------------------------------------------------------
   0+ 5       0.0020      0.28  Q         |         |         |         |
   0+10       0.0067      0.68  VQ        |         |         |         |
   0+15       0.0120      0.78  VQ        |         |         |         |
   0+20       0.0187      0.96  VQ        |         |         |         |
   0+25       0.0268      1.19  V Q       |         |         |         |
   0+30       0.0354      1.24  V Q       |         |         |         |
   0+35       0.0441      1.27  V Q       |         |         |         |
   0+40       0.0529      1.28  V Q       |         |         |         |
   0+45       0.0618      1.28  V Q       |         |         |         |
   0+50       0.0716      1.42  V Q       |         |         |         |
   0+55       0.0827      1.62  V  Q      |         |         |         |
   1+ 0       0.0943      1.67  V  Q      |         |         |         |
   1+ 5       0.1049      1.55  V  Q      |         |         |         |
   1+10       0.1143      1.36  V Q       |         |         |         |
   1+15       0.1234      1.32  V Q       |         |         |         |
   1+20       0.1323      1.30  V Q       |         |         |         |
   1+25       0.1412      1.29  V Q       |         |         |         |
   1+30       0.1500      1.28  V Q       |         |         |         |
   1+35       0.1588      1.28  V Q       |         |         |         |
   1+40       0.1677      1.28  V Q       |         |         |         |
   1+45       0.1765      1.28  V Q       |         |         |         |
   1+50       0.1863      1.42  V Q       |         |         |         |
   1+55       0.1975      1.62  V  Q      |         |         |         |
   2+ 0       0.2090      1.67  V  Q      |         |         |         |
   2+ 5       0.2207      1.69  V  Q      |         |         |         |
   2+10       0.2324      1.70  V  Q      |         |         |         |
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2+15	0.2442	1.71	V Q	|	|	|	|
2+20	0.2559	1.71	V Q	|	|	|	|
2+25	0.2677	1.71	|V Q	|	|	|	|
2+30	0.2795	1.71	|V Q	|	|	|	|
2+35	0.2922	1.85	|V Q	|	|	|	|
2+40	0.3063	2.05	|V Q	|	|	|	|
2+45	0.3208	2.10	|V Q	|	|	|	|
2+50	0.3354	2.12	|V Q	|	|	|	|
2+55	0.3501	2.13	|V Q	|	|	|	|
3+ 0	0.3648	2.14	|V Q	|	|	|	|
3+ 5	0.3795	2.14	|V Q	|	|	|	|
3+10	0.3942	2.14	|V Q	|	|	|	|
3+15	0.4089	2.14	|V Q	|	|	|	|
3+20	0.4236	2.14	|V Q	|	|	|	|
3+25	0.4383	2.14	|V Q	|	|	|	|
3+30	0.4530	2.14	|V Q	|	|	|	|
3+35	0.4677	2.14	|V Q	|	|	|	|
3+40	0.4825	2.14	|V Q	|	|	|	|
3+45	0.4972	2.14	|V Q	|	|	|	|
3+50	0.5129	2.28	|V Q	|	|	|	|
3+55	0.5299	2.48	| V Q	|	|	|	|
4+ 0	0.5473	2.53	| V Q	|	|	|	|
4+ 5	0.5649	2.55	| V Q	|	|	|	|
4+10	0.5825	2.56	| V Q	|	|	|	|
4+15	0.6001	2.56	| V Q	|	|	|	|
4+20	0.6188	2.70	| V Q	|	|	|	|
4+25	0.6388	2.91	| V Q	|	|	|	|
4+30	0.6591	2.95	| V Q	|	|	|	|
4+35	0.6796	2.97	| V Q	|	|	|	|
4+40	0.7002	2.98	| V Q	|	|	|	|
4+45	0.7208	2.99	| V Q	|	|	|	|
4+50	0.7425	3.16	| V Q	|	|	|	|
4+55	0.7660	3.41	| V Q	|	|	|	|
5+ 0	0.7899	3.47	| V Q	|	|	|	|
5+ 5	0.8118	3.18	| V Q	|	|	|	|
5+10	0.8307	2.75	| V Q	|	|	|	|
5+15	0.8490	2.65	| V Q	|	|	|	|
5+20	0.8678	2.74	| V Q	|	|	|	|
5+25	0.8879	2.92	| V Q	|	|	|	|
5+30	0.9083	2.95	| V Q	|	|	|	|
5+35	0.9300	3.16	| V Q	|	|	|	|
5+40	0.9537	3.43	| V Q	|	|	|	|
5+45	0.9778	3.50	| V Q	|	|	|	|
5+50	1.0022	3.54	| V Q	|	|	|	|
5+55	1.0266	3.55	| V Q	|	|	|	|
6+ 0	1.0512	3.56	| V Q	|	|	|	|
6+ 5	1.0770	3.75	| V Q	|	|	|	|
6+10	1.1047	4.02	| V Q |	|	|	|	|
6+15	1.1329	4.09	| V Q |	|	|	|	|
6+20	1.1612	4.12	| V Q |	|	|	|	|
6+25	1.1897	4.14	| V Q |	|	|	|	|
6+30	1.2183	4.15	| V Q |	|	|	|	|
6+35	1.2482	4.34	| V Q |	|	|	|	|
6+40	1.2799	4.60	| V Q|	|	|	|	|
6+45	1.3120	4.67	| V Q|	|	|	|	|
6+50	1.3444	4.70	| V Q|	|	|	|	|

6+55	1.3769	4.72	V Q				
7+ 0	1.4095	4.73	V Q				
7+ 5	1.4421	4.73	V Q				
7+10	1.4747	4.74	V Q				
7+15	1.5074	4.74	V Q				
7+20	1.5413	4.93	V Q				
7+25	1.5771	5.20	V Q				
7+30	1.6134	5.26	V Q				
7+35	1.6511	5.48	V Q				
7+40	1.6908	5.76	V Q				
7+45	1.7310	5.84	V Q				
7+50	1.7727	6.05	V Q				
7+55	1.8163	6.33	V Q				
8+ 0	1.8604	6.41	V Q				
8+ 5	1.9073	6.81	V Q				
8+10	1.9579	7.35	V Q				
8+15	2.0095	7.49	V Q				
8+20	2.0614	7.55	V Q				
8+25	2.1136	7.58	V Q				
8+30	2.1659	7.59	V Q				
8+35	2.2195	7.78	V Q				
8+40	2.2750	8.05	V Q				
8+45	2.3309	8.12	V Q				
8+50	2.3883	8.33	V Q				
8+55	2.4476	8.61	V Q				
9+ 0	2.5074	8.69	V Q				
9+ 5	2.5700	9.09	V Q				
9+10	2.6364	9.63	V Q				
9+15	2.7036	9.77	V Q				
9+20	2.7726	10.01	V Q				
9+25	2.8436	10.31	V Q				
9+30	2.9151	10.39	V Q				
9+35	2.9881	10.60	V Q				
9+40	3.0630	10.88	V Q				
9+45	3.1385	10.96	V Q				
9+50	3.2154	11.17	V Q				
9+55	3.2943	11.45	V Q				
10+ 0	3.3737	11.53	V Q				
10+ 5	3.4444	10.26	V Q				
10+10	3.5025	8.44	V Q				
10+15	3.5576	8.01	V Q				
10+20	3.6115	7.82	V Q				
10+25	3.6647	7.73	VQ				
10+30	3.7176	7.68	VQ				
10+35	3.7769	8.61	V Q				
10+40	3.8453	9.93	V Q				
10+45	3.9158	10.25	V Q				
10+50	3.9874	10.39	V Q				
10+55	4.0594	10.46	V Q				
11+ 0	4.1317	10.50	V Q				
11+ 5	4.2027	10.32	V Q				
11+10	4.2720	10.06	V Q				
11+15	4.3408	10.00	V Q				
11+20	4.4095	9.97	V Q				
11+25	4.4781	9.96	V Q				
11+30	4.5467	9.96	V Q				

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11+35       4.6128      9.59  |          |      V Q|          |          |
11+40       4.6752      9.07  |          |      VQ |          |          |
11+45       4.7368      8.95  |          |      QV |          |          |
11+50       4.7994      9.08  |          |       Q |          |          |
11+55       4.8635      9.32  |          |       Q |          |          |
12+ 0       4.9281      9.37  |          |       Q |          |          |
12+ 5       5.0018     10.70  |          |        V|Q         |          |
12+10       5.0882     12.56  |          |        V|    Q     |          |
12+15       5.1778     13.00  |          |        V|     Q    |          |
12+20       5.2700     13.38  |          |         V     Q    |          |
12+25       5.3646     13.75  |          |         V      Q   |          |
12+30       5.4601     13.86  |          |         V      Q   |          |
12+35       5.5583     14.26  |          |          |V      Q |          |
12+40       5.6603     14.81  |          |          |V       Q|          |
12+45       5.7632     14.94  |          |          | V      Q|          |
12+50       5.8678     15.19  |          |          | V       Q          |
12+55       5.9744     15.48  |          |          | V       Q          |
13+ 0       6.0816     15.56  |          |          |  V      |Q         |
13+ 5       6.1953     16.52  |          |          |  V      |  Q       |
13+10       6.3182     17.85  |          |          |   V     |    Q     |
13+15       6.4434     18.17  |          |          |   V     |     Q    |
13+20       6.5695     18.31  |          |          |    V    |     Q    |
13+25       6.6961     18.38  |          |          |    V    |     Q    |
13+30       6.8229     18.42  |          |          |     V   |     Q    |
13+35       6.9358     16.39  |          |          |     V   | Q        |
13+40       7.0287     13.50  |          |          |     Q   |          |
13+45       7.1170     12.81  |          |          |    Q V  |          |
13+50       7.2032     12.51  |          |          |    Q V  |          |
13+55       7.2883     12.36  |          |          |   Q  V  |          |
14+ 0       7.3729     12.29  |          |          |   Q   V |          |
14+ 5       7.4627     13.03  |          |          |     Q V |          |
14+10       7.5597     14.09  |          |          |       QV|          |
14+15       7.6585     14.34  |          |          |       QV|          |
14+20       7.7567     14.27  |          |          |       QV|          |
14+25       7.8536     14.06  |          |          |       Q V          |
14+30       7.9502     14.03  |          |          |       Q V          |
14+35       8.0467     14.01  |          |          |       Q V          |
14+40       8.1431     14.00  |          |          |      Q  |V         |
14+45       8.2395     13.99  |          |          |      Q  |V         |
14+50       8.3346     13.81  |          |          |      Q  |V         |
14+55       8.4279     13.55  |          |          |      Q  | V        |
15+ 0       8.5208     13.49  |          |          |     Q   | V        |
15+ 5       8.6122     13.28  |          |          |     Q   |  V       |
15+10       8.7018     13.01  |          |          |     Q   |  V       |
15+15       8.7909     12.94  |          |          |    Q    |  V       |
15+20       8.8786     12.73  |          |          |    Q    |   V      |
15+25       8.9643     12.45  |          |          |   Q     |   V      |
15+30       9.0497     12.39  |          |          |   Q     |   V      |
15+35       9.1297     11.62  |          |          |  Q      |    V     |
15+40       9.2024     10.56  |          |          |Q        |    V     |
15+45       9.2734     10.30  |          |          Q         |    V     |
15+50       9.3436     10.20  |          |          Q         |    V     |
15+55       9.4135     10.14  |          |          Q         |     V    |
16+ 0       9.4831     10.12  |          |          Q         |     V    |
16+ 5       9.5337      7.34  |          |   Q      |         |     V    |
16+10       9.5571      3.40  |     Q    |          |         |     V    |
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16+15       9.5741      2.46  |   Q     |         |         |     V   |
16+20       9.5882      2.06  |   Q     |         |         |     V   |
16+25       9.6010      1.85  |  Q      |         |         |     V   |
16+30       9.6130      1.75  |  Q      |         |         |     V   |
16+35       9.6240      1.59  |  Q      |         |         |     V   |
16+40       9.6335      1.37  | Q       |         |         |     V   |
16+45       9.6426      1.32  | Q       |         |         |      V  |
16+50       9.6515      1.30  | Q       |         |         |      V  |
16+55       9.6604      1.29  | Q       |         |         |      V  |
17+ 0       9.6692      1.28  | Q       |         |         |      V  |
17+ 5       9.6804      1.63  |  Q      |         |         |      V  |
17+10       9.6950      2.12  |   Q     |         |         |      V  |
17+15       9.7104      2.24  |   Q     |         |         |      V  |
17+20       9.7262      2.29  |   Q     |         |         |      V  |
17+25       9.7421      2.32  |   Q     |         |         |      V  |
17+30       9.7582      2.33  |   Q     |         |         |      V  |
17+35       9.7743      2.34  |   Q     |         |         |      V  |
17+40       9.7904      2.34  |   Q     |         |         |      V  |
17+45       9.8065      2.34  |   Q     |         |         |      V  |
17+50       9.8214      2.16  |   Q     |         |         |      V  |
17+55       9.8345      1.90  |  Q      |         |         |      V  |
18+ 0       9.8471      1.84  |  Q      |         |         |      V  |
18+ 5       9.8596      1.81  |  Q      |         |         |      V  |
18+10       9.8720      1.80  |  Q      |         |         |      V  |
18+15       9.8843      1.80  |  Q      |         |         |      V  |
18+20       9.8967      1.80  |  Q      |         |         |      V  |
18+25       9.9091      1.80  |  Q      |         |         |       V |
18+30       9.9215      1.80  |  Q      |         |         |       V |
18+35       9.9328      1.63  |  Q      |         |         |       V |
18+40       9.9423      1.38  | Q       |         |         |       V |
18+45       9.9514      1.33  | Q       |         |         |       V |
18+50       9.9594      1.16  | Q       |         |         |       V |
18+55       9.9659      0.95  |Q        |         |         |       V |
19+ 0       9.9721      0.89  |Q        |         |         |       V |
19+ 5       9.9790      1.01  | Q       |         |         |       V |
19+10       9.9873      1.20  | Q       |         |         |       V |
19+15       9.9959      1.24  | Q       |         |         |       V |
19+20      10.0058      1.45  | Q       |         |         |       V |
19+25      10.0176      1.71  |  Q      |         |         |       V |
19+30      10.0299      1.78  |  Q      |         |         |       V |
19+35      10.0411      1.63  |  Q      |         |         |       V |
19+40      10.0506      1.38  | Q       |         |         |       V |
19+45      10.0598      1.33  | Q       |         |         |       V |
19+50      10.0677      1.16  | Q       |         |         |       V |
19+55      10.0743      0.95  |Q        |         |         |       V |
20+ 0      10.0804      0.89  |Q        |         |         |       V |
20+ 5      10.0874      1.01  | Q       |         |         |       V |
20+10      10.0957      1.20  | Q       |         |         |       V |
20+15      10.1042      1.25  | Q       |         |         |       V |
20+20      10.1130      1.27  | Q       |         |         |       V |
20+25      10.1218      1.28  | Q       |         |         |       V |
20+30      10.1307      1.29  | Q       |         |         |       V |
20+35      10.1395      1.29  | Q       |         |         |       V |
20+40      10.1484      1.29  | Q       |         |         |       V |
20+45      10.1573      1.29  | Q       |         |         |       V |
20+50      10.1653      1.15  | Q       |         |         |        V|
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  20+55      10.1717      0.94  |Q        |         |         |         V|
  21+ 0      10.1779      0.89  |Q        |         |         |         V|
  21+ 5      10.1849      1.02  | Q       |         |         |         V|
  21+10      10.1933      1.22  | Q       |         |         |         V|
  21+15      10.2020      1.26  | Q       |         |         |         V|
  21+20      10.2098      1.14  | Q       |         |         |         V|
  21+25      10.2163      0.94  |Q        |         |         |         V|
  21+30      10.2224      0.89  |Q        |         |         |         V|
  21+35      10.2295      1.02  | Q       |         |         |         V|
  21+40      10.2379      1.23  | Q       |         |         |         V|
  21+45      10.2467      1.27  | Q       |         |         |         V|
  21+50      10.2545      1.14  | Q       |         |         |         V|
  21+55      10.2610      0.94  |Q        |         |         |         V|
  22+ 0      10.2672      0.89  |Q        |         |         |         V|
  22+ 5      10.2742      1.02  | Q       |         |         |         V|
  22+10      10.2827      1.23  | Q       |         |         |         V|
  22+15      10.2915      1.28  | Q       |         |         |         V|
  22+20      10.2994      1.15  | Q       |         |         |         V|
  22+25      10.3059      0.94  |Q        |         |         |         V|
  22+30      10.3120      0.89  |Q        |         |         |         V|
  22+35      10.3180      0.87  |Q        |         |         |         V|
  22+40      10.3240      0.86  |Q        |         |         |         V|
  22+45      10.3299      0.85  |Q        |         |         |         V|
  22+50      10.3357      0.85  |Q        |         |         |         V|
  22+55      10.3416      0.85  |Q        |         |         |         V|
  23+ 0      10.3475      0.85  |Q        |         |         |         V|
  23+ 5      10.3534      0.85  |Q        |         |         |         V|
  23+10      10.3593      0.85  |Q        |         |         |         V|
  23+15      10.3652      0.85  |Q        |         |         |         V|
  23+20      10.3710      0.85  |Q        |         |         |         V|
  23+25      10.3769      0.85  |Q        |         |         |         V|
  23+30      10.3828      0.85  |Q        |         |         |         V|
  23+35      10.3887      0.85  |Q        |         |         |         V|
  23+40      10.3946      0.85  |Q        |         |         |         V|
  23+45      10.4005      0.85  |Q        |         |         |         V|
  23+50      10.4063      0.85  |Q        |         |         |         V|
  23+55      10.4122      0.85  |Q        |         |         |         V|
  24+ 0      10.4181      0.85  |Q        |         |         |         V|
  24+ 5      10.4221      0.57  |Q        |         |         |         V|
  24+10      10.4232      0.17  Q         |         |         |         V|
  24+15      10.4237      0.07  Q         |         |         |         V|
  24+20      10.4239      0.03  Q         |         |         |         V|
  24+25      10.4240      0.01  Q         |         |         |          V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/28/24 File: hemetuhpra3212.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 3)
2-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 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]
21.11	0.49	10.43

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.11             1.59                 33.56

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    0.494(In)
Areal adjustment factor =   99.98 %
Adjusted average point rain =    0.494(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.836      0.003
56.0  56.0      0.511     0.000        0.511       0.005      0.003
75.0  75.0      0.303     0.000        0.303       0.159      0.048
                                                  Sum (F) =   0.054
Area averaged mean soil loss (F) (In/Hr) =  0.054
Minimum soil loss rate ((In/Hr)) =  0.027
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.202	(0.054)	0.054	0.148
2	0.17	4.70	0.279	0.054	(0.075)	0.225
3	0.25	4.70	0.279	0.054	(0.075)	0.225
4	0.33	5.10	0.302	0.054	(0.081)	0.248
5	0.42	5.80	0.344	0.054	(0.092)	0.290
6	0.50	5.90	0.350	0.054	(0.094)	0.296
7	0.58	7.10	0.421	0.054	(0.113)	0.367
8	0.67	8.70	0.516	0.054	(0.138)	0.462
9	0.75	13.20	0.782	0.054	(0.210)	0.728
10	0.83	29.70	1.760	0.054	(0.472)	1.706
11	0.92	7.70	0.456	0.054	(0.122)	0.402
12	1.00	4.00	0.237	0.054	(0.064)	0.183

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.3

Flood volume = Effective rainfall 0.44(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.05(In)
Total soil loss = 0.095(Ac.Ft)
Total rainfall = 0.49(In)
Flood volume = 33706.8 Cubic Feet
Total soil loss = 4140.8 Cubic Feet

Peak flow rate of this hydrograph = 22.625(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	7.5	15.0	22.5	30.0
0+ 5	0.0066	0.96	VQ				
0+10	0.0271	2.96	V Q				
0+15	0.0554	4.12	V Q				
0+20	0.0873	4.63	V Q				
0+25	0.1239	5.31	VQ				
0+30	0.1648	5.94	QV				
0+35	0.2103	6.62	Q V				
0+40	0.2657	8.04	Q V				
0+45	0.3412	10.96	Q V				
0+50	0.4817	20.39	V Q				
0+55	0.6375	22.63	Q V				
1+ 0	0.7118	10.79	Q			V	
1+ 5	0.7487	5.37	Q			V	
1+10	0.7639	2.20	Q			V	
1+15	0.7715	1.11	Q			V	
1+20	0.7733	0.27	Q			V	
1+25	0.7738	0.07	Q			V	

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

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Study date 03/28/24 File: hemetuhpra3232.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 3)
2-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.11	0.85	17.88

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.11              2.20                 46.44

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    0.847(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.847(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.836      0.003
56.0  56.0      0.511     0.000        0.511       0.005      0.003
75.0  75.0      0.303     0.000        0.303       0.159      0.048
                                                  Sum (F) =   0.054
Area averaged mean soil loss (F) (In/Hr) =  0.054
Minimum soil loss rate ((In/Hr)) =  0.027
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	1.30	0.132	(0.054)		0.035	0.097
2	0.17	1.30	0.132	(0.054)		0.035	0.097
3	0.25	1.10	0.112	(0.054)		0.030	0.082
4	0.33	1.50	0.152	(0.054)		0.041	0.112
5	0.42	1.50	0.152	(0.054)		0.041	0.112
6	0.50	1.80	0.183	(0.054)		0.049	0.134
7	0.58	1.50	0.152	(0.054)		0.041	0.112
8	0.67	1.80	0.183	(0.054)		0.049	0.134
9	0.75	1.80	0.183	(0.054)		0.049	0.134
10	0.83	1.50	0.152	(0.054)		0.041	0.112
11	0.92	1.60	0.163	(0.054)		0.044	0.119
12	1.00	1.80	0.183	(0.054)		0.049	0.134
13	1.08	2.20	0.224	0.054	(	0.060)	0.170
14	1.17	2.20	0.224	0.054	(	0.060)	0.170
15	1.25	2.20	0.224	0.054	(	0.060)	0.170
16	1.33	2.00	0.203	0.054	(	0.054)	0.149
17	1.42	2.60	0.264	0.054	(	0.071)	0.210
18	1.50	2.70	0.274	0.054	(	0.074)	0.220
19	1.58	2.40	0.244	0.054	(	0.065)	0.190
20	1.67	2.70	0.274	0.054	(	0.074)	0.220
21	1.75	3.30	0.335	0.054	(	0.090)	0.281
22	1.83	3.10	0.315	0.054	(	0.084)	0.261
23	1.92	2.90	0.295	0.054	(	0.079)	0.241
24	2.00	3.00	0.305	0.054	(	0.082)	0.251
25	2.08	3.10	0.315	0.054	(	0.084)	0.261
26	2.17	4.20	0.427	0.054	(	0.114)	0.373
27	2.25	5.00	0.508	0.054	(	0.136)	0.454
28	2.33	3.50	0.356	0.054	(	0.095)	0.302
29	2.42	6.80	0.691	0.054	(	0.185)	0.637
30	2.50	7.30	0.742	0.054	(	0.199)	0.688
31	2.58	8.20	0.833	0.054	(	0.223)	0.779
32	2.67	5.90	0.600	0.054	(	0.161)	0.546
33	2.75	2.00	0.203	0.054	(	0.054)	0.149
34	2.83	1.80	0.183	(0.054)		0.049	0.134
35	2.92	1.80	0.183	(0.054)		0.049	0.134
36	3.00	0.60	0.061	(0.054)		0.016	0.045

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.4

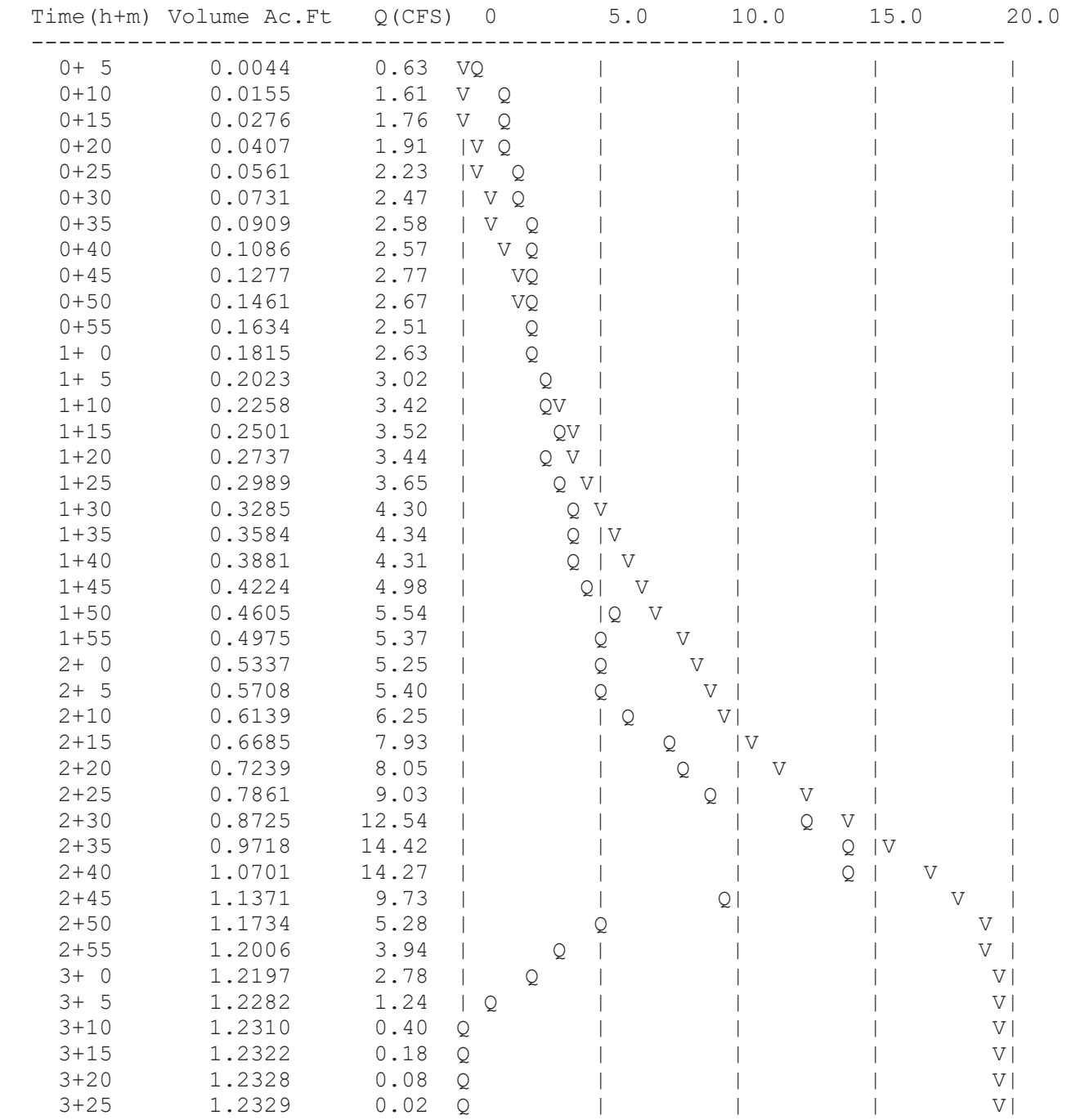
Flood volume = Effective rainfall 0.70(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 1.2(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.257(Ac.Ft)
Total rainfall = 0.85(In)
Flood volume = 53704.1 Cubic Feet
Total soil loss = 11194.9 Cubic Feet

Peak flow rate of this hydrograph = 14.423(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 5.0 10.0 15.0 20.0
0+ 5 0.0044 0.63
0+10 0.0155 1.61
0+15 0.0276 1.76
0+20 0.0407 1.91
0+25 0.0561 2.23
0+30 0.0731 2.47
0+35 0.0909 2.58
0+40 0.1086 2.57
0+45 0.1277 2.77
0+50 0.1461 2.67
0+55 0.1634 2.51
1+ 0 0.1815 2.63
1+ 5 0.2023 3.02
1+10 0.2258 3.42
1+15 0.2501 3.52
1+20 0.2737 3.44
1+25 0.2989 3.65
1+30 0.3285 4.30
1+35 0.3584 4.34
1+40 0.3881 4.31
1+45 0.4224 4.98
1+50 0.4605 5.54
1+55 0.4975 5.37
2+ 0 0.5337 5.25
2+ 5 0.5708 5.40
2+10 0.6139 6.25
2+15 0.6685 7.93
2+20 0.7239 8.05
2+25 0.7861 9.03
2+30 0.8725 12.54
2+35 0.9718 14.42
2+40 1.0701 14.27
2+45 1.1371 9.73
2+50 1.1734 5.28
2+55 1.2006 3.94
3+ 0 1.2197 2.78
3+ 5 1.2282 1.24
3+10 1.2310 0.40
3+15 1.2322 0.18
3+20 1.2328 0.08
3+25 1.2329 0.02

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

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Study date 03/28/24 File: hemetuhpra3262.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 3)
2-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.11	1.18	24.91

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.11              2.92                 61.64

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    1.180(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.180(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.836      0.003
56.0  56.0      0.511     0.000        0.511       0.005      0.003
75.0  75.0      0.303     0.000        0.303       0.159      0.048
                                                  Sum (F) =   0.054
Area averaged mean soil loss (F) (In/Hr) =  0.054
Minimum soil loss rate ((In/Hr)) =  0.027
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.50	0.071	(0.054)		0.019	0.052
2	0.17	0.60	0.085	(0.054)		0.023	0.062
3	0.25	0.60	0.085	(0.054)		0.023	0.062
4	0.33	0.60	0.085	(0.054)		0.023	0.062
5	0.42	0.60	0.085	(0.054)		0.023	0.062
6	0.50	0.70	0.099	(0.054)		0.027	0.073
7	0.58	0.70	0.099	(0.054)		0.027	0.073
8	0.67	0.70	0.099	(0.054)		0.027	0.073
9	0.75	0.70	0.099	(0.054)		0.027	0.073
10	0.83	0.70	0.099	(0.054)		0.027	0.073
11	0.92	0.70	0.099	(0.054)		0.027	0.073
12	1.00	0.80	0.113	(0.054)		0.030	0.083
13	1.08	0.80	0.113	(0.054)		0.030	0.083
14	1.17	0.80	0.113	(0.054)		0.030	0.083
15	1.25	0.80	0.113	(0.054)		0.030	0.083
16	1.33	0.80	0.113	(0.054)		0.030	0.083
17	1.42	0.80	0.113	(0.054)		0.030	0.083
18	1.50	0.80	0.113	(0.054)		0.030	0.083
19	1.58	0.80	0.113	(0.054)		0.030	0.083
20	1.67	0.80	0.113	(0.054)		0.030	0.083
21	1.75	0.80	0.113	(0.054)		0.030	0.083
22	1.83	0.80	0.113	(0.054)		0.030	0.083
23	1.92	0.80	0.113	(0.054)		0.030	0.083
24	2.00	0.90	0.127	(0.054)		0.034	0.093
25	2.08	0.80	0.113	(0.054)		0.030	0.083
26	2.17	0.90	0.127	(0.054)		0.034	0.093
27	2.25	0.90	0.127	(0.054)		0.034	0.093
28	2.33	0.90	0.127	(0.054)		0.034	0.093
29	2.42	0.90	0.127	(0.054)		0.034	0.093
30	2.50	0.90	0.127	(0.054)		0.034	0.093
31	2.58	0.90	0.127	(0.054)		0.034	0.093
32	2.67	0.90	0.127	(0.054)		0.034	0.093
33	2.75	1.00	0.142	(0.054)		0.038	0.104
34	2.83	1.00	0.142	(0.054)		0.038	0.104
35	2.92	1.00	0.142	(0.054)		0.038	0.104
36	3.00	1.00	0.142	(0.054)		0.038	0.104
37	3.08	1.00	0.142	(0.054)		0.038	0.104
38	3.17	1.10	0.156	(0.054)		0.042	0.114
39	3.25	1.10	0.156	(0.054)		0.042	0.114
40	3.33	1.10	0.156	(0.054)		0.042	0.114
41	3.42	1.20	0.170	(0.054)		0.046	0.124
42	3.50	1.30	0.184	(0.054)		0.049	0.135
43	3.58	1.40	0.198	(0.054)		0.053	0.145
44	3.67	1.40	0.198	(0.054)		0.053	0.145
45	3.75	1.50	0.212	0.054	(	0.057)	0.158
46	3.83	1.50	0.212	0.054	(	0.057)	0.158
47	3.92	1.60	0.227	0.054	(	0.061)	0.173
48	4.00	1.60	0.227	0.054	(	0.061)	0.173
49	4.08	1.70	0.241	0.054	(	0.065)	0.187
50	4.17	1.80	0.255	0.054	(	0.068)	0.201
51	4.25	1.90	0.269	0.054	(	0.072)	0.215
52	4.33	2.00	0.283	0.054	(	0.076)	0.229
53	4.42	2.10	0.297	0.054	(	0.080)	0.243
54	4.50	2.10	0.297	0.054	(	0.080)	0.243
55	4.58	2.20	0.311	0.054	(	0.083)	0.257

56	4.67	2.30	0.326	0.054	(0.087)	0.272
57	4.75	2.40	0.340	0.054	(0.091)	0.286
58	4.83	2.40	0.340	0.054	(0.091)	0.286
59	4.92	2.50	0.354	0.054	(0.095)	0.300
60	5.00	2.60	0.368	0.054	(0.099)	0.314
61	5.08	3.10	0.439	0.054	(0.118)	0.385
62	5.17	3.60	0.510	0.054	(0.137)	0.456
63	5.25	3.90	0.552	0.054	(0.148)	0.498
64	5.33	4.20	0.595	0.054	(0.159)	0.541
65	5.42	4.70	0.665	0.054	(0.178)	0.611
66	5.50	5.60	0.793	0.054	(0.212)	0.739
67	5.58	1.90	0.269	0.054	(0.072)	0.215
68	5.67	0.90	0.127	(0.054)	0.034	0.093
69	5.75	0.60	0.085	(0.054)	0.023	0.062
70	5.83	0.50	0.071	(0.054)	0.019	0.052
71	5.92	0.30	0.042	(0.054)	0.011	0.031
72	6.00	0.20	0.028	(0.054)	0.008	0.021

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.4

Flood volume = Effective rainfall 0.95(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 1.7(Ac.Ft)
Total soil loss = 0.23(In)
Total soil loss = 0.409(Ac.Ft)
Total rainfall = 1.18(In)
Flood volume = 72592.7 Cubic Feet
Total soil loss = 17823.4 Cubic Feet

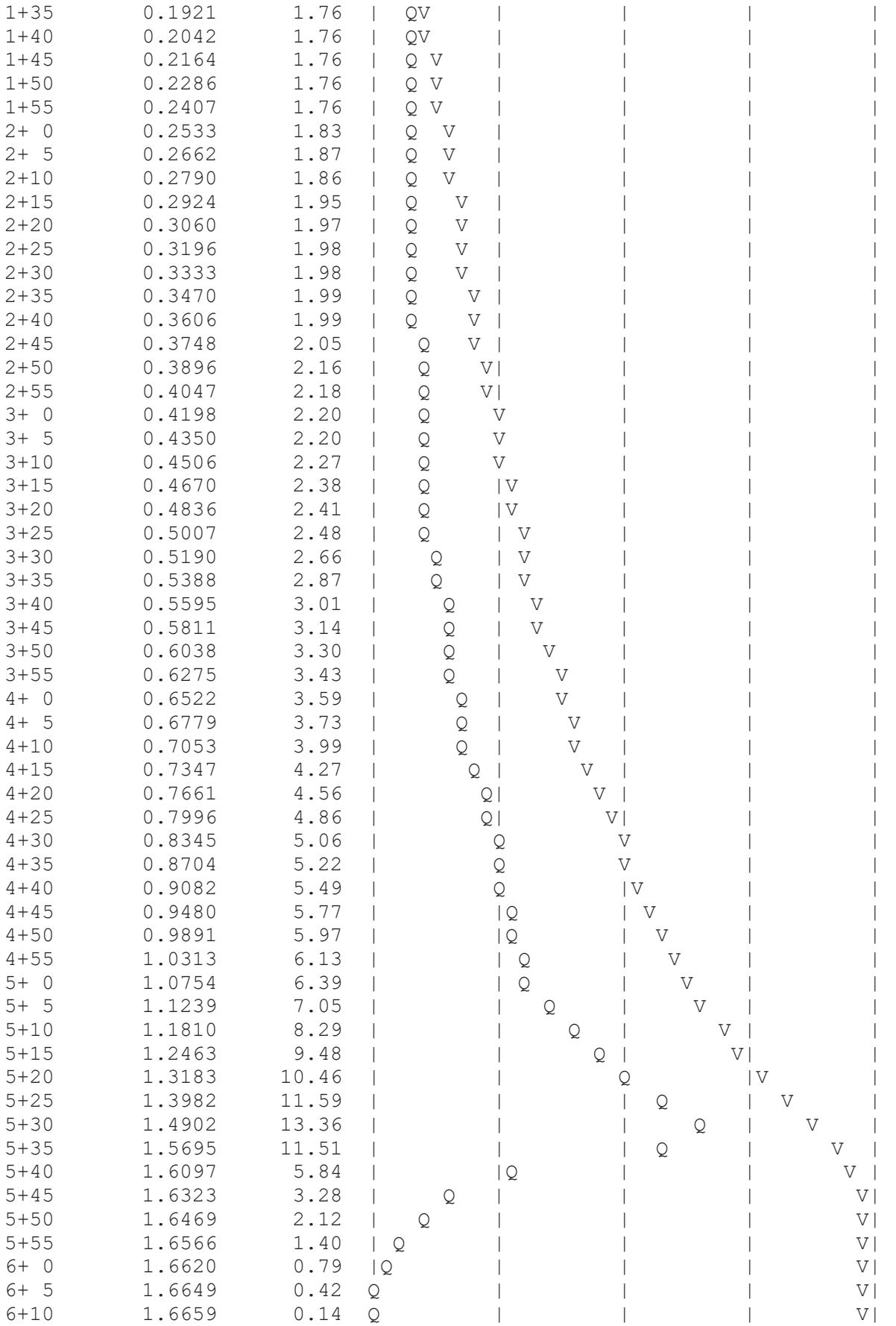
Peak flow rate of this hydrograph = 13.364(CFS)

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

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	0.0023	0.34	Q				
0+10	0.0088	0.93	VQ				
0+15	0.0168	1.17	V Q				
0+20	0.0254	1.25	V Q				
0+25	0.0343	1.29	V Q				
0+30	0.0439	1.39	|VQ				
0+35	0.0542	1.50	|VQ				
0+40	0.0647	1.52	|V Q				
0+45	0.0752	1.53	|V Q				
0+50	0.0858	1.54	| VQ				
0+55	0.0965	1.54	| VQ				
1+ 0	0.1076	1.61	| VQ				
1+ 5	0.1194	1.72	| VQ				
1+10	0.1314	1.74	| Q				
1+15	0.1435	1.75	| Q				
1+20	0.1556	1.76	| Q				
1+25	0.1678	1.76	| QV				
1+30	0.1799	1.76	| QV				



1+35	0.1921	1.76	QV				
1+40	0.2042	1.76	QV				
1+45	0.2164	1.76	Q V				
1+50	0.2286	1.76	Q V				
1+55	0.2407	1.76	Q V				
2+ 0	0.2533	1.83	Q V				
2+ 5	0.2662	1.87	Q V				
2+10	0.2790	1.86	Q V				
2+15	0.2924	1.95	Q V				
2+20	0.3060	1.97	Q V				
2+25	0.3196	1.98	Q V				
2+30	0.3333	1.98	Q V				
2+35	0.3470	1.99	Q V				
2+40	0.3606	1.99	Q V				
2+45	0.3748	2.05	Q V				
2+50	0.3896	2.16	Q V				
2+55	0.4047	2.18	Q V				
3+ 0	0.4198	2.20	Q V				
3+ 5	0.4350	2.20	Q V				
3+10	0.4506	2.27	Q V				
3+15	0.4670	2.38	Q V				
3+20	0.4836	2.41	Q V				
3+25	0.5007	2.48	Q V				
3+30	0.5190	2.66	Q V				
3+35	0.5388	2.87	Q V				
3+40	0.5595	3.01	Q V				
3+45	0.5811	3.14	Q V				
3+50	0.6038	3.30	Q V				
3+55	0.6275	3.43	Q V				
4+ 0	0.6522	3.59	Q V				
4+ 5	0.6779	3.73	Q V				
4+10	0.7053	3.99	Q V				
4+15	0.7347	4.27	Q V				
4+20	0.7661	4.56	Q V				
4+25	0.7996	4.86	Q V				
4+30	0.8345	5.06	Q V				
4+35	0.8704	5.22	Q V				
4+40	0.9082	5.49	Q V				
4+45	0.9480	5.77	Q V				
4+50	0.9891	5.97	Q V				
4+55	1.0313	6.13	Q V				
5+ 0	1.0754	6.39	Q V				
5+ 5	1.1239	7.05	Q V				
5+10	1.1810	8.29	Q V				
5+15	1.2463	9.48	Q V				
5+20	1.3183	10.46	Q V				
5+25	1.3982	11.59	Q V				
5+30	1.4902	13.36	Q V				
5+35	1.5695	11.51	Q V				
5+40	1.6097	5.84	Q V				
5+45	1.6323	3.28	Q V				
5+50	1.6469	2.12	Q V				
5+55	1.6566	1.40	Q V				
6+ 0	1.6620	0.79	Q V				
6+ 5	1.6649	0.42	Q V				
6+10	1.6659	0.14	Q V				

```
    6+15       1.6663      0.06  Q          |          |          |         V|
    6+20       1.6664      0.02  Q          |          |          |         V|
    6+25       1.6665      0.01  Q          |          |          |         V|
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/28/24 File: hemetuhpra32242.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 2-Year Unit Hydrographs (Area 3)
2-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 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]
21.11	2.07	43.70

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      21.11              5.42                114.42

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    2.070(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.070(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.836      0.003
56.0  56.0      0.511     0.000        0.511       0.005      0.003
75.0  75.0      0.303     0.000        0.303       0.159      0.048
                                                  Sum (F) =   0.054
Area averaged mean soil loss (F) (In/Hr) =  0.054
Minimum soil loss rate ((In/Hr)) =  0.027
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.07	0.017	(0.096)	0.004	0.012
2	0.17	0.07	0.017	(0.095)	0.004	0.012
3	0.25	0.07	0.017	(0.095)	0.004	0.012
4	0.33	0.10	0.025	(0.095)	0.007	0.018
5	0.42	0.10	0.025	(0.094)	0.007	0.018
6	0.50	0.10	0.025	(0.094)	0.007	0.018
7	0.58	0.10	0.025	(0.094)	0.007	0.018
8	0.67	0.10	0.025	(0.093)	0.007	0.018
9	0.75	0.10	0.025	(0.093)	0.007	0.018
10	0.83	0.13	0.033	(0.092)	0.009	0.024
11	0.92	0.13	0.033	(0.092)	0.009	0.024
12	1.00	0.13	0.033	(0.092)	0.009	0.024
13	1.08	0.10	0.025	(0.091)	0.007	0.018
14	1.17	0.10	0.025	(0.091)	0.007	0.018
15	1.25	0.10	0.025	(0.091)	0.007	0.018
16	1.33	0.10	0.025	(0.090)	0.007	0.018
17	1.42	0.10	0.025	(0.090)	0.007	0.018
18	1.50	0.10	0.025	(0.090)	0.007	0.018
19	1.58	0.10	0.025	(0.089)	0.007	0.018
20	1.67	0.10	0.025	(0.089)	0.007	0.018
21	1.75	0.10	0.025	(0.089)	0.007	0.018
22	1.83	0.13	0.033	(0.088)	0.009	0.024
23	1.92	0.13	0.033	(0.088)	0.009	0.024
24	2.00	0.13	0.033	(0.087)	0.009	0.024
25	2.08	0.13	0.033	(0.087)	0.009	0.024
26	2.17	0.13	0.033	(0.087)	0.009	0.024
27	2.25	0.13	0.033	(0.086)	0.009	0.024
28	2.33	0.13	0.033	(0.086)	0.009	0.024
29	2.42	0.13	0.033	(0.086)	0.009	0.024
30	2.50	0.13	0.033	(0.085)	0.009	0.024
31	2.58	0.17	0.041	(0.085)	0.011	0.030
32	2.67	0.17	0.041	(0.085)	0.011	0.030
33	2.75	0.17	0.041	(0.084)	0.011	0.030
34	2.83	0.17	0.041	(0.084)	0.011	0.030
35	2.92	0.17	0.041	(0.084)	0.011	0.030
36	3.00	0.17	0.041	(0.083)	0.011	0.030
37	3.08	0.17	0.041	(0.083)	0.011	0.030
38	3.17	0.17	0.041	(0.083)	0.011	0.030
39	3.25	0.17	0.041	(0.082)	0.011	0.030
40	3.33	0.17	0.041	(0.082)	0.011	0.030
41	3.42	0.17	0.041	(0.082)	0.011	0.030
42	3.50	0.17	0.041	(0.081)	0.011	0.030
43	3.58	0.17	0.041	(0.081)	0.011	0.030
44	3.67	0.17	0.041	(0.081)	0.011	0.030
45	3.75	0.17	0.041	(0.080)	0.011	0.030
46	3.83	0.20	0.050	(0.080)	0.013	0.036
47	3.92	0.20	0.050	(0.080)	0.013	0.036
48	4.00	0.20	0.050	(0.079)	0.013	0.036
49	4.08	0.20	0.050	(0.079)	0.013	0.036
50	4.17	0.20	0.050	(0.079)	0.013	0.036
51	4.25	0.20	0.050	(0.078)	0.013	0.036
52	4.33	0.23	0.058	(0.078)	0.016	0.042
53	4.42	0.23	0.058	(0.078)	0.016	0.042
54	4.50	0.23	0.058	(0.077)	0.016	0.042
55	4.58	0.23	0.058	(0.077)	0.016	0.042

56	4.67	0.23	0.058	(0.077)	0.016	0.042
57	4.75	0.23	0.058	(0.076)	0.016	0.042
58	4.83	0.27	0.066	(0.076)	0.018	0.048
59	4.92	0.27	0.066	(0.076)	0.018	0.048
60	5.00	0.27	0.066	(0.075)	0.018	0.048
61	5.08	0.20	0.050	(0.075)	0.013	0.036
62	5.17	0.20	0.050	(0.075)	0.013	0.036
63	5.25	0.20	0.050	(0.074)	0.013	0.036
64	5.33	0.23	0.058	(0.074)	0.016	0.042
65	5.42	0.23	0.058	(0.074)	0.016	0.042
66	5.50	0.23	0.058	(0.073)	0.016	0.042
67	5.58	0.27	0.066	(0.073)	0.018	0.048
68	5.67	0.27	0.066	(0.073)	0.018	0.048
69	5.75	0.27	0.066	(0.072)	0.018	0.048
70	5.83	0.27	0.066	(0.072)	0.018	0.048
71	5.92	0.27	0.066	(0.072)	0.018	0.048
72	6.00	0.27	0.066	(0.071)	0.018	0.048
73	6.08	0.30	0.075	(0.071)	0.020	0.055
74	6.17	0.30	0.075	(0.071)	0.020	0.055
75	6.25	0.30	0.075	(0.070)	0.020	0.055
76	6.33	0.30	0.075	(0.070)	0.020	0.055
77	6.42	0.30	0.075	(0.070)	0.020	0.055
78	6.50	0.30	0.075	(0.069)	0.020	0.055
79	6.58	0.33	0.083	(0.069)	0.022	0.061
80	6.67	0.33	0.083	(0.069)	0.022	0.061
81	6.75	0.33	0.083	(0.069)	0.022	0.061
82	6.83	0.33	0.083	(0.068)	0.022	0.061
83	6.92	0.33	0.083	(0.068)	0.022	0.061
84	7.00	0.33	0.083	(0.068)	0.022	0.061
85	7.08	0.33	0.083	(0.067)	0.022	0.061
86	7.17	0.33	0.083	(0.067)	0.022	0.061
87	7.25	0.33	0.083	(0.067)	0.022	0.061
88	7.33	0.37	0.091	(0.066)	0.024	0.067
89	7.42	0.37	0.091	(0.066)	0.024	0.067
90	7.50	0.37	0.091	(0.066)	0.024	0.067
91	7.58	0.40	0.099	(0.065)	0.027	0.073
92	7.67	0.40	0.099	(0.065)	0.027	0.073
93	7.75	0.40	0.099	(0.065)	0.027	0.073
94	7.83	0.43	0.108	(0.065)	0.029	0.079
95	7.92	0.43	0.108	(0.064)	0.029	0.079
96	8.00	0.43	0.108	(0.064)	0.029	0.079
97	8.08	0.50	0.124	(0.064)	0.033	0.091
98	8.17	0.50	0.124	(0.063)	0.033	0.091
99	8.25	0.50	0.124	(0.063)	0.033	0.091
100	8.33	0.50	0.124	(0.063)	0.033	0.091
101	8.42	0.50	0.124	(0.062)	0.033	0.091
102	8.50	0.50	0.124	(0.062)	0.033	0.091
103	8.58	0.53	0.132	(0.062)	0.036	0.097
104	8.67	0.53	0.132	(0.062)	0.036	0.097
105	8.75	0.53	0.132	(0.061)	0.036	0.097
106	8.83	0.57	0.141	(0.061)	0.038	0.103
107	8.92	0.57	0.141	(0.061)	0.038	0.103
108	9.00	0.57	0.141	(0.060)	0.038	0.103
109	9.08	0.63	0.157	(0.060)	0.042	0.115
110	9.17	0.63	0.157	(0.060)	0.042	0.115
111	9.25	0.63	0.157	(0.060)	0.042	0.115

112	9.33	0.67	0.166	(0.059)	0.044	0.121
113	9.42	0.67	0.166	(0.059)	0.044	0.121
114	9.50	0.67	0.166	(0.059)	0.044	0.121
115	9.58	0.70	0.174	(0.058)	0.047	0.127
116	9.67	0.70	0.174	(0.058)	0.047	0.127
117	9.75	0.70	0.174	(0.058)	0.047	0.127
118	9.83	0.73	0.182	(0.058)	0.049	0.133
119	9.92	0.73	0.182	(0.057)	0.049	0.133
120	10.00	0.73	0.182	(0.057)	0.049	0.133
121	10.08	0.50	0.124	(0.057)	0.033	0.091
122	10.17	0.50	0.124	(0.057)	0.033	0.091
123	10.25	0.50	0.124	(0.056)	0.033	0.091
124	10.33	0.50	0.124	(0.056)	0.033	0.091
125	10.42	0.50	0.124	(0.056)	0.033	0.091
126	10.50	0.50	0.124	(0.055)	0.033	0.091
127	10.58	0.67	0.166	(0.055)	0.044	0.121
128	10.67	0.67	0.166	(0.055)	0.044	0.121
129	10.75	0.67	0.166	(0.055)	0.044	0.121
130	10.83	0.67	0.166	(0.054)	0.044	0.121
131	10.92	0.67	0.166	(0.054)	0.044	0.121
132	11.00	0.67	0.166	(0.054)	0.044	0.121
133	11.08	0.63	0.157	(0.054)	0.042	0.115
134	11.17	0.63	0.157	(0.053)	0.042	0.115
135	11.25	0.63	0.157	(0.053)	0.042	0.115
136	11.33	0.63	0.157	(0.053)	0.042	0.115
137	11.42	0.63	0.157	(0.052)	0.042	0.115
138	11.50	0.63	0.157	(0.052)	0.042	0.115
139	11.58	0.57	0.141	(0.052)	0.038	0.103
140	11.67	0.57	0.141	(0.052)	0.038	0.103
141	11.75	0.57	0.141	(0.051)	0.038	0.103
142	11.83	0.60	0.149	(0.051)	0.040	0.109
143	11.92	0.60	0.149	(0.051)	0.040	0.109
144	12.00	0.60	0.149	(0.051)	0.040	0.109
145	12.08	0.83	0.207	0.050	(0.055)	0.157
146	12.17	0.83	0.207	0.050	(0.055)	0.157
147	12.25	0.83	0.207	0.050	(0.055)	0.157
148	12.33	0.87	0.215	0.050	(0.058)	0.166
149	12.42	0.87	0.215	0.049	(0.058)	0.166
150	12.50	0.87	0.215	0.049	(0.058)	0.166
151	12.58	0.93	0.232	0.049	(0.062)	0.183
152	12.67	0.93	0.232	0.049	(0.062)	0.183
153	12.75	0.93	0.232	0.048	(0.062)	0.183
154	12.83	0.97	0.240	0.048	(0.064)	0.192
155	12.92	0.97	0.240	0.048	(0.064)	0.192
156	13.00	0.97	0.240	0.048	(0.064)	0.192
157	13.08	1.13	0.282	0.047	(0.075)	0.234
158	13.17	1.13	0.282	0.047	(0.075)	0.234
159	13.25	1.13	0.282	0.047	(0.075)	0.235
160	13.33	1.13	0.282	0.047	(0.075)	0.235
161	13.42	1.13	0.282	0.047	(0.075)	0.235
162	13.50	1.13	0.282	0.046	(0.075)	0.235
163	13.58	0.77	0.190	0.046	(0.051)	0.144
164	13.67	0.77	0.190	0.046	(0.051)	0.145
165	13.75	0.77	0.190	0.046	(0.051)	0.145
166	13.83	0.77	0.190	0.045	(0.051)	0.145
167	13.92	0.77	0.190	0.045	(0.051)	0.145

168	14.00	0.77	0.190	0.045	(0.051)	0.146
169	14.08	0.90	0.224	0.045	(0.060)	0.179
170	14.17	0.90	0.224	0.044	(0.060)	0.179
171	14.25	0.90	0.224	0.044	(0.060)	0.179
172	14.33	0.87	0.215	0.044	(0.058)	0.171
173	14.42	0.87	0.215	0.044	(0.058)	0.172
174	14.50	0.87	0.215	0.044	(0.058)	0.172
175	14.58	0.87	0.215	0.043	(0.058)	0.172
176	14.67	0.87	0.215	0.043	(0.058)	0.172
177	14.75	0.87	0.215	0.043	(0.058)	0.172
178	14.83	0.83	0.207	0.043	(0.055)	0.164
179	14.92	0.83	0.207	0.042	(0.055)	0.165
180	15.00	0.83	0.207	0.042	(0.055)	0.165
181	15.08	0.80	0.199	0.042	(0.053)	0.157
182	15.17	0.80	0.199	0.042	(0.053)	0.157
183	15.25	0.80	0.199	0.042	(0.053)	0.157
184	15.33	0.77	0.190	0.041	(0.051)	0.149
185	15.42	0.77	0.190	0.041	(0.051)	0.149
186	15.50	0.77	0.190	0.041	(0.051)	0.150
187	15.58	0.63	0.157	0.041	(0.042)	0.117
188	15.67	0.63	0.157	0.041	(0.042)	0.117
189	15.75	0.63	0.157	0.040	(0.042)	0.117
190	15.83	0.63	0.157	0.040	(0.042)	0.117
191	15.92	0.63	0.157	0.040	(0.042)	0.117
192	16.00	0.63	0.157	0.040	(0.042)	0.118
193	16.08	0.13	0.033	(0.039)	0.009	0.024
194	16.17	0.13	0.033	(0.039)	0.009	0.024
195	16.25	0.13	0.033	(0.039)	0.009	0.024
196	16.33	0.13	0.033	(0.039)	0.009	0.024
197	16.42	0.13	0.033	(0.039)	0.009	0.024
198	16.50	0.13	0.033	(0.038)	0.009	0.024
199	16.58	0.10	0.025	(0.038)	0.007	0.018
200	16.67	0.10	0.025	(0.038)	0.007	0.018
201	16.75	0.10	0.025	(0.038)	0.007	0.018
202	16.83	0.10	0.025	(0.038)	0.007	0.018
203	16.92	0.10	0.025	(0.038)	0.007	0.018
204	17.00	0.10	0.025	(0.037)	0.007	0.018
205	17.08	0.17	0.041	(0.037)	0.011	0.030
206	17.17	0.17	0.041	(0.037)	0.011	0.030
207	17.25	0.17	0.041	(0.037)	0.011	0.030
208	17.33	0.17	0.041	(0.037)	0.011	0.030
209	17.42	0.17	0.041	(0.036)	0.011	0.030
210	17.50	0.17	0.041	(0.036)	0.011	0.030
211	17.58	0.17	0.041	(0.036)	0.011	0.030
212	17.67	0.17	0.041	(0.036)	0.011	0.030
213	17.75	0.17	0.041	(0.036)	0.011	0.030
214	17.83	0.13	0.033	(0.035)	0.009	0.024
215	17.92	0.13	0.033	(0.035)	0.009	0.024
216	18.00	0.13	0.033	(0.035)	0.009	0.024
217	18.08	0.13	0.033	(0.035)	0.009	0.024
218	18.17	0.13	0.033	(0.035)	0.009	0.024
219	18.25	0.13	0.033	(0.035)	0.009	0.024
220	18.33	0.13	0.033	(0.034)	0.009	0.024
221	18.42	0.13	0.033	(0.034)	0.009	0.024
222	18.50	0.13	0.033	(0.034)	0.009	0.024
223	18.58	0.10	0.025	(0.034)	0.007	0.018

224	18.67	0.10	0.025	(0.034)	0.007	0.018
225	18.75	0.10	0.025	(0.034)	0.007	0.018
226	18.83	0.07	0.017	(0.033)	0.004	0.012
227	18.92	0.07	0.017	(0.033)	0.004	0.012
228	19.00	0.07	0.017	(0.033)	0.004	0.012
229	19.08	0.10	0.025	(0.033)	0.007	0.018
230	19.17	0.10	0.025	(0.033)	0.007	0.018
231	19.25	0.10	0.025	(0.033)	0.007	0.018
232	19.33	0.13	0.033	(0.033)	0.009	0.024
233	19.42	0.13	0.033	(0.032)	0.009	0.024
234	19.50	0.13	0.033	(0.032)	0.009	0.024
235	19.58	0.10	0.025	(0.032)	0.007	0.018
236	19.67	0.10	0.025	(0.032)	0.007	0.018
237	19.75	0.10	0.025	(0.032)	0.007	0.018
238	19.83	0.07	0.017	(0.032)	0.004	0.012
239	19.92	0.07	0.017	(0.032)	0.004	0.012
240	20.00	0.07	0.017	(0.031)	0.004	0.012
241	20.08	0.10	0.025	(0.031)	0.007	0.018
242	20.17	0.10	0.025	(0.031)	0.007	0.018
243	20.25	0.10	0.025	(0.031)	0.007	0.018
244	20.33	0.10	0.025	(0.031)	0.007	0.018
245	20.42	0.10	0.025	(0.031)	0.007	0.018
246	20.50	0.10	0.025	(0.031)	0.007	0.018
247	20.58	0.10	0.025	(0.030)	0.007	0.018
248	20.67	0.10	0.025	(0.030)	0.007	0.018
249	20.75	0.10	0.025	(0.030)	0.007	0.018
250	20.83	0.07	0.017	(0.030)	0.004	0.012
251	20.92	0.07	0.017	(0.030)	0.004	0.012
252	21.00	0.07	0.017	(0.030)	0.004	0.012
253	21.08	0.10	0.025	(0.030)	0.007	0.018
254	21.17	0.10	0.025	(0.030)	0.007	0.018
255	21.25	0.10	0.025	(0.029)	0.007	0.018
256	21.33	0.07	0.017	(0.029)	0.004	0.012
257	21.42	0.07	0.017	(0.029)	0.004	0.012
258	21.50	0.07	0.017	(0.029)	0.004	0.012
259	21.58	0.10	0.025	(0.029)	0.007	0.018
260	21.67	0.10	0.025	(0.029)	0.007	0.018
261	21.75	0.10	0.025	(0.029)	0.007	0.018
262	21.83	0.07	0.017	(0.029)	0.004	0.012
263	21.92	0.07	0.017	(0.029)	0.004	0.012
264	22.00	0.07	0.017	(0.029)	0.004	0.012
265	22.08	0.10	0.025	(0.028)	0.007	0.018
266	22.17	0.10	0.025	(0.028)	0.007	0.018
267	22.25	0.10	0.025	(0.028)	0.007	0.018
268	22.33	0.07	0.017	(0.028)	0.004	0.012
269	22.42	0.07	0.017	(0.028)	0.004	0.012
270	22.50	0.07	0.017	(0.028)	0.004	0.012
271	22.58	0.07	0.017	(0.028)	0.004	0.012
272	22.67	0.07	0.017	(0.028)	0.004	0.012
273	22.75	0.07	0.017	(0.028)	0.004	0.012
274	22.83	0.07	0.017	(0.028)	0.004	0.012
275	22.92	0.07	0.017	(0.028)	0.004	0.012
276	23.00	0.07	0.017	(0.028)	0.004	0.012
277	23.08	0.07	0.017	(0.027)	0.004	0.012
278	23.17	0.07	0.017	(0.027)	0.004	0.012
279	23.25	0.07	0.017	(0.027)	0.004	0.012

280	23.33	0.07	0.017	(0.027)	0.004	0.012
281	23.42	0.07	0.017	(0.027)	0.004	0.012
282	23.50	0.07	0.017	(0.027)	0.004	0.012
283	23.58	0.07	0.017	(0.027)	0.004	0.012
284	23.67	0.07	0.017	(0.027)	0.004	0.012
285	23.75	0.07	0.017	(0.027)	0.004	0.012
286	23.83	0.07	0.017	(0.027)	0.004	0.012
287	23.92	0.07	0.017	(0.027)	0.004	0.012
288	24.00	0.07	0.017	(0.027)	0.004	0.012

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.8

Flood volume = Effective rainfall 1.56(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 2.8(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.891(Ac.Ft)
Total rainfall = 2.07(In)
Flood volume = 119823.5 Cubic Feet
Total soil loss = 38792.6 Cubic Feet

Peak flow rate of this hydrograph = 5.002(CFS)

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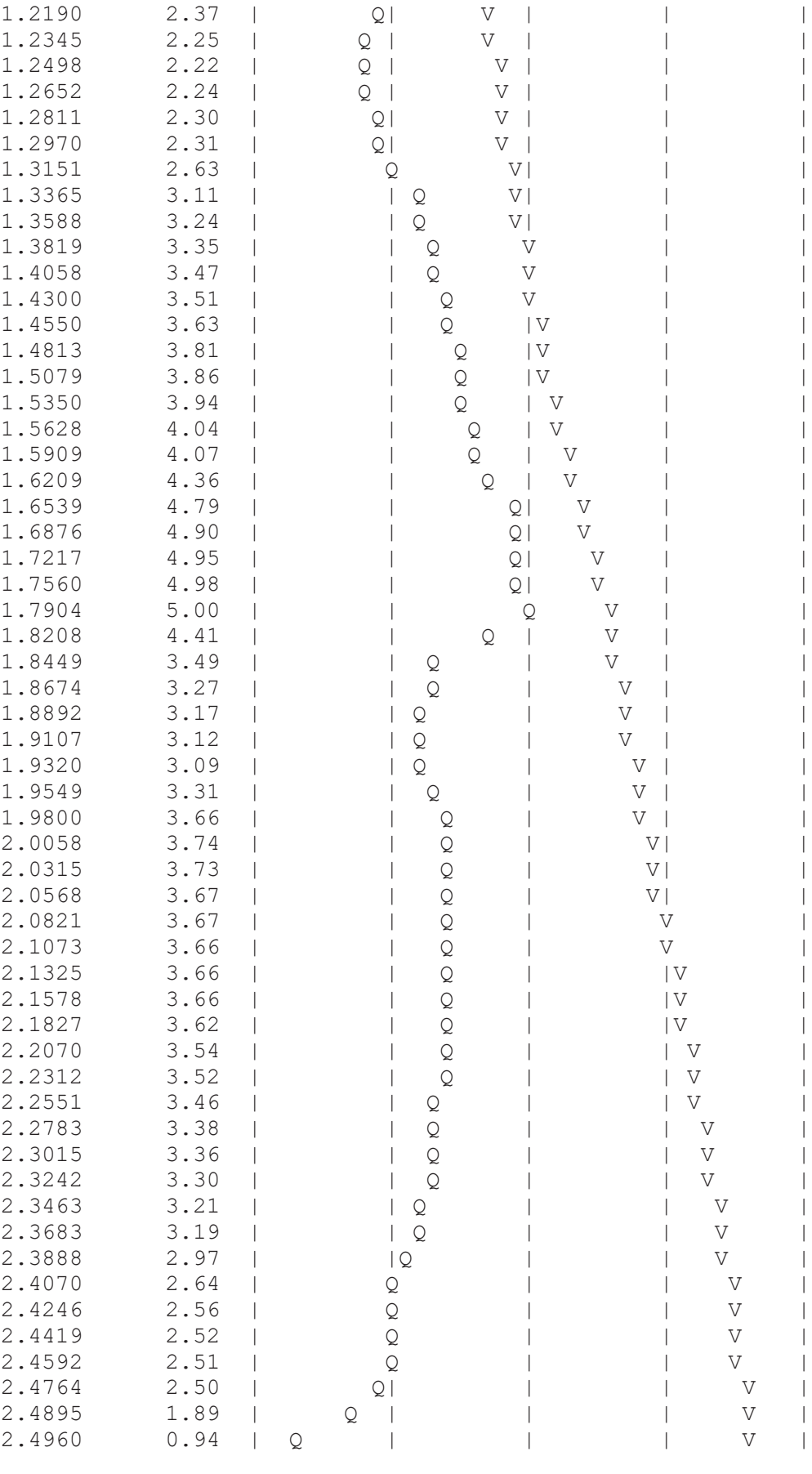
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0005	0.08	Q				
0+10	0.0019	0.20	Q				
0+15	0.0035	0.23	Q				
0+20	0.0055	0.29	VQ				
0+25	0.0079	0.35	VQ				
0+30	0.0105	0.37	VQ				
0+35	0.0132	0.38	VQ				
0+40	0.0158	0.38	VQ				
0+45	0.0185	0.39	VQ				
0+50	0.0214	0.43	VQ				
0+55	0.0248	0.49	VQ				
1+ 0	0.0282	0.50	V Q				
1+ 5	0.0315	0.47	VQ				
1+10	0.0343	0.41	VQ				
1+15	0.0371	0.40	VQ				
1+20	0.0398	0.39	VQ				
1+25	0.0425	0.39	VQ				
1+30	0.0451	0.39	VQ				
1+35	0.0478	0.39	VQ				
1+40	0.0505	0.39	VQ				
1+45	0.0531	0.39	VQ				
1+50	0.0561	0.43	VQ				
1+55	0.0594	0.49	VQ				
2+ 0	0.0629	0.50	V Q				
2+ 5	0.0664	0.51	V Q				
2+10	0.0699	0.51	|VQ				

2+15	0.0735	0.52	|VQ	|	|	|	|
2+20	0.0770	0.52	|VQ	|	|	|	|
2+25	0.0806	0.52	|VQ	|	|	|	|
2+30	0.0842	0.52	|VQ	|	|	|	|
2+35	0.0880	0.56	|VQ	|	|	|	|
2+40	0.0922	0.62	|VQ	|	|	|	|
2+45	0.0966	0.63	|VQ	|	|	|	|
2+50	0.1010	0.64	|VQ	|	|	|	|
2+55	0.1054	0.64	|VQ	|	|	|	|
3+ 0	0.1099	0.65	|VQ	|	|	|	|
3+ 5	0.1143	0.65	|VQ	|	|	|	|
3+10	0.1187	0.65	|VQ	|	|	|	|
3+15	0.1232	0.65	|VQ	|	|	|	|
3+20	0.1276	0.65	|VQ	|	|	|	|
3+25	0.1321	0.65	|VQ	|	|	|	|
3+30	0.1365	0.65	|VQ	|	|	|	|
3+35	0.1410	0.65	| Q	|	|	|	|
3+40	0.1454	0.65	| Q	|	|	|	|
3+45	0.1498	0.65	| Q	|	|	|	|
3+50	0.1546	0.68	| Q	|	|	|	|
3+55	0.1597	0.75	| Q	|	|	|	|
4+ 0	0.1649	0.76	| VQ	|	|	|	|
4+ 5	0.1702	0.77	| VQ	|	|	|	|
4+10	0.1755	0.77	| VQ	|	|	|	|
4+15	0.1809	0.77	| VQ	|	|	|	|
4+20	0.1865	0.81	| VQ	|	|	|	|
4+25	0.1925	0.88	| VQ	|	|	|	|
4+30	0.1986	0.89	| VQ	|	|	|	|
4+35	0.2048	0.90	| VQ	|	|	|	|
4+40	0.2110	0.90	| Q	|	|	|	|
4+45	0.2172	0.90	| Q	|	|	|	|
4+50	0.2237	0.94	| Q	|	|	|	|
4+55	0.2306	1.00	| VQ	|	|	|	|
5+ 0	0.2377	1.02	| VQ	|	|	|	|
5+ 5	0.2442	0.95	| Q	|	|	|	|
5+10	0.2499	0.83	| Q	|	|	|	|
5+15	0.2554	0.80	| Q	|	|	|	|
5+20	0.2611	0.83	| Q	|	|	|	|
5+25	0.2671	0.88	| Q	|	|	|	|
5+30	0.2733	0.89	| Q	|	|	|	|
5+35	0.2797	0.94	| QV	|	|	|	|
5+40	0.2866	1.00	| Q	|	|	|	|
5+45	0.2936	1.02	| Q	|	|	|	|
5+50	0.3007	1.03	| Q	|	|	|	|
5+55	0.3078	1.03	| Q	|	|	|	|
6+ 0	0.3149	1.03	| Q	|	|	|	|
6+ 5	0.3223	1.07	| Q	|	|	|	|
6+10	0.3301	1.13	| Q	|	|	|	|
6+15	0.3380	1.15	| Q	|	|	|	|
6+20	0.3460	1.16	| QV	|	|	|	|
6+25	0.3539	1.16	| QV	|	|	|	|
6+30	0.3619	1.16	| QV	|	|	|	|
6+35	0.3702	1.20	| QV	|	|	|	|
6+40	0.3789	1.26	| Q	|	|	|	|
6+45	0.3877	1.28	| Q	|	|	|	|
6+50	0.3965	1.28	| Q	|	|	|	|

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 6+55       0.4054      1.29  |    Q     |          |          |          |
 7+ 0       0.4143      1.29  |    QV    |          |          |          |
 7+ 5       0.4232      1.29  |    QV    |          |          |          |
 7+10       0.4321      1.29  |    QV    |          |          |          |
 7+15       0.4409      1.29  |    QV    |          |          |          |
 7+20       0.4501      1.33  |    QV    |          |          |          |
 7+25       0.4597      1.39  |    QV    |          |          |          |
 7+30       0.4694      1.41  |    QV    |          |          |          |
 7+35       0.4794      1.45  |    QV    |          |          |          |
 7+40       0.4898      1.52  |     QV   |          |          |          |
 7+45       0.5004      1.54  |     QV   |          |          |          |
 7+50       0.5113      1.58  |     QV   |          |          |          |
 7+55       0.5226      1.65  |     QV   |          |          |          |
 8+ 0       0.5341      1.66  |     QV   |          |          |          |
 8+ 5       0.5462      1.75  |      Q   |          |          |          |
 8+10       0.5591      1.88  |      QV  |          |          |          |
 8+15       0.5722      1.91  |      QV  |          |          |          |
 8+20       0.5855      1.92  |      QV  |          |          |          |
 8+25       0.5988      1.93  |      QV  |          |          |          |
 8+30       0.6121      1.94  |      QV  |          |          |          |
 8+35       0.6257      1.97  |      Q V |          |          |          |
 8+40       0.6397      2.04  |       QV |          |          |          |
 8+45       0.6539      2.05  |       QV |          |          |          |
 8+50       0.6683      2.10  |       QV |          |          |          |
 8+55       0.6832      2.16  |       QV |          |          |          |
 9+ 0       0.6982      2.18  |       Q V          |          |          |
 9+ 5       0.7138      2.27  |        QV          |          |          |
 9+10       0.7303      2.39  |        QV          |          |          |
 9+15       0.7470      2.43  |        QV          |          |          |
 9+20       0.7641      2.48  |        Q|V         |          |          |
 9+25       0.7816      2.55  |         QV         |          |          |
 9+30       0.7993      2.57  |         QV         |          |          |
 9+35       0.8173      2.61  |         QV         |          |          |
 9+40       0.8358      2.68  |         Q V        |          |          |
 9+45       0.8543      2.70  |         Q V        |          |          |
 9+50       0.8732      2.74  |         Q V        |          |          |
 9+55       0.8926      2.81  |          |QV        |          |          |
10+ 0       0.9120      2.83  |          |Q V       |          |          |
10+ 5       0.9296      2.56  |         Q  V       |          |          |
10+10       0.9443      2.13  |        Q |  V       |          |          |
10+15       0.9582      2.02  |        Q |  V       |          |          |
10+20       0.9718      1.98  |       Q  |   V      |          |          |
10+25       0.9853      1.95  |       Q  |   V      |          |          |
10+30       0.9986      1.94  |       Q  |   V      |          |          |
10+35       1.0133      2.13  |        Q |   V      |          |          |
10+40       1.0301      2.44  |         Q|   V      |          |          |
10+45       1.0474      2.52  |          Q    V    |          |          |
10+50       1.0650      2.55  |          Q    V    |          |          |
10+55       1.0827      2.57  |          Q    V    |          |          |
11+ 0       1.1004      2.58  |          Q     V   |          |          |
11+ 5       1.1179      2.54  |          Q     V   |          |          |
11+10       1.1350      2.48  |         Q|     V   |          |          |
11+15       1.1520      2.46  |         Q|     V   |          |          |
11+20       1.1689      2.46  |         Q|     V   |          |          |
11+25       1.1858      2.45  |         Q|      V  |          |          |
11+30       1.2027      2.45  |         Q|      V  |          |          |
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11+35	1.2190	2.37	
11+40	1.2345	2.25	
11+45	1.2498	2.22	
11+50	1.2652	2.24	
11+55	1.2811	2.30	
12+ 0	1.2970	2.31	
12+ 5	1.3151	2.63	
12+10	1.3365	3.11	
12+15	1.3588	3.24	
12+20	1.3819	3.35	
12+25	1.4058	3.47	
12+30	1.4300	3.51	
12+35	1.4550	3.63	
12+40	1.4813	3.81	
12+45	1.5079	3.86	
12+50	1.5350	3.94	
12+55	1.5628	4.04	
13+ 0	1.5909	4.07	
13+ 5	1.6209	4.36	
13+10	1.6539	4.79	
13+15	1.6876	4.90	
13+20	1.7217	4.95	
13+25	1.7560	4.98	
13+30	1.7904	5.00	
13+35	1.8208	4.41	
13+40	1.8449	3.49	
13+45	1.8674	3.27	
13+50	1.8892	3.17	
13+55	1.9107	3.12	
14+ 0	1.9320	3.09	
14+ 5	1.9549	3.31	
14+10	1.9800	3.66	
14+15	2.0058	3.74	
14+20	2.0315	3.73	
14+25	2.0568	3.67	
14+30	2.0821	3.67	
14+35	2.1073	3.66	
14+40	2.1325	3.66	
14+45	2.1578	3.66	
14+50	2.1827	3.62	
14+55	2.2070	3.54	
15+ 0	2.2312	3.52	
15+ 5	2.2551	3.46	
15+10	2.2783	3.38	
15+15	2.3015	3.36	
15+20	2.3242	3.30	
15+25	2.3463	3.21	
15+30	2.3683	3.19	
15+35	2.3888	2.97	
15+40	2.4070	2.64	
15+45	2.4246	2.56	
15+50	2.4419	2.52	
15+55	2.4592	2.51	
16+ 0	2.4764	2.50	
16+ 5	2.4895	1.89	
16+10	2.4960	0.94	

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16+15       2.5009      0.71  | Q       |         |         |      V   |
16+20       2.5050      0.61  | Q       |         |         |      V   |
16+25       2.5088      0.55  | Q       |         |         |      V   |
16+30       2.5124      0.52  | Q       |         |         |      V   |
16+35       2.5157      0.48  |Q        |         |         |      V   |
16+40       2.5185      0.41  |Q        |         |         |      V   |
16+45       2.5213      0.40  |Q        |         |         |      V   |
16+50       2.5240      0.39  |Q        |         |         |      V   |
16+55       2.5267      0.39  |Q        |         |         |      V   |
17+ 0       2.5293      0.39  |Q        |         |         |      V   |
17+ 5       2.5326      0.47  |Q        |         |         |      V   |
17+10       2.5366      0.59  | Q       |         |         |      V   |
17+15       2.5409      0.62  | Q       |         |         |      V   |
17+20       2.5452      0.63  | Q       |         |         |       V  |
17+25       2.5497      0.64  | Q       |         |         |       V  |
17+30       2.5541      0.65  | Q       |         |         |       V  |
17+35       2.5585      0.65  | Q       |         |         |       V  |
17+40       2.5630      0.65  | Q       |         |         |       V  |
17+45       2.5674      0.65  | Q       |         |         |       V  |
17+50       2.5716      0.61  | Q       |         |         |       V  |
17+55       2.5753      0.54  | Q       |         |         |       V  |
18+ 0       2.5790      0.53  | Q       |         |         |       V  |
18+ 5       2.5826      0.52  | Q       |         |         |       V  |
18+10       2.5861      0.52  | Q       |         |         |       V  |
18+15       2.5897      0.52  | Q       |         |         |       V  |
18+20       2.5933      0.52  | Q       |         |         |       V  |
18+25       2.5968      0.52  | Q       |         |         |       V  |
18+30       2.6004      0.52  | Q       |         |         |       V  |
18+35       2.6036      0.48  |Q        |         |         |       V  |
18+40       2.6065      0.41  |Q        |         |         |       V  |
18+45       2.6093      0.40  |Q        |         |         |       V  |
18+50       2.6117      0.35  |Q        |         |         |       V  |
18+55       2.6137      0.29  |Q        |         |         |        V |
19+ 0       2.6155      0.27  |Q        |         |         |        V |
19+ 5       2.6176      0.30  |Q        |         |         |        V |
19+10       2.6201      0.36  |Q        |         |         |        V |
19+15       2.6227      0.37  |Q        |         |         |        V |
19+20       2.6256      0.42  |Q        |         |         |        V |
19+25       2.6289      0.49  |Q        |         |         |        V |
19+30       2.6324      0.50  | Q       |         |         |        V |
19+35       2.6356      0.47  |Q        |         |         |        V |
19+40       2.6385      0.41  |Q        |         |         |        V |
19+45       2.6412      0.40  |Q        |         |         |        V |
19+50       2.6437      0.35  |Q        |         |         |        V |
19+55       2.6457      0.29  |Q        |         |         |        V |
20+ 0       2.6475      0.27  |Q        |         |         |        V |
20+ 5       2.6496      0.30  |Q        |         |         |        V |
20+10       2.6521      0.36  |Q        |         |         |        V |
20+15       2.6547      0.37  |Q        |         |         |        V |
20+20       2.6573      0.38  |Q        |         |         |        V |
20+25       2.6600      0.38  |Q        |         |         |        V |
20+30       2.6626      0.39  |Q        |         |         |        V |
20+35       2.6653      0.39  |Q        |         |         |        V |
20+40       2.6679      0.39  |Q        |         |         |        V |
20+45       2.6706      0.39  |Q        |         |         |        V |
20+50       2.6730      0.35  |Q        |         |         |        V |
```

```
  20+55       2.6750      0.29  |Q        |         |         |        V |
  21+ 0       2.6768      0.27  |Q        |         |         |        V |
  21+ 5       2.6789      0.30  |Q        |         |         |        V |
  21+10       2.6814      0.36  |Q        |         |         |        V |
  21+15       2.6840      0.37  |Q        |         |         |         V|
  21+20       2.6864      0.34  |Q        |         |         |         V|
  21+25       2.6883      0.28  |Q        |         |         |         V|
  21+30       2.6902      0.27  |Q        |         |         |         V|
  21+35       2.6923      0.30  |Q        |         |         |         V|
  21+40       2.6947      0.36  |Q        |         |         |         V|
  21+45       2.6973      0.37  |Q        |         |         |         V|
  21+50       2.6997      0.34  |Q        |         |         |         V|
  21+55       2.7016      0.28  |Q        |         |         |         V|
  22+ 0       2.7035      0.27  |Q        |         |         |         V|
  22+ 5       2.7056      0.30  |Q        |         |         |         V|
  22+10       2.7081      0.36  |Q        |         |         |         V|
  22+15       2.7107      0.37  |Q        |         |         |         V|
  22+20       2.7130      0.34  |Q        |         |         |         V|
  22+25       2.7150      0.28  |Q        |         |         |         V|
  22+30       2.7168      0.27  |Q        |         |         |         V|
  22+35       2.7186      0.26  |Q        |         |         |         V|
  22+40       2.7204      0.26  |Q        |         |         |         V|
  22+45       2.7222      0.26  |Q        |         |         |         V|
  22+50       2.7240      0.26  |Q        |         |         |         V|
  22+55       2.7258      0.26  |Q        |         |         |         V|
  23+ 0       2.7275      0.26  |Q        |         |         |         V|
  23+ 5       2.7293      0.26  |Q        |         |         |         V|
  23+10       2.7311      0.26  |Q        |         |         |         V|
  23+15       2.7329      0.26  |Q        |         |         |         V|
  23+20       2.7346      0.26  |Q        |         |         |         V|
  23+25       2.7364      0.26  |Q        |         |         |         V|
  23+30       2.7382      0.26  |Q        |         |         |         V|
  23+35       2.7400      0.26  |Q        |         |         |         V|
  23+40       2.7418      0.26  |Q        |         |         |         V|
  23+45       2.7435      0.26  |Q        |         |         |         V|
  23+50       2.7453      0.26  |Q        |         |         |         V|
  23+55       2.7471      0.26  |Q        |         |         |         V|
  24+ 0       2.7489      0.26  |Q        |         |         |         V|
  24+ 5       2.7501      0.18  Q         |         |         |         V|
  24+10       2.7505      0.06  Q         |         |         |         V|
  24+15       2.7507      0.03  Q         |         |         |         V|
  24+20       2.7507      0.01  Q         |         |         |         V|
  24+25       2.7508      0.00  Q         |         |         |         V|
-------------------------------------------------------------------------
```

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 3)
10-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 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]
21.11	0.49	10.43

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.11             1.59                 33.56

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    0.945(In)
Areal adjustment factor =   99.98 %
Adjusted average point rain =    0.945(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.836      0.003
56.0  56.0      0.511     0.000        0.511       0.005      0.003
75.0  75.0      0.303     0.000        0.303       0.159      0.048
                                                  Sum (F) =   0.054
Area averaged mean soil loss (F) (In/Hr) =  0.054
Minimum soil loss rate ((In/Hr)) =  0.027
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.385	0.054	(0.103)	0.331
2	0.17	4.70	0.533	0.054	(0.143)	0.479
3	0.25	4.70	0.533	0.054	(0.143)	0.479
4	0.33	5.10	0.578	0.054	(0.155)	0.524
5	0.42	5.80	0.658	0.054	(0.176)	0.603
6	0.50	5.90	0.669	0.054	(0.179)	0.615
7	0.58	7.10	0.805	0.054	(0.216)	0.751
8	0.67	8.70	0.986	0.054	(0.264)	0.932
9	0.75	13.20	1.496	0.054	(0.401)	1.442
10	0.83	29.70	3.367	0.054	(0.902)	3.313
11	0.92	7.70	0.873	0.054	(0.234)	0.819
12	1.00	4.00	0.453	0.054	(0.122)	0.399

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.7

Flood volume = Effective rainfall 0.89(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 1.6(Ac.Ft)
Total soil loss = 0.05(In)
Total soil loss = 0.095(Ac.Ft)
Total rainfall = 0.94(In)
Flood volume = 68252.4 Cubic Feet
Total soil loss = 4141.0 Cubic Feet

Peak flow rate of this hydrograph = 44.327(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	12.5	25.0	37.5	50.0
0+ 5	0.0149	2.17	VQ				
0+10	0.0596	6.49	|V Q				
0+15	0.1204	8.82	| V Q				
0+20	0.1883	9.86	| V Q				
0+25	0.2653	11.19	| V Q				
0+30	0.3508	12.40	| VQ|				
0+35	0.4452	13.71	| QV				
0+40	0.5583	16.42	| | QV				
0+45	0.7099	22.02	| | QV |			
0+50	0.9858	40.06	| | | V | Q		
0+55	1.2911	44.33	| | | | V Q		
1+ 0	1.4405	21.68	| | Q | | V	
1+ 5	1.5162	11.00	| Q | | | V |
1+10	1.5467	4.43	| Q | | | V|
1+15	1.5620	2.22	|Q | | | V|
1+20	1.5658	0.56	Q | | | V|
1+25	1.5669	0.16	Q | | | V

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 3)
10-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.11	0.85	17.88

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.11              2.20                 46.44

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    1.404(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.404(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.836      0.003
56.0  56.0      0.511     0.000        0.511       0.005      0.003
75.0  75.0      0.303     0.000        0.303       0.159      0.048
                                                  Sum (F) =   0.054
Area averaged mean soil loss (F) (In/Hr) =  0.054
Minimum soil loss rate ((In/Hr)) =  0.027
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	1.30	0.219	0.054	(	0.059)	0.165
2	0.17	1.30	0.219	0.054	(	0.059)	0.165
3	0.25	1.10	0.185	(0.054)		0.050	0.136
4	0.33	1.50	0.253	0.054	(	0.068)	0.199
5	0.42	1.50	0.253	0.054	(	0.068)	0.199
6	0.50	1.80	0.303	0.054	(	0.081)	0.249
7	0.58	1.50	0.253	0.054	(	0.068)	0.199
8	0.67	1.80	0.303	0.054	(	0.081)	0.249
9	0.75	1.80	0.303	0.054	(	0.081)	0.249
10	0.83	1.50	0.253	0.054	(	0.068)	0.199
11	0.92	1.60	0.269	0.054	(	0.072)	0.215
12	1.00	1.80	0.303	0.054	(	0.081)	0.249
13	1.08	2.20	0.371	0.054	(	0.099)	0.316
14	1.17	2.20	0.371	0.054	(	0.099)	0.316
15	1.25	2.20	0.371	0.054	(	0.099)	0.316
16	1.33	2.00	0.337	0.054	(	0.090)	0.283
17	1.42	2.60	0.438	0.054	(	0.117)	0.384
18	1.50	2.70	0.455	0.054	(	0.122)	0.401
19	1.58	2.40	0.404	0.054	(	0.108)	0.350
20	1.67	2.70	0.455	0.054	(	0.122)	0.401
21	1.75	3.30	0.556	0.054	(	0.149)	0.502
22	1.83	3.10	0.522	0.054	(	0.140)	0.468
23	1.92	2.90	0.488	0.054	(	0.131)	0.434
24	2.00	3.00	0.505	0.054	(	0.135)	0.451
25	2.08	3.10	0.522	0.054	(	0.140)	0.468
26	2.17	4.20	0.707	0.054	(	0.190)	0.653
27	2.25	5.00	0.842	0.054	(	0.226)	0.788
28	2.33	3.50	0.589	0.054	(	0.158)	0.535
29	2.42	6.80	1.145	0.054	(	0.307)	1.091
30	2.50	7.30	1.229	0.054	(	0.329)	1.175
31	2.58	8.20	1.381	0.054	(	0.370)	1.327
32	2.67	5.90	0.994	0.054	(	0.266)	0.940
33	2.75	2.00	0.337	0.054	(	0.090)	0.283
34	2.83	1.80	0.303	0.054	(	0.081)	0.249
35	2.92	1.80	0.303	0.054	(	0.081)	0.249
36	3.00	0.60	0.101	(0.054)		0.027	0.074

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.9

Flood volume = Effective rainfall 1.24(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 2.2(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.281(Ac.Ft)
Total rainfall = 1.40(In)
Flood volume = 95326.8 Cubic Feet
Total soil loss = 12222.8 Cubic Feet

Peak flow rate of this hydrograph = 24.658(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0074	1.08	VQ				
0+10	0.0264	2.75	V Q				
0+15	0.0469	2.97	V Q				
0+20	0.0694	3.27	V Q				
0+25	0.0965	3.93	V Q				
0+30	0.1272	4.45	V Q				
0+35	0.1595	4.69	V Q				
0+40	0.1916	4.66	V Q				
0+45	0.2269	5.13	V Q				
0+50	0.2606	4.90	V Q				
0+55	0.2918	4.54	VQ				
1+ 0	0.3250	4.81	VQ				
1+ 5	0.3636	5.60	VQ				
1+10	0.4074	6.36	VQ				
1+15	0.4525	6.56	Q				
1+20	0.4969	6.44	QV				
1+25	0.5438	6.81	Q				
1+30	0.5981	7.89	Q				
1+35	0.6528	7.94	QV				
1+40	0.7072	7.90	Q V				
1+45	0.7692	9.01	Q V				
1+50	0.8376	9.93	Q V				
1+55	0.9041	9.66	Q V				
2+ 0	0.9693	9.46	Q V				
2+ 5	1.0361	9.70	Q V				
2+10	1.1126	11.11	Q V				
2+15	1.2083	13.90	Q V				
2+20	1.3054	14.09	Q V				
2+25	1.4136	15.72	Q V				
2+30	1.5620	21.54	Q				
2+35	1.7318	24.66	VQ				
2+40	1.8999	24.40	Q V				
2+45	2.0161	16.88	Q V				
2+50	2.0811	9.45	Q V				
2+55	2.1304	7.15	Q V				
3+ 0	2.1650	5.02	Q V				
3+ 5	2.1800	2.19	Q V				
3+10	2.1850	0.72	Q V				
3+15	2.1872	0.33	Q V				
3+20	2.1882	0.14	Q V				
3+25	2.1884	0.03	Q V				

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 3)
10-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.11	1.18	24.91

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.11              2.92                 61.64

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    1.896(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.896(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.836      0.003
56.0  56.0      0.511     0.000        0.511       0.005      0.003
75.0  75.0      0.303     0.000        0.303       0.159      0.048
                                                  Sum (F) =   0.054
Area averaged mean soil loss (F) (In/Hr) =  0.054
Minimum soil loss rate ((In/Hr)) =  0.027
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.50	0.114	(0.054)		0.030	0.083
2	0.17	0.60	0.136	(0.054)		0.037	0.100
3	0.25	0.60	0.136	(0.054)		0.037	0.100
4	0.33	0.60	0.136	(0.054)		0.037	0.100
5	0.42	0.60	0.136	(0.054)		0.037	0.100
6	0.50	0.70	0.159	(0.054)		0.043	0.117
7	0.58	0.70	0.159	(0.054)		0.043	0.117
8	0.67	0.70	0.159	(0.054)		0.043	0.117
9	0.75	0.70	0.159	(0.054)		0.043	0.117
10	0.83	0.70	0.159	(0.054)		0.043	0.117
11	0.92	0.70	0.159	(0.054)		0.043	0.117
12	1.00	0.80	0.182	(0.054)		0.049	0.133
13	1.08	0.80	0.182	(0.054)		0.049	0.133
14	1.17	0.80	0.182	(0.054)		0.049	0.133
15	1.25	0.80	0.182	(0.054)		0.049	0.133
16	1.33	0.80	0.182	(0.054)		0.049	0.133
17	1.42	0.80	0.182	(0.054)		0.049	0.133
18	1.50	0.80	0.182	(0.054)		0.049	0.133
19	1.58	0.80	0.182	(0.054)		0.049	0.133
20	1.67	0.80	0.182	(0.054)		0.049	0.133
21	1.75	0.80	0.182	(0.054)		0.049	0.133
22	1.83	0.80	0.182	(0.054)		0.049	0.133
23	1.92	0.80	0.182	(0.054)		0.049	0.133
24	2.00	0.90	0.205	0.054	(	0.055)	0.151
25	2.08	0.80	0.182	(0.054)		0.049	0.133
26	2.17	0.90	0.205	0.054	(	0.055)	0.151
27	2.25	0.90	0.205	0.054	(	0.055)	0.151
28	2.33	0.90	0.205	0.054	(	0.055)	0.151
29	2.42	0.90	0.205	0.054	(	0.055)	0.151
30	2.50	0.90	0.205	0.054	(	0.055)	0.151
31	2.58	0.90	0.205	0.054	(	0.055)	0.151
32	2.67	0.90	0.205	0.054	(	0.055)	0.151
33	2.75	1.00	0.227	0.054	(	0.061)	0.173
34	2.83	1.00	0.227	0.054	(	0.061)	0.173
35	2.92	1.00	0.227	0.054	(	0.061)	0.173
36	3.00	1.00	0.227	0.054	(	0.061)	0.173
37	3.08	1.00	0.227	0.054	(	0.061)	0.173
38	3.17	1.10	0.250	0.054	(	0.067)	0.196
39	3.25	1.10	0.250	0.054	(	0.067)	0.196
40	3.33	1.10	0.250	0.054	(	0.067)	0.196
41	3.42	1.20	0.273	0.054	(	0.073)	0.219
42	3.50	1.30	0.296	0.054	(	0.079)	0.242
43	3.58	1.40	0.318	0.054	(	0.085)	0.264
44	3.67	1.40	0.318	0.054	(	0.085)	0.264
45	3.75	1.50	0.341	0.054	(	0.091)	0.287
46	3.83	1.50	0.341	0.054	(	0.091)	0.287
47	3.92	1.60	0.364	0.054	(	0.098)	0.310
48	4.00	1.60	0.364	0.054	(	0.098)	0.310
49	4.08	1.70	0.387	0.054	(	0.104)	0.333
50	4.17	1.80	0.409	0.054	(	0.110)	0.355
51	4.25	1.90	0.432	0.054	(	0.116)	0.378
52	4.33	2.00	0.455	0.054	(	0.122)	0.401
53	4.42	2.10	0.478	0.054	(	0.128)	0.424
54	4.50	2.10	0.478	0.054	(	0.128)	0.424
55	4.58	2.20	0.500	0.054	(	0.134)	0.446

56	4.67	2.30	0.523	0.054	(0.140)	0.469
57	4.75	2.40	0.546	0.054	(0.146)	0.492
58	4.83	2.40	0.546	0.054	(0.146)	0.492
59	4.92	2.50	0.569	0.054	(0.152)	0.515
60	5.00	2.60	0.591	0.054	(0.159)	0.537
61	5.08	3.10	0.705	0.054	(0.189)	0.651
62	5.17	3.60	0.819	0.054	(0.219)	0.765
63	5.25	3.90	0.887	0.054	(0.238)	0.833
64	5.33	4.20	0.955	0.054	(0.256)	0.901
65	5.42	4.70	1.069	0.054	(0.287)	1.015
66	5.50	5.60	1.274	0.054	(0.341)	1.220
67	5.58	1.90	0.432	0.054	(0.116)	0.378
68	5.67	0.90	0.205	0.054	(0.055)	0.151
69	5.75	0.60	0.136	(0.054)	0.037	0.100
70	5.83	0.50	0.114	(0.054)	0.030	0.083
71	5.92	0.30	0.068	(0.054)	0.018	0.050
72	6.00	0.20	0.045	(0.054)	0.012	0.033

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.2

Flood volume = Effective rainfall 1.60(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 2.8(Ac.Ft)
Total soil loss = 0.30(In)
Total soil loss = 0.519(Ac.Ft)
Total rainfall = 1.90(In)
Flood volume = 122647.5 Cubic Feet
Total soil loss = 22619.6 Cubic Feet

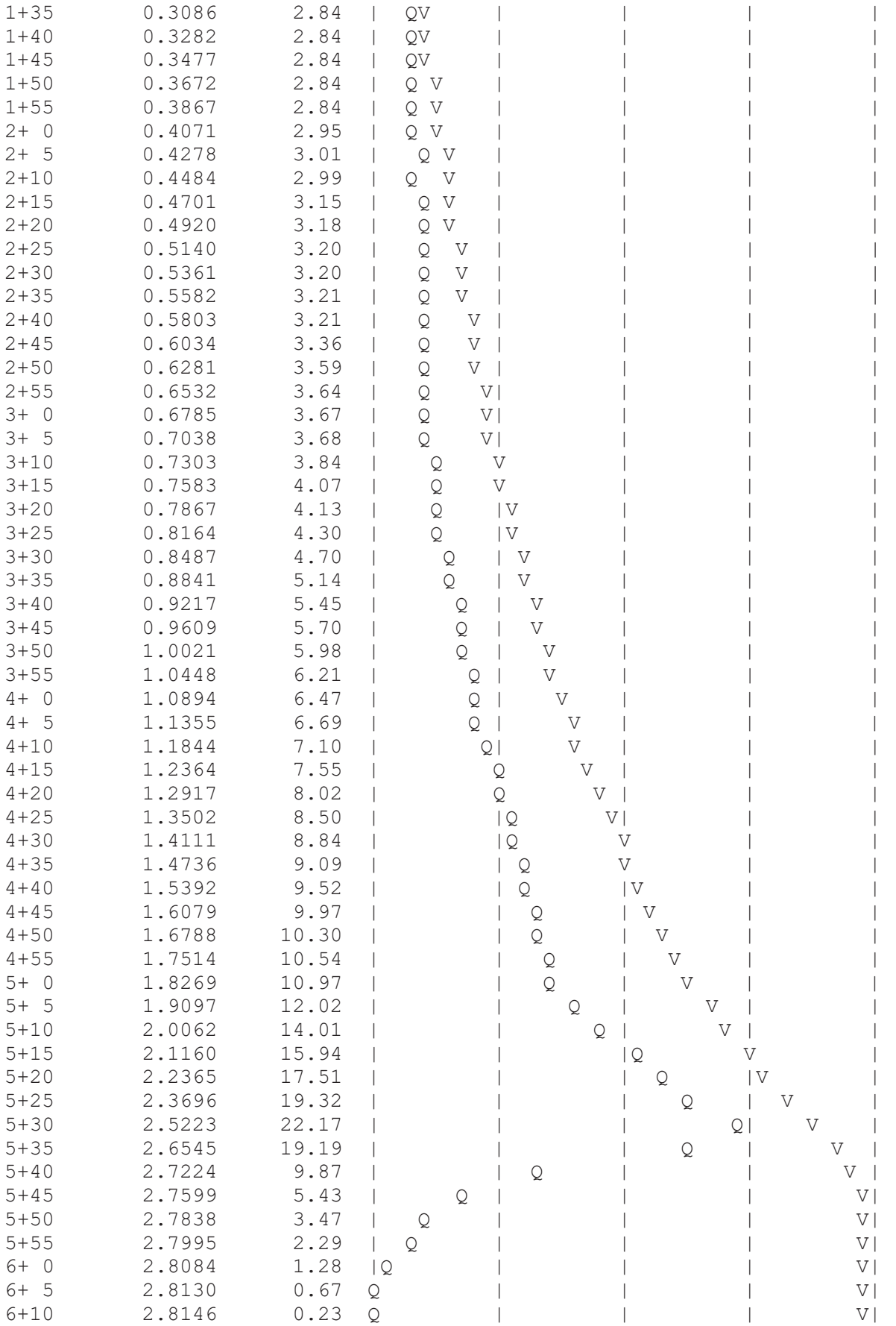
Peak flow rate of this hydrograph = 22.169(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0037	0.54	Q				
0+10	0.0141	1.50	VQ				
0+15	0.0270	1.88	V Q				
0+20	0.0408	2.01	V Q				
0+25	0.0551	2.08	V Q				
0+30	0.0705	2.23	|VQ				
0+35	0.0871	2.40	|V Q				
0+40	0.1039	2.45	|V Q				
0+45	0.1209	2.46	|V Q				
0+50	0.1379	2.47	|V Q				
0+55	0.1550	2.48	| VQ				
1+ 0	0.1728	2.59	| VQ				
1+ 5	0.1918	2.76	| VQ				
1+10	0.2111	2.80	| VQ				
1+15	0.2306	2.82	| Q				
1+20	0.2500	2.83	| Q				
1+25	0.2696	2.84	| Q				
1+30	0.2891	2.84	| QV				



1+35	0.3086	2.84	QV				
1+40	0.3282	2.84	QV				
1+45	0.3477	2.84	QV				
1+50	0.3672	2.84	Q V				
1+55	0.3867	2.84	Q V				
2+ 0	0.4071	2.95	Q V				
2+ 5	0.4278	3.01	Q V				
2+10	0.4484	2.99	Q V				
2+15	0.4701	3.15	Q V				
2+20	0.4920	3.18	Q V				
2+25	0.5140	3.20	Q V				
2+30	0.5361	3.20	Q V				
2+35	0.5582	3.21	Q V				
2+40	0.5803	3.21	Q V				
2+45	0.6034	3.36	Q V				
2+50	0.6281	3.59	Q V				
2+55	0.6532	3.64	Q V				
3+ 0	0.6785	3.67	Q V				
3+ 5	0.7038	3.68	Q V				
3+10	0.7303	3.84	Q V				
3+15	0.7583	4.07	Q V				
3+20	0.7867	4.13	Q V				
3+25	0.8164	4.30	Q V				
3+30	0.8487	4.70	Q V				
3+35	0.8841	5.14	Q V				
3+40	0.9217	5.45	Q V				
3+45	0.9609	5.70	Q V				
3+50	1.0021	5.98	Q V				
3+55	1.0448	6.21	Q V				
4+ 0	1.0894	6.47	Q V				
4+ 5	1.1355	6.69	Q V				
4+10	1.1844	7.10	Q V				
4+15	1.2364	7.55	Q V				
4+20	1.2917	8.02	Q V				
4+25	1.3502	8.50	Q V				
4+30	1.4111	8.84	Q V				
4+35	1.4736	9.09	Q V				
4+40	1.5392	9.52	Q V				
4+45	1.6079	9.97	Q V				
4+50	1.6788	10.30	Q V				
4+55	1.7514	10.54	Q V				
5+ 0	1.8269	10.97	Q V				
5+ 5	1.9097	12.02	Q V				
5+10	2.0062	14.01	Q V				
5+15	2.1160	15.94	Q V				
5+20	2.2365	17.51	Q V				
5+25	2.3696	19.32	Q V				
5+30	2.5223	22.17	Q V				
5+35	2.6545	19.19	Q V				
5+40	2.7224	9.87	Q V				
5+45	2.7599	5.43	Q V				
5+50	2.7838	3.47	Q V				
5+55	2.7995	2.29	Q V				
6+ 0	2.8084	1.28	Q V				
6+ 5	2.8130	0.67	Q V				
6+10	2.8146	0.23	Q V				

```
    6+15       2.8152      0.10  Q          |          |          |         V|
    6+20       2.8155      0.04  Q          |          |          |         V|
    6+25       2.8156      0.01  Q          |          |          |         V|
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/28/24 File: hemetuhpra3102410.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 10-Year Unit Hydrographs (Area 3)
10-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 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]
21.11	2.07	43.70

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      21.11              5.42                 114.42

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    3.448(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.448(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  98.0      0.026     0.950        0.004       0.836      0.003
56.0  56.0      0.511     0.000        0.511       0.005      0.003
75.0  75.0      0.303     0.000        0.303       0.159      0.048
                                                  Sum (F) =   0.054
Area averaged mean soil loss (F) (In/Hr) =  0.054
Minimum soil loss rate ((In/Hr)) =  0.027
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.07	0.028	(0.096)		0.007	0.020
2	0.17	0.07	0.028	(0.095)		0.007	0.020
3	0.25	0.07	0.028	(0.095)		0.007	0.020
4	0.33	0.10	0.041	(0.095)		0.011	0.030
5	0.42	0.10	0.041	(0.094)		0.011	0.030
6	0.50	0.10	0.041	(0.094)		0.011	0.030
7	0.58	0.10	0.041	(0.094)		0.011	0.030
8	0.67	0.10	0.041	(0.093)		0.011	0.030
9	0.75	0.10	0.041	(0.093)		0.011	0.030
10	0.83	0.13	0.055	(0.092)		0.015	0.040
11	0.92	0.13	0.055	(0.092)		0.015	0.040
12	1.00	0.13	0.055	(0.092)		0.015	0.040
13	1.08	0.10	0.041	(0.091)		0.011	0.030
14	1.17	0.10	0.041	(0.091)		0.011	0.030
15	1.25	0.10	0.041	(0.091)		0.011	0.030
16	1.33	0.10	0.041	(0.090)		0.011	0.030
17	1.42	0.10	0.041	(0.090)		0.011	0.030
18	1.50	0.10	0.041	(0.090)		0.011	0.030
19	1.58	0.10	0.041	(0.089)		0.011	0.030
20	1.67	0.10	0.041	(0.089)		0.011	0.030
21	1.75	0.10	0.041	(0.089)		0.011	0.030
22	1.83	0.13	0.055	(0.088)		0.015	0.040
23	1.92	0.13	0.055	(0.088)		0.015	0.040
24	2.00	0.13	0.055	(0.087)		0.015	0.040
25	2.08	0.13	0.055	(0.087)		0.015	0.040
26	2.17	0.13	0.055	(0.087)		0.015	0.040
27	2.25	0.13	0.055	(0.086)		0.015	0.040
28	2.33	0.13	0.055	(0.086)		0.015	0.040
29	2.42	0.13	0.055	(0.086)		0.015	0.040
30	2.50	0.13	0.055	(0.085)		0.015	0.040
31	2.58	0.17	0.069	(0.085)		0.018	0.050
32	2.67	0.17	0.069	(0.085)		0.018	0.050
33	2.75	0.17	0.069	(0.084)		0.018	0.050
34	2.83	0.17	0.069	(0.084)		0.018	0.050
35	2.92	0.17	0.069	(0.084)		0.018	0.050
36	3.00	0.17	0.069	(0.083)		0.018	0.050
37	3.08	0.17	0.069	(0.083)		0.018	0.050
38	3.17	0.17	0.069	(0.083)		0.018	0.050
39	3.25	0.17	0.069	(0.082)		0.018	0.050
40	3.33	0.17	0.069	(0.082)		0.018	0.050
41	3.42	0.17	0.069	(0.082)		0.018	0.050
42	3.50	0.17	0.069	(0.081)		0.018	0.050
43	3.58	0.17	0.069	(0.081)		0.018	0.050
44	3.67	0.17	0.069	(0.081)		0.018	0.050
45	3.75	0.17	0.069	(0.080)		0.018	0.050
46	3.83	0.20	0.083	(0.080)		0.022	0.061
47	3.92	0.20	0.083	(0.080)		0.022	0.061
48	4.00	0.20	0.083	(0.079)		0.022	0.061
49	4.08	0.20	0.083	(0.079)		0.022	0.061
50	4.17	0.20	0.083	(0.079)		0.022	0.061
51	4.25	0.20	0.083	(0.078)		0.022	0.061
52	4.33	0.23	0.097	(0.078)		0.026	0.071
53	4.42	0.23	0.097	(0.078)		0.026	0.071
54	4.50	0.23	0.097	(0.077)		0.026	0.071
55	4.58	0.23	0.097	(0.077)		0.026	0.071

56	4.67	0.23	0.097	(0.077)	0.026	0.071
57	4.75	0.23	0.097	(0.076)	0.026	0.071
58	4.83	0.27	0.110	(0.076)	0.030	0.081
59	4.92	0.27	0.110	(0.076)	0.030	0.081
60	5.00	0.27	0.110	(0.075)	0.030	0.081
61	5.08	0.20	0.083	(0.075)	0.022	0.061
62	5.17	0.20	0.083	(0.075)	0.022	0.061
63	5.25	0.20	0.083	(0.074)	0.022	0.061
64	5.33	0.23	0.097	(0.074)	0.026	0.071
65	5.42	0.23	0.097	(0.074)	0.026	0.071
66	5.50	0.23	0.097	(0.073)	0.026	0.071
67	5.58	0.27	0.110	(0.073)	0.030	0.081
68	5.67	0.27	0.110	(0.073)	0.030	0.081
69	5.75	0.27	0.110	(0.072)	0.030	0.081
70	5.83	0.27	0.110	(0.072)	0.030	0.081
71	5.92	0.27	0.110	(0.072)	0.030	0.081
72	6.00	0.27	0.110	(0.071)	0.030	0.081
73	6.08	0.30	0.124	(0.071)	0.033	0.091
74	6.17	0.30	0.124	(0.071)	0.033	0.091
75	6.25	0.30	0.124	(0.070)	0.033	0.091
76	6.33	0.30	0.124	(0.070)	0.033	0.091
77	6.42	0.30	0.124	(0.070)	0.033	0.091
78	6.50	0.30	0.124	(0.069)	0.033	0.091
79	6.58	0.33	0.138	(0.069)	0.037	0.101
80	6.67	0.33	0.138	(0.069)	0.037	0.101
81	6.75	0.33	0.138	(0.069)	0.037	0.101
82	6.83	0.33	0.138	(0.068)	0.037	0.101
83	6.92	0.33	0.138	(0.068)	0.037	0.101
84	7.00	0.33	0.138	(0.068)	0.037	0.101
85	7.08	0.33	0.138	(0.067)	0.037	0.101
86	7.17	0.33	0.138	(0.067)	0.037	0.101
87	7.25	0.33	0.138	(0.067)	0.037	0.101
88	7.33	0.37	0.152	(0.066)	0.041	0.111
89	7.42	0.37	0.152	(0.066)	0.041	0.111
90	7.50	0.37	0.152	(0.066)	0.041	0.111
91	7.58	0.40	0.166	(0.065)	0.044	0.121
92	7.67	0.40	0.166	(0.065)	0.044	0.121
93	7.75	0.40	0.166	(0.065)	0.044	0.121
94	7.83	0.43	0.179	(0.065)	0.048	0.131
95	7.92	0.43	0.179	(0.064)	0.048	0.131
96	8.00	0.43	0.179	(0.064)	0.048	0.131
97	8.08	0.50	0.207	(0.064)	0.055	0.151
98	8.17	0.50	0.207	(0.063)	0.055	0.151
99	8.25	0.50	0.207	(0.063)	0.055	0.151
100	8.33	0.50	0.207	(0.063)	0.055	0.151
101	8.42	0.50	0.207	(0.062)	0.055	0.151
102	8.50	0.50	0.207	(0.062)	0.055	0.151
103	8.58	0.53	0.221	(0.062)	0.059	0.162
104	8.67	0.53	0.221	(0.062)	0.059	0.162
105	8.75	0.53	0.221	(0.061)	0.059	0.162
106	8.83	0.57	0.234	0.061	(0.063)	0.173
107	8.92	0.57	0.234	0.061	(0.063)	0.174
108	9.00	0.57	0.234	0.060	(0.063)	0.174
109	9.08	0.63	0.262	0.060	(0.070)	0.202
110	9.17	0.63	0.262	0.060	(0.070)	0.202
111	9.25	0.63	0.262	0.060	(0.070)	0.202

112	9.33	0.67	0.276	0.059	(0.074)	0.217
113	9.42	0.67	0.276	0.059	(0.074)	0.217
114	9.50	0.67	0.276	0.059	(0.074)	0.217
115	9.58	0.70	0.290	0.058	(0.078)	0.231
116	9.67	0.70	0.290	0.058	(0.078)	0.231
117	9.75	0.70	0.290	0.058	(0.078)	0.232
118	9.83	0.73	0.303	0.058	(0.081)	0.246
119	9.92	0.73	0.303	0.057	(0.081)	0.246
120	10.00	0.73	0.303	0.057	(0.081)	0.246
121	10.08	0.50	0.207	(0.057)	0.055	0.151
122	10.17	0.50	0.207	(0.057)	0.055	0.151
123	10.25	0.50	0.207	(0.056)	0.055	0.151
124	10.33	0.50	0.207	(0.056)	0.055	0.151
125	10.42	0.50	0.207	(0.056)	0.055	0.151
126	10.50	0.50	0.207	0.055	(0.055)	0.151
127	10.58	0.67	0.276	0.055	(0.074)	0.221
128	10.67	0.67	0.276	0.055	(0.074)	0.221
129	10.75	0.67	0.276	0.055	(0.074)	0.221
130	10.83	0.67	0.276	0.054	(0.074)	0.221
131	10.92	0.67	0.276	0.054	(0.074)	0.222
132	11.00	0.67	0.276	0.054	(0.074)	0.222
133	11.08	0.63	0.262	0.054	(0.070)	0.209
134	11.17	0.63	0.262	0.053	(0.070)	0.209
135	11.25	0.63	0.262	0.053	(0.070)	0.209
136	11.33	0.63	0.262	0.053	(0.070)	0.209
137	11.42	0.63	0.262	0.052	(0.070)	0.210
138	11.50	0.63	0.262	0.052	(0.070)	0.210
139	11.58	0.57	0.234	0.052	(0.063)	0.182
140	11.67	0.57	0.234	0.052	(0.063)	0.183
141	11.75	0.57	0.234	0.051	(0.063)	0.183
142	11.83	0.60	0.248	0.051	(0.067)	0.197
143	11.92	0.60	0.248	0.051	(0.067)	0.197
144	12.00	0.60	0.248	0.051	(0.067)	0.198
145	12.08	0.83	0.345	0.050	(0.092)	0.294
146	12.17	0.83	0.345	0.050	(0.092)	0.295
147	12.25	0.83	0.345	0.050	(0.092)	0.295
148	12.33	0.87	0.359	0.050	(0.096)	0.309
149	12.42	0.87	0.359	0.049	(0.096)	0.309
150	12.50	0.87	0.359	0.049	(0.096)	0.309
151	12.58	0.93	0.386	0.049	(0.103)	0.337
152	12.67	0.93	0.386	0.049	(0.103)	0.337
153	12.75	0.93	0.386	0.048	(0.103)	0.338
154	12.83	0.97	0.400	0.048	(0.107)	0.352
155	12.92	0.97	0.400	0.048	(0.107)	0.352
156	13.00	0.97	0.400	0.048	(0.107)	0.352
157	13.08	1.13	0.469	0.047	(0.126)	0.421
158	13.17	1.13	0.469	0.047	(0.126)	0.422
159	13.25	1.13	0.469	0.047	(0.126)	0.422
160	13.33	1.13	0.469	0.047	(0.126)	0.422
161	13.42	1.13	0.469	0.047	(0.126)	0.422
162	13.50	1.13	0.469	0.046	(0.126)	0.423
163	13.58	0.77	0.317	0.046	(0.085)	0.271
164	13.67	0.77	0.317	0.046	(0.085)	0.271
165	13.75	0.77	0.317	0.046	(0.085)	0.272
166	13.83	0.77	0.317	0.045	(0.085)	0.272
167	13.92	0.77	0.317	0.045	(0.085)	0.272

168	14.00	0.77	0.317	0.045	(0.085)	0.272
169	14.08	0.90	0.372	0.045	(0.100)	0.328
170	14.17	0.90	0.372	0.044	(0.100)	0.328
171	14.25	0.90	0.372	0.044	(0.100)	0.328
172	14.33	0.87	0.359	0.044	(0.096)	0.315
173	14.42	0.87	0.359	0.044	(0.096)	0.315
174	14.50	0.87	0.359	0.044	(0.096)	0.315
175	14.58	0.87	0.359	0.043	(0.096)	0.315
176	14.67	0.87	0.359	0.043	(0.096)	0.316
177	14.75	0.87	0.359	0.043	(0.096)	0.316
178	14.83	0.83	0.345	0.043	(0.092)	0.302
179	14.92	0.83	0.345	0.042	(0.092)	0.302
180	15.00	0.83	0.345	0.042	(0.092)	0.303
181	15.08	0.80	0.331	0.042	(0.089)	0.289
182	15.17	0.80	0.331	0.042	(0.089)	0.289
183	15.25	0.80	0.331	0.042	(0.089)	0.289
184	15.33	0.77	0.317	0.041	(0.085)	0.276
185	15.42	0.77	0.317	0.041	(0.085)	0.276
186	15.50	0.77	0.317	0.041	(0.085)	0.276
187	15.58	0.63	0.262	0.041	(0.070)	0.221
188	15.67	0.63	0.262	0.041	(0.070)	0.222
189	15.75	0.63	0.262	0.040	(0.070)	0.222
190	15.83	0.63	0.262	0.040	(0.070)	0.222
191	15.92	0.63	0.262	0.040	(0.070)	0.222
192	16.00	0.63	0.262	0.040	(0.070)	0.222
193	16.08	0.13	0.055	(0.039)	0.015	0.040
194	16.17	0.13	0.055	(0.039)	0.015	0.040
195	16.25	0.13	0.055	(0.039)	0.015	0.040
196	16.33	0.13	0.055	(0.039)	0.015	0.040
197	16.42	0.13	0.055	(0.039)	0.015	0.040
198	16.50	0.13	0.055	(0.038)	0.015	0.040
199	16.58	0.10	0.041	(0.038)	0.011	0.030
200	16.67	0.10	0.041	(0.038)	0.011	0.030
201	16.75	0.10	0.041	(0.038)	0.011	0.030
202	16.83	0.10	0.041	(0.038)	0.011	0.030
203	16.92	0.10	0.041	(0.038)	0.011	0.030
204	17.00	0.10	0.041	(0.037)	0.011	0.030
205	17.08	0.17	0.069	(0.037)	0.018	0.050
206	17.17	0.17	0.069	(0.037)	0.018	0.050
207	17.25	0.17	0.069	(0.037)	0.018	0.050
208	17.33	0.17	0.069	(0.037)	0.018	0.050
209	17.42	0.17	0.069	(0.036)	0.018	0.050
210	17.50	0.17	0.069	(0.036)	0.018	0.050
211	17.58	0.17	0.069	(0.036)	0.018	0.050
212	17.67	0.17	0.069	(0.036)	0.018	0.050
213	17.75	0.17	0.069	(0.036)	0.018	0.050
214	17.83	0.13	0.055	(0.035)	0.015	0.040
215	17.92	0.13	0.055	(0.035)	0.015	0.040
216	18.00	0.13	0.055	(0.035)	0.015	0.040
217	18.08	0.13	0.055	(0.035)	0.015	0.040
218	18.17	0.13	0.055	(0.035)	0.015	0.040
219	18.25	0.13	0.055	(0.035)	0.015	0.040
220	18.33	0.13	0.055	(0.034)	0.015	0.040
221	18.42	0.13	0.055	(0.034)	0.015	0.040
222	18.50	0.13	0.055	(0.034)	0.015	0.040
223	18.58	0.10	0.041	(0.034)	0.011	0.030

224	18.67	0.10	0.041	(0.034)	0.011	0.030
225	18.75	0.10	0.041	(0.034)	0.011	0.030
226	18.83	0.07	0.028	(0.033)	0.007	0.020
227	18.92	0.07	0.028	(0.033)	0.007	0.020
228	19.00	0.07	0.028	(0.033)	0.007	0.020
229	19.08	0.10	0.041	(0.033)	0.011	0.030
230	19.17	0.10	0.041	(0.033)	0.011	0.030
231	19.25	0.10	0.041	(0.033)	0.011	0.030
232	19.33	0.13	0.055	(0.033)	0.015	0.040
233	19.42	0.13	0.055	(0.032)	0.015	0.040
234	19.50	0.13	0.055	(0.032)	0.015	0.040
235	19.58	0.10	0.041	(0.032)	0.011	0.030
236	19.67	0.10	0.041	(0.032)	0.011	0.030
237	19.75	0.10	0.041	(0.032)	0.011	0.030
238	19.83	0.07	0.028	(0.032)	0.007	0.020
239	19.92	0.07	0.028	(0.032)	0.007	0.020
240	20.00	0.07	0.028	(0.031)	0.007	0.020
241	20.08	0.10	0.041	(0.031)	0.011	0.030
242	20.17	0.10	0.041	(0.031)	0.011	0.030
243	20.25	0.10	0.041	(0.031)	0.011	0.030
244	20.33	0.10	0.041	(0.031)	0.011	0.030
245	20.42	0.10	0.041	(0.031)	0.011	0.030
246	20.50	0.10	0.041	(0.031)	0.011	0.030
247	20.58	0.10	0.041	(0.030)	0.011	0.030
248	20.67	0.10	0.041	(0.030)	0.011	0.030
249	20.75	0.10	0.041	(0.030)	0.011	0.030
250	20.83	0.07	0.028	(0.030)	0.007	0.020
251	20.92	0.07	0.028	(0.030)	0.007	0.020
252	21.00	0.07	0.028	(0.030)	0.007	0.020
253	21.08	0.10	0.041	(0.030)	0.011	0.030
254	21.17	0.10	0.041	(0.030)	0.011	0.030
255	21.25	0.10	0.041	(0.029)	0.011	0.030
256	21.33	0.07	0.028	(0.029)	0.007	0.020
257	21.42	0.07	0.028	(0.029)	0.007	0.020
258	21.50	0.07	0.028	(0.029)	0.007	0.020
259	21.58	0.10	0.041	(0.029)	0.011	0.030
260	21.67	0.10	0.041	(0.029)	0.011	0.030
261	21.75	0.10	0.041	(0.029)	0.011	0.030
262	21.83	0.07	0.028	(0.029)	0.007	0.020
263	21.92	0.07	0.028	(0.029)	0.007	0.020
264	22.00	0.07	0.028	(0.029)	0.007	0.020
265	22.08	0.10	0.041	(0.028)	0.011	0.030
266	22.17	0.10	0.041	(0.028)	0.011	0.030
267	22.25	0.10	0.041	(0.028)	0.011	0.030
268	22.33	0.07	0.028	(0.028)	0.007	0.020
269	22.42	0.07	0.028	(0.028)	0.007	0.020
270	22.50	0.07	0.028	(0.028)	0.007	0.020
271	22.58	0.07	0.028	(0.028)	0.007	0.020
272	22.67	0.07	0.028	(0.028)	0.007	0.020
273	22.75	0.07	0.028	(0.028)	0.007	0.020
274	22.83	0.07	0.028	(0.028)	0.007	0.020
275	22.92	0.07	0.028	(0.028)	0.007	0.020
276	23.00	0.07	0.028	(0.028)	0.007	0.020
277	23.08	0.07	0.028	(0.027)	0.007	0.020
278	23.17	0.07	0.028	(0.027)	0.007	0.020
279	23.25	0.07	0.028	(0.027)	0.007	0.020

280	23.33	0.07	0.028	(0.027)	0.007	0.020
281	23.42	0.07	0.028	(0.027)	0.007	0.020
282	23.50	0.07	0.028	(0.027)	0.007	0.020
283	23.58	0.07	0.028	(0.027)	0.007	0.020
284	23.67	0.07	0.028	(0.027)	0.007	0.020
285	23.75	0.07	0.028	(0.027)	0.007	0.020
286	23.83	0.07	0.028	(0.027)	0.007	0.020
287	23.92	0.07	0.028	(0.027)	0.007	0.020
288	24.00	0.07	0.028	(0.027)	0.007	0.020

(Loss Rate Not Used)

Sum = 100.0 Sum = 33.2

Flood volume = Effective rainfall 2.77(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 4.9(Ac.Ft)
Total soil loss = 0.68(In)
Total soil loss = 1.198(Ac.Ft)
Total rainfall = 3.45(In)
Flood volume = 212037.5 Cubic Feet
Total soil loss = 52186.0 Cubic Feet

Peak flow rate of this hydrograph = 8.991(CFS)

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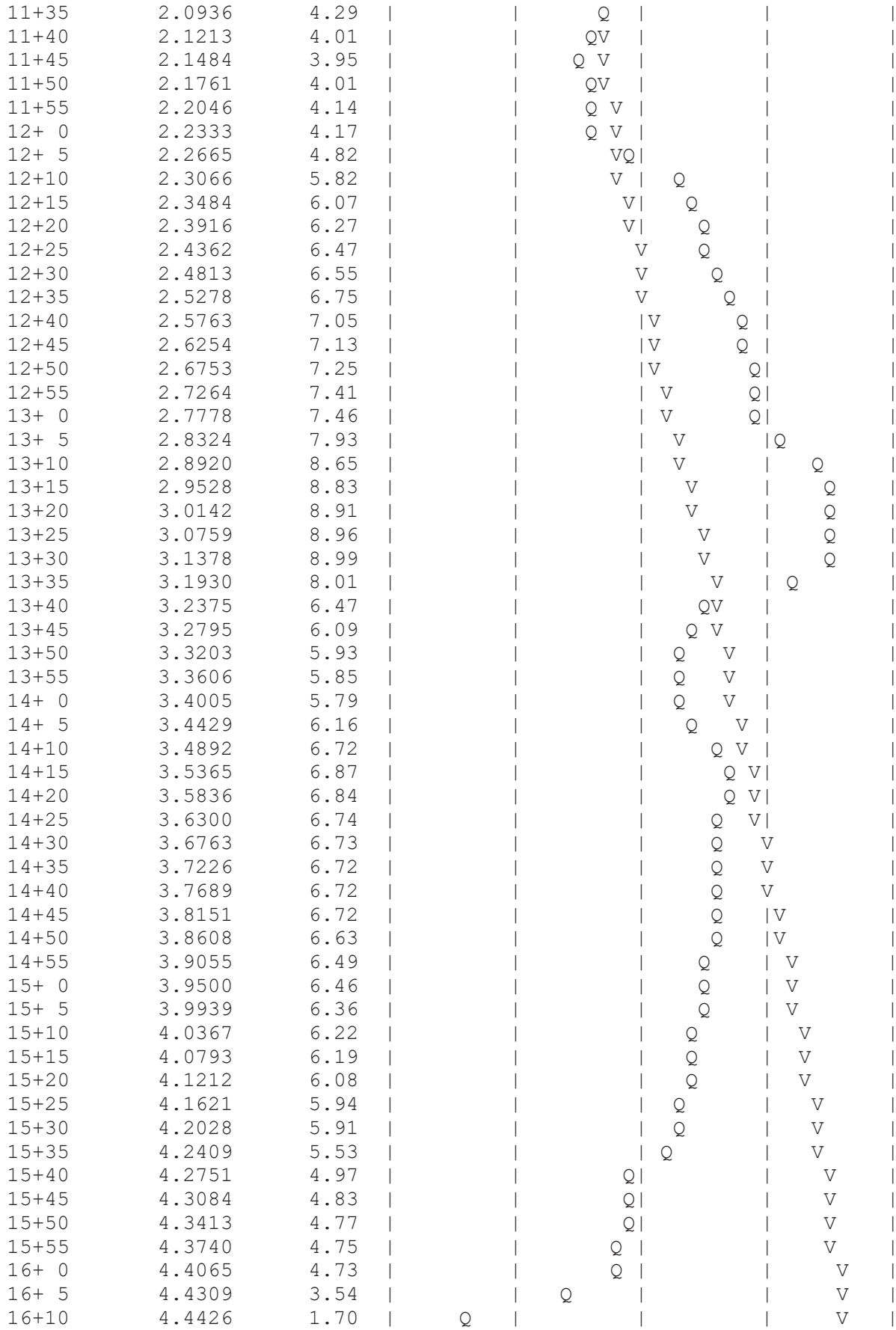
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0009	0.13	Q				
0+10	0.0032	0.34	VQ				
0+15	0.0059	0.39	VQ				
0+20	0.0092	0.48	VQ				
0+25	0.0132	0.59	V Q				
0+30	0.0175	0.62	V Q				
0+35	0.0219	0.63	V Q				
0+40	0.0263	0.64	V Q				
0+45	0.0308	0.64	V Q				
0+50	0.0357	0.71	V Q				
0+55	0.0413	0.81	V Q				
1+ 0	0.0470	0.84	V Q				
1+ 5	0.0524	0.78	V Q				
1+10	0.0572	0.69	V Q				
1+15	0.0617	0.67	V Q				
1+20	0.0663	0.65	V Q				
1+25	0.0707	0.65	V Q				
1+30	0.0752	0.64	V Q				
1+35	0.0796	0.64	V Q				
1+40	0.0840	0.64	V Q				
1+45	0.0885	0.64	V Q				
1+50	0.0934	0.71	V Q				
1+55	0.0990	0.81	V Q				
2+ 0	0.1048	0.84	V Q				
2+ 5	0.1106	0.85	V Q				
2+10	0.1165	0.86	V Q				

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2+15       0.1224      0.86  |V Q      |          |          |          |
2+20       0.1283      0.86  |V Q      |          |          |          |
2+25       0.1343      0.86  |V Q      |          |          |          |
2+30       0.1402      0.86  |V Q      |          |          |          |
2+35       0.1466      0.93  |V Q      |          |          |          |
2+40       0.1536      1.03  |V  Q     |          |          |          |
2+45       0.1609      1.05  |V  Q     |          |          |          |
2+50       0.1682      1.06  |V  Q     |          |          |          |
2+55       0.1756      1.07  |V  Q     |          |          |          |
3+ 0       0.1830      1.07  |V  Q     |          |          |          |
3+ 5       0.1904      1.07  |V  Q     |          |          |          |
3+10       0.1978      1.07  |V  Q     |          |          |          |
3+15       0.2052      1.07  |V  Q     |          |          |          |
3+20       0.2126      1.07  |V  Q     |          |          |          |
3+25       0.2200      1.07  |V  Q     |          |          |          |
3+30       0.2274      1.07  |V  Q     |          |          |          |
3+35       0.2348      1.07  |V  Q     |          |          |          |
3+40       0.2422      1.07  |V  Q     |          |          |          |
3+45       0.2496      1.07  | V Q     |          |          |          |
3+50       0.2575      1.14  | V Q     |          |          |          |
3+55       0.2660      1.24  | V Q     |          |          |          |
4+ 0       0.2747      1.27  | V  Q    |          |          |          |
4+ 5       0.2836      1.28  | V  Q    |          |          |          |
4+10       0.2924      1.29  | V  Q    |          |          |          |
4+15       0.3013      1.29  | V  Q    |          |          |          |
4+20       0.3106      1.36  | V  Q    |          |          |          |
4+25       0.3207      1.46  | V  Q    |          |          |          |
4+30       0.3309      1.48  | V  Q    |          |          |          |
4+35       0.3412      1.49  | V  Q    |          |          |          |
4+40       0.3515      1.50  | V   Q   |          |          |          |
4+45       0.3619      1.50  | V   Q   |          |          |          |
4+50       0.3727      1.57  |  V  Q   |          |          |          |
4+55       0.3842      1.67  |  V  Q   |          |          |          |
5+ 0       0.3959      1.70  |  V  Q   |          |          |          |
5+ 5       0.4068      1.58  |  V  Q   |          |          |          |
5+10       0.4163      1.38  |  V Q    |          |          |          |
5+15       0.4254      1.33  |  V Q    |          |          |          |
5+20       0.4349      1.38  |  V Q    |          |          |          |
5+25       0.4450      1.47  |  V Q    |          |          |          |
5+30       0.4552      1.48  |  V Q    |          |          |          |
5+35       0.4660      1.56  |  V  Q   |          |          |          |
5+40       0.4774      1.67  |  V  Q   |          |          |          |
5+45       0.4891      1.70  |   V Q   |          |          |          |
5+50       0.5009      1.71  |   V Q   |          |          |          |
5+55       0.5127      1.72  |   V Q   |          |          |          |
6+ 0       0.5246      1.72  |   V Q   |          |          |          |
6+ 5       0.5369      1.79  |   V  Q  |          |          |          |
6+10       0.5499      1.89  |   V  Q  |          |          |          |
6+15       0.5630      1.91  |   V  Q  |          |          |          |
6+20       0.5763      1.92  |   V  Q  |          |          |          |
6+25       0.5896      1.93  |   V  Q  |          |          |          |
6+30       0.6029      1.93  |   V  Q  |          |          |          |
6+35       0.6167      2.00  |    V  Q |          |          |          |
6+40       0.6312      2.10  |    V  Q |          |          |          |
6+45       0.6458      2.13  |    V  Q |          |          |          |
6+50       0.6605      2.14  |    V  Q |          |          |          |
```

6+55	0.6753	2.15	V Q				
7+ 0	0.6901	2.15	V Q				
7+ 5	0.7049	2.15	V Q				
7+10	0.7197	2.15	V Q				
7+15	0.7345	2.15	V Q				
7+20	0.7498	2.21	V Q				
7+25	0.7657	2.32	V Q				
7+30	0.7819	2.34	V Q				
7+35	0.7985	2.42	V Q				
7+40	0.8160	2.53	V Q				
7+45	0.8336	2.56	V Q				
7+50	0.8517	2.63	V Q				
7+55	0.8706	2.74	V Q				
8+ 0	0.8897	2.77	V Q				
8+ 5	0.9098	2.92	V Q				
8+10	0.9313	3.13	V Q				
8+15	0.9532	3.18	V Q				
8+20	0.9753	3.20	V Q				
8+25	0.9974	3.22	V Q				
8+30	1.0196	3.22	V Q				
8+35	1.0423	3.29	V Q				
8+40	1.0657	3.39	V Q				
8+45	1.0892	3.42	V Q				
8+50	1.1133	3.51	V Q				
8+55	1.1384	3.64	V Q				
9+ 0	1.1637	3.67	V Q				
9+ 5	1.1903	3.87	V Q				
9+10	1.2190	4.17	V Q				
9+15	1.2483	4.25	V Q				
9+20	1.2784	4.37	V Q				
9+25	1.3096	4.53	V Q				
9+30	1.3412	4.59	V Q				
9+35	1.3736	4.70	V Q				
9+40	1.4070	4.85	V Q				
9+45	1.4407	4.90	V Q				
9+50	1.4752	5.01	V Q				
9+55	1.5108	5.16	V Q				
10+ 0	1.5466	5.21	V Q				
10+ 5	1.5784	4.61	V Q				
10+10	1.6035	3.65	VQ				
10+15	1.6271	3.42	Q				
10+20	1.6499	3.32	Q				
10+25	1.6724	3.26	Q				
10+30	1.6946	3.22	QV				
10+35	1.7199	3.68	Q				
10+40	1.7501	4.38	V Q				
10+45	1.7815	4.56	V Q				
10+50	1.8134	4.64	V Q				
10+55	1.8457	4.69	V Q				
11+ 0	1.8782	4.72	V Q				
11+ 5	1.9102	4.64	V Q				
11+10	1.9412	4.50	V Q				
11+15	1.9720	4.47	VQ				
11+20	2.0027	4.46	VQ				
11+25	2.0334	4.46	VQ				
11+30	2.0641	4.46	VQ				



11+35	2.0936	4.29			Q			
11+40	2.1213	4.01			QV			
11+45	2.1484	3.95			Q V			
11+50	2.1761	4.01			QV			
11+55	2.2046	4.14			Q V			
12+ 0	2.2333	4.17			Q V			
12+ 5	2.2665	4.82			VQ			
12+10	2.3066	5.82			V	Q		
12+15	2.3484	6.07			V	Q		
12+20	2.3916	6.27			V	Q		
12+25	2.4362	6.47			V	Q		
12+30	2.4813	6.55			V	Q		
12+35	2.5278	6.75			V	Q		
12+40	2.5763	7.05			V	Q		
12+45	2.6254	7.13			V	Q		
12+50	2.6753	7.25			V	Q		
12+55	2.7264	7.41			V	Q		
13+ 0	2.7778	7.46			V	Q		
13+ 5	2.8324	7.93			V		Q	
13+10	2.8920	8.65			V		Q	
13+15	2.9528	8.83			V		Q	
13+20	3.0142	8.91			V		Q	
13+25	3.0759	8.96			V		Q	
13+30	3.1378	8.99			V		Q	
13+35	3.1930	8.01			V	Q		
13+40	3.2375	6.47			QV			
13+45	3.2795	6.09			Q V			
13+50	3.3203	5.93			Q	V		
13+55	3.3606	5.85			Q	V		
14+ 0	3.4005	5.79			Q	V		
14+ 5	3.4429	6.16			Q	V		
14+10	3.4892	6.72			Q V			
14+15	3.5365	6.87			Q V			
14+20	3.5836	6.84			Q V			
14+25	3.6300	6.74			Q	V		
14+30	3.6763	6.73			Q	V		
14+35	3.7226	6.72			Q	V		
14+40	3.7689	6.72			Q	V		
14+45	3.8151	6.72			Q	V		
14+50	3.8608	6.63			Q	V		
14+55	3.9055	6.49			Q	V		
15+ 0	3.9500	6.46			Q	V		
15+ 5	3.9939	6.36			Q	V		
15+10	4.0367	6.22			Q	V		
15+15	4.0793	6.19			Q	V		
15+20	4.1212	6.08			Q	V		
15+25	4.1621	5.94			Q	V		
15+30	4.2028	5.91			Q	V		
15+35	4.2409	5.53			Q	V		
15+40	4.2751	4.97		Q		V		
15+45	4.3084	4.83		Q		V		
15+50	4.3413	4.77		Q		V		
15+55	4.3740	4.75		Q		V		
16+ 0	4.4065	4.73		Q		V		
16+ 5	4.4309	3.54	Q			V		
16+10	4.4426	1.70	Q			V		

```
16+15       4.4512      1.24  |   Q     |         |         |     V   |
16+20       4.4583      1.04  |   Q     |         |         |     V   |
16+25       4.4647      0.93  |  Q      |         |         |     V   |
16+30       4.4706      0.86  |  Q      |         |         |     V   |
16+35       4.4761      0.79  |  Q      |         |         |     V   |
16+40       4.4809      0.69  | Q       |         |         |     V   |
16+45       4.4854      0.67  | Q       |         |         |     V   |
16+50       4.4900      0.65  | Q       |         |         |     V   |
16+55       4.4944      0.65  | Q       |         |         |     V   |
17+ 0       4.4989      0.64  | Q       |         |         |     V   |
17+ 5       4.5042      0.78  |  Q      |         |         |      V  |
17+10       4.5110      0.98  |  Q      |         |         |      V  |
17+15       4.5181      1.03  |   Q     |         |         |      V  |
17+20       4.5253      1.05  |   Q     |         |         |      V  |
17+25       4.5327      1.07  |   Q     |         |         |      V  |
17+30       4.5401      1.07  |   Q     |         |         |      V  |
17+35       4.5475      1.07  |   Q     |         |         |      V  |
17+40       4.5549      1.07  |   Q     |         |         |      V  |
17+45       4.5623      1.07  |   Q     |         |         |      V  |
17+50       4.5692      1.01  |   Q     |         |         |      V  |
17+55       4.5755      0.91  |  Q      |         |         |      V  |
18+ 0       4.5815      0.88  |  Q      |         |         |      V  |
18+ 5       4.5875      0.87  |  Q      |         |         |      V  |
18+10       4.5935      0.86  |  Q      |         |         |      V  |
18+15       4.5994      0.86  |  Q      |         |         |      V  |
18+20       4.6053      0.86  |  Q      |         |         |      V  |
18+25       4.6112      0.86  |  Q      |         |         |      V  |
18+30       4.6172      0.86  |  Q      |         |         |      V  |
18+35       4.6226      0.79  |  Q      |         |         |      V  |
18+40       4.6274      0.69  | Q       |         |         |       V |
18+45       4.6320      0.67  | Q       |         |         |       V |
18+50       4.6360      0.59  | Q       |         |         |       V |
18+55       4.6393      0.48  |Q        |         |         |       V |
19+ 0       4.6424      0.45  |Q        |         |         |       V |
19+ 5       4.6459      0.51  | Q       |         |         |       V |
19+10       4.6501      0.60  | Q       |         |         |       V |
19+15       4.6544      0.62  | Q       |         |         |       V |
19+20       4.6592      0.70  | Q       |         |         |       V |
19+25       4.6648      0.81  |  Q      |         |         |       V |
19+30       4.6705      0.84  |  Q      |         |         |       V |
19+35       4.6759      0.78  |  Q      |         |         |       V |
19+40       4.6807      0.69  | Q       |         |         |       V |
19+45       4.6853      0.67  | Q       |         |         |       V |
19+50       4.6893      0.59  | Q       |         |         |       V |
19+55       4.6926      0.48  |Q        |         |         |       V |
20+ 0       4.6957      0.45  |Q        |         |         |       V |
20+ 5       4.6992      0.51  | Q       |         |         |       V |
20+10       4.7033      0.60  | Q       |         |         |       V |
20+15       4.7076      0.62  | Q       |         |         |       V |
20+20       4.7120      0.63  | Q       |         |         |       V |
20+25       4.7164      0.64  | Q       |         |         |       V |
20+30       4.7209      0.64  | Q       |         |         |       V |
20+35       4.7253      0.64  | Q       |         |         |       V |
20+40       4.7298      0.64  | Q       |         |         |       V |
20+45       4.7342      0.64  | Q       |         |         |       V |
20+50       4.7382      0.58  | Q       |         |         |       V |
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  20+55       4.7415      0.48  |Q        |         |         |        V |
  21+ 0       4.7446      0.45  |Q        |         |         |        V |
  21+ 5       4.7480      0.51  | Q       |         |         |         V|
  21+10       4.7522      0.60  | Q       |         |         |         V|
  21+15       4.7565      0.62  | Q       |         |         |         V|
  21+20       4.7604      0.57  | Q       |         |         |         V|
  21+25       4.7637      0.47  |Q        |         |         |         V|
  21+30       4.7668      0.45  |Q        |         |         |         V|
  21+35       4.7702      0.51  | Q       |         |         |         V|
  21+40       4.7744      0.60  | Q       |         |         |         V|
  21+45       4.7787      0.62  | Q       |         |         |         V|
  21+50       4.7826      0.57  | Q       |         |         |         V|
  21+55       4.7859      0.47  |Q        |         |         |         V|
  22+ 0       4.7890      0.45  |Q        |         |         |         V|
  22+ 5       4.7924      0.51  | Q       |         |         |         V|
  22+10       4.7966      0.60  | Q       |         |         |         V|
  22+15       4.8009      0.62  | Q       |         |         |         V|
  22+20       4.8048      0.57  | Q       |         |         |         V|
  22+25       4.8081      0.47  |Q        |         |         |         V|
  22+30       4.8112      0.45  |Q        |         |         |         V|
  22+35       4.8142      0.44  |Q        |         |         |         V|
  22+40       4.8172      0.43  |Q        |         |         |         V|
  22+45       4.8201      0.43  |Q        |         |         |         V|
  22+50       4.8231      0.43  |Q        |         |         |         V|
  22+55       4.8261      0.43  |Q        |         |         |         V|
  23+ 0       4.8290      0.43  |Q        |         |         |         V|
  23+ 5       4.8320      0.43  |Q        |         |         |         V|
  23+10       4.8349      0.43  |Q        |         |         |         V|
  23+15       4.8379      0.43  |Q        |         |         |         V|
  23+20       4.8409      0.43  |Q        |         |         |         V|
  23+25       4.8438      0.43  |Q        |         |         |         V|
  23+30       4.8468      0.43  |Q        |         |         |         V|
  23+35       4.8497      0.43  |Q        |         |         |         V|
  23+40       4.8527      0.43  |Q        |         |         |         V|
  23+45       4.8557      0.43  |Q        |         |         |         V|
  23+50       4.8586      0.43  |Q        |         |         |         V|
  23+55       4.8616      0.43  |Q        |         |         |         V|
  24+ 0       4.8645      0.43  |Q        |         |         |         V|
  24+ 5       4.8666      0.30  |Q        |         |         |         V|
  24+10       4.8672      0.09  Q         |         |         |         V|
  24+15       4.8675      0.04  Q         |         |         |         V|
  24+20       4.8677      0.02  Q         |         |         |         V|
  24+25       4.8677      0.01  Q         |         |         |          V
-------------------------------------------------------------------------
```

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

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Study date 03/28/24 File: hemetuhpra31001100.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 3)
100-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 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]
21.11	0.49	10.43

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.11             1.59                 33.56

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.494(In)
Area Averaged 100-Year Rainfall =    1.590(In)

Point rain (area averaged) =    1.590(In)
Areal adjustment factor =   99.98 %
Adjusted average point rain =    1.590(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.836      0.001
56.0  74.8      0.305     0.000        0.305       0.005      0.002
75.0  88.0      0.153     0.000        0.153       0.159      0.024
                                                  Sum (F) =   0.027
Area averaged mean soil loss (F) (In/Hr) =  0.027
Minimum soil loss rate ((In/Hr)) =  0.014
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.40	0.649	0.027	(0.174)	0.621
2	0.17	4.70	0.897	0.027	(0.240)	0.869
3	0.25	4.70	0.897	0.027	(0.240)	0.869
4	0.33	5.10	0.973	0.027	(0.261)	0.946
5	0.42	5.80	1.106	0.027	(0.297)	1.079
6	0.50	5.90	1.126	0.027	(0.302)	1.098
7	0.58	7.10	1.354	0.027	(0.363)	1.327
8	0.67	8.70	1.660	0.027	(0.445)	1.632
9	0.75	13.20	2.518	0.027	(0.675)	2.491
10	0.83	29.70	5.666	0.027	(1.518)	5.639
11	0.92	7.70	1.469	0.027	(0.394)	1.442
12	1.00	4.00	0.763	0.027	(0.204)	0.736

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.8

Flood volume = Effective rainfall 1.56(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 2.7(Ac.Ft)
Total soil loss = 0.03(In)
Total soil loss = 0.048(Ac.Ft)
Total rainfall = 1.59(In)
Flood volume = 119735.1 Cubic Feet
Total soil loss = 2082.2 Cubic Feet

Peak flow rate of this hydrograph = 75.947(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	20.0	40.0	60.0	80.0
0+ 5	0.0280	4.06	V Q				
0+10	0.1105	11.99	|V Q				
0+15	0.2212	16.07	| V Q				
0+20	0.3443	17.88	| V Q				
0+25	0.4832	20.17	| V Q				
0+30	0.6363	22.23	| V|Q				
0+35	0.8046	24.43	| |VQ				
0+40	1.0042	28.99	| | Q				
0+45	1.2687	38.40	| | VQ|			
0+50	1.7423	68.77	| | | V | Q		
0+55	2.2654	75.95	| | | | V Q		
1+ 0	2.5260	37.85	| | Q | | V		
1+ 5	2.6599	19.44	| Q| | | V		
1+10	2.7133	7.74	| Q | | | V|		
1+15	2.7399	3.87	|Q | | | V|		
1+20	2.7468	1.00	Q | | | V|		
1+25	2.7487	0.29	Q | | | V		

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

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 3)
100-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.11	0.85	17.88

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.11              2.20                 46.44

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.847(In)
Area Averaged 100-Year Rainfall =    2.200(In)

Point rain (area averaged) =    2.200(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    2.200(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.836      0.001
56.0  74.8      0.305     0.000        0.305       0.005      0.002
75.0  88.0      0.153     0.000        0.153       0.159      0.024
                                                  Sum (F) =   0.027
Area averaged mean soil loss (F) (In/Hr) =  0.027
Minimum soil loss rate ((In/Hr)) =  0.014
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	1.30	0.343	0.027	(0.092)	0.316
2	0.17	1.30	0.343	0.027	(0.092)	0.316
3	0.25	1.10	0.290	0.027	(0.078)	0.263
4	0.33	1.50	0.396	0.027	(0.106)	0.369
5	0.42	1.50	0.396	0.027	(0.106)	0.369
6	0.50	1.80	0.475	0.027	(0.127)	0.448
7	0.58	1.50	0.396	0.027	(0.106)	0.369
8	0.67	1.80	0.475	0.027	(0.127)	0.448
9	0.75	1.80	0.475	0.027	(0.127)	0.448
10	0.83	1.50	0.396	0.027	(0.106)	0.369
11	0.92	1.60	0.422	0.027	(0.113)	0.395
12	1.00	1.80	0.475	0.027	(0.127)	0.448
13	1.08	2.20	0.581	0.027	(0.156)	0.554
14	1.17	2.20	0.581	0.027	(0.156)	0.554
15	1.25	2.20	0.581	0.027	(0.156)	0.554
16	1.33	2.00	0.528	0.027	(0.141)	0.501
17	1.42	2.60	0.686	0.027	(0.184)	0.659
18	1.50	2.70	0.713	0.027	(0.191)	0.686
19	1.58	2.40	0.634	0.027	(0.170)	0.606
20	1.67	2.70	0.713	0.027	(0.191)	0.686
21	1.75	3.30	0.871	0.027	(0.233)	0.844
22	1.83	3.10	0.818	0.027	(0.219)	0.791
23	1.92	2.90	0.766	0.027	(0.205)	0.738
24	2.00	3.00	0.792	0.027	(0.212)	0.765
25	2.08	3.10	0.818	0.027	(0.219)	0.791
26	2.17	4.20	1.109	0.027	(0.297)	1.082
27	2.25	5.00	1.320	0.027	(0.354)	1.293
28	2.33	3.50	0.924	0.027	(0.248)	0.897
29	2.42	6.80	1.795	0.027	(0.481)	1.768
30	2.50	7.30	1.927	0.027	(0.516)	1.900
31	2.58	8.20	2.165	0.027	(0.580)	2.137
32	2.67	5.90	1.557	0.027	(0.417)	1.530
33	2.75	2.00	0.528	0.027	(0.141)	0.501
34	2.83	1.80	0.475	0.027	(0.127)	0.448
35	2.92	1.80	0.475	0.027	(0.127)	0.448
36	3.00	0.60	0.158	0.027	(0.042)	0.131

(Loss Rate Not Used)

Sum = 100.0 Sum = 25.4

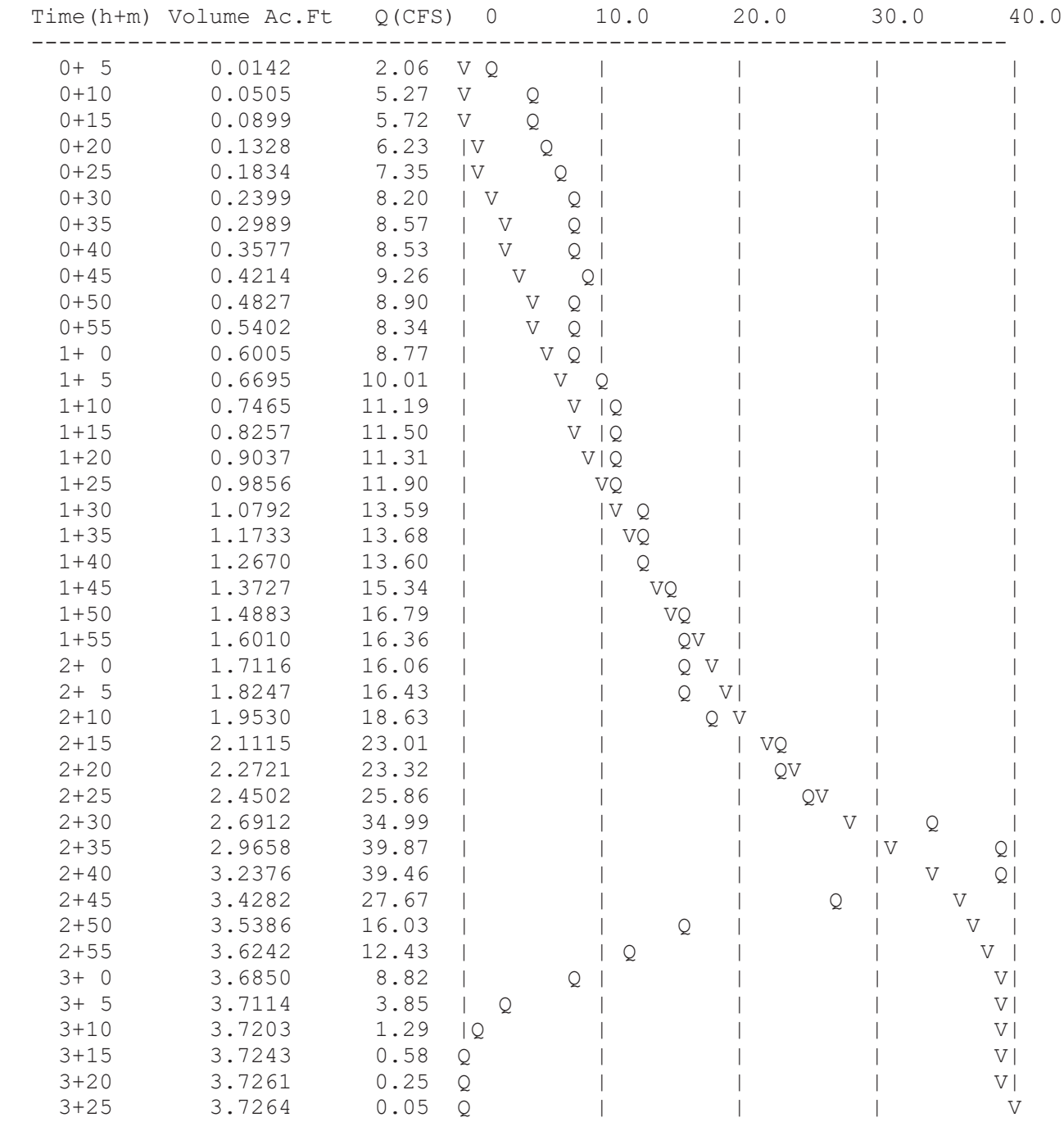
Flood volume = Effective rainfall 2.12(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 3.7(Ac.Ft)
Total soil loss = 0.08(In)
Total soil loss = 0.143(Ac.Ft)
Total rainfall = 2.20(In)
Flood volume = 162322.4 Cubic Feet
Total soil loss = 6246.5 Cubic Feet

Peak flow rate of this hydrograph = 39.872(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 10.0 20.0 30.0 40.0
0+ 5 0.0142 2.06
0+10 0.0505 5.27
0+15 0.0899 5.72
0+20 0.1328 6.23
0+25 0.1834 7.35
0+30 0.2399 8.20
0+35 0.2989 8.57
0+40 0.3577 8.53
0+45 0.4214 9.26
0+50 0.4827 8.90
0+55 0.5402 8.34
1+ 0 0.6005 8.77
1+ 5 0.6695 10.01
1+10 0.7465 11.19
1+15 0.8257 11.50
1+20 0.9037 11.31
1+25 0.9856 11.90
1+30 1.0792 13.59
1+35 1.1733 13.68
1+40 1.2670 13.60
1+45 1.3727 15.34
1+50 1.4883 16.79
1+55 1.6010 16.36
2+ 0 1.7116 16.06
2+ 5 1.8247 16.43
2+10 1.9530 18.63
2+15 2.1115 23.01
2+20 2.2721 23.32
2+25 2.4502 25.86
2+30 2.6912 34.99
2+35 2.9658 39.87
2+40 3.2376 39.46
2+45 3.4282 27.67
2+50 3.5386 16.03
2+55 3.6242 12.43
3+ 0 3.6850 8.82
3+ 5 3.7114 3.85
3+10 3.7203 1.29
3+15 3.7243 0.58
3+20 3.7261 0.25
3+25 3.7264 0.05

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

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Study date 03/28/24 File: hemetuhpra31006100.out

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

Program License Serial Number 6385

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

English Units used in output format

Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 3)
100-Year Design Storm

Drainage Area = 21.11(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1781.00(Ft.)
Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.11	1.18	24.91

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       21.11              2.92                 61.64

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.180(In)
Area Averaged 100-Year Rainfall =    2.920(In)

Point rain (area averaged) =    2.920(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    2.920(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.836      0.001
56.0  74.8      0.305     0.000        0.305       0.005      0.002
75.0  88.0      0.153     0.000        0.153       0.159      0.024
                                                  Sum (F) =   0.027
Area averaged mean soil loss (F) (In/Hr) =  0.027
Minimum soil loss rate ((In/Hr)) =  0.014
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------

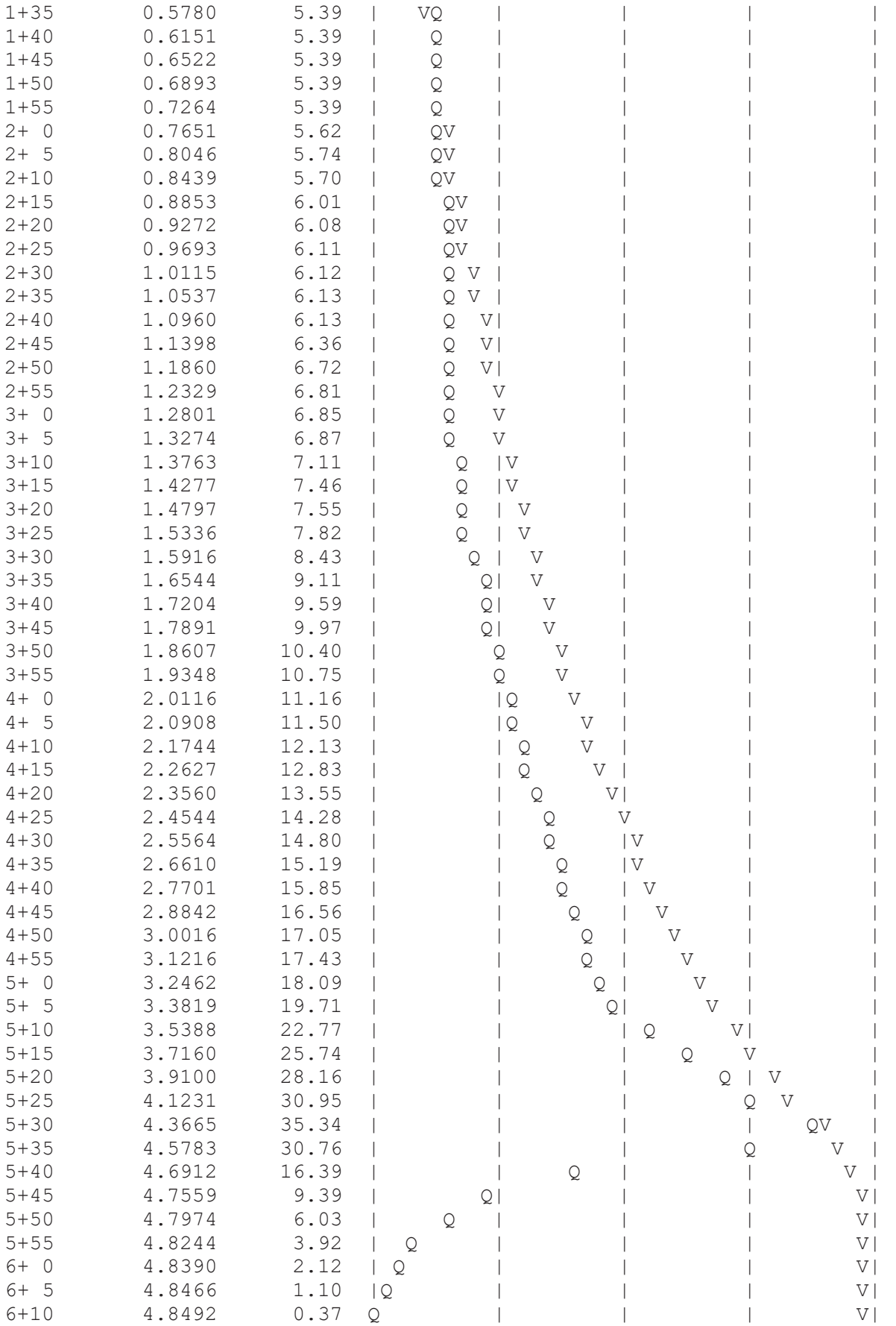

 The following loss rate calculations reflect use of the minimum calculated
loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain
value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.50	0.175	0.027	(	0.047)	0.148
2	0.17	0.60	0.210	0.027	(	0.056)	0.183
3	0.25	0.60	0.210	0.027	(	0.056)	0.183
4	0.33	0.60	0.210	0.027	(	0.056)	0.183
5	0.42	0.60	0.210	0.027	(	0.056)	0.183
6	0.50	0.70	0.245	0.027	(	0.066)	0.218
7	0.58	0.70	0.245	0.027	(	0.066)	0.218
8	0.67	0.70	0.245	0.027	(	0.066)	0.218
9	0.75	0.70	0.245	0.027	(	0.066)	0.218
10	0.83	0.70	0.245	0.027	(	0.066)	0.218
11	0.92	0.70	0.245	0.027	(	0.066)	0.218
12	1.00	0.80	0.280	0.027	(	0.075)	0.253
13	1.08	0.80	0.280	0.027	(	0.075)	0.253
14	1.17	0.80	0.280	0.027	(	0.075)	0.253
15	1.25	0.80	0.280	0.027	(	0.075)	0.253
16	1.33	0.80	0.280	0.027	(	0.075)	0.253
17	1.42	0.80	0.280	0.027	(	0.075)	0.253
18	1.50	0.80	0.280	0.027	(	0.075)	0.253
19	1.58	0.80	0.280	0.027	(	0.075)	0.253
20	1.67	0.80	0.280	0.027	(	0.075)	0.253
21	1.75	0.80	0.280	0.027	(	0.075)	0.253
22	1.83	0.80	0.280	0.027	(	0.075)	0.253
23	1.92	0.80	0.280	0.027	(	0.075)	0.253
24	2.00	0.90	0.315	0.027	(	0.085)	0.288
25	2.08	0.80	0.280	0.027	(	0.075)	0.253
26	2.17	0.90	0.315	0.027	(	0.085)	0.288
27	2.25	0.90	0.315	0.027	(	0.085)	0.288
28	2.33	0.90	0.315	0.027	(	0.085)	0.288
29	2.42	0.90	0.315	0.027	(	0.085)	0.288
30	2.50	0.90	0.315	0.027	(	0.085)	0.288
31	2.58	0.90	0.315	0.027	(	0.085)	0.288
32	2.67	0.90	0.315	0.027	(	0.085)	0.288
33	2.75	1.00	0.350	0.027	(	0.094)	0.323
34	2.83	1.00	0.350	0.027	(	0.094)	0.323
35	2.92	1.00	0.350	0.027	(	0.094)	0.323
36	3.00	1.00	0.350	0.027	(	0.094)	0.323
37	3.08	1.00	0.350	0.027	(	0.094)	0.323
38	3.17	1.10	0.385	0.027	(	0.103)	0.358
39	3.25	1.10	0.385	0.027	(	0.103)	0.358
40	3.33	1.10	0.385	0.027	(	0.103)	0.358
41	3.42	1.20	0.420	0.027	(	0.113)	0.393
42	3.50	1.30	0.455	0.027	(	0.122)	0.428
43	3.58	1.40	0.491	0.027	(	0.131)	0.463
44	3.67	1.40	0.491	0.027	(	0.131)	0.463
45	3.75	1.50	0.526	0.027	(	0.141)	0.498
46	3.83	1.50	0.526	0.027	(	0.141)	0.498
47	3.92	1.60	0.561	0.027	(	0.150)	0.533
48	4.00	1.60	0.561	0.027	(	0.150)	0.533
49	4.08	1.70	0.596	0.027	(	0.160)	0.568
50	4.17	1.80	0.631	0.027	(	0.169)	0.604
51	4.25	1.90	0.666	0.027	(	0.178)	0.639
52	4.33	2.00	0.701	0.027	(	0.188)	0.674
53	4.42	2.10	0.736	0.027	(	0.197)	0.709
54	4.50	2.10	0.736	0.027	(	0.197)	0.709
55	4.58	2.20	0.771	0.027	(	0.207)	0.744

```
56   4.67     2.30      0.806          0.027    (  0.216)        0.779
57   4.75     2.40      0.841          0.027    (  0.225)        0.814
58   4.83     2.40      0.841          0.027    (  0.225)        0.814
59   4.92     2.50      0.876          0.027    (  0.235)        0.849
60   5.00     2.60      0.911          0.027    (  0.244)        0.884
61   5.08     3.10      1.086          0.027    (  0.291)        1.059
62   5.17     3.60      1.261          0.027    (  0.338)        1.234
63   5.25     3.90      1.366          0.027    (  0.366)        1.339
64   5.33     4.20      1.472          0.027    (  0.394)        1.444
65   5.42     4.70      1.647          0.027    (  0.441)        1.620
66   5.50     5.60      1.962          0.027    (  0.526)        1.935
67   5.58     1.90      0.666          0.027    (  0.178)        0.639
68   5.67     0.90      0.315          0.027    (  0.085)        0.288
69   5.75     0.60      0.210          0.027    (  0.056)        0.183
70   5.83     0.50      0.175          0.027    (  0.047)        0.148
71   5.92     0.30      0.105          0.027    (  0.028)        0.078
72   6.00     0.20      0.070       (  0.027)       0.019        0.051
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    33.1
    Flood volume = Effective rainfall      2.76(In)
     times area      21.1(Ac.)/[(In)/(Ft.)] =       4.9(Ac.Ft)
    Total soil loss =      0.16(In)
    Total soil loss =     0.286(Ac.Ft)
    Total rainfall =      2.92(In)
    Flood volume =      211301.9 Cubic Feet
    Total soil loss =       12439.4 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     35.338(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                       6 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       10.0      20.0      30.0      40.0
----------------------------------------------------------------------
  0+ 5       0.0067      0.97  Q         |         |         |         |
  0+10       0.0252      2.70  V Q       |         |         |         |
  0+15       0.0488      3.43  V  Q      |         |         |         |
  0+20       0.0742      3.68  V  Q      |         |         |         |
  0+25       0.1004      3.80  V  Q      |         |         |         |
  0+30       0.1287      4.11  |V  Q     |         |         |         |
  0+35       0.1596      4.48  |V  Q     |         |         |         |
  0+40       0.1910      4.57  |V  Q     |         |         |         |
  0+45       0.2228      4.61  |V  Q     |         |         |         |
  0+50       0.2546      4.63  | V Q     |         |         |         |
  0+55       0.2866      4.64  | V Q     |         |         |         |
  1+ 0       0.3202      4.87  | V Q     |         |         |         |
  1+ 5       0.3562      5.23  | V  Q    |         |         |         |
  1+10       0.3928      5.31  |  V Q    |         |         |         |
  1+15       0.4296      5.35  |  V Q    |         |         |         |
  1+20       0.4666      5.37  |  V Q    |         |         |         |
  1+25       0.5037      5.39  |   VQ    |         |         |         |
  1+30       0.5409      5.39  |   VQ    |         |         |         |
```



1+35	0.5780	5.39	VQ
1+40	0.6151	5.39	Q
1+45	0.6522	5.39	Q
1+50	0.6893	5.39	Q
1+55	0.7264	5.39	Q
2+ 0	0.7651	5.62	QV
2+ 5	0.8046	5.74	QV
2+10	0.8439	5.70	QV
2+15	0.8853	6.01	QV
2+20	0.9272	6.08	QV
2+25	0.9693	6.11	QV
2+30	1.0115	6.12	Q V
2+35	1.0537	6.13	Q V
2+40	1.0960	6.13	Q V
2+45	1.1398	6.36	Q V
2+50	1.1860	6.72	Q V
2+55	1.2329	6.81	Q V
3+ 0	1.2801	6.85	Q V
3+ 5	1.3274	6.87	Q V
3+10	1.3763	7.11	Q V
3+15	1.4277	7.46	Q V
3+20	1.4797	7.55	Q V
3+25	1.5336	7.82	Q V
3+30	1.5916	8.43	Q V
3+35	1.6544	9.11	Q V
3+40	1.7204	9.59	Q V
3+45	1.7891	9.97	Q V
3+50	1.8607	10.40	Q V
3+55	1.9348	10.75	Q V
4+ 0	2.0116	11.16	Q V
4+ 5	2.0908	11.50	Q V
4+10	2.1744	12.13	Q V
4+15	2.2627	12.83	Q V
4+20	2.3560	13.55	Q V
4+25	2.4544	14.28	Q V
4+30	2.5564	14.80	Q V
4+35	2.6610	15.19	Q V
4+40	2.7701	15.85	Q V
4+45	2.8842	16.56	Q V
4+50	3.0016	17.05	Q V
4+55	3.1216	17.43	Q V
5+ 0	3.2462	18.09	Q V
5+ 5	3.3819	19.71	Q V
5+10	3.5388	22.77	Q V
5+15	3.7160	25.74	Q V
5+20	3.9100	28.16	Q V
5+25	4.1231	30.95	Q V
5+30	4.3665	35.34	QV
5+35	4.5783	30.76	Q V
5+40	4.6912	16.39	Q V
5+45	4.7559	9.39	Q V
5+50	4.7974	6.03	Q V
5+55	4.8244	3.92	Q V
6+ 0	4.8390	2.12	Q V
6+ 5	4.8466	1.10	Q V
6+10	4.8492	0.37	Q V

```
    6+15       4.8503      0.16  Q          |          |          |         V|
    6+20       4.8507      0.06  Q          |          |          |         V|
    6+25       4.8508      0.02  Q          |          |          |          V
-------------------------------------------------------------------------------
```

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

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Study date 03/28/24 File: hemetuhpra310024100.out

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Riverside County Synthetic Unit Hydrology Method
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English (in-lb) Input Units Used
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Hemet 63 Acre Development
Proposed Condition 100-Year Unit Hydrographs (Area 3)
100-Year Design Storm

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Drainage Area for Depth-Area Areal Adjustment = 21.11(Ac.) = 0.033 Sq. Mi.
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Length along longest watercourse measured to centroid = 890.00(Ft.)
Length along longest watercourse = 0.337 Mi.
Length along longest watercourse measured to centroid = 0.169 Mi.
Difference in elevation = 14.20(Ft.)
Slope along watercourse = 42.0977 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.059 Hr.
Lag time = 3.57 Min.
25% of lag time = 0.89 Min.
40% of lag time = 1.43 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]
21.11	2.07	43.70

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
      21.11              5.42                114.42

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.070(In)
Area Averaged 100-Year Rainfall =    5.420(In)

Point rain (area averaged) =    5.420(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.420(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    17.640           98.00         0.950
     0.110           56.00         0.000
     3.360           75.00         0.000
 Total Area Entered =     21.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
98.0  99.2      0.010     0.950        0.002       0.836      0.001
56.0  74.8      0.305     0.000        0.305       0.005      0.002
75.0  88.0      0.153     0.000        0.153       0.159      0.024
                                                  Sum (F) =   0.027
Area averaged mean soil loss (F) (In/Hr) =  0.027
Minimum soil loss rate ((In/Hr)) =  0.014
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.268
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        140.058         30.692             6.530
    2   0.167        280.115         47.703            10.149
    3   0.250        420.173         11.799             2.510
    4   0.333        560.230          5.202             1.107
    5   0.417        700.288          2.770             0.589
    6   0.500        840.345          1.835             0.390
                              Sum = 100.000   Sum=      21.275
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
```

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.07	0.043	(0.048)		0.012	0.032
2	0.17	0.07	0.043	(0.048)		0.012	0.032
3	0.25	0.07	0.043	(0.048)		0.012	0.032
4	0.33	0.10	0.065	(0.048)		0.017	0.048
5	0.42	0.10	0.065	(0.047)		0.017	0.048
6	0.50	0.10	0.065	(0.047)		0.017	0.048
7	0.58	0.10	0.065	(0.047)		0.017	0.048
8	0.67	0.10	0.065	(0.047)		0.017	0.048
9	0.75	0.10	0.065	(0.047)		0.017	0.048
10	0.83	0.13	0.087	(0.047)		0.023	0.063
11	0.92	0.13	0.087	(0.046)		0.023	0.063
12	1.00	0.13	0.087	(0.046)		0.023	0.063
13	1.08	0.10	0.065	(0.046)		0.017	0.048
14	1.17	0.10	0.065	(0.046)		0.017	0.048
15	1.25	0.10	0.065	(0.046)		0.017	0.048
16	1.33	0.10	0.065	(0.045)		0.017	0.048
17	1.42	0.10	0.065	(0.045)		0.017	0.048
18	1.50	0.10	0.065	(0.045)		0.017	0.048
19	1.58	0.10	0.065	(0.045)		0.017	0.048
20	1.67	0.10	0.065	(0.045)		0.017	0.048
21	1.75	0.10	0.065	(0.045)		0.017	0.048
22	1.83	0.13	0.087	(0.044)		0.023	0.063
23	1.92	0.13	0.087	(0.044)		0.023	0.063
24	2.00	0.13	0.087	(0.044)		0.023	0.063
25	2.08	0.13	0.087	(0.044)		0.023	0.063
26	2.17	0.13	0.087	(0.044)		0.023	0.063
27	2.25	0.13	0.087	(0.043)		0.023	0.063
28	2.33	0.13	0.087	(0.043)		0.023	0.063
29	2.42	0.13	0.087	(0.043)		0.023	0.063
30	2.50	0.13	0.087	(0.043)		0.023	0.063
31	2.58	0.17	0.108	(0.043)		0.029	0.079
32	2.67	0.17	0.108	(0.043)		0.029	0.079
33	2.75	0.17	0.108	(0.042)		0.029	0.079
34	2.83	0.17	0.108	(0.042)		0.029	0.079
35	2.92	0.17	0.108	(0.042)		0.029	0.079
36	3.00	0.17	0.108	(0.042)		0.029	0.079
37	3.08	0.17	0.108	(0.042)		0.029	0.079
38	3.17	0.17	0.108	(0.042)		0.029	0.079
39	3.25	0.17	0.108	(0.041)		0.029	0.079
40	3.33	0.17	0.108	(0.041)		0.029	0.079
41	3.42	0.17	0.108	(0.041)		0.029	0.079
42	3.50	0.17	0.108	(0.041)		0.029	0.079
43	3.58	0.17	0.108	(0.041)		0.029	0.079
44	3.67	0.17	0.108	(0.040)		0.029	0.079
45	3.75	0.17	0.108	(0.040)		0.029	0.079
46	3.83	0.20	0.130	(0.040)		0.035	0.095
47	3.92	0.20	0.130	(0.040)		0.035	0.095
48	4.00	0.20	0.130	(0.040)		0.035	0.095
49	4.08	0.20	0.130	(0.040)		0.035	0.095
50	4.17	0.20	0.130	(0.039)		0.035	0.095
51	4.25	0.20	0.130	(0.039)		0.035	0.095
52	4.33	0.23	0.152	0.039	(	0.041)	0.113
53	4.42	0.23	0.152	0.039	(	0.041)	0.113
54	4.50	0.23	0.152	0.039	(	0.041)	0.113
55	4.58	0.23	0.152	0.039	(	0.041)	0.113

56	4.67	0.23	0.152	0.038	(0.041)	0.113
57	4.75	0.23	0.152	0.038	(0.041)	0.113
58	4.83	0.27	0.173	0.038	(0.046)	0.135
59	4.92	0.27	0.173	0.038	(0.046)	0.135
60	5.00	0.27	0.173	0.038	(0.046)	0.136
61	5.08	0.20	0.130	(0.038)	0.035	0.095
62	5.17	0.20	0.130	(0.037)	0.035	0.095
63	5.25	0.20	0.130	(0.037)	0.035	0.095
64	5.33	0.23	0.152	0.037	(0.041)	0.115
65	5.42	0.23	0.152	0.037	(0.041)	0.115
66	5.50	0.23	0.152	0.037	(0.041)	0.115
67	5.58	0.27	0.173	0.037	(0.046)	0.137
68	5.67	0.27	0.173	0.037	(0.046)	0.137
69	5.75	0.27	0.173	0.036	(0.046)	0.137
70	5.83	0.27	0.173	0.036	(0.046)	0.137
71	5.92	0.27	0.173	0.036	(0.046)	0.137
72	6.00	0.27	0.173	0.036	(0.046)	0.138
73	6.08	0.30	0.195	0.036	(0.052)	0.159
74	6.17	0.30	0.195	0.036	(0.052)	0.160
75	6.25	0.30	0.195	0.035	(0.052)	0.160
76	6.33	0.30	0.195	0.035	(0.052)	0.160
77	6.42	0.30	0.195	0.035	(0.052)	0.160
78	6.50	0.30	0.195	0.035	(0.052)	0.160
79	6.58	0.33	0.217	0.035	(0.058)	0.182
80	6.67	0.33	0.217	0.035	(0.058)	0.182
81	6.75	0.33	0.217	0.034	(0.058)	0.182
82	6.83	0.33	0.217	0.034	(0.058)	0.182
83	6.92	0.33	0.217	0.034	(0.058)	0.183
84	7.00	0.33	0.217	0.034	(0.058)	0.183
85	7.08	0.33	0.217	0.034	(0.058)	0.183
86	7.17	0.33	0.217	0.034	(0.058)	0.183
87	7.25	0.33	0.217	0.034	(0.058)	0.183
88	7.33	0.37	0.238	0.033	(0.064)	0.205
89	7.42	0.37	0.238	0.033	(0.064)	0.205
90	7.50	0.37	0.238	0.033	(0.064)	0.205
91	7.58	0.40	0.260	0.033	(0.070)	0.227
92	7.67	0.40	0.260	0.033	(0.070)	0.227
93	7.75	0.40	0.260	0.033	(0.070)	0.228
94	7.83	0.43	0.282	0.032	(0.076)	0.249
95	7.92	0.43	0.282	0.032	(0.076)	0.250
96	8.00	0.43	0.282	0.032	(0.076)	0.250
97	8.08	0.50	0.325	0.032	(0.087)	0.293
98	8.17	0.50	0.325	0.032	(0.087)	0.293
99	8.25	0.50	0.325	0.032	(0.087)	0.293
100	8.33	0.50	0.325	0.032	(0.087)	0.294
101	8.42	0.50	0.325	0.031	(0.087)	0.294
102	8.50	0.50	0.325	0.031	(0.087)	0.294
103	8.58	0.53	0.347	0.031	(0.093)	0.316
104	8.67	0.53	0.347	0.031	(0.093)	0.316
105	8.75	0.53	0.347	0.031	(0.093)	0.316
106	8.83	0.57	0.369	0.031	(0.099)	0.338
107	8.92	0.57	0.369	0.031	(0.099)	0.338
108	9.00	0.57	0.369	0.030	(0.099)	0.338
109	9.08	0.63	0.412	0.030	(0.110)	0.382
110	9.17	0.63	0.412	0.030	(0.110)	0.382
111	9.25	0.63	0.412	0.030	(0.110)	0.382

112	9.33	0.67	0.434	0.030	(0.116)	0.404
113	9.42	0.67	0.434	0.030	(0.116)	0.404
114	9.50	0.67	0.434	0.030	(0.116)	0.404
115	9.58	0.70	0.455	0.029	(0.122)	0.426
116	9.67	0.70	0.455	0.029	(0.122)	0.426
117	9.75	0.70	0.455	0.029	(0.122)	0.426
118	9.83	0.73	0.477	0.029	(0.128)	0.448
119	9.92	0.73	0.477	0.029	(0.128)	0.448
120	10.00	0.73	0.477	0.029	(0.128)	0.448
121	10.08	0.50	0.325	0.029	(0.087)	0.297
122	10.17	0.50	0.325	0.028	(0.087)	0.297
123	10.25	0.50	0.325	0.028	(0.087)	0.297
124	10.33	0.50	0.325	0.028	(0.087)	0.297
125	10.42	0.50	0.325	0.028	(0.087)	0.297
126	10.50	0.50	0.325	0.028	(0.087)	0.297
127	10.58	0.67	0.434	0.028	(0.116)	0.406
128	10.67	0.67	0.434	0.028	(0.116)	0.406
129	10.75	0.67	0.434	0.027	(0.116)	0.406
130	10.83	0.67	0.434	0.027	(0.116)	0.406
131	10.92	0.67	0.434	0.027	(0.116)	0.406
132	11.00	0.67	0.434	0.027	(0.116)	0.407
133	11.08	0.63	0.412	0.027	(0.110)	0.385
134	11.17	0.63	0.412	0.027	(0.110)	0.385
135	11.25	0.63	0.412	0.027	(0.110)	0.385
136	11.33	0.63	0.412	0.027	(0.110)	0.385
137	11.42	0.63	0.412	0.026	(0.110)	0.386
138	11.50	0.63	0.412	0.026	(0.110)	0.386
139	11.58	0.57	0.369	0.026	(0.099)	0.342
140	11.67	0.57	0.369	0.026	(0.099)	0.343
141	11.75	0.57	0.369	0.026	(0.099)	0.343
142	11.83	0.60	0.390	0.026	(0.105)	0.364
143	11.92	0.60	0.390	0.026	(0.105)	0.365
144	12.00	0.60	0.390	0.025	(0.105)	0.365
145	12.08	0.83	0.542	0.025	(0.145)	0.517
146	12.17	0.83	0.542	0.025	(0.145)	0.517
147	12.25	0.83	0.542	0.025	(0.145)	0.517
148	12.33	0.87	0.564	0.025	(0.151)	0.539
149	12.42	0.87	0.564	0.025	(0.151)	0.539
150	12.50	0.87	0.564	0.025	(0.151)	0.539
151	12.58	0.93	0.607	0.025	(0.163)	0.582
152	12.67	0.93	0.607	0.024	(0.163)	0.583
153	12.75	0.93	0.607	0.024	(0.163)	0.583
154	12.83	0.97	0.629	0.024	(0.168)	0.604
155	12.92	0.97	0.629	0.024	(0.168)	0.605
156	13.00	0.97	0.629	0.024	(0.168)	0.605
157	13.08	1.13	0.737	0.024	(0.198)	0.713
158	13.17	1.13	0.737	0.024	(0.198)	0.713
159	13.25	1.13	0.737	0.024	(0.198)	0.713
160	13.33	1.13	0.737	0.024	(0.198)	0.714
161	13.42	1.13	0.737	0.023	(0.198)	0.714
162	13.50	1.13	0.737	0.023	(0.198)	0.714
163	13.58	0.77	0.499	0.023	(0.134)	0.475
164	13.67	0.77	0.499	0.023	(0.134)	0.476
165	13.75	0.77	0.499	0.023	(0.134)	0.476
166	13.83	0.77	0.499	0.023	(0.134)	0.476
167	13.92	0.77	0.499	0.023	(0.134)	0.476

168	14.00	0.77	0.499	0.023	(0.134)	0.476
169	14.08	0.90	0.585	0.022	(0.157)	0.563
170	14.17	0.90	0.585	0.022	(0.157)	0.563
171	14.25	0.90	0.585	0.022	(0.157)	0.563
172	14.33	0.87	0.564	0.022	(0.151)	0.542
173	14.42	0.87	0.564	0.022	(0.151)	0.542
174	14.50	0.87	0.564	0.022	(0.151)	0.542
175	14.58	0.87	0.564	0.022	(0.151)	0.542
176	14.67	0.87	0.564	0.022	(0.151)	0.542
177	14.75	0.87	0.564	0.022	(0.151)	0.542
178	14.83	0.83	0.542	0.021	(0.145)	0.521
179	14.92	0.83	0.542	0.021	(0.145)	0.521
180	15.00	0.83	0.542	0.021	(0.145)	0.521
181	15.08	0.80	0.520	0.021	(0.139)	0.499
182	15.17	0.80	0.520	0.021	(0.139)	0.499
183	15.25	0.80	0.520	0.021	(0.139)	0.499
184	15.33	0.77	0.499	0.021	(0.134)	0.478
185	15.42	0.77	0.499	0.021	(0.134)	0.478
186	15.50	0.77	0.499	0.021	(0.134)	0.478
187	15.58	0.63	0.412	0.020	(0.110)	0.391
188	15.67	0.63	0.412	0.020	(0.110)	0.392
189	15.75	0.63	0.412	0.020	(0.110)	0.392
190	15.83	0.63	0.412	0.020	(0.110)	0.392
191	15.92	0.63	0.412	0.020	(0.110)	0.392
192	16.00	0.63	0.412	0.020	(0.110)	0.392
193	16.08	0.13	0.087	0.020	(0.023)	0.067
194	16.17	0.13	0.087	0.020	(0.023)	0.067
195	16.25	0.13	0.087	0.020	(0.023)	0.067
196	16.33	0.13	0.087	0.020	(0.023)	0.067
197	16.42	0.13	0.087	0.019	(0.023)	0.067
198	16.50	0.13	0.087	0.019	(0.023)	0.067
199	16.58	0.10	0.065	(0.019)	0.017	0.048
200	16.67	0.10	0.065	(0.019)	0.017	0.048
201	16.75	0.10	0.065	(0.019)	0.017	0.048
202	16.83	0.10	0.065	(0.019)	0.017	0.048
203	16.92	0.10	0.065	(0.019)	0.017	0.048
204	17.00	0.10	0.065	(0.019)	0.017	0.048
205	17.08	0.17	0.108	0.019	(0.029)	0.090
206	17.17	0.17	0.108	0.019	(0.029)	0.090
207	17.25	0.17	0.108	0.018	(0.029)	0.090
208	17.33	0.17	0.108	0.018	(0.029)	0.090
209	17.42	0.17	0.108	0.018	(0.029)	0.090
210	17.50	0.17	0.108	0.018	(0.029)	0.090
211	17.58	0.17	0.108	0.018	(0.029)	0.090
212	17.67	0.17	0.108	0.018	(0.029)	0.090
213	17.75	0.17	0.108	0.018	(0.029)	0.090
214	17.83	0.13	0.087	0.018	(0.023)	0.069
215	17.92	0.13	0.087	0.018	(0.023)	0.069
216	18.00	0.13	0.087	0.018	(0.023)	0.069
217	18.08	0.13	0.087	0.018	(0.023)	0.069
218	18.17	0.13	0.087	0.018	(0.023)	0.069
219	18.25	0.13	0.087	0.017	(0.023)	0.069
220	18.33	0.13	0.087	0.017	(0.023)	0.069
221	18.42	0.13	0.087	0.017	(0.023)	0.069
222	18.50	0.13	0.087	0.017	(0.023)	0.070
223	18.58	0.10	0.065	0.017	(0.017)	0.048

224	18.67	0.10	0.065	0.017	(0.017)	0.048
225	18.75	0.10	0.065	0.017	(0.017)	0.048
226	18.83	0.07	0.043	(0.017)	0.012	0.032
227	18.92	0.07	0.043	(0.017)	0.012	0.032
228	19.00	0.07	0.043	(0.017)	0.012	0.032
229	19.08	0.10	0.065	0.017	(0.017)	0.048
230	19.17	0.10	0.065	0.017	(0.017)	0.049
231	19.25	0.10	0.065	0.016	(0.017)	0.049
232	19.33	0.13	0.087	0.016	(0.023)	0.070
233	19.42	0.13	0.087	0.016	(0.023)	0.070
234	19.50	0.13	0.087	0.016	(0.023)	0.071
235	19.58	0.10	0.065	0.016	(0.017)	0.049
236	19.67	0.10	0.065	0.016	(0.017)	0.049
237	19.75	0.10	0.065	0.016	(0.017)	0.049
238	19.83	0.07	0.043	(0.016)	0.012	0.032
239	19.92	0.07	0.043	(0.016)	0.012	0.032
240	20.00	0.07	0.043	(0.016)	0.012	0.032
241	20.08	0.10	0.065	0.016	(0.017)	0.049
242	20.17	0.10	0.065	0.016	(0.017)	0.049
243	20.25	0.10	0.065	0.016	(0.017)	0.049
244	20.33	0.10	0.065	0.016	(0.017)	0.050
245	20.42	0.10	0.065	0.015	(0.017)	0.050
246	20.50	0.10	0.065	0.015	(0.017)	0.050
247	20.58	0.10	0.065	0.015	(0.017)	0.050
248	20.67	0.10	0.065	0.015	(0.017)	0.050
249	20.75	0.10	0.065	0.015	(0.017)	0.050
250	20.83	0.07	0.043	(0.015)	0.012	0.032
251	20.92	0.07	0.043	(0.015)	0.012	0.032
252	21.00	0.07	0.043	(0.015)	0.012	0.032
253	21.08	0.10	0.065	0.015	(0.017)	0.050
254	21.17	0.10	0.065	0.015	(0.017)	0.050
255	21.25	0.10	0.065	0.015	(0.017)	0.050
256	21.33	0.07	0.043	(0.015)	0.012	0.032
257	21.42	0.07	0.043	(0.015)	0.012	0.032
258	21.50	0.07	0.043	(0.015)	0.012	0.032
259	21.58	0.10	0.065	0.015	(0.017)	0.050
260	21.67	0.10	0.065	0.015	(0.017)	0.050
261	21.75	0.10	0.065	0.014	(0.017)	0.051
262	21.83	0.07	0.043	(0.014)	0.012	0.032
263	21.92	0.07	0.043	(0.014)	0.012	0.032
264	22.00	0.07	0.043	(0.014)	0.012	0.032
265	22.08	0.10	0.065	0.014	(0.017)	0.051
266	22.17	0.10	0.065	0.014	(0.017)	0.051
267	22.25	0.10	0.065	0.014	(0.017)	0.051
268	22.33	0.07	0.043	(0.014)	0.012	0.032
269	22.42	0.07	0.043	(0.014)	0.012	0.032
270	22.50	0.07	0.043	(0.014)	0.012	0.032
271	22.58	0.07	0.043	(0.014)	0.012	0.032
272	22.67	0.07	0.043	(0.014)	0.012	0.032
273	22.75	0.07	0.043	(0.014)	0.012	0.032
274	22.83	0.07	0.043	(0.014)	0.012	0.032
275	22.92	0.07	0.043	(0.014)	0.012	0.032
276	23.00	0.07	0.043	(0.014)	0.012	0.032
277	23.08	0.07	0.043	(0.014)	0.012	0.032
278	23.17	0.07	0.043	(0.014)	0.012	0.032
279	23.25	0.07	0.043	(0.014)	0.012	0.032

280	23.33	0.07	0.043	(0.014)	0.012	0.032
281	23.42	0.07	0.043	(0.014)	0.012	0.032
282	23.50	0.07	0.043	(0.014)	0.012	0.032
283	23.58	0.07	0.043	(0.014)	0.012	0.032
284	23.67	0.07	0.043	(0.014)	0.012	0.032
285	23.75	0.07	0.043	(0.014)	0.012	0.032
286	23.83	0.07	0.043	(0.014)	0.012	0.032
287	23.92	0.07	0.043	(0.014)	0.012	0.032
288	24.00	0.07	0.043	(0.014)	0.012	0.032

(Loss Rate Not Used)

Sum = 100.0 Sum = 58.3

Flood volume = Effective rainfall 4.86(In)
times area 21.1(Ac.)/[(In)/(Ft.)] = 8.6(Ac.Ft)
Total soil loss = 0.56(In)
Total soil loss = 0.983(Ac.Ft)
Total rainfall = 5.42(In)
Flood volume = 372510.4 Cubic Feet
Total soil loss = 42803.3 Cubic Feet

Peak flow rate of this hydrograph = 15.192(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	5.0	10.0	15.0	20.0
0+ 5	0.0014	0.21	Q				
0+10	0.0051	0.53	VQ				
0+15	0.0093	0.61	VQ				
0+20	0.0144	0.75	VQ				
0+25	0.0208	0.93	VQ				
0+30	0.0276	0.98	VQ				
0+35	0.0344	1.00	VQ				
0+40	0.0414	1.01	V Q				
0+45	0.0484	1.01	V Q				
0+50	0.0560	1.12	V Q				
0+55	0.0648	1.28	V Q				
1+ 0	0.0739	1.32	V Q				
1+ 5	0.0824	1.23	V Q				
1+10	0.0899	1.08	V Q				
1+15	0.0971	1.05	V Q				
1+20	0.1041	1.03	V Q				
1+25	0.1112	1.02	V Q				
1+30	0.1181	1.01	V Q				
1+35	0.1251	1.01	V Q				
1+40	0.1321	1.01	V Q				
1+45	0.1391	1.01	V Q				
1+50	0.1468	1.12	V Q				
1+55	0.1556	1.28	V Q				
2+ 0	0.1647	1.32	V Q				
2+ 5	0.1739	1.34	V Q				
2+10	0.1831	1.34	V Q				

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2+15       0.1924      1.35  V Q       |          |          |          |
2+20       0.2017      1.35  V Q       |          |          |          |
2+25       0.2110      1.35  V Q       |          |          |          |
2+30       0.2203      1.35  |VQ       |          |          |          |
2+35       0.2304      1.45  |VQ       |          |          |          |
2+40       0.2415      1.62  |V Q      |          |          |          |
2+45       0.2529      1.66  |V Q      |          |          |          |
2+50       0.2644      1.67  |V Q      |          |          |          |
2+55       0.2760      1.68  |V Q      |          |          |          |
3+ 0       0.2876      1.69  |V Q      |          |          |          |
3+ 5       0.2993      1.69  |V Q      |          |          |          |
3+10       0.3109      1.69  |V Q      |          |          |          |
3+15       0.3225      1.69  |V Q      |          |          |          |
3+20       0.3342      1.69  |V Q      |          |          |          |
3+25       0.3458      1.69  |V Q      |          |          |          |
3+30       0.3574      1.69  |V Q      |          |          |          |
3+35       0.3691      1.69  |V Q      |          |          |          |
3+40       0.3807      1.69  |V Q      |          |          |          |
3+45       0.3923      1.69  |V Q      |          |          |          |
3+50       0.4047      1.79  |V Q      |          |          |          |
3+55       0.4181      1.95  |V Q      |          |          |          |
4+ 0       0.4319      1.99  | VQ      |          |          |          |
4+ 5       0.4457      2.01  | V Q     |          |          |          |
4+10       0.4596      2.02  | V Q     |          |          |          |
4+15       0.4736      2.03  | V Q     |          |          |          |
4+20       0.4883      2.14  | V Q     |          |          |          |
4+25       0.5043      2.32  | V Q     |          |          |          |
4+30       0.5206      2.36  | V Q     |          |          |          |
4+35       0.5370      2.39  | V Q     |          |          |          |
4+40       0.5535      2.40  | V Q     |          |          |          |
4+45       0.5702      2.41  | V Q     |          |          |          |
4+50       0.5878      2.56  | V  Q    |          |          |          |
4+55       0.6069      2.78  | V  Q    |          |          |          |
5+ 0       0.6264      2.84  | V  Q    |          |          |          |
5+ 5       0.6444      2.60  |  V Q    |          |          |          |
5+10       0.6595      2.20  |  VQ     |          |          |          |
5+15       0.6741      2.11  |  VQ     |          |          |          |
5+20       0.6892      2.19  |  VQ     |          |          |          |
5+25       0.7055      2.37  |  VQ     |          |          |          |
5+30       0.7220      2.40  |  VQ     |          |          |          |
5+35       0.7397      2.57  |  V Q    |          |          |          |
5+40       0.7590      2.80  |  V Q    |          |          |          |
5+45       0.7788      2.87  |  V Q    |          |          |          |
5+50       0.7987      2.90  |  V Q    |          |          |          |
5+55       0.8188      2.91  |  V Q    |          |          |          |
6+ 0       0.8389      2.92  |  V Q    |          |          |          |
6+ 5       0.8601      3.07  |   V Q   |          |          |          |
6+10       0.8828      3.29  |   V Q   |          |          |          |
6+15       0.9058      3.35  |   V Q   |          |          |          |
6+20       0.9291      3.38  |   V Q   |          |          |          |
6+25       0.9525      3.39  |   V Q   |          |          |          |
6+30       0.9759      3.41  |   V Q   |          |          |          |
6+35       1.0004      3.55  |   V  Q  |          |          |          |
6+40       1.0264      3.77  |   V  Q  |          |          |          |
6+45       1.0528      3.83  |   V  Q  |          |          |          |
6+50       1.0794      3.86  |    V Q  |          |          |          |
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6+55	1.1061	3.88	V Q				
7+ 0	1.1328	3.89	V Q				
7+ 5	1.1596	3.89	V Q				
7+10	1.1865	3.89	V Q				
7+15	1.2133	3.90	V Q				
7+20	1.2411	4.04	V Q				
7+25	1.2705	4.27	V Q				
7+30	1.3003	4.32	V Q				
7+35	1.3312	4.49	V Q				
7+40	1.3638	4.73	V Q				
7+45	1.3968	4.79	V Q				
7+50	1.4310	4.96	V Q				
7+55	1.4668	5.20	V Q				
8+ 0	1.5031	5.27	V Q				
8+ 5	1.5415	5.58	V Q				
8+10	1.5830	6.03	V Q				
8+15	1.6254	6.15	V Q				
8+20	1.6681	6.20	V Q				
8+25	1.7111	6.23	V Q				
8+30	1.7541	6.25	V Q				
8+35	1.7982	6.40	V Q				
8+40	1.8438	6.62	V Q				
8+45	1.8898	6.68	V Q				
8+50	1.9369	6.85	V Q				
8+55	1.9857	7.08	V Q				
9+ 0	2.0350	7.15	V Q				
9+ 5	2.0863	7.46	V Q				
9+10	2.1409	7.92	V Q				
9+15	2.1962	8.04	V Q				
9+20	2.2529	8.23	V Q				
9+25	2.3113	8.48	V Q				
9+30	2.3702	8.55	V Q				
9+35	2.4302	8.72	V Q				
9+40	2.4919	8.96	V Q				
9+45	2.5540	9.02	V Q				
9+50	2.6173	9.19	V Q				
9+55	2.6823	9.43	V Q				
10+ 0	2.7476	9.49	V Q				
10+ 5	2.8064	8.53	V Q				
10+10	2.8546	7.00	VQ				
10+15	2.9003	6.63	Q				
10+20	2.9448	6.47	QV				
10+25	2.9888	6.38	QV				
10+30	3.0324	6.33	Q V				
10+35	3.0808	7.04	Q				
10+40	3.1369	8.14	V Q				
10+45	3.1948	8.42	V Q				
10+50	3.2536	8.54	V Q				
10+55	3.3129	8.60	V Q				
11+ 0	3.3725	8.65	V Q				
11+ 5	3.4311	8.51	VQ				
11+10	3.4882	8.29	Q				
11+15	3.5450	8.24	Q				
11+20	3.6016	8.22	Q				
11+25	3.6582	8.21	QV				
11+30	3.7147	8.21	QV				

11+35	3.7693	7.93	|	| Q V	|	|	|
11+40	3.8208	7.49	|	| Q V	|	|	|
11+45	3.8717	7.38	|	| Q V	|	|	|
11+50	3.9232	7.48	|	| Q V	|	|	|
11+55	3.9760	7.68	|	| Q V	|	|	|
12+ 0	4.0292	7.72	|	| Q V	|	|	|
12+ 5	4.0893	8.73	|	| Q V|	|	|	|
12+10	4.1602	10.29	|	| VQ	|	|	|
12+15	4.2337	10.68	|	| V|Q	|	|	|
12+20	4.3095	10.99	|	| VQ	|	|	|
12+25	4.3873	11.31	|	| V Q	|	|	|
12+30	4.4660	11.42	|	| V Q	|	|	|
12+35	4.5468	11.73	|	| |V Q	|	|	|
12+40	4.6308	12.19	|	| |V Q	|	|	|
12+45	4.7155	12.31	|	| | V Q	|	|	|
12+50	4.8016	12.50	|	| | V Q	|	|	|
12+55	4.8894	12.75	|	| | V Q	|	|	|
13+ 0	4.9778	12.82	|	| | V Q	|	|	|
13+ 5	5.0711	13.56	|	| | V Q	|	|	|
13+10	5.1722	14.67	|	| | V Q|	|	|	|
13+15	5.2752	14.96	|	| | V Q|	|	|	|
13+20	5.3791	15.08	|	| | V Q	|	|	|
13+25	5.4834	15.15	|	| | V Q	|	|	|
13+30	5.5880	15.19	|	| | V Q	|	|	|
13+35	5.6819	13.64	|	| | VQ	|	|	|
13+40	5.7592	11.22	|	| | Q V	|	|	|
13+45	5.8323	10.62	|	| |Q V	|	|	|
13+50	5.9037	10.36	|	| Q V	|	|	|
13+55	5.9741	10.22	|	| Q V	|	|	|
14+ 0	6.0438	10.13	|	| Q V	|	|	|
14+ 5	6.1175	10.70	|	| |Q V	|	|	|
14+10	6.1973	11.58	|	| | Q V	|	|	|
14+15	6.2786	11.80	|	| | Q V|	|	|	|
14+20	6.3596	11.76	|	| | Q V|	|	|	|
14+25	6.4394	11.59	|	| | Q V	|	|	|
14+30	6.5191	11.57	|	| | Q V	|	|	|
14+35	6.5987	11.55	|	| | Q V	|	|	|
14+40	6.6782	11.54	|	| | Q |V	|	|	|
14+45	6.7576	11.54	|	| | Q |V	|	|	|
14+50	6.8361	11.40	|	| | Q |V	|	|	|
14+55	6.9131	11.18	|	| | Q | V	|	|	|
15+ 0	6.9898	11.13	|	| | Q | V	|	|	|
15+ 5	7.0653	10.96	|	| |Q | V	|	|	|
15+10	7.1392	10.73	|	| |Q | V	|	|	|
15+15	7.2127	10.67	|	| |Q | V	|	|	|
15+20	7.2851	10.51	|	| |Q | V	|	|	|
15+25	7.3559	10.28	|	| Q | V	|	|	|
15+30	7.4262	10.22	|	| Q | V	|	|	|
15+35	7.4926	9.63	|	| Q| V	|	|	|
15+40	7.5527	8.74	|	| Q | V	|	|	|
15+45	7.6114	8.52	|	| Q | V	|	|	|
15+50	7.6694	8.42	|	| Q | V	|	|	|
15+55	7.7271	8.37	|	| Q | V	|	|	|
16+ 0	7.7845	8.34	|	| Q | V	|	|	|
16+ 5	7.8273	6.22	|	| Q | V	|	|	|
16+10	7.8474	2.92	|	Q | V	|	|	|

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16+15       7.8619      2.10  |   Q     |         |         |     V   |
16+20       7.8739      1.75  |  Q      |         |         |     V   |
16+25       7.8847      1.56  |  Q      |         |         |     V   |
16+30       7.8945      1.43  | Q       |         |         |     V   |
16+35       7.9035      1.30  | Q       |         |         |     V   |
16+40       7.9111      1.10  | Q       |         |         |      V  |
16+45       7.9184      1.05  | Q       |         |         |      V  |
16+50       7.9255      1.03  | Q       |         |         |      V  |
16+55       7.9325      1.02  | Q       |         |         |      V  |
17+ 0       7.9395      1.01  | Q       |         |         |      V  |
17+ 5       7.9484      1.29  | Q       |         |         |      V  |
17+10       7.9602      1.72  |  Q      |         |         |      V  |
17+15       7.9727      1.82  |  Q      |         |         |      V  |
17+20       7.9856      1.87  |  Q      |         |         |      V  |
17+25       7.9987      1.90  |  Q      |         |         |      V  |
17+30       8.0119      1.92  |  Q      |         |         |      V  |
17+35       8.0251      1.92  |  Q      |         |         |      V  |
17+40       8.0384      1.92  |  Q      |         |         |      V  |
17+45       8.0516      1.92  |  Q      |         |         |      V  |
17+50       8.0639      1.78  |  Q      |         |         |      V  |
17+55       8.0747      1.57  |  Q      |         |         |      V  |
18+ 0       8.0851      1.51  |  Q      |         |         |      V  |
18+ 5       8.0954      1.49  | Q       |         |         |      V  |
18+10       8.1056      1.48  | Q       |         |         |      V  |
18+15       8.1157      1.47  | Q       |         |         |      V  |
18+20       8.1259      1.48  | Q       |         |         |       V |
18+25       8.1360      1.48  | Q       |         |         |       V |
18+30       8.1462      1.48  | Q       |         |         |       V |
18+35       8.1555      1.34  | Q       |         |         |       V |
18+40       8.1632      1.12  | Q       |         |         |       V |
18+45       8.1705      1.07  | Q       |         |         |       V |
18+50       8.1770      0.94  |Q        |         |         |       V |
18+55       8.1822      0.76  |Q        |         |         |       V |
19+ 0       8.1871      0.71  |Q        |         |         |       V |
19+ 5       8.1926      0.80  |Q        |         |         |       V |
19+10       8.1992      0.96  |Q        |         |         |       V |
19+15       8.2061      1.00  |Q        |         |         |       V |
19+20       8.2141      1.16  | Q       |         |         |       V |
19+25       8.2237      1.39  | Q       |         |         |       V |
19+30       8.2337      1.45  | Q       |         |         |       V |
19+35       8.2429      1.34  | Q       |         |         |       V |
19+40       8.2507      1.13  | Q       |         |         |       V |
19+45       8.2582      1.09  | Q       |         |         |       V |
19+50       8.2647      0.95  |Q        |         |         |       V |
19+55       8.2700      0.76  |Q        |         |         |       V |
20+ 0       8.2749      0.71  |Q        |         |         |       V |
20+ 5       8.2805      0.81  |Q        |         |         |       V |
20+10       8.2872      0.98  |Q        |         |         |       V |
20+15       8.2942      1.01  | Q       |         |         |       V |
20+20       8.3013      1.04  | Q       |         |         |       V |
20+25       8.3085      1.05  | Q       |         |         |       V |
20+30       8.3158      1.06  | Q       |         |         |       V |
20+35       8.3231      1.06  | Q       |         |         |       V |
20+40       8.3304      1.06  | Q       |         |         |       V |
20+45       8.3377      1.06  | Q       |         |         |       V |
20+50       8.3441      0.94  |Q        |         |         |        V|
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  20+55       8.3494      0.76  |Q        |         |         |         V|
  21+ 0       8.3543      0.71  |Q        |         |         |         V|
  21+ 5       8.3599      0.81  |Q        |         |         |         V|
  21+10       8.3667      0.99  |Q        |         |         |         V|
  21+15       8.3738      1.03  | Q       |         |         |         V|
  21+20       8.3802      0.93  |Q        |         |         |         V|
  21+25       8.3854      0.75  |Q        |         |         |         V|
  21+30       8.3903      0.71  |Q        |         |         |         V|
  21+35       8.3959      0.82  |Q        |         |         |         V|
  21+40       8.4028      1.00  |Q        |         |         |         V|
  21+45       8.4099      1.04  | Q       |         |         |         V|
  21+50       8.4163      0.93  |Q        |         |         |         V|
  21+55       8.4215      0.75  |Q        |         |         |         V|
  22+ 0       8.4265      0.71  |Q        |         |         |         V|
  22+ 5       8.4321      0.82  |Q        |         |         |         V|
  22+10       8.4390      1.00  | Q       |         |         |         V|
  22+15       8.4462      1.04  | Q       |         |         |         V|
  22+20       8.4526      0.94  |Q        |         |         |         V|
  22+25       8.4578      0.76  |Q        |         |         |         V|
  22+30       8.4627      0.72  |Q        |         |         |         V|
  22+35       8.4675      0.69  |Q        |         |         |         V|
  22+40       8.4722      0.68  |Q        |         |         |         V|
  22+45       8.4769      0.68  |Q        |         |         |         V|
  22+50       8.4815      0.68  |Q        |         |         |         V|
  22+55       8.4862      0.68  |Q        |         |         |         V|
  23+ 0       8.4908      0.68  |Q        |         |         |         V|
  23+ 5       8.4955      0.68  |Q        |         |         |         V|
  23+10       8.5001      0.68  |Q        |         |         |         V|
  23+15       8.5048      0.68  |Q        |         |         |         V|
  23+20       8.5095      0.68  |Q        |         |         |         V|
  23+25       8.5141      0.68  |Q        |         |         |         V|
  23+30       8.5188      0.68  |Q        |         |         |         V|
  23+35       8.5234      0.68  |Q        |         |         |         V|
  23+40       8.5281      0.68  |Q        |         |         |         V|
  23+45       8.5327      0.68  |Q        |         |         |         V|
  23+50       8.5374      0.68  |Q        |         |         |         V|
  23+55       8.5420      0.68  |Q        |         |         |         V|
  24+ 0       8.5467      0.68  |Q        |         |         |         V|
  24+ 5       8.5499      0.47  Q         |         |         |         V|
  24+10       8.5509      0.15  Q         |         |         |         V|
  24+15       8.5514      0.07  Q         |         |         |         V|
  24+20       8.5516      0.03  Q         |         |         |         V|
  24+25       8.5517      0.01  Q         |         |         |         V|
-------------------------------------------------------------------------
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 03/29/24
File:hemetratprareaa45100.out

Loctek Industrial Building
100-Year Rational Method Analysis
Area A4-A5, Proposed Condition

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

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

Program License Serial Number 6385

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

Standard intensity-duration curves data (Plate D-4.1)
For the [Hemet] area used.
10 year storm 10 minute intensity = 1.960(In/Hr)
10 year storm 60 minute intensity = 0.760(In/Hr)
100 year storm 10 minute intensity = 3.050(In/Hr)
100 year storm 60 minute intensity = 1.180(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.180(In/Hr)
Slope of intensity duration curve = 0.5300

++
Process from Point/Station 4.100 to Point/Station 4.200
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 970.000(Ft.)
Top (of initial area) elevation = 1512.100(Ft.)
Bottom (of initial area) elevation = 1511.700(Ft.)
Difference in elevation = 0.400(Ft.)
Slope = 0.00041 s(percent)= 0.04
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.324 min.
Rainfall intensity = 1.993(In/Hr) for a 100.0 year storm

```
COMMERCIAL subarea type
Runoff Coefficient = 0.890
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)  =  84.58
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      1.951(CFS)
Total initial stream area =        1.100(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.100 to Point/Station        4.200
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      1.100(Ac.)
Runoff from this stream =      1.951(CFS)
Time of concentration =   22.32 min.
Rainfall intensity =     1.993(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.100 to Point/Station        4.300
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   695.000(Ft.)
Top (of initial area) elevation =  1512.100(Ft.)
Bottom (of initial area) elevation =  1510.800(Ft.)
Difference in elevation =     1.300(Ft.)
Slope =    0.00187  s(percent)=       0.19
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.439 min.
Rainfall intensity =      2.510(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 = 0.250
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.750
RI index for soil(AMC 3)  =  85.15
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      1.725(CFS)
Total initial stream area =        0.770(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.100 to Point/Station        4.300
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.770(Ac.)
Runoff from this stream =      1.725(CFS)
```

```
Time of concentration =   14.44 min.
Rainfall intensity =     2.510(In/Hr)
Summary of stream data:

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


1        1.951     22.32                 1.993
2        1.725     14.44                 2.510
Largest stream flow has longer time of concentration
Qp =      1.951 + sum of
        Qb         Ia/Ib
         1.725 *    0.794 =      1.369
Qp =      3.321

Total of 2 streams to confluence:
Flow rates before confluence point:
       1.951       1.725
Area of streams before confluence:
        1.100        0.770
Results of confluence:
Total flow rate =      3.321(CFS)
Time of concentration =    22.324 min.
Effective stream area after confluence =      1.870(Ac.)
End of computations, total study area =            1.87 (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 =  69.7
```

Drawdown Time Calculation, P-3 & P-4

Hydrograph Summary Table

Description:	Volume	Q
Area A3 Volume:	3.7264	39.872
Area A2 Volume:	4.5192	48.744
Area A1 Volume:	2.4693	27.595
Total:	10.7149	116.21
Total:	466,741	

Percolation Test Data

P-3, in/hr	P-4, in/hr
1.19	1.651
Avg. in/hr:	1.42

Design Infiltration Rate Calculation

Average Infiltration Rate:	1.42	in/hr
Design Infiltration Rate FS 3:	0.47	in/hr
Drawdown Depth (ft):	3.76	ft

Underground Basin Drawdown Time

Bottom Surface Area:	124,134	sqft
Developed Condition Volume	466,741	cuft

Infiltration Rate :	1.096065E-05	ft/sec
Flow Rate of Infiltration (Infiltration Rate x Bottom Surface Area):	1.36	cfs
Steady State Drawdown Time:	96	hrs

Basin Routing Interpretation of Results Refer to Basin Routing Analysis

Time at End of Inflow Hydrograph:	205	min
Time when Basin is empty:	5720	min
Drawdown:	5720	min
	95.33	Hrs

Project Summary	
Title	100 Year Basin Routing
Engineer	Jodi Mensen
Company	Legacy CivilWorks Engineering
Date	11/13/2024

Notes

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Subsection: User Notifications

User Notifications

Message Id	43
Scenario	Base
Element Type	Pond
Element Id	15
Label	Underground Basin
Time	(N/A)
Message	Outflow > 0 for first rating table elevation.
Source	Warning

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft^3/s)
A1	Base	0	2.469	155.000	27.59
A2	Base	0	4.519	155.000	48.74
A3	Base	0	3.726	155.000	39.87

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft^3/s)
O-8	Base	0	10.717	5.000	1.36

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Underground Basin (IN)	Base	0	10.715	155.000	116.21	(N/A)	(N/A)
Underground Basin (OUT)	Base	0	10.717	5.000	1.36	3.63	10.345

Peak Discharge	27.59 ft³/s
Time to Peak	155.000 min
Hydrograph Volume	2.469 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.000	0.00	1.79	3.73	3.83	4.28
25.000	4.95	5.53	5.61	5.70	6.14
50.000	5.76	5.43	5.82	6.77	7.51
75.000	7.68	7.44	8.06	9.15	9.04
100.000	9.11	10.48	11.25	10.84	10.69
125.000	10.95	12.82	15.94	15.36	18.41
150.000	24.36	27.59	26.09	16.78	9.28
175.000	7.30	4.68	1.70	0.50	0.16
200.000	0.03	0.00	(N/A)	(N/A)	(N/A)

Peak Discharge	48.74 ft³/s
Time to Peak	155.000 min
Hydrograph Volume	4.519 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.000	0.00	2.71	6.55	7.01	7.67
25.000	9.00	10.02	10.40	10.40	11.26
50.000	10.77	10.11	10.67	12.22	13.64
75.000	14.00	13.72	14.52	16.55	16.58
100.000	16.54	18.74	20.41	19.84	19.49
125.000	19.95	22.78	28.16	28.21	31.86
150.000	42.87	48.74	47.73	32.84	18.82
175.000	14.65	10.18	4.29	1.40	0.60
200.000	0.23	0.04	0.00	(N/A)	(N/A)

Peak Discharge	39.87 ft³/s
Time to Peak	155.000 min
Hydrograph Volume	3.726 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.000	0.00	2.06	5.27	5.72	6.23
25.000	7.35	8.20	8.57	8.53	9.26
50.000	8.90	8.34	8.77	10.01	11.19
75.000	11.50	11.31	11.90	13.59	13.68
100.000	13.60	15.34	16.79	16.36	16.06
125.000	16.43	18.63	23.01	23.32	25.86
150.000	34.99	39.87	39.46	27.67	16.03
175.000	12.43	8.82	3.85	1.29	0.58
200.000	0.25	0.05	0.00	(N/A)	(N/A)

Time vs. Elevation (ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	0.00	0.01	0.03	0.07	0.10
25.000	0.15	0.20	0.25	0.31	0.37
50.000	0.43	0.49	0.54	0.60	0.67
75.000	0.75	0.83	0.90	0.99	1.08
100.000	1.17	1.27	1.38	1.49	1.60
125.000	1.71	1.83	1.97	2.13	2.30
150.000	2.51	2.78	3.05	3.28	3.42
175.000	3.51	3.58	3.62	3.63	3.63
200.000	3.63	3.63	3.62	3.62	3.62
225.000	3.61	3.61	3.61	3.60	3.60
250.000	3.60	3.59	3.59	3.59	3.58
275.000	3.58	3.58	3.57	3.57	3.57
300.000	3.56	3.56	3.56	3.55	3.55
325.000	3.55	3.54	3.54	3.54	3.53
350.000	3.53	3.53	3.52	3.52	3.52
375.000	3.52	3.51	3.51	3.51	3.50
400.000	3.50	3.50	3.49	3.49	3.49
425.000	3.48	3.48	3.48	3.47	3.47
450.000	3.47	3.46	3.46	3.46	3.45
475.000	3.45	3.45	3.44	3.44	3.44
500.000	3.43	3.43	3.43	3.42	3.42
525.000	3.42	3.41	3.41	3.41	3.40
550.000	3.40	3.40	3.39	3.39	3.39
575.000	3.38	3.38	3.38	3.37	3.37
600.000	3.37	3.36	3.36	3.36	3.35
625.000	3.35	3.35	3.34	3.34	3.34
650.000	3.33	3.33	3.33	3.32	3.32
675.000	3.32	3.31	3.31	3.31	3.30
700.000	3.30	3.30	3.29	3.29	3.29
725.000	3.29	3.28	3.28	3.28	3.27
750.000	3.27	3.27	3.26	3.26	3.26
775.000	3.25	3.25	3.25	3.24	3.24
800.000	3.24	3.23	3.23	3.23	3.22
825.000	3.22	3.22	3.21	3.21	3.21
850.000	3.20	3.20	3.20	3.19	3.19
875.000	3.19	3.18	3.18	3.18	3.17
900.000	3.17	3.17	3.16	3.16	3.16
925.000	3.15	3.15	3.15	3.14	3.14
950.000	3.14	3.13	3.13	3.13	3.12
975.000	3.12	3.12	3.11	3.11	3.11
1,000.000	3.10	3.10	3.10	3.09	3.09
1,025.000	3.09	3.08	3.08	3.08	3.07
1,050.000	3.07	3.07	3.06	3.06	3.06

Time vs. Elevation (ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
1,075.000	3.05	3.05	3.05	3.05	3.04
1,100.000	3.04	3.04	3.03	3.03	3.03
1,125.000	3.02	3.02	3.02	3.01	3.01
1,150.000	3.01	3.00	3.00	3.00	2.99
1,175.000	2.99	2.99	2.98	2.98	2.98
1,200.000	2.97	2.97	2.97	2.96	2.96
1,225.000	2.96	2.95	2.95	2.95	2.94
1,250.000	2.94	2.94	2.93	2.93	2.93
1,275.000	2.92	2.92	2.92	2.91	2.91
1,300.000	2.91	2.90	2.90	2.90	2.89
1,325.000	2.89	2.89	2.88	2.88	2.88
1,350.000	2.87	2.87	2.87	2.86	2.86
1,375.000	2.86	2.85	2.85	2.85	2.84
1,400.000	2.84	2.84	2.83	2.83	2.83
1,425.000	2.82	2.82	2.82	2.81	2.81
1,450.000	2.81	2.81	2.80	2.80	2.80
1,475.000	2.79	2.79	2.79	2.78	2.78
1,500.000	2.78	2.77	2.77	2.77	2.76
1,525.000	2.76	2.76	2.75	2.75	2.75
1,550.000	2.74	2.74	2.74	2.73	2.73
1,575.000	2.73	2.72	2.72	2.72	2.71
1,600.000	2.71	2.71	2.70	2.70	2.70
1,625.000	2.69	2.69	2.69	2.68	2.68
1,650.000	2.68	2.67	2.67	2.67	2.66
1,675.000	2.66	2.66	2.65	2.65	2.65
1,700.000	2.64	2.64	2.64	2.63	2.63
1,725.000	2.63	2.62	2.62	2.62	2.61
1,750.000	2.61	2.61	2.60	2.60	2.60
1,775.000	2.59	2.59	2.59	2.58	2.58
1,800.000	2.58	2.58	2.57	2.57	2.57
1,825.000	2.56	2.56	2.56	2.55	2.55
1,850.000	2.55	2.54	2.54	2.54	2.53
1,875.000	2.53	2.53	2.52	2.52	2.52
1,900.000	2.51	2.51	2.51	2.50	2.50
1,925.000	2.50	2.49	2.49	2.49	2.48
1,950.000	2.48	2.48	2.47	2.47	2.47
1,975.000	2.46	2.46	2.46	2.45	2.45
2,000.000	2.45	2.44	2.44	2.44	2.43
2,025.000	2.43	2.43	2.42	2.42	2.42
2,050.000	2.41	2.41	2.41	2.40	2.40
2,075.000	2.40	2.39	2.39	2.39	2.38
2,100.000	2.38	2.38	2.37	2.37	2.37
2,125.000	2.36	2.36	2.36	2.35	2.35

Subsection: Time vs. Elevation
Label: Underground Basin (OUT)

Scenario: Base

Time vs. Elevation (ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
2,150.000	2.35	2.34	2.34	2.34	2.34
2,175.000	2.33	2.33	2.33	2.32	2.32
2,200.000	2.32	2.31	2.31	2.31	2.30
2,225.000	2.30	2.30	2.29	2.29	2.29
2,250.000	2.28	2.28	2.28	2.27	2.27
2,275.000	2.27	2.26	2.26	2.26	2.25
2,300.000	2.25	2.25	2.24	2.24	2.24
2,325.000	2.23	2.23	2.23	2.22	2.22
2,350.000	2.22	2.21	2.21	2.21	2.20
2,375.000	2.20	2.20	2.19	2.19	2.19
2,400.000	2.18	2.18	2.18	2.17	2.17
2,425.000	2.17	2.16	2.16	2.16	2.15
2,450.000	2.15	2.15	2.14	2.14	2.14
2,475.000	2.13	2.13	2.13	2.12	2.12
2,500.000	2.12	2.11	2.11	2.11	2.11
2,525.000	2.10	2.10	2.10	2.09	2.09
2,550.000	2.09	2.08	2.08	2.08	2.07
2,575.000	2.07	2.07	2.06	2.06	2.06
2,600.000	2.05	2.05	2.05	2.04	2.04
2,625.000	2.04	2.03	2.03	2.03	2.02
2,650.000	2.02	2.02	2.01	2.01	2.01
2,675.000	2.00	2.00	2.00	1.99	1.99
2,700.000	1.99	1.98	1.98	1.98	1.97
2,725.000	1.97	1.97	1.96	1.96	1.96
2,750.000	1.95	1.95	1.95	1.94	1.94
2,775.000	1.94	1.93	1.93	1.93	1.92
2,800.000	1.92	1.92	1.91	1.91	1.91
2,825.000	1.90	1.90	1.90	1.89	1.89
2,850.000	1.89	1.88	1.88	1.88	1.87
2,875.000	1.87	1.87	1.87	1.86	1.86
2,900.000	1.86	1.85	1.85	1.85	1.84
2,925.000	1.84	1.84	1.83	1.83	1.83
2,950.000	1.82	1.82	1.82	1.81	1.81
2,975.000	1.81	1.80	1.80	1.80	1.79
3,000.000	1.79	1.79	1.78	1.78	1.78
3,025.000	1.77	1.77	1.77	1.76	1.76
3,050.000	1.76	1.75	1.75	1.75	1.74
3,075.000	1.74	1.74	1.73	1.73	1.73
3,100.000	1.72	1.72	1.72	1.71	1.71
3,125.000	1.71	1.70	1.70	1.70	1.69
3,150.000	1.69	1.69	1.68	1.68	1.68
3,175.000	1.67	1.67	1.67	1.66	1.66
3,200.000	1.66	1.65	1.65	1.65	1.64

Time vs. Elevation (ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
3,225.000	1.64	1.64	1.64	1.63	1.63
3,250.000	1.63	1.62	1.62	1.62	1.61
3,275.000	1.61	1.61	1.60	1.60	1.60
3,300.000	1.59	1.59	1.59	1.58	1.58
3,325.000	1.58	1.57	1.57	1.57	1.56
3,350.000	1.56	1.56	1.55	1.55	1.55
3,375.000	1.54	1.54	1.54	1.53	1.53
3,400.000	1.53	1.52	1.52	1.52	1.51
3,425.000	1.51	1.51	1.50	1.50	1.50
3,450.000	1.49	1.49	1.49	1.48	1.48
3,475.000	1.48	1.47	1.47	1.47	1.46
3,500.000	1.46	1.46	1.45	1.45	1.45
3,525.000	1.44	1.44	1.44	1.43	1.43
3,550.000	1.43	1.42	1.42	1.42	1.41
3,575.000	1.41	1.41	1.40	1.40	1.40
3,600.000	1.40	1.39	1.39	1.39	1.38
3,625.000	1.38	1.38	1.37	1.37	1.37
3,650.000	1.36	1.36	1.36	1.35	1.35
3,675.000	1.35	1.34	1.34	1.34	1.33
3,700.000	1.33	1.33	1.32	1.32	1.32
3,725.000	1.31	1.31	1.31	1.30	1.30
3,750.000	1.30	1.29	1.29	1.29	1.28
3,775.000	1.28	1.28	1.27	1.27	1.27
3,800.000	1.26	1.26	1.26	1.25	1.25
3,825.000	1.25	1.24	1.24	1.24	1.23
3,850.000	1.23	1.23	1.22	1.22	1.22
3,875.000	1.21	1.21	1.21	1.20	1.20
3,900.000	1.20	1.19	1.19	1.19	1.18
3,925.000	1.18	1.18	1.17	1.17	1.17
3,950.000	1.17	1.16	1.16	1.16	1.15
3,975.000	1.15	1.15	1.14	1.14	1.14
4,000.000	1.13	1.13	1.13	1.12	1.12
4,025.000	1.12	1.11	1.11	1.11	1.10
4,050.000	1.10	1.10	1.09	1.09	1.09
4,075.000	1.08	1.08	1.08	1.07	1.07
4,100.000	1.07	1.06	1.06	1.06	1.05
4,125.000	1.05	1.05	1.04	1.04	1.04
4,150.000	1.03	1.03	1.03	1.02	1.02
4,175.000	1.02	1.01	1.01	1.01	1.00
4,200.000	1.00	1.00	0.99	0.99	0.99
4,225.000	0.98	0.98	0.98	0.97	0.97
4,250.000	0.97	0.96	0.96	0.96	0.95
4,275.000	0.95	0.95	0.94	0.94	0.94

Time vs. Elevation (ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
4,300.000	0.93	0.93	0.93	0.93	0.92
4,325.000	0.92	0.92	0.91	0.91	0.91
4,350.000	0.90	0.90	0.90	0.89	0.89
4,375.000	0.89	0.88	0.88	0.88	0.87
4,400.000	0.87	0.87	0.86	0.86	0.86
4,425.000	0.85	0.85	0.85	0.84	0.84
4,450.000	0.84	0.83	0.83	0.83	0.82
4,475.000	0.82	0.82	0.81	0.81	0.81
4,500.000	0.80	0.80	0.80	0.79	0.79
4,525.000	0.79	0.78	0.78	0.78	0.77
4,550.000	0.77	0.77	0.76	0.76	0.76
4,575.000	0.75	0.75	0.75	0.74	0.74
4,600.000	0.74	0.73	0.73	0.73	0.72
4,625.000	0.72	0.72	0.71	0.71	0.71
4,650.000	0.70	0.70	0.70	0.70	0.69
4,675.000	0.69	0.69	0.68	0.68	0.68
4,700.000	0.67	0.67	0.67	0.66	0.66
4,725.000	0.66	0.65	0.65	0.65	0.64
4,750.000	0.64	0.64	0.63	0.63	0.63
4,775.000	0.62	0.62	0.62	0.61	0.61
4,800.000	0.61	0.60	0.60	0.60	0.59
4,825.000	0.59	0.59	0.58	0.58	0.58
4,850.000	0.57	0.57	0.57	0.56	0.56
4,875.000	0.56	0.55	0.55	0.55	0.54
4,900.000	0.54	0.54	0.53	0.53	0.53
4,925.000	0.52	0.52	0.52	0.51	0.51
4,950.000	0.51	0.50	0.50	0.50	0.49
4,975.000	0.49	0.49	0.48	0.48	0.48
5,000.000	0.47	0.47	0.47	0.46	0.46
5,025.000	0.46	0.46	0.45	0.45	0.45
5,050.000	0.44	0.44	0.44	0.43	0.43
5,075.000	0.43	0.42	0.42	0.42	0.41
5,100.000	0.41	0.41	0.40	0.40	0.40
5,125.000	0.39	0.39	0.39	0.38	0.38
5,150.000	0.38	0.37	0.37	0.37	0.36
5,175.000	0.36	0.36	0.35	0.35	0.35
5,200.000	0.34	0.34	0.34	0.33	0.33
5,225.000	0.33	0.32	0.32	0.32	0.31
5,250.000	0.31	0.31	0.30	0.30	0.30
5,275.000	0.29	0.29	0.29	0.28	0.28
5,300.000	0.28	0.27	0.27	0.27	0.26
5,325.000	0.26	0.26	0.25	0.25	0.25
5,350.000	0.24	0.24	0.24	0.23	0.23

Time vs. Elevation (ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
5,375.000	0.23	0.22	0.22	0.22	0.22
5,400.000	0.21	0.21	0.21	0.20	0.20
5,425.000	0.20	0.19	0.19	0.19	0.18
5,450.000	0.18	0.18	0.17	0.17	0.17
5,475.000	0.16	0.16	0.16	0.15	0.15
5,500.000	0.15	0.14	0.14	0.14	0.13
5,525.000	0.13	0.13	0.12	0.12	0.12
5,550.000	0.11	0.11	0.11	0.10	0.10
5,575.000	0.10	0.09	0.09	0.09	0.08
5,600.000	0.08	0.08	0.07	0.07	0.07
5,625.000	0.06	0.06	0.06	0.05	0.05
5,650.000	0.05	0.04	0.04	0.04	0.03
5,675.000	0.03	0.03	0.02	0.02	0.02
5,700.000	0.01	0.01	0.01	0.00	0.00
5,725.000	0.00	0.00	0.00	0.00	0.00
5,750.000	0.00	0.00	0.00	(N/A)	(N/A)

Time vs. Volume (ac-ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	0.000	0.018	0.085	0.186	0.296
25.000	0.423	0.568	0.726	0.886	1.053
50.000	1.223	1.383	1.543	1.721	1.923
75.000	2.139	2.355	2.577	2.821	3.083
100.000	3.344	3.623	3.934	4.253	4.565
125.000	4.878	5.218	5.627	6.079	6.562
150.000	7.167	7.910	8.690	9.337	9.746
175.000	10.007	10.198	10.304	10.339	10.345
200.000	10.342	10.335	10.326	10.317	10.307
225.000	10.298	10.289	10.279	10.270	10.260
250.000	10.251	10.242	10.232	10.223	10.214
275.000	10.204	10.195	10.186	10.176	10.167
300.000	10.157	10.148	10.139	10.129	10.120
325.000	10.111	10.101	10.092	10.083	10.073
350.000	10.064	10.054	10.045	10.036	10.026
375.000	10.017	10.008	9.998	9.989	9.979
400.000	9.970	9.961	9.951	9.942	9.933
425.000	9.923	9.914	9.905	9.895	9.886
450.000	9.876	9.867	9.858	9.848	9.839
475.000	9.830	9.820	9.811	9.802	9.792
500.000	9.783	9.773	9.764	9.755	9.745
525.000	9.736	9.727	9.717	9.708	9.698
550.000	9.689	9.680	9.670	9.661	9.652
575.000	9.642	9.633	9.624	9.614	9.605
600.000	9.595	9.586	9.577	9.567	9.558
625.000	9.549	9.539	9.530	9.521	9.511
650.000	9.502	9.492	9.483	9.474	9.464
675.000	9.455	9.446	9.436	9.427	9.417
700.000	9.408	9.399	9.389	9.380	9.371
725.000	9.361	9.352	9.343	9.333	9.324
750.000	9.314	9.305	9.296	9.286	9.277
775.000	9.268	9.258	9.249	9.240	9.230
800.000	9.221	9.211	9.202	9.193	9.183
825.000	9.174	9.165	9.155	9.146	9.137
850.000	9.127	9.118	9.108	9.099	9.090
875.000	9.080	9.071	9.062	9.052	9.043
900.000	9.033	9.024	9.015	9.005	8.996
925.000	8.987	8.977	8.968	8.959	8.949
950.000	8.940	8.930	8.921	8.912	8.902
975.000	8.893	8.884	8.874	8.865	8.856
1,000.000	8.846	8.837	8.827	8.818	8.809
1,025.000	8.799	8.790	8.781	8.771	8.762
1,050.000	8.752	8.743	8.734	8.724	8.715

Time vs. Volume (ac-ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
1,075.000	8.706	8.696	8.687	8.678	8.668
1,100.000	8.659	8.649	8.640	8.631	8.621
1,125.000	8.612	8.603	8.593	8.584	8.575
1,150.000	8.565	8.556	8.546	8.537	8.528
1,175.000	8.518	8.509	8.500	8.490	8.481
1,200.000	8.471	8.462	8.453	8.443	8.434
1,225.000	8.425	8.415	8.406	8.397	8.387
1,250.000	8.378	8.368	8.359	8.350	8.340
1,275.000	8.331	8.322	8.312	8.303	8.294
1,300.000	8.284	8.275	8.265	8.256	8.247
1,325.000	8.237	8.228	8.219	8.209	8.200
1,350.000	8.190	8.181	8.172	8.162	8.153
1,375.000	8.144	8.134	8.125	8.116	8.106
1,400.000	8.097	8.087	8.078	8.069	8.059
1,425.000	8.050	8.041	8.031	8.022	8.013
1,450.000	8.003	7.994	7.984	7.975	7.966
1,475.000	7.956	7.947	7.938	7.928	7.919
1,500.000	7.910	7.900	7.891	7.881	7.872
1,525.000	7.863	7.853	7.844	7.835	7.825
1,550.000	7.816	7.806	7.797	7.788	7.778
1,575.000	7.769	7.760	7.750	7.741	7.732
1,600.000	7.722	7.713	7.703	7.694	7.685
1,625.000	7.675	7.666	7.657	7.647	7.638
1,650.000	7.629	7.619	7.610	7.600	7.591
1,675.000	7.582	7.572	7.563	7.554	7.544
1,700.000	7.535	7.525	7.516	7.507	7.497
1,725.000	7.488	7.479	7.469	7.460	7.451
1,750.000	7.441	7.432	7.422	7.413	7.404
1,775.000	7.394	7.385	7.376	7.366	7.357
1,800.000	7.348	7.338	7.329	7.319	7.310
1,825.000	7.301	7.291	7.282	7.273	7.263
1,850.000	7.254	7.244	7.235	7.226	7.216
1,875.000	7.207	7.198	7.188	7.179	7.170
1,900.000	7.160	7.151	7.141	7.132	7.123
1,925.000	7.113	7.104	7.095	7.085	7.076
1,950.000	7.067	7.057	7.048	7.038	7.029
1,975.000	7.020	7.010	7.001	6.992	6.982
2,000.000	6.973	6.963	6.954	6.945	6.935
2,025.000	6.926	6.917	6.907	6.898	6.889
2,050.000	6.879	6.870	6.860	6.851	6.842
2,075.000	6.832	6.823	6.814	6.804	6.795
2,100.000	6.786	6.776	6.767	6.757	6.748
2,125.000	6.739	6.729	6.720	6.711	6.701

Time vs. Volume (ac-ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
2,150.000	6.692	6.683	6.673	6.664	6.654
2,175.000	6.645	6.636	6.626	6.617	6.608
2,200.000	6.598	6.589	6.579	6.570	6.561
2,225.000	6.551	6.542	6.533	6.523	6.514
2,250.000	6.505	6.495	6.486	6.476	6.467
2,275.000	6.458	6.448	6.439	6.430	6.420
2,300.000	6.411	6.402	6.392	6.383	6.373
2,325.000	6.364	6.355	6.345	6.336	6.327
2,350.000	6.317	6.308	6.298	6.289	6.280
2,375.000	6.270	6.261	6.252	6.242	6.233
2,400.000	6.224	6.214	6.205	6.195	6.186
2,425.000	6.177	6.167	6.158	6.149	6.139
2,450.000	6.130	6.121	6.111	6.102	6.092
2,475.000	6.083	6.074	6.064	6.055	6.046
2,500.000	6.036	6.027	6.017	6.008	5.999
2,525.000	5.989	5.980	5.971	5.961	5.952
2,550.000	5.943	5.933	5.924	5.914	5.905
2,575.000	5.896	5.886	5.877	5.868	5.858
2,600.000	5.849	5.840	5.830	5.821	5.811
2,625.000	5.802	5.793	5.783	5.774	5.765
2,650.000	5.755	5.746	5.737	5.727	5.718
2,675.000	5.708	5.699	5.690	5.680	5.671
2,700.000	5.662	5.652	5.643	5.633	5.624
2,725.000	5.615	5.605	5.596	5.587	5.577
2,750.000	5.568	5.559	5.549	5.540	5.530
2,775.000	5.521	5.512	5.502	5.493	5.484
2,800.000	5.474	5.465	5.456	5.446	5.437
2,825.000	5.427	5.418	5.409	5.399	5.390
2,850.000	5.381	5.371	5.362	5.352	5.343
2,875.000	5.334	5.324	5.315	5.306	5.296
2,900.000	5.287	5.278	5.268	5.259	5.249
2,925.000	5.240	5.231	5.221	5.212	5.203
2,950.000	5.193	5.184	5.175	5.165	5.156
2,975.000	5.146	5.137	5.128	5.118	5.109
3,000.000	5.100	5.090	5.081	5.071	5.062
3,025.000	5.053	5.043	5.034	5.025	5.015
3,050.000	5.006	4.997	4.987	4.978	4.968
3,075.000	4.959	4.950	4.940	4.931	4.922
3,100.000	4.912	4.903	4.894	4.884	4.875
3,125.000	4.865	4.856	4.847	4.837	4.828
3,150.000	4.819	4.809	4.800	4.790	4.781
3,175.000	4.772	4.762	4.753	4.744	4.734
3,200.000	4.725	4.716	4.706	4.697	4.687

Time vs. Volume (ac-ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
3,225.000	4.678	4.669	4.659	4.650	4.641
3,250.000	4.631	4.622	4.613	4.603	4.594
3,275.000	4.584	4.575	4.566	4.556	4.547
3,300.000	4.538	4.528	4.519	4.510	4.500
3,325.000	4.491	4.481	4.472	4.463	4.453
3,350.000	4.444	4.435	4.425	4.416	4.406
3,375.000	4.397	4.388	4.378	4.369	4.360
3,400.000	4.350	4.341	4.332	4.322	4.313
3,425.000	4.303	4.294	4.285	4.275	4.266
3,450.000	4.257	4.247	4.238	4.229	4.219
3,475.000	4.210	4.200	4.191	4.182	4.172
3,500.000	4.163	4.154	4.144	4.135	4.125
3,525.000	4.116	4.107	4.097	4.088	4.079
3,550.000	4.069	4.060	4.051	4.041	4.032
3,575.000	4.022	4.013	4.004	3.994	3.985
3,600.000	3.976	3.966	3.957	3.948	3.938
3,625.000	3.929	3.919	3.910	3.901	3.891
3,650.000	3.882	3.873	3.863	3.854	3.844
3,675.000	3.835	3.826	3.816	3.807	3.798
3,700.000	3.788	3.779	3.770	3.760	3.751
3,725.000	3.741	3.732	3.723	3.713	3.704
3,750.000	3.695	3.685	3.676	3.667	3.657
3,775.000	3.648	3.638	3.629	3.620	3.610
3,800.000	3.601	3.592	3.582	3.573	3.563
3,825.000	3.554	3.545	3.535	3.526	3.517
3,850.000	3.507	3.498	3.489	3.479	3.470
3,875.000	3.460	3.451	3.442	3.432	3.423
3,900.000	3.414	3.404	3.395	3.386	3.376
3,925.000	3.367	3.357	3.348	3.339	3.329
3,950.000	3.320	3.311	3.301	3.292	3.283
3,975.000	3.273	3.264	3.254	3.245	3.236
4,000.000	3.226	3.217	3.208	3.198	3.189
4,025.000	3.179	3.170	3.161	3.151	3.142
4,050.000	3.133	3.123	3.114	3.105	3.095
4,075.000	3.086	3.076	3.067	3.058	3.048
4,100.000	3.039	3.030	3.020	3.011	3.002
4,125.000	2.992	2.983	2.973	2.964	2.955
4,150.000	2.945	2.936	2.927	2.917	2.908
4,175.000	2.898	2.889	2.880	2.870	2.861
4,200.000	2.852	2.842	2.833	2.824	2.814
4,225.000	2.805	2.795	2.786	2.777	2.767
4,250.000	2.758	2.749	2.739	2.730	2.721
4,275.000	2.711	2.702	2.692	2.683	2.674

Time vs. Volume (ac-ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
4,300.000	2.664	2.655	2.646	2.636	2.627
4,325.000	2.617	2.608	2.599	2.589	2.580
4,350.000	2.571	2.561	2.552	2.543	2.533
4,375.000	2.524	2.514	2.505	2.496	2.486
4,400.000	2.477	2.468	2.458	2.449	2.440
4,425.000	2.430	2.421	2.411	2.402	2.393
4,450.000	2.383	2.374	2.365	2.355	2.346
4,475.000	2.337	2.327	2.318	2.308	2.299
4,500.000	2.290	2.280	2.271	2.262	2.252
4,525.000	2.243	2.233	2.224	2.215	2.205
4,550.000	2.196	2.187	2.177	2.168	2.159
4,575.000	2.149	2.140	2.130	2.121	2.112
4,600.000	2.102	2.093	2.084	2.074	2.065
4,625.000	2.056	2.046	2.037	2.027	2.018
4,650.000	2.009	1.999	1.990	1.981	1.971
4,675.000	1.962	1.952	1.943	1.934	1.924
4,700.000	1.915	1.906	1.896	1.887	1.878
4,725.000	1.868	1.859	1.849	1.840	1.831
4,750.000	1.821	1.812	1.803	1.793	1.784
4,775.000	1.775	1.765	1.756	1.746	1.737
4,800.000	1.728	1.718	1.709	1.700	1.690
4,825.000	1.681	1.671	1.662	1.653	1.643
4,850.000	1.634	1.625	1.615	1.606	1.597
4,875.000	1.587	1.578	1.568	1.559	1.550
4,900.000	1.540	1.531	1.522	1.512	1.503
4,925.000	1.494	1.484	1.475	1.465	1.456
4,950.000	1.447	1.437	1.428	1.419	1.409
4,975.000	1.400	1.390	1.381	1.372	1.362
5,000.000	1.353	1.344	1.334	1.325	1.316
5,025.000	1.306	1.297	1.287	1.278	1.269
5,050.000	1.259	1.250	1.241	1.231	1.222
5,075.000	1.213	1.203	1.194	1.184	1.175
5,100.000	1.166	1.156	1.147	1.138	1.128
5,125.000	1.119	1.110	1.100	1.091	1.081
5,150.000	1.072	1.063	1.053	1.044	1.035
5,175.000	1.025	1.016	1.006	0.997	0.988
5,200.000	0.978	0.969	0.960	0.950	0.941
5,225.000	0.932	0.922	0.913	0.903	0.894
5,250.000	0.885	0.875	0.866	0.857	0.847
5,275.000	0.838	0.829	0.819	0.810	0.800
5,300.000	0.791	0.782	0.772	0.763	0.754
5,325.000	0.744	0.735	0.725	0.716	0.707
5,350.000	0.697	0.688	0.679	0.669	0.660

Time vs. Volume (ac-ft)

Output Time increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
5,375.000	0.651	0.641	0.632	0.622	0.613
5,400.000	0.604	0.594	0.585	0.576	0.566
5,425.000	0.557	0.548	0.538	0.529	0.519
5,450.000	0.510	0.501	0.491	0.482	0.473
5,475.000	0.463	0.454	0.444	0.435	0.426
5,500.000	0.416	0.407	0.398	0.388	0.379
5,525.000	0.370	0.360	0.351	0.341	0.332
5,550.000	0.323	0.313	0.304	0.295	0.285
5,575.000	0.276	0.267	0.257	0.248	0.238
5,600.000	0.229	0.220	0.210	0.201	0.192
5,625.000	0.182	0.173	0.163	0.154	0.145
5,650.000	0.135	0.126	0.117	0.107	0.098
5,675.000	0.089	0.079	0.070	0.060	0.051
5,700.000	0.042	0.032	0.023	0.014	0.000
5,725.000	0.000	0.000	0.000	0.000	0.000
5,750.000	0.000	0.000	0.000	(N/A)	(N/A)

Subsection: Elevation-Area Volume Curve
Label: Underground Basin

Scenario: Base

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
0.00	0.0	2.850	0.000	0.000	0.000
5.00	0.0	2.850	8.549	14.249	14.249



4'

WIDTH VARIES
X'-Y'

BOTTOM FOOTPRINT 124,134 SF (2.85 AC) X HEIGHT 4 FT = 11.4 AC FT TOTAL VOLUME.
MAX 100 YEAR STORAGE HEIGHT AND VOLUME IS 10.35 AC FT AND 3.63 FT

PROPOSED UNDERGROUND BASIN TYPICAL SECTION

REFER TO APPENDIX C FOR EXAMPLE PRODUCT SPECIFICATION

Pond Volume Equations
*** Incremental volume computed by the Conic Method for Reservoir Volumes.**

Volume = (1/3) * (EL2 - El1) * (Area1 + Area2 + sqr(Area1 * Area2))

where:	EL1, EL2	Lower and upper elevations of the increment
	Area1, Area2	Areas computed for EL1, EL2, respectively
	Volume	Incremental volume between EL1 and EL2

Requested Pond Water Surface Elevations	
Minimum (Headwater)	0.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	5.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
User Defined Table	User Defined Rating Table - 1	Forward	TW	0.00	5.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: User Defined Rating Table - 1
Structure Type: User Defined Table

Elevation (ft)	Flow (ft³/s)
0.00	1.36
2.00	1.36
5.00	1.36

Structure ID: TW
Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = ()

Upstream ID =
Downstream ID =

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
Contributing Structures			

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 1

Scenario: Base

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
0.00	1.36	(N/A)	0.00
0.50	1.36	(N/A)	0.00
1.00	1.36	(N/A)	0.00
1.50	1.36	(N/A)	0.00
2.00	1.36	(N/A)	0.00
2.50	1.36	(N/A)	0.00
3.00	1.36	(N/A)	0.00
3.50	1.36	(N/A)	0.00
4.00	1.36	(N/A)	0.00
4.50	1.36	(N/A)	0.00
5.00	1.36	(N/A)	0.00

Contributing Structures
User Defined Rating Table - 1
User Defined Rating Table - 1
User Defined Rating Table - 1
User Defined Rating Table - 1
User Defined Rating Table - 1
User Defined Rating Table - 1
User Defined Rating Table - 1
User Defined Rating Table - 1
User Defined Rating Table - 1
User Defined Rating Table - 1

Subsection: Elevation-Volume-Flow Table (Pond) Scenario: Base
Label: Underground Basin

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	0.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	1.36 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	1.36 ft³/s
Time Increment	5.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
0.00	1.36	0.000	2.850	0.00	1.36	1.36
0.50	1.36	1.425	2.850	0.00	1.36	415.14
1.00	1.36	2.850	2.850	0.00	1.36	828.91
1.50	1.36	4.275	2.850	0.00	1.36	1,242.69
2.00	1.36	5.699	2.850	0.00	1.36	1,656.47
2.50	1.36	7.124	2.850	0.00	1.36	2,070.24
3.00	1.36	8.549	2.850	0.00	1.36	2,484.02
3.50	1.36	9.974	2.850	0.00	1.36	2,897.80
4.00	1.36	11.399	2.850	0.00	1.36	3,311.57
4.50	1.36	12.824	2.850	0.00	1.36	3,725.35
5.00	1.36	14.248	2.850	0.00	1.36	4,139.12

Subsection: Level Pool Pond Routing Summary
Label: Underground Basin (IN)

Scenario: Base

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	0.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	1.36 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	1.36 ft³/s
Time Increment	5.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	116.21 ft³/s	Time to Peak (Flow, In)	155.000 min
Flow (Peak Outlet)	1.36 ft³/s	Time to Peak (Flow, Outlet)	5.000 min

Elevation (Water Surface, Peak)	3.63 ft
Volume (Peak)	10.345 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	10.715 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	10.717 ac-ft
Volume (Retained)	0.000 ac-ft
Volume (Unrouted)	0.002 ac-ft
Error (Mass Balance)	0.0 %

Peak Discharge	1.36 ft³/s
Time to Peak	1,950.000 min
Hydrograph Volume	10.717 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.000	0.68	1.36	1.36	1.36	1.36
25.000	1.36	1.36	1.36	1.36	1.36
50.000	1.36	1.36	1.36	1.36	1.36
75.000	1.36	1.36	1.36	1.36	1.36
100.000	1.36	1.36	1.36	1.36	1.36
125.000	1.36	1.36	1.36	1.36	1.36
150.000	1.36	1.36	1.36	1.36	1.36
175.000	1.36	1.36	1.36	1.36	1.36
200.000	1.36	1.36	1.36	1.36	1.36
225.000	1.36	1.36	1.36	1.36	1.36
250.000	1.36	1.36	1.36	1.36	1.36
275.000	1.36	1.36	1.36	1.36	1.36
300.000	1.36	1.36	1.36	1.36	1.36
325.000	1.36	1.36	1.36	1.36	1.36
350.000	1.36	1.36	1.36	1.36	1.36
375.000	1.36	1.36	1.36	1.36	1.36
400.000	1.36	1.36	1.36	1.36	1.36
425.000	1.36	1.36	1.36	1.36	1.36
450.000	1.36	1.36	1.36	1.36	1.36
475.000	1.36	1.36	1.36	1.36	1.36
500.000	1.36	1.36	1.36	1.36	1.36
525.000	1.36	1.36	1.36	1.36	1.36
550.000	1.36	1.36	1.36	1.36	1.36
575.000	1.36	1.36	1.36	1.36	1.36
600.000	1.36	1.36	1.36	1.36	1.36
625.000	1.36	1.36	1.36	1.36	1.36
650.000	1.36	1.36	1.36	1.36	1.36
675.000	1.36	1.36	1.36	1.36	1.36
700.000	1.36	1.36	1.36	1.36	1.36
725.000	1.36	1.36	1.36	1.36	1.36
750.000	1.36	1.36	1.36	1.36	1.36
775.000	1.36	1.36	1.36	1.36	1.36
800.000	1.36	1.36	1.36	1.36	1.36
825.000	1.36	1.36	1.36	1.36	1.36
850.000	1.36	1.36	1.36	1.36	1.36
875.000	1.36	1.36	1.36	1.36	1.36
900.000	1.36	1.36	1.36	1.36	1.36
925.000	1.36	1.36	1.36	1.36	1.36
950.000	1.36	1.36	1.36	1.36	1.36

Subsection: Pond Routed Hydrograph (total out) Scenario: Base
Label: Underground Basin (OUT)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
975.000	1.36	1.36	1.36	1.36	1.36
1,000.000	1.36	1.36	1.36	1.36	1.36
1,025.000	1.36	1.36	1.36	1.36	1.36
1,050.000	1.36	1.36	1.36	1.36	1.36
1,075.000	1.36	1.36	1.36	1.36	1.36
1,100.000	1.36	1.36	1.36	1.36	1.36
1,125.000	1.36	1.36	1.36	1.36	1.36
1,150.000	1.36	1.36	1.36	1.36	1.36
1,175.000	1.36	1.36	1.36	1.36	1.36
1,200.000	1.36	1.36	1.36	1.36	1.36
1,225.000	1.36	1.36	1.36	1.36	1.36
1,250.000	1.36	1.36	1.36	1.36	1.36
1,275.000	1.36	1.36	1.36	1.36	1.36
1,300.000	1.36	1.36	1.36	1.36	1.36
1,325.000	1.36	1.36	1.36	1.36	1.36
1,350.000	1.36	1.36	1.36	1.36	1.36
1,375.000	1.36	1.36	1.36	1.36	1.36
1,400.000	1.36	1.36	1.36	1.36	1.36
1,425.000	1.36	1.36	1.36	1.36	1.36
1,450.000	1.36	1.36	1.36	1.36	1.36
1,475.000	1.36	1.36	1.36	1.36	1.36
1,500.000	1.36	1.36	1.36	1.36	1.36
1,525.000	1.36	1.36	1.36	1.36	1.36
1,550.000	1.36	1.36	1.36	1.36	1.36
1,575.000	1.36	1.36	1.36	1.36	1.36
1,600.000	1.36	1.36	1.36	1.36	1.36
1,625.000	1.36	1.36	1.36	1.36	1.36
1,650.000	1.36	1.36	1.36	1.36	1.36
1,675.000	1.36	1.36	1.36	1.36	1.36
1,700.000	1.36	1.36	1.36	1.36	1.36
1,725.000	1.36	1.36	1.36	1.36	1.36
1,750.000	1.36	1.36	1.36	1.36	1.36
1,775.000	1.36	1.36	1.36	1.36	1.36
1,800.000	1.36	1.36	1.36	1.36	1.36
1,825.000	1.36	1.36	1.36	1.36	1.36
1,850.000	1.36	1.36	1.36	1.36	1.36
1,875.000	1.36	1.36	1.36	1.36	1.36
1,900.000	1.36	1.36	1.36	1.36	1.36
1,925.000	1.36	1.36	1.36	1.36	1.36
1,950.000	1.36	1.36	1.36	1.36	1.36
1,975.000	1.36	1.36	1.36	1.36	1.36
2,000.000	1.36	1.36	1.36	1.36	1.36
2,025.000	1.36	1.36	1.36	1.36	1.36
2,050.000	1.36	1.36	1.36	1.36	1.36

Subsection: Pond Routed Hydrograph (total out) Scenario: Base
Label: Underground Basin (OUT)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
2,075.000	1.36	1.36	1.36	1.36	1.36
2,100.000	1.36	1.36	1.36	1.36	1.36
2,125.000	1.36	1.36	1.36	1.36	1.36
2,150.000	1.36	1.36	1.36	1.36	1.36
2,175.000	1.36	1.36	1.36	1.36	1.36
2,200.000	1.36	1.36	1.36	1.36	1.36
2,225.000	1.36	1.36	1.36	1.36	1.36
2,250.000	1.36	1.36	1.36	1.36	1.36
2,275.000	1.36	1.36	1.36	1.36	1.36
2,300.000	1.36	1.36	1.36	1.36	1.36
2,325.000	1.36	1.36	1.36	1.36	1.36
2,350.000	1.36	1.36	1.36	1.36	1.36
2,375.000	1.36	1.36	1.36	1.36	1.36
2,400.000	1.36	1.36	1.36	1.36	1.36
2,425.000	1.36	1.36	1.36	1.36	1.36
2,450.000	1.36	1.36	1.36	1.36	1.36
2,475.000	1.36	1.36	1.36	1.36	1.36
2,500.000	1.36	1.36	1.36	1.36	1.36
2,525.000	1.36	1.36	1.36	1.36	1.36
2,550.000	1.36	1.36	1.36	1.36	1.36
2,575.000	1.36	1.36	1.36	1.36	1.36
2,600.000	1.36	1.36	1.36	1.36	1.36
2,625.000	1.36	1.36	1.36	1.36	1.36
2,650.000	1.36	1.36	1.36	1.36	1.36
2,675.000	1.36	1.36	1.36	1.36	1.36
2,700.000	1.36	1.36	1.36	1.36	1.36
2,725.000	1.36	1.36	1.36	1.36	1.36
2,750.000	1.36	1.36	1.36	1.36	1.36
2,775.000	1.36	1.36	1.36	1.36	1.36
2,800.000	1.36	1.36	1.36	1.36	1.36
2,825.000	1.36	1.36	1.36	1.36	1.36
2,850.000	1.36	1.36	1.36	1.36	1.36
2,875.000	1.36	1.36	1.36	1.36	1.36
2,900.000	1.36	1.36	1.36	1.36	1.36
2,925.000	1.36	1.36	1.36	1.36	1.36
2,950.000	1.36	1.36	1.36	1.36	1.36
2,975.000	1.36	1.36	1.36	1.36	1.36
3,000.000	1.36	1.36	1.36	1.36	1.36
3,025.000	1.36	1.36	1.36	1.36	1.36
3,050.000	1.36	1.36	1.36	1.36	1.36
3,075.000	1.36	1.36	1.36	1.36	1.36
3,100.000	1.36	1.36	1.36	1.36	1.36
3,125.000	1.36	1.36	1.36	1.36	1.36
3,150.000	1.36	1.36	1.36	1.36	1.36

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
3,175.000	1.36	1.36	1.36	1.36	1.36
3,200.000	1.36	1.36	1.36	1.36	1.36
3,225.000	1.36	1.36	1.36	1.36	1.36
3,250.000	1.36	1.36	1.36	1.36	1.36
3,275.000	1.36	1.36	1.36	1.36	1.36
3,300.000	1.36	1.36	1.36	1.36	1.36
3,325.000	1.36	1.36	1.36	1.36	1.36
3,350.000	1.36	1.36	1.36	1.36	1.36
3,375.000	1.36	1.36	1.36	1.36	1.36
3,400.000	1.36	1.36	1.36	1.36	1.36
3,425.000	1.36	1.36	1.36	1.36	1.36
3,450.000	1.36	1.36	1.36	1.36	1.36
3,475.000	1.36	1.36	1.36	1.36	1.36
3,500.000	1.36	1.36	1.36	1.36	1.36
3,525.000	1.36	1.36	1.36	1.36	1.36
3,550.000	1.36	1.36	1.36	1.36	1.36
3,575.000	1.36	1.36	1.36	1.36	1.36
3,600.000	1.36	1.36	1.36	1.36	1.36
3,625.000	1.36	1.36	1.36	1.36	1.36
3,650.000	1.36	1.36	1.36	1.36	1.36
3,675.000	1.36	1.36	1.36	1.36	1.36
3,700.000	1.36	1.36	1.36	1.36	1.36
3,725.000	1.36	1.36	1.36	1.36	1.36
3,750.000	1.36	1.36	1.36	1.36	1.36
3,775.000	1.36	1.36	1.36	1.36	1.36
3,800.000	1.36	1.36	1.36	1.36	1.36
3,825.000	1.36	1.36	1.36	1.36	1.36
3,850.000	1.36	1.36	1.36	1.36	1.36
3,875.000	1.36	1.36	1.36	1.36	1.36
3,900.000	1.36	1.36	1.36	1.36	1.36
3,925.000	1.36	1.36	1.36	1.36	1.36
3,950.000	1.36	1.36	1.36	1.36	1.36
3,975.000	1.36	1.36	1.36	1.36	1.36
4,000.000	1.36	1.36	1.36	1.36	1.36
4,025.000	1.36	1.36	1.36	1.36	1.36
4,050.000	1.36	1.36	1.36	1.36	1.36
4,075.000	1.36	1.36	1.36	1.36	1.36
4,100.000	1.36	1.36	1.36	1.36	1.36
4,125.000	1.36	1.36	1.36	1.36	1.36
4,150.000	1.36	1.36	1.36	1.36	1.36
4,175.000	1.36	1.36	1.36	1.36	1.36
4,200.000	1.36	1.36	1.36	1.36	1.36
4,225.000	1.36	1.36	1.36	1.36	1.36
4,250.000	1.36	1.36	1.36	1.36	1.36

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
4,275.000	1.36	1.36	1.36	1.36	1.36
4,300.000	1.36	1.36	1.36	1.36	1.36
4,325.000	1.36	1.36	1.36	1.36	1.36
4,350.000	1.36	1.36	1.36	1.36	1.36
4,375.000	1.36	1.36	1.36	1.36	1.36
4,400.000	1.36	1.36	1.36	1.36	1.36
4,425.000	1.36	1.36	1.36	1.36	1.36
4,450.000	1.36	1.36	1.36	1.36	1.36
4,475.000	1.36	1.36	1.36	1.36	1.36
4,500.000	1.36	1.36	1.36	1.36	1.36
4,525.000	1.36	1.36	1.36	1.36	1.36
4,550.000	1.36	1.36	1.36	1.36	1.36
4,575.000	1.36	1.36	1.36	1.36	1.36
4,600.000	1.36	1.36	1.36	1.36	1.36
4,625.000	1.36	1.36	1.36	1.36	1.36
4,650.000	1.36	1.36	1.36	1.36	1.36
4,675.000	1.36	1.36	1.36	1.36	1.36
4,700.000	1.36	1.36	1.36	1.36	1.36
4,725.000	1.36	1.36	1.36	1.36	1.36
4,750.000	1.36	1.36	1.36	1.36	1.36
4,775.000	1.36	1.36	1.36	1.36	1.36
4,800.000	1.36	1.36	1.36	1.36	1.36
4,825.000	1.36	1.36	1.36	1.36	1.36
4,850.000	1.36	1.36	1.36	1.36	1.36
4,875.000	1.36	1.36	1.36	1.36	1.36
4,900.000	1.36	1.36	1.36	1.36	1.36
4,925.000	1.36	1.36	1.36	1.36	1.36
4,950.000	1.36	1.36	1.36	1.36	1.36
4,975.000	1.36	1.36	1.36	1.36	1.36
5,000.000	1.36	1.36	1.36	1.36	1.36
5,025.000	1.36	1.36	1.36	1.36	1.36
5,050.000	1.36	1.36	1.36	1.36	1.36
5,075.000	1.36	1.36	1.36	1.36	1.36
5,100.000	1.36	1.36	1.36	1.36	1.36
5,125.000	1.36	1.36	1.36	1.36	1.36
5,150.000	1.36	1.36	1.36	1.36	1.36
5,175.000	1.36	1.36	1.36	1.36	1.36
5,200.000	1.36	1.36	1.36	1.36	1.36
5,225.000	1.36	1.36	1.36	1.36	1.36
5,250.000	1.36	1.36	1.36	1.36	1.36
5,275.000	1.36	1.36	1.36	1.36	1.36
5,300.000	1.36	1.36	1.36	1.36	1.36
5,325.000	1.36	1.36	1.36	1.36	1.36
5,350.000	1.36	1.36	1.36	1.36	1.36

Subsection: Pond Routed Hydrograph (total out) Scenario: Base
Label: Underground Basin (OUT)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 5.000 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
5,375.000	1.36	1.36	1.36	1.36	1.36
5,400.000	1.36	1.36	1.36	1.36	1.36
5,425.000	1.36	1.36	1.36	1.36	1.36
5,450.000	1.36	1.36	1.36	1.36	1.36
5,475.000	1.36	1.36	1.36	1.36	1.36
5,500.000	1.36	1.36	1.36	1.36	1.36
5,525.000	1.36	1.36	1.36	1.36	1.36
5,550.000	1.36	1.36	1.36	1.36	1.36
5,575.000	1.36	1.36	1.36	1.36	1.36
5,600.000	1.36	1.36	1.36	1.36	1.36
5,625.000	1.36	1.36	1.36	1.36	1.36
5,650.000	1.36	1.36	1.36	1.36	1.36
5,675.000	1.36	1.36	1.36	1.36	1.36
5,700.000	1.36	1.36	1.36	1.36	1.30
5,725.000	0.00	(N/A)	(N/A)	(N/A)	(N/A)

Summary for Hydrograph Addition at 'Underground Basin'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	A1
<Catchment to Outflow Node>	A3
<Catchment to Outflow Node>	A2

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	A1	2.469	155.000	27.59
Flow (From)	A3	3.726	155.000	39.87
Flow (From)	A2	4.519	155.000	48.74
Flow (In)	Underground Basin	10.715	155.000	116.21

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Appendix D – Hydraulic Calculations

Spillway Design

Project Description	
Solve For	Headwater Elevation

Input Data	
Discharge	219.04 cfs
Crest Elevation	0.00 ft
Tailwater Elevation	0.00 ft
Crest Surface Type	Paved
Crest Breadth	10.00 ft
Crest Length	80.0 ft

Results	
Headwater Elevation	0.93 ft
Headwater Height Above Crest	0.93 ft
Tailwater Height Above Crest	0.00 ft
Weir Coefficient	3.04 ft^(1/2)/s
Submergence Factor	1.000
Adjusted Weir Coefficient	3.04 ft^(1/2)/s
Flow Area	74.7 ft²
Velocity	2.93 ft/s
Wetted Perimeter	81.9 ft
Top Width	80.00 ft

Spillway Design

Notes:

Spillway designed based on peak inflow into basin: 51.91+91.18+75.95 =231.54 cfs
Spillway design applies to both spillways: Between Bioretention Basin and Detention Basin.

Reverse Parkway Drain, Std D-306

Project Description	
Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.020 ft/ft
Normal Depth	5.0 in
Height	0.4 ft
Bottom Width	2.00 ft
Discharge	4.22 cfs

Results	
Flow Area	0.8 ft²
Wetted Perimeter	4.8 ft
Hydraulic Radius	2.1 in
Top Width	2.00 ft
Critical Depth	5.0 in
Percent Full	100.0 %
Critical Slope	0.020 ft/ft
Velocity	5.03 ft/s
Velocity Head	0.39 ft
Specific Energy	0.81 ft
Froude Number	1.368
Discharge Full	4.22 cfs
Slope Full	0.020 ft/ft
Flow Type	Critical

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	5.0 in
Critical Depth	5.0 in
Channel Slope	0.020 ft/ft
Critical Slope	0.020 ft/ft

Main Line (Drainage Area A1)

Project Description	
Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.010 ft/ft
Normal Depth	30.0 in
Diameter	30.0 in
Discharge	41.01 cfs

Results	
Discharge	41.01 cfs
Normal Depth	30.0 in
Flow Area	4.9 ft²
Wetted Perimeter	7.9 ft
Hydraulic Radius	7.5 in
Top Width	0.00 ft
Critical Depth	25.8 in
Percent Full	100.0 %
Critical Slope	0.009 ft/ft
Velocity	8.36 ft/s
Velocity Head	1.08 ft
Specific Energy	3.58 ft
Froude Number	(N/A)
Maximum Discharge	44.12 cfs
Discharge Full	41.01 cfs
Slope Full	0.010 ft/ft
Flow Type	Undefined

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	30.0 in
Critical Depth	25.8 in
Channel Slope	0.010 ft/ft
Critical Slope	0.009 ft/ft

Main Line (Drainage Area A1)

Notes:

100-Year Tributary Flow: 27.60 cfs

Main Line (Drainage Area A2)

Project Description	
Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.010 ft/ft
Normal Depth	36.0 in
Diameter	36.0 in
Discharge	66.69 cfs

Results	
Discharge	66.69 cfs
Normal Depth	36.0 in
Flow Area	7.1 ft²
Wetted Perimeter	9.4 ft
Hydraulic Radius	9.0 in
Top Width	0.00 ft
Critical Depth	31.3 in
Percent Full	100.0 %
Critical Slope	0.009 ft/ft
Velocity	9.44 ft/s
Velocity Head	1.38 ft
Specific Energy	4.38 ft
Froude Number	(N/A)
Maximum Discharge	71.74 cfs
Discharge Full	66.69 cfs
Slope Full	0.010 ft/ft
Flow Type	Undefined

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	36.0 in
Critical Depth	31.3 in
Channel Slope	0.010 ft/ft
Critical Slope	0.009 ft/ft

Main Line (Drainage Area A2)

Notes:

100-Year Tributary Flow: 48.74 cfs

Main Line (Drainage Area A3)

Project Description	
Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.010 ft/ft
Normal Depth	30.0 in
Diameter	30.0 in
Discharge	41.01 cfs

Results	
Discharge	41.01 cfs
Normal Depth	30.0 in
Flow Area	4.9 ft²
Wetted Perimeter	7.9 ft
Hydraulic Radius	7.5 in
Top Width	0.00 ft
Critical Depth	25.8 in
Percent Full	100.0 %
Critical Slope	0.009 ft/ft
Velocity	8.36 ft/s
Velocity Head	1.08 ft
Specific Energy	3.58 ft
Froude Number	(N/A)
Maximum Discharge	44.12 cfs
Discharge Full	41.01 cfs
Slope Full	0.010 ft/ft
Flow Type	Undefined

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	30.0 in
Critical Depth	25.8 in
Channel Slope	0.010 ft/ft
Critical Slope	0.009 ft/ft

Main Line (Drainage Area A3)

Notes:

100-Year Tributary Flow: 39.87 cfs

Appendix E – Low Impact Development

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Based on Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	Legacy CivilWorks Engineering, Inc	Date	9/3/2024
Designed by	jmensen	Case No	
Company Project Number/Name	Hemet 63 Basin		

BMP Identification

BMP NAME / ID: Bioretention Basin A1

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.69 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	Design Storm Depth (in)	Design Capture Volume, V_{BMP} (cubic feet)	Proposed Volume on Plans (cubic feet)
D1 & D3	1122137	Concrete or Asphalt	1.00	0.89	998702		57425.36	
D2	1124559	Roofs	1.00	0.89	1000858		57549.31	
D4	178,397	Ornamental Landscaping	0.1	0.11	19705.4		1133.06	
D5 (BASIN)	76915	Mixed Surface Types	0	0.04	3076.6		176.90	
D10	150294	Ornamental Landscaping	0.1	0.11	16601.2		954.57	
						0.69		
	2652302		Total		2038943	0.69	117239	117240

Notes:

Bioretention Facility - Design Procedure	BMP ID: A1	Legend:	Required Entries / Calculated Cells

Company Name: Legacy CivilWorks Engineering, Inc. Date: 9/3/2024

Designed by: jmensen County/City Case No.:

Design Volume

Enter the area tributary to this feature A_T = 60.89 acres

Enter V_{BMP} determined from Section 2.1 of this Handbook V_{BMP} = 117,239 ft^3

Type of Bioretention Facility Design

(●) Side slopes required (parallel to parking spaces or adjacent to walkways)

( ) No side slopes required (perpendicular to parking space or Planter Boxes)

Bioretention Facility Surface Area

Depth of Soil Filter Media Layer d_S = 3.0 ft

Top Width of Bioretention Facility, excluding curb w_T = 40.0 ft

Total Effective Depth, d_E

$d_E = (0.3) \times d_S + (0.4) \times 1 - (0.7/w_T) + 0.5$ d_E = 1.78 ft

Minimum Surface Area, A_m

$$A_M\,(ft^2) = \frac{V_{BMP}\,(ft^3)}{d_E\,(ft)}$$

A_M = 65,773 ft^2

Proposed Surface Area A= 65,773 ft^2

Bioretention Facility Properties

Side Slopes in Bioretention Facility z = 4 :1

Diameter of Underdrain 6 inches

Longitudinal Slope of Site (3% maximum) 3 %

6" Check Dam Spacing 10 feet

Describe Vegetation:

Notes:

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Based on Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	Legacy CivilWorks Engineering, Inc.	Date	3/27/2024
Designed by	jmensen	Case No	
Company Project Number/Name	Hemet 63 - Cawston Avenue BMP		

BMP Identification

BMP NAME / ID: Bioretention Basin A2

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85} = 0.69 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
D6	*26335*	*Mixed Surface Types*	*0.00*	*0.04*	*1053*		*60.57*	
D7	*55951*	*Concrete or Asphalt*	*1.00*	*0.89*	*49796*		*2863.29*	
						0.69		
	82286		***Total***		**50850**	**0.69**	***2924***	***2924***

Notes:

D6 Refers to proposed BMP: Bioretention Basin A2

Bioretention Facility - Design Procedure	BMP ID: A2	Legend:	Required Entries / Calculated Cells

Company Name: Legacy CivilWorks Engineering, Inc. Date: 4/1/2024

Designed by: jmensen County/City Case No.:

Design Volume

Enter the area tributary to this feature A_T = 1.88 acres

Enter V_{BMP} determined from Section 2.1 of this Handbook V_{BMP} = 2,924 ft^3

Type of Bioretention Facility Design

(●) Side slopes required (parallel to parking spaces or adjacent to walkways)

( ) No side slopes required (perpendicular to parking space or Planter Boxes)

Bioretention Facility Surface Area

Depth of Soil Filter Media Layer d_S = 1.5 ft

Top Width of Bioretention Facility, excluding curb w_T = 40.0 ft

Total Effective Depth, d_E

$d_E = (0.3) \times d_S + (0.4) \times 1 - (0.7/w_T) + 0.5$ d_E = 1.33 ft

Minimum Surface Area, A_m

$$A_M\,(ft^2) = \frac{V_{BMP}\,(ft^3)}{d_E\,(ft)}$$

A_M = 2,195 ft^2

Proposed Surface Area A= 2,638 ft^2

Bioretention Facility Properties

Side Slopes in Bioretention Facility z = 4 :1

Diameter of Underdrain 6 inches

Longitudinal Slope of Site (3% maximum) 3 %

6" Check Dam Spacing 10 feet

Describe Vegetation:

Notes: Bioretention to be bottom underdrain to be capped until Cawston Ave storm drain is built.
Bottom of Bioretention basin to be soft bottom and infiltrate to the max extent practical.

Stage-Storage Table

Detention Basin A1 Stage-Storage Table				Bioretention Basin A1 Stage-Storage Table				Combined Stage-Storage Table				
Elevation (ft)	Contour Area (sf)	Inc. Vol (cuft)	Cumulative Volume (cuft)	Elevation (ft)	Contour Area (sf)	Inc. Vol (cuft)	Cumulative Volume (cuft)	Elevation (ft)	Contour Area (sf)	Depth (ft)	Incremental Volume (cuft)	Cummulative Volume (cuft)
1,499.50	**1,380.59**	**0**	**0**					**1,499.50**	**1,380.59**	**0.1**	**0**	**0**
1,499.60	23,189.21	1228.49	1228.49					1,499.60	23,189.21	0.2	1228.49	1228.49
1,499.70	24,396.33	2379.28	3607.77					1,499.70	24,396.33	0.3	2379.28	3607.77
1,499.80	25,604.13	2500.02	6107.79					1,499.80	25,604.13	0.4	2500.02	6107.79
1,499.90	26,812.60	2620.84	8728.63					1,499.90	26,812.60	0.5	2620.84	8728.63
1,500.00	28,021.74	2741.72	11470.34					1,500.00	28,021.74	0.6	2741.72	11470.34
1,500.10	29,231.55	2862.66	14333.01					1,500.10	29,231.55	0.7	2862.66	14333.01
1,500.20	30,442.04	2983.68	17316.69					1,500.20	30,442.04	0.8	2983.68	17316.69
1,500.30	31,653.20	3104.76	20421.45					1,500.30	31,653.20	0.9	3104.76	20421.45
1,500.40	32,865.03	3225.91	23647.36					1,500.40	32,865.03	1	3225.91	23647.36
1,500.50	34,077.53	3347.13	26994.49					1,500.50	34,077.53	1.1	3347.13	26994.49
1,500.60	35,290.71	3468.41	30462.9					1,500.60	35,290.71	1.2	3468.41	30462.9
1,500.70	36,504.56	3589.76	34052.67					1,500.70	36,504.56	1.3	3589.76	34052.67
1,500.80	37,719.08	3711.18	37763.85					1,500.80	37,719.08	1.4	3711.18	37763.85
1,500.90	38,934.27	3832.67	41596.52					1,500.90	38,934.27	1.5	3832.67	41596.52
1,501.00	40,150.14	3954.22	45550.74					1,501.00	40,150.14	1.6	3954.22	45550.74
1,501.10	41,366.68	4075.84	49626.58					1,501.10	41,366.68	1.7	4075.84	49626.58
1,501.20	42,583.89	4197.53	53824.11					1,501.20	42,583.89	1.8	4197.53	53824.11
1,501.30	43,801.77	4319.28	58143.39					1,501.30	43,801.77	1.9	4319.28	58143.39
1,501.40	45,020.33	4441.11	62584.49					1,501.40	45,020.33	2	4441.11	62584.49
1,501.50	46,239.56	4562.99	67147.49					1,501.50	46,239.56	2.1	4562.99	67147.49
1,501.60	47,459.46	4684.95	71832.44					1,501.60	47,459.46	2.2	4684.95	71832.44
1,501.70	48,680.03	4806.97	76639.41					1,501.70	48,680.03	2.3	4806.97	76639.41
1,501.80	49,901.28	4929.07	81568.48					1,501.80	49,901.28	2.4	4929.07	81568.48
1,501.90	51,123.20	5051.22	86619.7					1,501.90	51,123.20	2.5	5051.22	86619.7
1,502.00	52,345.79	5173.45	91793.15					1,502.00	52,345.79	2.6	5173.45	91793.15
1,502.10	53,569.05	5295.74	97088.89					1,502.10	53,569.05	2.7	5295.74	97088.89
1,502.20	54,792.99	5418.1	102507					1,502.20	54,792.99	2.8	5418.1	102507
1,502.30	56,017.60	5540.53	108047.53					1,502.30	56,017.60	2.9	5540.53	108047.53
1,502.40	57,242.88	5663.02	113710.55					1,502.40	57,242.88	3	5663.02	113710.55
1,502.50	58,468.83	5785.59	119496.14					1,502.50	58,468.83	3.1	5785.59	119496.14
1,502.60	59,695.46	5908.21	125404.35					1,502.60	59,695.46	3.2	5908.21	125404.35
1,502.70	60,922.76	6030.91	131435.26					1,502.70	60,922.76	3.3	6030.91	131435.26
1,502.80	62,150.73	6153.67	137588.93					1,502.80	62,150.73	3.4	6153.67	137588.93
1,502.90	63,379.37	6276.5	143865.44					1,502.90	63,379.37	3.5	6276.5	143865.44
1,503.00	64,608.69	6399.4	150264.84					1,503.00	64,608.69	3.6	6399.4	150264.84
1,503.10	65,838.68	6522.37	156787.21					1,503.10	65,838.68	3.7	6522.37	156787.21
1,503.20	67,069.34	6645.4	163432.61					1,503.20	67,069.34	3.8	6645.4	163432.61
1,503.30	68,300.67	6768.5	170201.11					1,503.30	68,300.67	3.9	6768.5	170201.11
1,503.40	69,532.68	6891.67	177092.78					1,503.40	69,532.68	4	6891.67	177092.78
1,503.50	70,765.36	7014.9	184107.68					1,503.50	70,765.36	4.1	7014.9	184107.68
1,503.60	71,998.71	7138.2	191245.88					1,503.60	71,998.71	4.2	7138.2	191245.88
1,503.70	73,232.73	7261.57	198507.46					1,503.70	73,232.73	4.3	7261.57	198507.46
1,503.80	74,467.43	7385.01	205892.46					1,503.80	74,467.43	4.4	7385.01	205892.46
1,503.90	75,702.79	7508.51	213400.97					1,503.90	75,702.79	4.5	7508.51	213400.97
1,504.00	76,938.84	7632.08	221033.06					1,504.00	76,938.84	4.6	7632.08	221033.06
1,504.10	78,175.55	7755.72	228788.77					1,504.10	78,175.55	4.7	7755.72	228788.77
1,504.20	79,412.93	7879.42	236668.2					1,504.20	79,412.93	4.8	7879.42	236668.2
1,504.30	80,650.99	8003.2	244671.4					1,504.30	80,650.99	4.9	8003.2	244671.4
1,504.40	81,889.72	8127.04	252798.43					1,504.40	81,889.72	5	8127.04	252798.43
1,504.50	83,129.13	8250.94	261049.37					1,504.50	83,129.13	5.1	8250.94	261049.37
1,504.60	84,369.20	8374.92	269424.29					1,504.60	84,369.20	5.2	8374.92	269424.29
1,504.70	85,609.95	8498.96	277923.25					1,504.70	85,609.95	5.3	8498.96	277923.25
1,504.80	86,851.37	8623.07	286546.31					1,504.80	86,851.37	5.4	8623.07	286546.31
1,504.90	88,093.47	8747.24	295293.56					1,504.90	88,093.47	5.5	8747.24	295293.56
1,505.00	89,336.23	8871.48	304165.04					1,505.00	89,336.23	5.6	8871.48	304165.04
1,505.10	90,579.60	8995.79	313160.83					1,505.10	90,579.60	5.7	8995.79	313160.83
1,505.20	91,823.33	9120.15	322280.98					1,505.20	91,823.33	5.8	9120.15	322280.98
1,505.30	93,067.37	9244.53	331525.51					1,505.30	93,067.37	5.9	9244.53	331525.51
1,505.40	94,311.74	9368.96	340894.47					1,505.40	94,311.74	6	9368.96	340894.47
1,505.50	95,556.43	9493.41	350387.88					1,505.50	95,556.43	6.1	9493.41	350387.88
1,505.60	96,801.45	9617.89	360005.77					1,505.60	96,801.45	6.2	9617.89	360005.77
1,505.70	98,046.80	9742.41	369748.19					1,505.70	98,046.80	6.3	9742.41	369748.19
1,505.80	99,293.15	9867	379615.18					1,505.80	99,293.15	6.4	9867	379615.18
1,505.90	100,540.86	9991.7	389606.88					1,505.90	100,540.86	6.5	9991.7	389606.88
1,506.00	101,789.92	10116.54	399723.42	1,506.00	65,625.55	0	0	1,506.00	167,415.47	6.6	10116.54	399723.42
1,506.10	103,040.34	10241.51	409964.93	1,506.10	66,078.95	6585.22	6585.22	1,506.10	169,119.29	6.7	16826.73	416550.15
1,506.20	104,292.11	10366.62	420331.56	1,506.20	66,533.47	6630.62	13215.85	1,506.20	170,825.58	6.8	16997.24	433547.41
1,506.30	105,545.25	10491.87	430823.43	1,506.30	66,989.09	6676.13	19891.97	1,506.30	172,534.34	6.9	17168	450715.4
1,506.40	106,799.75	10617.25	441440.68	1,506.40	67,445.82	6721.75	26613.72	1,506.40	174,245.57	7	17339	468054.4
1,506.50	108,055.66	10742.77	452183.45	1,506.50	67,903.67	6767.47	33381.19	1,506.50	175,959.33	7.1	17510.24	485564.64
1,506.60	109,312.96	10868.43	463051.88	1,506.60	68,362.62	6813.31	40194.51	1,506.60	177,675.58	7.2	17681.74	503246.39
1,506.70	110,571.67	10994.23	474046.11	1,506.70	68,822.69	6859.27	47053.77	1,506.70	179,394.36	7.3	17853.5	521099.88
1,506.80	111,831.79	11120.17	485166.28	1,506.80	69,283.86	6905.33	53959.1	1,506.80	181,115.65	7.4	18025.5	539125.38
1,506.90	113,093.30	11246.25	496412.54	1,506.90	69,746.14	6951.5	60910.6	1,506.90	182,839.44	7.5	18197.75	557323.14
1,507.00	114,356.23	11372.48	507785.01	1,507.00	70,209.54	6997.78	67908.39	1,507.00	184,565.77	7.6	18370.26	575693.4
1,507.10	115,620.61	11498.84	519283.85	1,507.10	70,674.04	7044.18	74952.56	1,507.10	186,294.65	7.7	18543.02	594236.41
1,507.20	116,886.47	11625.35	530909.21	1,507.20	71,139.65	7090.68	82043.25	1,507.20	188,026.12	7.8	18716.03	612952.46
1,507.30	118,153.80	11752.01	542661.22	1,507.30	71,606.38	7137.3	89180.55	1,507.30	189,760.18	7.9	18889.31	631841.77
1,507.40	119,422.61	11878.82	554540.04	1,507.40	72,074.21	7184.03	96364.58	1,507.40	191,496.82	8	19062.85	650904.62
1,507.50	120,692.91	12005.78	566545.82	1,507.50	72,543.15	7230.87	103595.45	1,507.50	193,236.06	8.1	19236.65	670141.27
1,507.60	121,964.68	12132.88	578678.7	1,507.60	73,013.21	7277.82	110873.27	1,507.60	194,977.89	8.2	19410.7	689551.97
1,507.70	123,237.82	12260.12	590938.82	1,507.70	73,484.37	7324.88	118198.14	1,507.70	196,722.19	8.3	19585	709136.96
1,507.80	124,512.10	12387.5	603326.32	1,507.80	73,956.64	7372.05	125570.2	1,507.80	198,468.74	8.4	19759.55	728896.52
1,507.90	125,787.53	12514.98	615841.3	1,507.90	74,430.02	7419.33	132989.53	1,507.90	200,217.55	8.5	19934.31	748830.83
1,508.00	127,064.10	12642.58	628483.88	1,508.00	74,922.10	7467.61	140457.13	1,508.00	201,986.20	8.6	20110.19	768941.01

14.43 acft

3.22 acft

17.65 acft

Appendix F – References

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December 12, 2024

Project No. 41.24184

Ms. Lori Wu
Lecangs, LLC
6475 Las Positas Road
Livermore, CA 94551

Subject: **Results of Onsite Percolation/Infiltration Testing**
Proposed Storm Water System, Hemet Logistics
Southwest Corner of Cawston Avenue and Acadia Avenue
City of Hemet, Riverside County, California

References: Design Handbook for Low Impact Development Best Management Practices, Riverside County Flood Control and Water Conservation District (District), dated September 2018.

Leighton Consulting, Inc, 2022, Geotechnical Exploration, Hemet – 63-Acre Site, Southwest Corner of Cawston Avenue and Acacia Avenue, Hemet, Riverside County, California, 13577.001, dated September 9.

In accordance with your request and authorization, we are pleased to provide this report presenting the results of field percolation testing design of the on-site infiltration system associated with the proposed 63-acre commercial development.

PURPOSE AND SCOPE OF WORK

The purpose of our testing was to evaluate infiltration characteristics of onsite soils with respect to the proposed storm water infiltration system for the subject site. Services provided for this study consisted of the following:

- Drilling, sampling and logging of two exploratory borings to a maximum depth of approximately 41.5 feet BGS to collect samples and verify depth to groundwater/ impermeable strata, if any. Borings were excavated by a subcontracted drill rig operator and logged by a member of our staff.
- Performed three percolation/infiltration tests adjacent to the exploratory borings. Infiltration tests were performed at 25 feet BGS, one at each proposed infiltration system location based on the encountered soils in the exploratory borings. Percolation testing generally followed procedures by Riverside County Flood Control for Design of Low Impact Development Best Management Practices.
- Data evaluation and analysis by a Professional Engineer and Certified Engineering Geologist in accordance with the standard of care provided by our industry in this area for this type of project.
- Compilation of this report that presents the results of our field percolation/infiltration testing.

SITE DESCRIPTION

The approximately 63-acre irregularly-shaped site is bounded by East Road to the west, Florida Avenue and Acacia Avenue to the north, Cawston Avenue to the east, and Hemet-Ryan Airport to the south (*see Figure 1, Boring/Perc Test Location Map*).

The site is currently vacant and appears to have had a small single-family residence at the far northwest corner of the subject site in the past. This interpretation is based on the presence of delineated by mature eucalyptus trees, sections of the original building foundation, and other cultural debris. Dense grass blankets the majority of the site. Old, inactive, concrete storage containers can be observed above-ground along the eastern property line. Topographically the site is relatively flat.

FIELD EXPLORATION

Our field exploration consisted of excavation of two exploratory borings and two percolation test holes on June 18, 2024, with subsequent percolation testing performed at a later date. Exploratory borings and percolation test holes were excavated utilizing a truck mounted CME 75 drill rig equipped with an 8-inch hollow-stem auger. The exploratory borings were logged and sampled to a depth of approximately 41.5 feet below existing surface. Representative samples were collected for further field and laboratory classification. A technical staff from our office logged and observed all excavations. The locations of the exploratory boring and percolation test holes are shown on Figure 1. The log of borings and data sheets of percolation tests are included in Appendix A.

SOILS AND GROUNDWATER CONDITIONS

Based on the results of this exploration and review of our previous geotechnical investigation reports (Leighton, 2022), the proposed dry wells are underlain by alluvial materials which is in turn underlain by Sandy Silts and Silty Sands. Historic groundwater data, as reported by Department of Water Resources (California DWR, 2024) for Well #337437N1170068W001 (Local Well EMWD10521), located approximately 0.5 miles east of the site, indicates a historic high groundwater elevation on the order of 1338 feet (MSL) in April 2024, which reflect depth of approximately 170 feet Below Ground Surface (BGS).

SUMMARY OF TEST RESULTS

The percolation/infiltration tests were performed in accordance with the procedures of Section 2.3 of the Riverside County Flood Control and Water Conservation District Design Handbook (RCFC&WCD, 2018). Results reported below are the most conservative readings in inch per hour. The infiltration rates were estimated using the “Porchet Method”. No factor of safety is applied to these rates. Field test data are included in Appendix A.

The infiltration rates provided are representative of the anticipated subsurface conditions in the area of the proposed underground chamber infiltration systems. It is our understanding that additional testing in this area is required by the City to confirm the provided design rate remains accurate across the entire infiltration area. Based on our review of the subsurface soil conditions at the site from our previous and current subsurface investigations, we believe that the provided infiltration rates are appropriate for design of the chamber infiltration system and additional testing can be performed during a subsequent design phase of the project.

Summary of Infiltration Test Results

Test Hole #	Depth BGS (ft)	Infiltration Rate (in/hr)	Soil Description
P-1	10	0.13	Sandy SILT (ML) / Alluvium
P-3	15	1.19	Silty SAND (SM) / Alluvium
P-4	15.25	1.65	Silty SAND (SM) / Alluvium

LIMITATIONS

This report was based in part on data obtained from a limited number of observations, soil excavations, samples and tests. Such information is, by necessity, incomplete. The nature of many sites is such that differing soil or geologic conditions can be present within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. Please notify the engineer if event conditions encountered during construction are different than those described or reflected in this report.

This report was prepared for the sole use of the Client and their design team, for application to preliminary design of the proposed infiltration system, in accordance with generally accepted geotechnical engineering practices at this time in California. Any unauthorized use of or reliance on this report constitutes an agreement to defend and indemnify Verdantas from and against any liability, which may arise as a result of such use or reliance, regardless of any fault, negligence, or strict liability of Verdantas Inc.

If you have any questions, please do not hesitate to contact this office. We appreciate this opportunity to be of service.

Sincerely,

Verdantas

CERTIFIED ENGINEERING GEOLOGIST ★ BRENT ADAM ★ No. 2769 ★ STATE OF CALIFORNIA

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Attachments: Figure 1 – Boring/Perc Test Location Map
Appendix A – Perc Data Test Sheets & Log of Exploratory Borings

Distribution: (1) Addressee (one PDF copy via email)

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Subject Property Boundary

June 2024 Perc Tests

June 2024 Borings

Note: The aerial photo was acquired through the Esri Imagery Web Service. Aerial photography dated 2022.

DISCLAIMER: Verdantas LLC has furnished this map to the Client for its sole and exclusive use as a preliminary planning and screening tool. This map is reproduced from geospatial information compiled from third-party sources which may change over time and are not accurate as to mapping, surveying or engineering standards. Verdantas LLC makes no representation or warranty as to the content, accuracy, timeliness or completeness of any information. In no event will Verdantas LLC, its owners, officers, employees or agents, be liable for damages of any kind arising out of the use of this map by Client or any other party.

verdantas

Hemet 63
Hemet, CA

Boring Location Map

Infiltration Report
Additional Infiltration Testing

Project Number	24184
Date	06/2024
Author	rartus
Scale	1 in = 300 ft
Figure	1

Edited: 6/28/2024 File Location: Z:\Projects\Final\KA_ZM\Layouts\24184_Hemet 63 Perc Update\GIS\24184_01_Phase1_Exp\Exp02.aprx Layout: 24184_01_Exp02

Produced Using Esri's ArcGIS Software

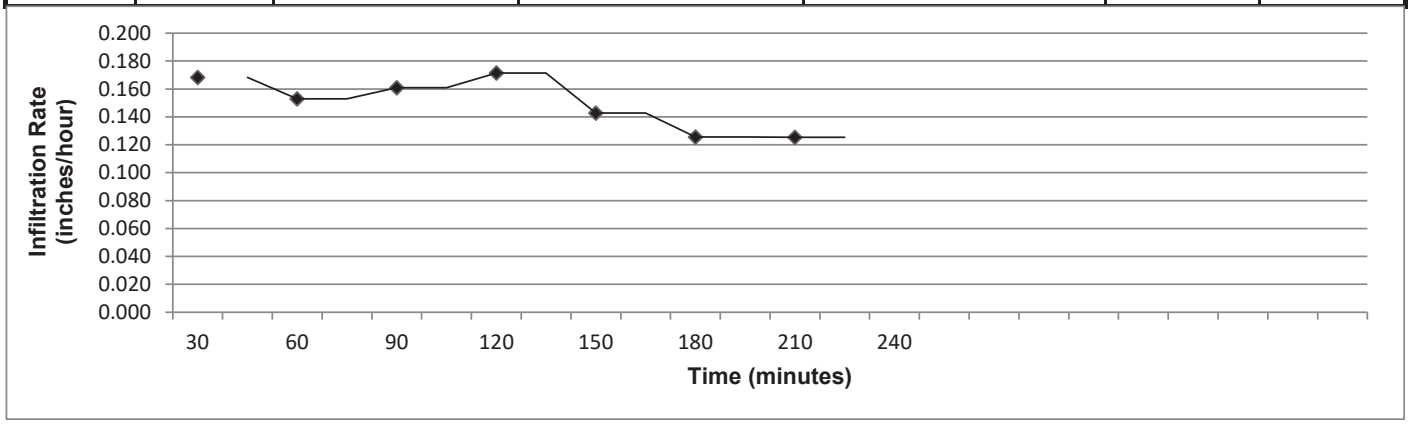
Appendix A

Percolation Data Sheets, Log of Exploratory Borings

Test Hole Number:	**P-1**	**Project:**	Hemet 63
Date Excavated:	6/18/2024	**Project Number:**	24184
Tested by:	JO	**Date Tested:**	6/19/2024
Soil Unit:	Quaternary Alluvium (Qal)	**Test Hole Depth (inches):**	120
USCS Soil Type:	sandy Silt (ML)	**Test Hole Diameter (inches):**	8

Sunny ~81 °

Time	Δt (minutes)	Initial Water Depth (inches)	Final Water Depth (inches)	Change In Water Level (inches)	Infiltration/Percolation Rate	
					inches/hour*	minute/inch
10:22:00	25.00	2.38	6.50	4.13	0.168	6.061
10:47:00						
10:48:00	30.00	2.00	6.50	4.50	0.153	6.667
11:18:00						
11:19:00	30.00	1.50	6.25	4.75	0.161	6.316
11:49:00						
11:50:00	34.00	0.75	6.50	5.75	0.171	5.913
12:24:00						
12:25:00	30.00	0.75	5.00	4.25	0.143	7.059
12:55:00						
12:55:00	30.00	0.75	4.50	3.75	0.126	8.000
1:25:00						
1:26:00	30.00	0.50	4.25	3.75	0.125	8.000
1:56:00						



*Based on Porchet Method: http://rcflood.org/downloads/NPDES/Documents/LIDManual/Appendix%20A_Infiltration_Testing.pdf

PERCOLATION TEST

P-1

Project Name: Hemet 63
Hemet, CA

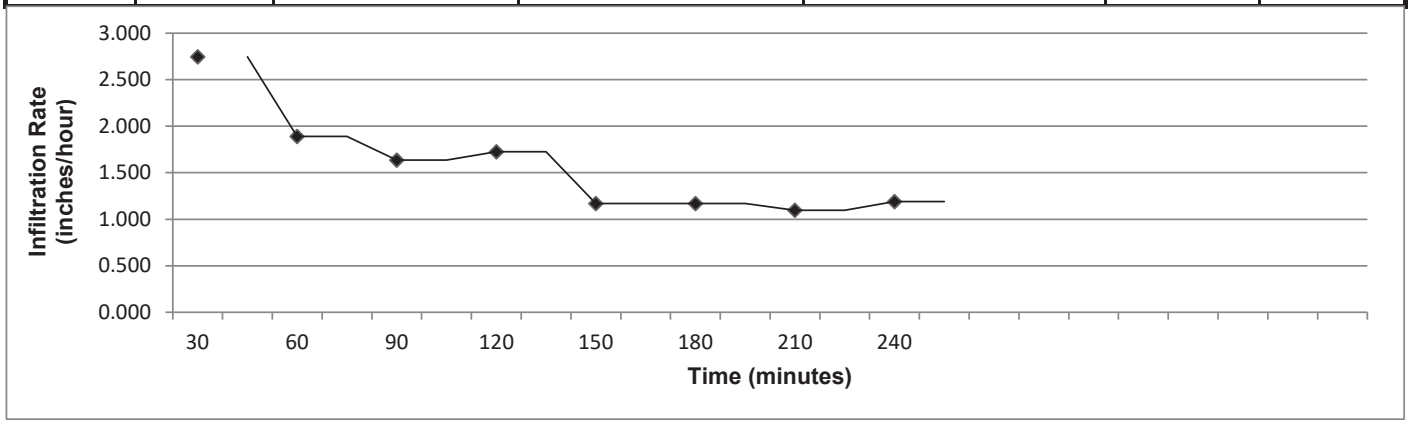
Project No.: 24184

Leighton

Test Hole Number:	**P-3**	**Project:**	Hemet 63
Date Excavated:	6/18/2024	**Project Number:**	24184
Tested by:	JO	**Date Tested:**	6/19/2024
Soil Unit:	Quaternary Alluvium (Qal)	**Test Hole Depth (inches):**	180
USCS Soil Type:	silty Sand (SM)	**Test Hole Diameter (inches):**	8

Sunny ~81 °

Time	Δt (minutes)	Initial Water Depth (inches)	Final Water Depth (inches)	Change In Water Level (inches)	Infiltration/Percolation Rate	
					inches/hour*	minute/inch
10:32:00 10:57:00	25.00	1.88	82.00	80.13	2.746	0.312
11:00:00 11:10:00	10.00	2.25	28.50	26.25	1.890	0.381
11:10:00 11:22:00	12.00	1.75	29.00	27.25	1.635	0.440
11:23:00 11:33:00	10.00	1.25	25.50	24.25	1.726	0.412
11:34:00 11:44:00	10.00	1.75	18.50	16.75	1.169	0.597
11:44:00 11:54:00	10.00	1.50	18.25	16.75	1.168	0.597
11:55:00 12:05:00	10.00	1.75	17.50	15.75	1.096	0.635
12:06:00 12:21:00	15.00	1.50	26.50	25.00	1.190	0.600



*Based on Porchet Method: http://rcflood.org/downloads/NPDES/Documents/LIDManual/Appendix%20A_Infiltration_Testing.pdf

PERCOLATION TEST

P-3

Project Name: Hemet 63
Hemet, CA

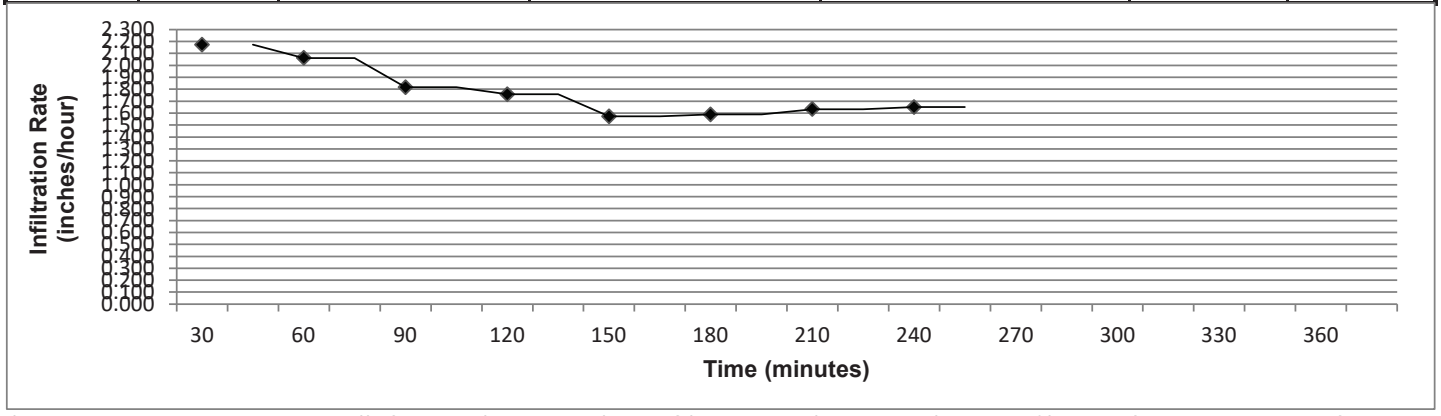
Project No.: 24184

Leighton

Test Hole Number:	**P-4**	**Project:**	Hemet 63 Perc Update
Date Excavated:	6/18/2024	**Project Number:**	24184
Tested by:	JO	**Date Tested:**	6/28/2024
Soil Unit:	Quaternary Alluvium (Qal)	**Test Hole Depth (inches):**	183
USCS Soil Type:	Silty Sand (SM)	**Test Hole Diameter (inches):**	8

Sunny ~81 °

Time	Δt (minutes)	Initial Water Depth (inches)	Final Water Depth (inches)	Change In Water Level (inches)	Infiltration/Percolation Rate	
					inches/hour*	minute/inch
10:32:00	25.00	17.75	79.50	61.75	2.173	0.405
10:57:00						
10:00:00	10.00	17.50	44.00	26.50	2.062	0.377
10:10:00						
10:11:00	10.00	18.00	41.50	23.50	1.816	0.426
10:21:00						
10:23:00	10.00	18.25	41.00	22.75	1.757	0.440
10:33:00						
10:35:00	10.00	18.25	38.75	20.50	1.572	0.488
10:44:00						
10:45:00	10.00	18.00	38.75	20.75	1.590	0.482
10:55:00						
10:56:00	10.00	18.25	39.50	21.25	1.633	0.471
11:06:00						
11:07:00	10.00	18.00	39.50	21.50	1.651	0.465
11:17:00						



*Based on Porchet Method: http://rcflood.org/downloads/NPDES/Documents/LIDManual/Appendix%20A_Infiltration_Testing.pdf

Project Name: Hemet 63

PERCOLATION TEST

P-4

Leighton

Project No.: 24184

GEOTECHNICAL BORING LOG LB-1

Project No.	24184	**Date Drilled**	6-18-24
Project	Hemet 63	**Logged By**	JPO
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JPO

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0									
	5			S-1	3 5 6			ML	SILT, stiff, brown, moist, Clay Present, Pyrite present	
	10			S-2	4 6 6			SM	SILTY SAND, loose, reddish brown, moist, fine sand, Pyrite present	
	15			S-3	3 5 6			ML	SILT, stiff, olive brown, moist, Clay Present, Pyrite present	
	20			S-4	2 3 4				olive brown to brown, Same	
	25			S-5	5 7 6				SANDY SILT, stiff, olive brown, moist, fine sand, Pyrite present	
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-1

Project No.	24184	**Date Drilled**	6-18-24
Project	Hemet 63	**Logged By**	JPO
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JPO

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	30			S-6	4 6 10			SM	SILTY SAND, medium dense, brown, moist, fine sand, Pyrite present	
	35			S-7	6 6 7			ML	SILT, stiff, olive brown, moist, fine sand, Pyrite present	
	40			S-8	3 5 6				Same, no sand	
	45								Boring Completed to 41.5' GWT not encountered Backfilled w/ cuttings 6/18//2024	
	50									
	55									
	60									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2

Project No.	24184	**Date Drilled**	6-18-24
Project	Hemet 63	**Logged By**	JPO
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JPO

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0									
	5			S-1	4 5 7			ML	SILT, stiff, light brown, moist, Pyrite present	
	10			S-2	5 8 9			ML	SANDY SILT, stiff, brown, moist, fine sand, Pyrite present	
	15			S-3	11 19 21			SM	SILTY SAND, dense, brown, moist, fine to medium sand, Pyrite present	
	20			S-4	4 6 8			SM	SILTY SAND, medium dense, brown to grayish brown, moist, fine sand, Pyrite present	
	25			S-5	7 7 8			SM	Same, brown	
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
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- SG SPECIFIC GRAVITY
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GEOTECHNICAL BORING LOG LB-2

Project No.	24184	**Date Drilled**	6-18-24
Project	Hemet 63	**Logged By**	JPO
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JPO

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			S-6	7 9 13			SM	SILTY SAND, medium dense, light brown, moist, fine to medium sand, Pyrite present	
	35			S-7	4 4 6			ML	SILT, firm, olive brown, moist, Pyrite present	
	40			S-8	4 6 7			ML	SILT, stiff, light brown, moist, Pyrite present	
									Boring Completed to 41.5' GWT not encountered Backfilled w/ cuttings 6/18/24	
	45									
	50									
	55									
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG Perc-1

Project No.	24184	**Date Drilled**	6-18-24
Project	Hemet 63	**Logged By**	JPO
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JPO

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0									
	5									
				S-1	4 6 8			ML	SILT, stiff, brown, moist, Fine sand present	
	10								Boring Completed to 10' GWT not encountered	
	15									
	20									
	25									
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG Perc-2

Project No.	24184	**Date Drilled**	6-18-24
Project	Hemet 63	**Logged By**	JPO
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JPO

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0								*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	5									
	10									
	15									
	20									
	25			S-1	5 6 6				SANDY SILT, olive brown, moist, fine sand, Pyrite present	
									Boring Completed to 25' GWT not encountered	
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG Perc-3

Project No.	24184	**Date Drilled**	6-18-24
Project	Hemet 63	**Logged By**	JPO
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JPO

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0								*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	5									
	10									
	15			S-1	5 5 6			SM	SILTY SAND, loose, brown to light brown, moist, fine sand, Pyrite present	
									Boring Completed to 15' GWT not encountered	
	20									
	25									
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG Perc-4

Project No.	24184	**Date Drilled**	6-18-24
Project	Hemet 63	**Logged By**	JPO
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JPO

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0								*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	5									
	10									
	15			S-1	6 10 15			SM	SILTY SAND, medium dense, brown to light brown, moist, fine sand, Pyrite present	
									Boring Completed to 15.5' GWT not encountered	
	20									
	25									
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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Leighton and Associates, Inc.
A Leighton Group Company

July 18, 2023

Project No. 13577.002

Lecangs, LLC
6475 Las Positas Road
Livermore, CA 94551

Attention: Ms. Lori Wu

Subject: Results of Onsite Percolation/Infiltration Testing
Proposed Storm Water Dry Well System, Hemet – 63-Acre Site
Southwest Corner of Cawston Avenue and Acadia Avenue
City of Hemet, Riverside County, California

References: Design Handbook for Low Impact Development Best Management Practices, Riverside County Flood Control and Water Conservation District (District), dated September 2018.

Leighton Consulting, Inc, 2022, Geotechnical Exploration, Hemet – 63-Acre Site, Southwest Corner of Cawston Avenue and Acacia Avenue, Hemet, Riverside County, California, 13577.001, dated September 9.

In accordance with your request and authorization, we are pleased to provide this report presenting the results of field percolation testing design of the on-site infiltration system associated with the proposed 63-acre commercial development.

PURPOSE AND SCOPE OF WORK

The purpose of our testing was to evaluate infiltration characteristics of onsite soils with respect to the proposed storm water dry well system for the subject site. Services provided for this study consisted of the following:

- Drilling, sampling and logging of two exploratory borings to a maximum depth of approximately 41.5 feet BGS to collect samples and verify depth to groundwater/ impermeable strata, if any. Borings were excavated by a subcontracted drill rig operator and logged by a member of our staff.
- Performed two percolation/infiltration tests adjacent to the exploratory borings. Infiltration tests were performed at 25 feet BGS, one at each proposed infiltration system location based on the encountered soils in the exploratory borings. Percolation testing generally followed procedures by Riverside County Flood Control for Design of Low Impact Development Best Management Practices.
- Data evaluation and analysis by a Professional Engineer and Certified Engineering Geologist in accordance with the standard of care provided by our industry in this area for this type of project.
- Compilation of this report that presents the results of our field percolation/infiltration testing.

SITE DESCRIPTION

The approximately 63-acre irregularly-shaped site is bounded by East Road to the west, Florida Avenue and Acacia Avenue to the north, Cawston Avenue to the east, and Hemet-Ryan Airport to the south.

The site is currently vacant and appears to have had a small single-family residence at the far northwest corner of the subject site in the past. This interpretation is based on the presence of delineated by mature eucalyptus trees, sections of the original building foundation, and other cultural debris. Dense grass blankets the majority of the site. Old, inactive, concrete storage containers can be observed above-ground along the eastern property line. Topographically the site is relatively flat.

FIELD EXPLORATION

Our field exploration consisted of excavation of two exploratory borings and two percolation test holes on June 29, 2023, with subsequent percolation testing performed on July 10. Exploratory borings and percolation test holes were excavated utilizing a truck mounted CME 75 drill rig equipped with an 8-inch hollow-stem auger. The exploratory borings were logged and sampled to a depth of approximately 41.5 feet below existing surface. Representative samples were collected for further field and laboratory classification. A technical staff from our office logged and observed all excavations. The locations of the exploratory boring and percolation test holes are shown on Figure 2. The log of boring and data sheets of percolation tests are included in Appendix A.

SOILS AND GROUNDWATER CONDITIONS

Based on the results of this exploration and review of our previous geotechnical investigation reports (Leighton, 2022), the proposed dry wells are underlain by alluvial materials which is in turn underlain by Sandy Silts and Silty Sands. Additionally, it is our opinion that historic groundwater does not exist within 15 feet below bottom of the proposed dry wells, based on the results of this and previous geotechnical explorations.

SUMMARY OF TEST RESULTS

The percolation/infiltration tests were performed in accordance with the procedures of Section 2.3 of the Riverside County Flood Control and Water Conservation District Design Handbook (RCFC&WCD, 2018). Results reported below are the most conservative readings in inch per hour. The infiltration rates were estimated using the “Porchet Method”. No factor of safety is applied to these rates. Field test data are included in Appendix A.

Summary of Infiltration Test Results

Test Hole #	Depth BGS (ft)	Infiltration Rate (in/hr)	Soil Description
P-1	25	0.72	Silty SAND (SM) / Alluvium
P-2	25	0.40	Silty SAND (SM) / Alluvium

average = 0.56 in/hr

LIMITATIONS

This report was based in part on data obtained from a limited number of observations, soil excavations, samples and tests. Such information is, by necessity, incomplete. The nature of many sites is such that differing soil or geologic conditions can be present within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. Please notify the engineer if event conditions encountered during construction are different than those described or reflected in this report.

This report was prepared for the sole use of the Client and their design team, for application to preliminary design of the proposed infiltration system, in accordance with generally accepted geotechnical engineering practices at this time in California. Any unauthorized use of or reliance on this report constitutes an agreement to defend and indemnify Leighton from and against any liability, which may arise as a result of such use or reliance, regardless of any fault, negligence, or strict liability of Leighton and Associates, Inc.

If you have any questions, please do not hesitate to contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

CERTIFIED ENGINEERING GEOLOGIST
BRENT ADAM
No. 2769
STATE OF CALIFORNIA

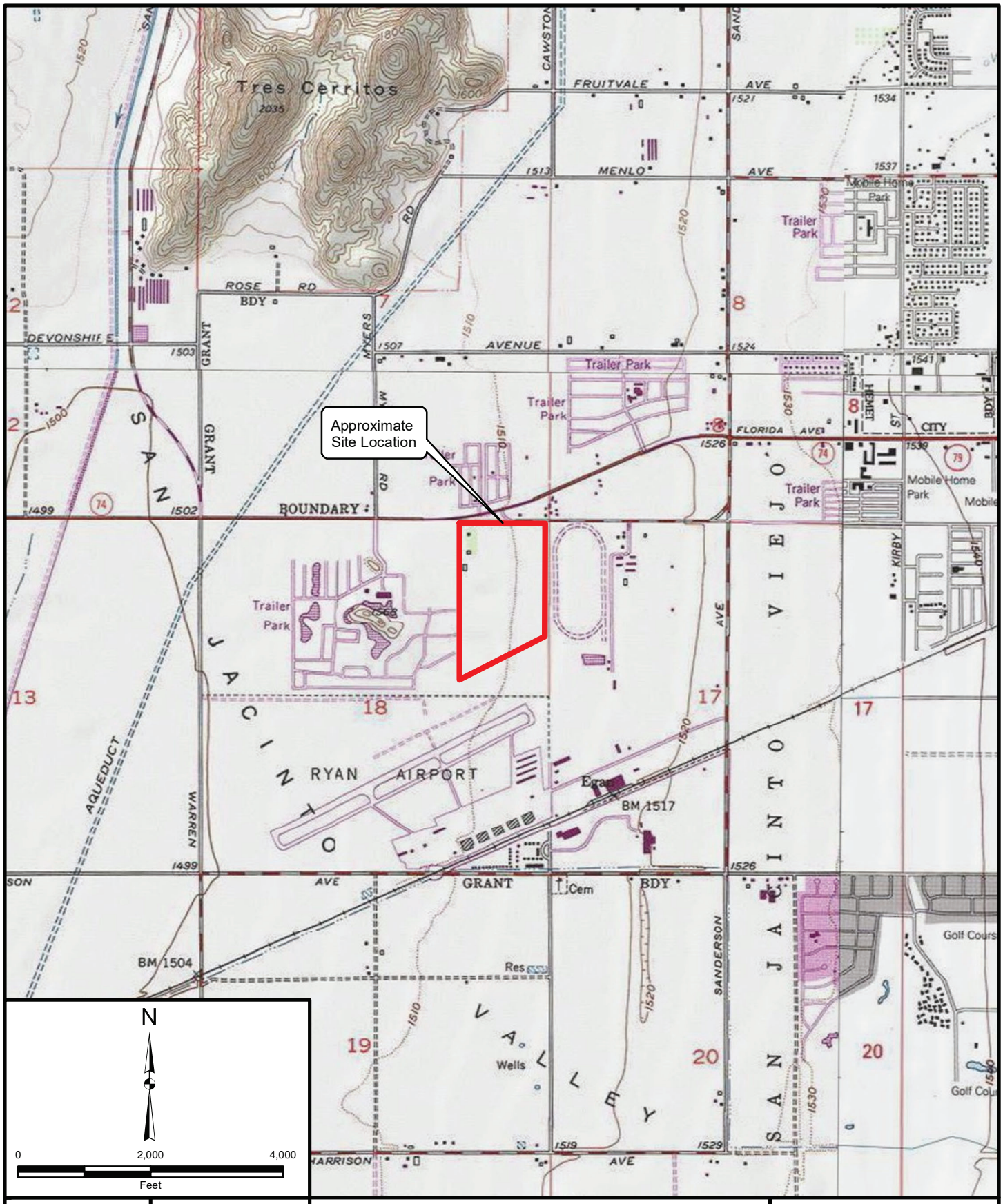
Brent A. Adam, CEG
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Extension 8923, badam@leightongroup.com

LICENSED PROFESSIONAL ENGINEER
BASHIR SAIID
C 93187
CIVIL
STATE OF CALIFORNIA

Bashir S. Saiid, PE
Senior Project Engineer
Extension 8927, bsaiid@leightongroup.com

Attachments: Figure 1 – Site Location Map
Figure 2 – Boring/Perc Test Location Map
Appendix A – Perc Data Test Sheets & Log of Exploratory Borings

Distribution: (1) Addressee (one PDF copy via email)



Project: 13577.002	Eng/Geol: BAA
Scale: 1 " = 2,000 '	Date: July 2023

Reference: Copyright:© 2013 National Geographic Society, i-cubed

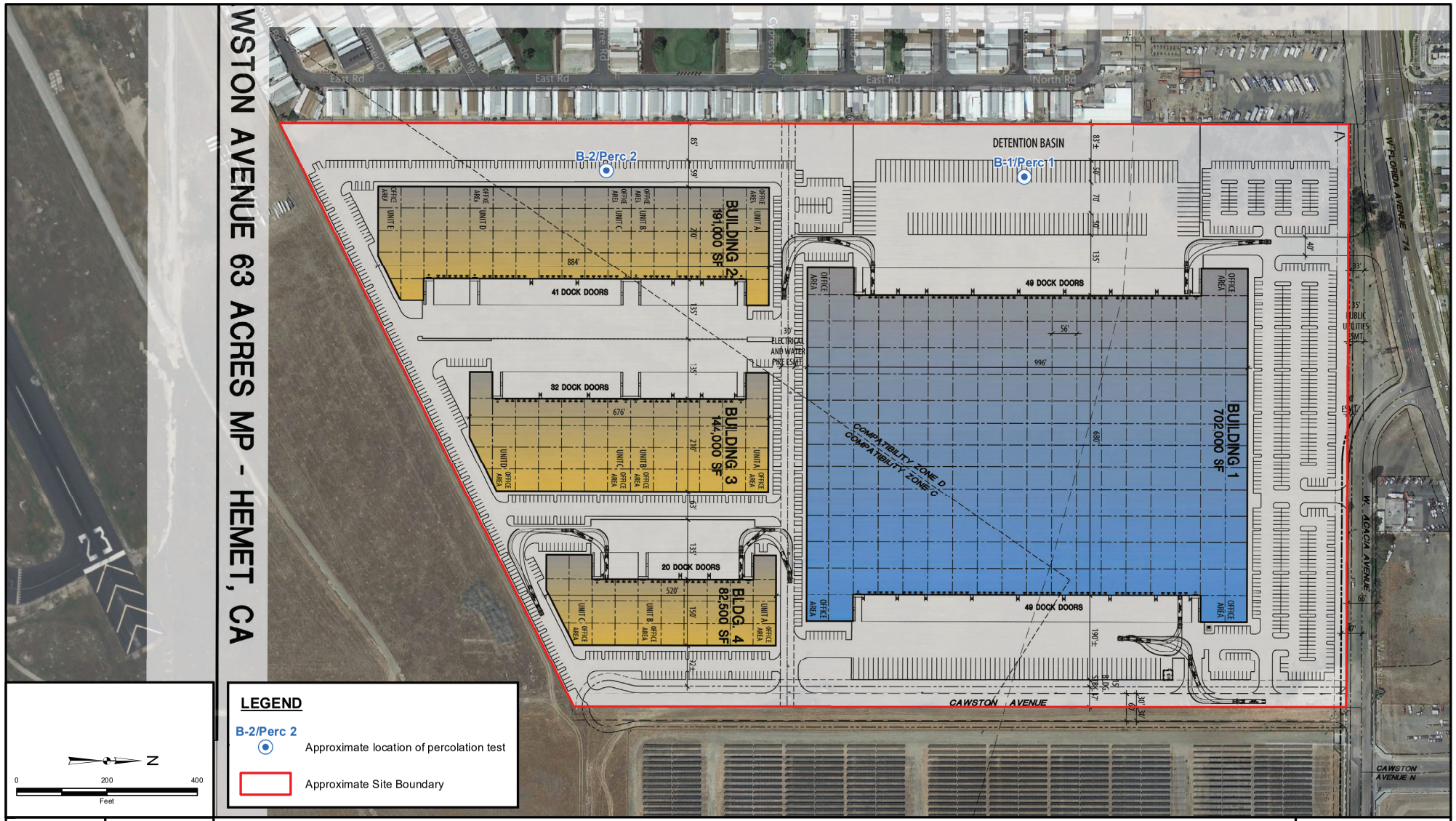
SITE LOCATION MAP

Hemet 63 Percolation Testing
Hemet, California

FIGURE 1

Leighton

Map Saved as J:\Drafting\13577\002\Maps\13577-002_F01_SLM_2023-07-12.mxd on 7/12/2023 1:03:13 PM Author: KVM (btran)



Project: 13577.002	Eng/Geol: BAA
Scale: 1 " = 200 '	Date: July 2023

Reference: Conceptual Site Plan, Sheet A1-0
Dated: 10/21/2022 by Rexford Industrial Realty

PERCOLATION TEST LOCATION MAP

Hemet 63 Percolation Testing
Hemet, California

FIGURE 2

Leighton

Map Saved as J:\Drafting\13577\002\Maps\13577-002_F02_BLM_2023-07-19.mxd on 7/19/2023 9:45:32 AM Author: KVM (btran)

APPENDIX A

PERCOLATION DATA SHEETS
LOG OF EXPLORATORY BORINGS

PERCOALTION TEST DATA - DEEP TEST / DRY WELL

TEST HOLE NO. Perc 1
DEPTH OF TEST HOLE: 25 Feet
SOIL CLASSIFICATION: Silty SAND

EXCAVATION DATE: 6/26/2023
TEST HOLE SIZE: 8 inch

PRESOAK PERIOD

	TIME INTERVAL	
START	10:00 AM	6/26/23
STOP	8:14 AM	6/29/23

TEST PERIOD

Time	Time Interval (min)	Total Depth of Hole (feet)	Initial Water Level (feet)	Final Water Level (feet)	Δ in Water Level (feet)	Q= Percolation Rate (gal/ft.^{2} of sidewall per day)	Infiltration Rate (in/hr)
8:14 AM	30	25	3.71	12.42	8.71	6.17	2.54
8:44 AM							
8:47 AM	30	25	3.33	9.42	6.09	3.93	1.62
9:17 AM							
9:20 AM	30	25	3.33	7.42	4.09	2.50	1.03
9:50 AM							
9:53 AM	30	25	3.33	7.00	3.67	2.22	0.92
10:23 AM							
10:25 AM	30	25	3.33	6.83	3.50	2.11	0.87
10:55 AM							
10:57 AM	30	25	3.33	6.67	3.34	2.01	0.83
11:27 AM							
11:29 AM	30	25	3.33	6.58	3.25	1.95	0.80
11:59 AM							
12:03 PM	30	25	3.33	6.58	3.25	1.95	0.80
12:33 PM							
12:35 PM	30	25	3.33	6.50	3.17	1.89	0.78
1:05 AM							
1:07 AM	30	25	3.33	6.33	3.00	1.79	0.74
1:37 AM							
1:39 AM	30	25	3.33	6.25	2.92	1.73	0.72
2:09 AM							
2:12 AM	30	25	3.33	6.25	2.92	1.73	0.72
2:42 AM							

Seal

Signature

PERCOALTION TEST DATA - DEEP TEST / DRY WELL

TEST HOLE NO. Perc 2 EXCAVATION DATE: 6/26/2023
DEPTH OF TEST HOLE: 25 Feet TEST HOLE SIZE: 8 inch
SOIL CLASSIFICATION: Silty SAND

PRESOAK PERIOD

	TIME INTERVAL	
START	10:00 AM	6/26/23
STOP	8:14 AM	6/29/23

TEST PERIOD

Time	Time Interval (min)	Total Depth of Hole (feet)	Initial Water Level (feet)	Final Water Level (feet)	Δ in Water Level (feet)	Q= Percolation Rate (gal/ft.^{2} of sidewall per day)	Infiltration Rate (in/hr)
9:29 AM	30	25	3.82	10.50	6.68	4.50	1.85
9:59 AM							
10:05 AM	30	25	3.92	9.49	5.57	3.66	1.51
10:35 AM							
10:40 AM	30	25	3.98	6.38	2.40	1.45	0.60
11:10 AM							
11:13 AM	30	25	3.63	5.83	2.20	1.30	0.54
11:43 AM							
12:17 PM	30	25	3.84	5.78	1.94	1.15	0.48
12:47 PM							
12:49 PM	30	25	3.84	5.61	1.77	1.05	0.43
1:19 PM							
1:21 PM	30	25	3.84	5.60	1.76	1.04	0.43
1:51 PM							
1:53 PM	30	25	3.84	5.60	1.76	1.04	0.43
2:23 PM							
2:25 PM	30	25	3.84	5.54	1.70	1.00	0.41
2:55 PM							
2:58 AM	30	25	3.84	5.53	1.69	1.00	0.41
3:28 PM							
3:30 PM	30	25	3.84	5.51	1.67	0.99	0.41
4:00 PM							
4:02 AM	30	25	3.84	5.49	1.65	0.97	0.40
4:32 PM							

Seal

Signature

GEOTECHNICAL BORING LOG B-1

Project No.	13577.002	**Date Drilled**	6-26-23
Project	Hemet 63 Percolation Testing	**Logged By**	JTD
Drilling Co.	2R Drilling Corp	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JTD

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	@ Surface: **Quaternary Alluivium (Qal)**; SILTY SAND, dark grayish brown, moist, very fine to medium grained sand	
	5			S-1	5 6 7			ML	SANDY SILT with CLAY, stiff, dark grayish brown, moist, very fine to fine grained sand	
	10			S-2	4 5 6			SM	SILTY SAND, medium dense, dark grayish brown, moist,, fine to medium grained sand	
	15			S-3	1 1 2			CL	Lean CLAY with SAND, soft, dark grayish brown, moist, very fine to fine grained sand	
	20			S-4	4 5 6			SC	CLAYEY SAND, medium dense, dark grayish brown, moist, fine to medium grained sand	
	25			S-5	4 6 8			SC-SM	SILTY, CLAYEY SAND, medium dense, dark gray, moist, fine to medium grained sand	
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG B-1

Project No.	13577.002	**Date Drilled**	6-26-23
Project	Hemet 63 Percolation Testing	**Logged By**	JTD
Drilling Co.	2R Drilling Corp	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JTD

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	30			S-6	4 6 6				SILTY, CLAYEY SAND, medium dense, dark gray, moist, very fine to fine grained sand	
	35			S-7	7 6 7				SILTY, CLAYEY SAND, medium dense, dark gray, moist, very fine to fine grained sand	
	40			S-8	5 5 7			CL	Lean CLAY with SAND, stiff, dark gray, moist, very fine to medium grained sand	
									Total Depth = 41.5' bgs, no groundwater encountered, backfilled with cuttings on 6/26/23, adjacent percolation test set @ 25' bgs	
	45									
	50									
	55									
	60									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG B-2

Project No.	13577.002	**Date Drilled**	6-26-23
Project	Hemet 63 Percolation Testing	**Logged By**	JTD
Drilling Co.	2R Drilling Corp	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JTD

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	@ Surface: **Quaternary Alluvium (Qal)**; SILTY SAND, grayish brown, slightly moist, very fine to coarse grained sand	
	5			S-1	6 6 10			SM-ML	SILTY SAND to SANDY SILT, medium dense to stiff, grayish brown, slightly moist, very fine to fine grained sand	
	10			S-2	6 7 9			SM	SILTY SAND, medium dense, dark gray, moist, fine to medium grained sand	
	15			S-3	1 2 2			CL-ML	SILTY CLAY with SAND, medium stiff, light gray, moist, very fine to fine grained sand	
	20			S-4	5 6 7			SM	SILTY SAND, medium dense, dark gray, moist, fine to medim grained sand, trace clay	
	25			S-5	6 8 10				SILTY SAND, medium dense, dark gray, moist, fine to medium grained sand	
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG B-2

Project No.	13577.002	**Date Drilled**	6-26-23
Project	Hemet 63 Percolation Testing	**Logged By**	JTD
Drilling Co.	2R Drilling Corp	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	JTD

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	30			S-6	7 8 3			SP-SM	Poorly Graded SAND with SILT, medium dense, light grayish brown, moist, fine to medium grained sand	
								CL	SANDY Lean CLAY, stiff, dark gray, moist, fine to medium grained sand	
	35			S-7	5 7 7			SC	CLAYEY SAND, medium dense, dark gray, moist, fine to medium grained sand	
	40			S-8	6 7 8			SM	SILTY SAND, medium dense, dark gray, moist, fine to medium grained sand	
								CL	SILTY CLAY, stiff, light gray, moist	
									Total Depth = 41.5' bgs, no groundwater encountered, backfilled with cuttings on 6/26/23, adjacent percolation test set @ 25' bgs	
	45									
	50									
	55									
	60									

SAMPLE TYPES:

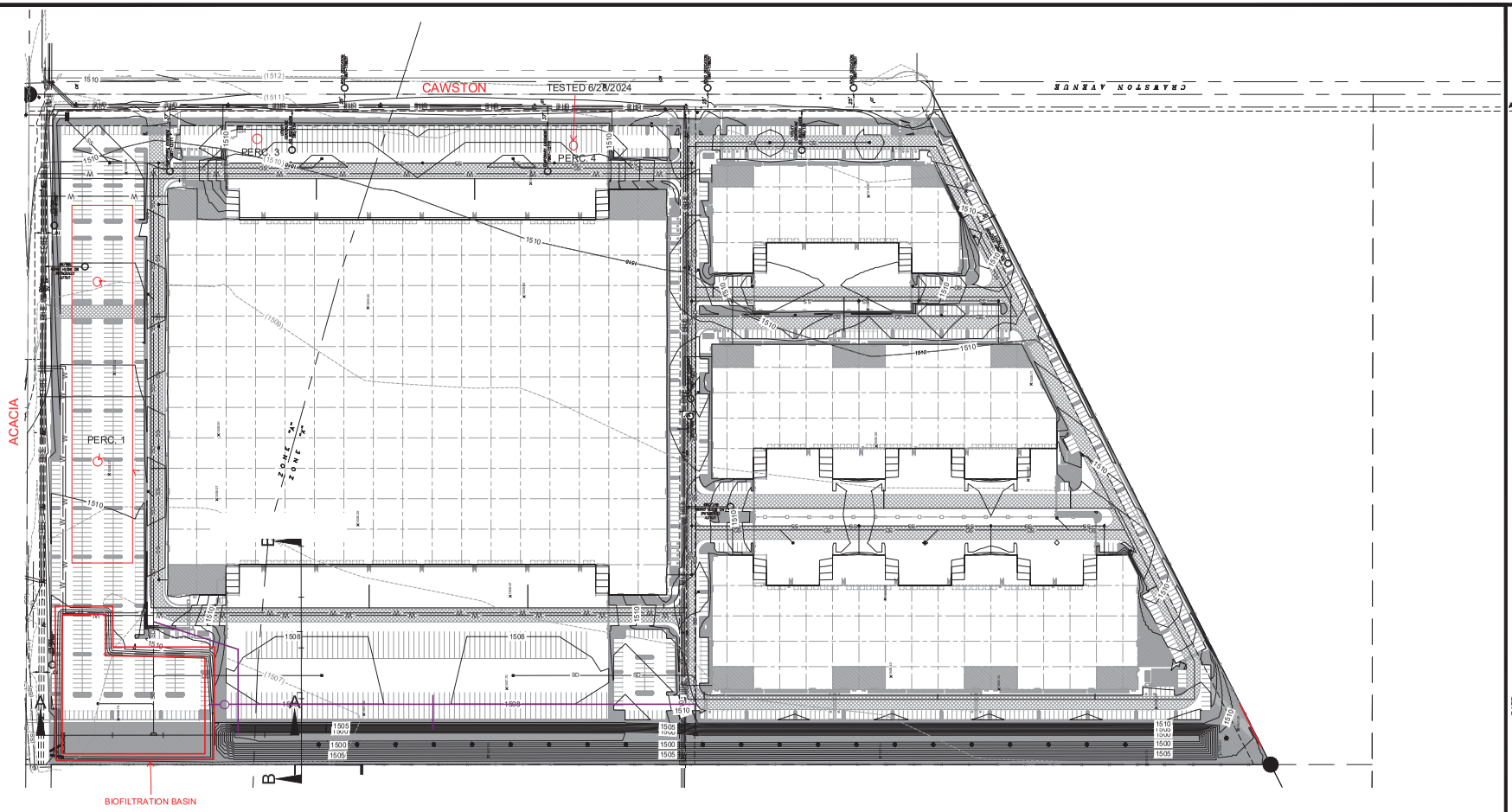
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

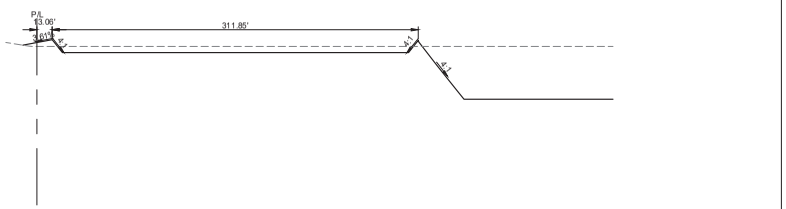
TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

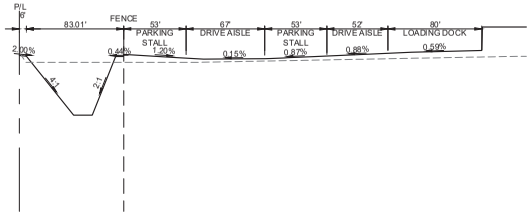
Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***





SECTION A-A



SECTION B-B

SCALE
100 0 50 100 200
(FEET)
1 INCH = 100 FT.

DAVID EVANS AND ASSOCIATES INC.
XXXXX Street Name
City, State, Zip
Phone: xxx.xxx.xxxx

NO.	DATE	REVISION	BY	CK

DATE:
REVIEWED BY:

CHECKED BY:
DESIGNED BY:
DRAWN BY:
FIRST SUBMITTAL DATE:
PROJECT NO.
SHEET NO.

Plot Date: 2/8/2024 11:05 AM
Save Date: 2/7/2024 5:50 PM
By: Santiago Castillo
By: Sdp- File: P:\LILOC\T0000000\0104000\ADCH\MBRD\SDJ\Drawing1.dwg

© 2024, Verdantas LLC



Subject Property Boundary

June 2024 Borings

June 2023 Borings

Note: The aerial photo was acquired through the Esri Imagery Web Service. Aerial photography dated 2022.

DISCLAIMER: Verdantas LLC has furnished this map to the Client for its sole and exclusive use as a preliminary planning and screening tool. This map is reproduced from geospatial information compiled from third-party sources which may change over time and are not accurate as to mapping, surveying or engineering standards. Verdantas LLC makes no representation or warranty as to the content, accuracy, timeliness or completeness of any information. In no event will Verdantas LLC, its owners, officers, employees or agents, be liable for damages of any kind arising out of the use of this map by Client or any other party.

verdantas

Hemet 63
Hemet, CA

Boring Location Map

Infiltration Report
Additional Infiltration Testing

Project Number	24184
Date	06/2024
Author	rartus
Scale	1 in = 300 ft
Figure	2

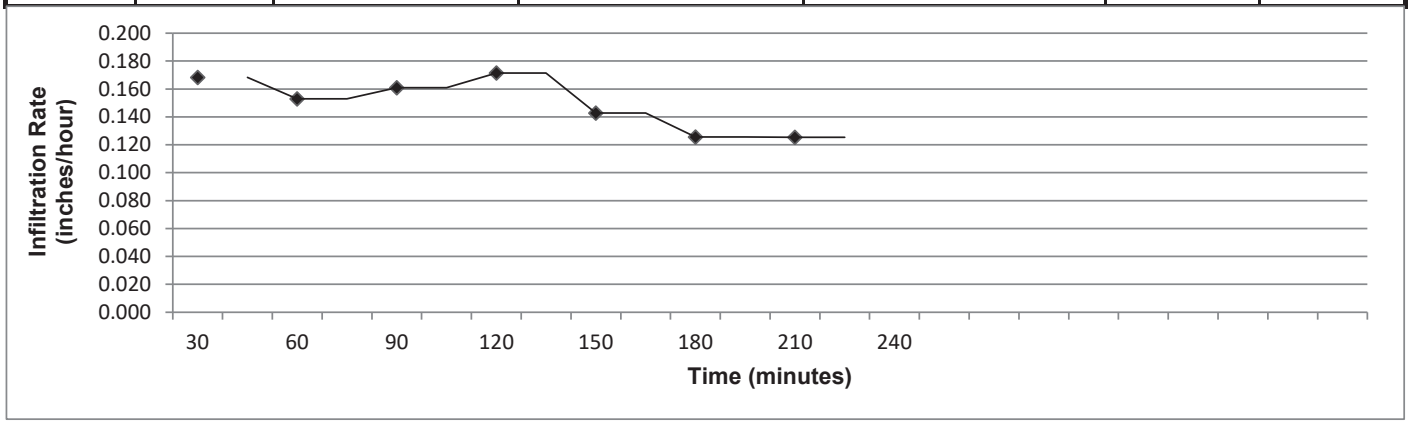
Edited: 6/28/2024 File Location: Z:\Projects\Florida_FL\Acoring\24184 - Hemet 63 Perc Update\GIS\24184_01_Phase1_Exp\Exp02.aprx Layout: 24184_01_Exp02

Produced Using Esri's ArcGIS Software

Test Hole Number:	**P-1**	**Project:**	Hemet 63
Date Excavated:	6/18/2024	**Project Number:**	24184
Tested by:	JO	**Date Tested:**	6/19/2024
Soil Unit:	Quaternary Alluvium (Qal)	**Test Hole Depth (inches):**	120
USCS Soil Type:	sandy Silt (ML)	**Test Hole Diameter (inches):**	8

Sunny ~81 °

Time	Δt (minutes)	Initial Water Depth (inches)	Final Water Depth (inches)	Change In Water Level (inches)	Infiltration/Percolation Rate	
					inches/hour*	minute/inch
10:22:00	25.00	2.38	6.50	4.13	0.168	6.061
10:47:00						
10:48:00	30.00	2.00	6.50	4.50	0.153	6.667
11:18:00						
11:19:00	30.00	1.50	6.25	4.75	0.161	6.316
11:49:00						
11:50:00	34.00	0.75	6.50	5.75	0.171	5.913
12:24:00						
12:25:00	30.00	0.75	5.00	4.25	0.143	7.059
12:55:00						
12:55:00	30.00	0.75	4.50	3.75	0.126	8.000
1:25:00						
1:26:00	30.00	0.50	4.25	3.75	0.125	8.000
1:56:00						



*Based on Porchet Method: http://rcflood.org/downloads/NPDES/Documents/LIDManual/Appendix%20A_Infiltration_Testing.pdf

PERCOLATION TEST

P-1

Project Name: Hemet 63
Hemet, CA

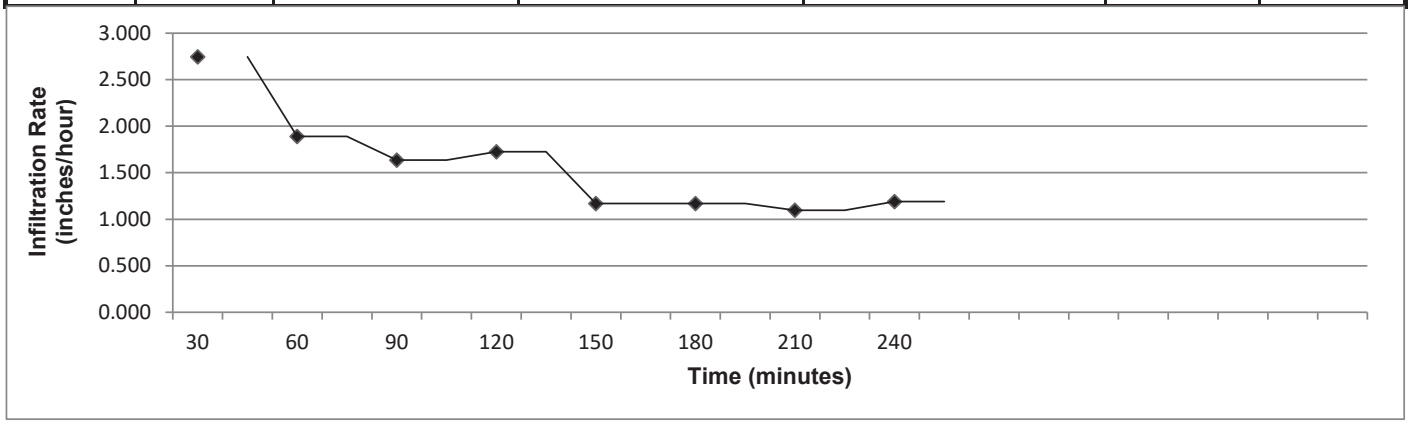
Project No.: 24184

Leighton

Test Hole Number:	**P-3**	**Project:**	Hemet 63
Date Excavated:	6/18/2024	**Project Number:**	24184
Tested by:	JO	**Date Tested:**	6/19/2024
Soil Unit:	Quaternary Alluvium (Qal)	**Test Hole Depth (inches):**	180
USCS Soil Type:	silty Sand (SM)	**Test Hole Diameter (inches):**	8

Sunny ~81 °

Time	Δt (minutes)	Initial Water Depth (inches)	Final Water Depth (inches)	Change In Water Level (inches)	Infiltration/Percolation Rate	
					inches/hour*	minute/inch
10:32:00	25.00	1.88	82.00	80.13	2.746	0.312
10:57:00						
11:00:00	10.00	2.25	28.50	26.25	1.890	0.381
11:10:00						
11:10:00	12.00	1.75	29.00	27.25	1.635	0.440
11:22:00						
11:23:00	10.00	1.25	25.50	24.25	1.726	0.412
11:33:00						
11:34:00	10.00	1.75	18.50	16.75	1.169	0.597
11:44:00						
11:44:00	10.00	1.50	18.25	16.75	1.168	0.597
11:54:00						
11:55:00	10.00	1.75	17.50	15.75	1.096	0.635
12:05:00						
12:06:00	15.00	1.50	26.50	25.00	1.190	0.600
12:21:00						



*Based on Porchet Method: http://rcflood.org/downloads/NPDES/Documents/LIDManual/Appendix%20A_Infiltration_Testing.pdf

PERCOLATION TEST

P-3

Project Name: Hemet 63
Hemet, CA

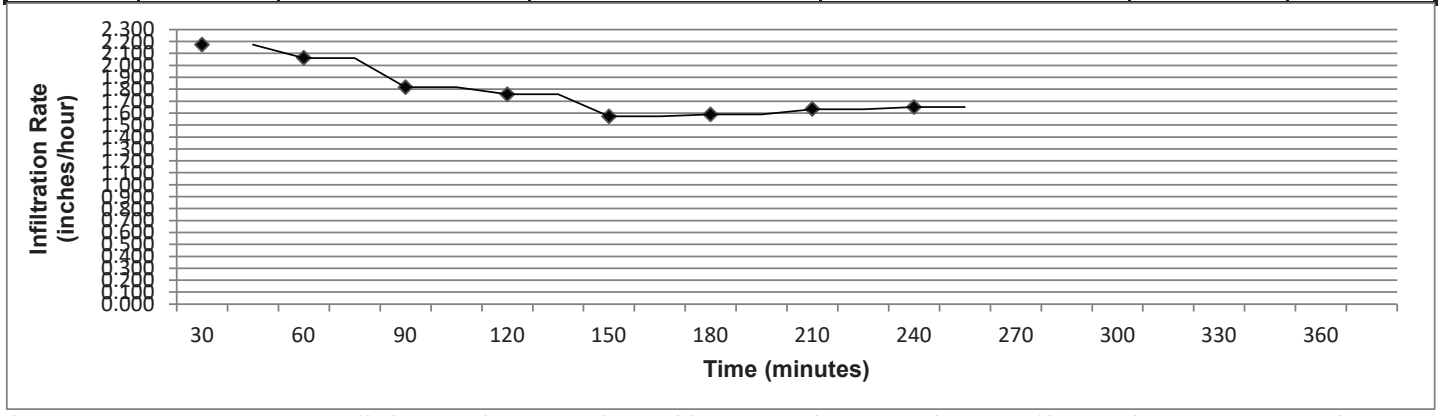
Project No.: 24184

Leighton

Test Hole Number:	**P-4**	**Project:**	Hemet 63 Perc Update
Date Excavated:	6/18/2024	**Project Number:**	24184
Tested by:	JO	**Date Tested:**	6/28/2024
Soil Unit:	Quaternary Alluvium (Qal)	**Test Hole Depth (inches):**	183
USCS Soil Type:	Silty Sand (SM)	**Test Hole Diameter (inches):**	8

Sunny ~81 °

Time	Δt (minutes)	Initial Water Depth (inches)	Final Water Depth (inches)	Change In Water Level (inches)	Infiltration/Percolation Rate	
					inches/hour*	minute/inch
10:32:00	25.00	17.75	79.50	61.75	2.173	0.405
10:57:00						
10:00:00	10.00	17.50	44.00	26.50	2.062	0.377
10:10:00						
10:11:00	10.00	18.00	41.50	23.50	1.816	0.426
10:21:00						
10:23:00	10.00	18.25	41.00	22.75	1.757	0.440
10:33:00						
10:35:00	10.00	18.25	38.75	20.50	1.572	0.488
10:44:00						
10:45:00	10.00	18.00	38.75	20.75	1.590	0.482
10:55:00						
10:56:00	10.00	18.25	39.50	21.25	1.633	0.471
11:06:00						
11:07:00	10.00	18.00	39.50	21.50	1.651	0.465
11:17:00						



*Based on Porchet Method: http://rcflood.org/downloads/NPDES/Documents/LIDManual/Appendix%20A_Infiltration_Testing.pdf

Project Name: Moreno Valley Pump Track

PERCOLATION TEST

P-4

Project No.: 24184

NOAA Atlas 14, Volume 6, Version 2
Location name: Hemet, California, USA*
Latitude: 33.7409°, Longitude: -117.0176°
Elevation: m/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	0.083 (0.069-0.100)	0.116 (0.097-0.140)	0.163 (0.136-0.198)	0.204 (0.169-0.250)	0.265 (0.212-0.336)	0.317 (0.247-0.410)	0.373 (0.284-0.496)	0.437 (0.322-0.597)	0.532 (0.376-0.759)	0.614 (0.419-0.909)
10-min	0.118 (0.099-0.143)	0.166 (0.139-0.201)	0.234 (0.195-0.283)	0.293 (0.242-0.358)	0.380 (0.303-0.482)	0.454 (0.354-0.588)	0.535 (0.407-0.711)	0.626 (0.462-0.856)	0.762 (0.539-1.09)	0.880 (0.601-1.30)
15-min	0.143 (0.120-0.173)	0.201 (0.168-0.243)	0.283 (0.235-0.343)	0.354 (0.293-0.433)	0.460 (0.367-0.583)	0.549 (0.428-0.711)	0.647 (0.492-0.859)	0.757 (0.559-1.03)	0.921 (0.652-1.32)	1.07 (0.726-1.58)
30-min	0.228 (0.191-0.275)	0.320 (0.267-0.387)	0.450 (0.375-0.546)	0.564 (0.466-0.690)	0.733 (0.584-0.928)	0.874 (0.682-1.13)	1.03 (0.784-1.37)	1.21 (0.890-1.65)	1.47 (1.04-2.10)	1.70 (1.16-2.51)
60-min	0.352 (0.294-0.425)	0.494 (0.413-0.597)	0.695 (0.579-0.843)	0.871 (0.719-1.07)	1.13 (0.902-1.43)	1.35 (1.05-1.75)	1.59 (1.21-2.11)	1.86 (1.38-2.55)	2.27 (1.60-3.24)	2.62 (1.79-3.88)
2-hr	0.527 (0.440-0.636)	0.701 (0.586-0.848)	0.941 (0.784-1.14)	1.15 (0.946-1.40)	1.44 (1.15-1.82)	1.68 (1.31-2.17)	1.93 (1.47-2.57)	2.21 (1.63-3.02)	2.61 (1.85-3.73)	2.95 (2.01-4.37)
3-hr	0.648 (0.542-0.782)	0.847 (0.708-1.02)	1.12 (0.931-1.35)	1.35 (1.11-1.65)	1.67 (1.33-2.11)	1.93 (1.50-2.50)	2.20 (1.68-2.93)	2.50 (1.85-3.42)	2.92 (2.07-4.18)	3.27 (2.23-4.85)
6-hr	0.920 (0.769-1.11)	1.18 (0.990-1.43)	1.54 (1.28-1.87)	1.83 (1.52-2.24)	2.25 (1.79-2.85)	2.57 (2.01-3.33)	2.92 (2.22-3.87)	3.28 (2.42-4.49)	3.79 (2.68-5.42)	4.21 (2.87-6.23)
12-hr	1.21 (1.01-1.46)	1.56 (1.30-1.88)	2.03 (1.69-2.46)	2.42 (2.00-2.97)	2.98 (2.38-3.77)	3.42 (2.67-4.43)	3.88 (2.95-5.16)	4.38 (3.23-5.98)	5.07 (3.59-7.24)	5.63 (3.84-8.33)
24-hr	1.58 (1.39-1.82)	2.07 (1.83-2.39)	2.73 (2.41-3.17)	3.30 (2.88-3.85)	4.10 (3.47-4.94)	4.74 (3.93-5.83)	5.42 (4.39-6.82)	6.14 (4.85-7.95)	7.18 (5.44-9.66)	8.02 (5.88-11.2)
2-day	1.88 (1.67-2.17)	2.52 (2.22-2.91)	3.38 (2.98-3.92)	4.11 (3.59-4.80)	5.15 (4.36-6.20)	5.98 (4.96-7.35)	6.86 (5.56-8.63)	7.79 (6.15-10.1)	9.13 (6.92-12.3)	10.2 (7.48-14.2)
3-day	2.01 (1.78-2.32)	2.73 (2.41-3.15)	3.70 (3.26-4.29)	4.52 (3.95-5.28)	5.69 (4.82-6.86)	6.63 (5.50-8.15)	7.62 (6.17-9.59)	8.68 (6.84-11.2)	10.2 (7.71-13.7)	11.4 (8.35-15.9)
4-day	2.15 (1.90-2.48)	2.94 (2.60-3.40)	4.02 (3.54-4.66)	4.93 (4.31-5.76)	6.23 (5.28-7.51)	7.27 (6.04-8.95)	8.37 (6.79-10.5)	9.55 (7.53-12.4)	11.2 (8.50-15.1)	12.6 (9.22-17.5)
7-day	2.39 (2.12-2.76)	3.34 (2.95-3.86)	4.64 (4.09-5.38)	5.75 (5.03-6.71)	7.32 (6.20-8.82)	8.59 (7.13-10.6)	9.93 (8.05-12.5)	11.4 (8.97-14.7)	13.4 (10.2-18.1)	15.1 (11.1-21.0)
10-day	2.55 (2.25-2.94)	3.60 (3.18-4.16)	5.05 (4.45-5.85)	6.29 (5.50-7.34)	8.05 (6.82-9.70)	9.48 (7.86-11.7)	11.0 (8.90-13.8)	12.6 (9.95-16.3)	14.9 (11.3-20.1)	16.8 (12.3-23.4)
20-day	3.06 (2.70-3.53)	4.37 (3.86-5.05)	6.20 (5.46-7.18)	7.77 (6.79-9.07)	10.0 (8.49-12.1)	11.9 (9.85-14.6)	13.8 (11.2-17.4)	16.0 (12.6-20.7)	19.0 (14.4-25.6)	21.6 (15.8-30.0)
30-day	3.57 (3.16-4.12)	5.11 (4.51-5.90)	7.24 (6.38-8.39)	9.09 (7.94-10.6)	11.8 (9.96-14.2)	14.0 (11.6-17.2)	16.3 (13.2-20.5)	18.9 (14.9-24.4)	22.6 (17.1-30.4)	25.7 (18.8-35.8)
45-day	4.23 (3.74-4.88)	5.97 (5.28-6.90)	8.42 (7.42-9.75)	10.5 (9.22-12.3)	13.7 (11.6-16.5)	16.2 (13.5-19.9)	19.0 (15.4-23.9)	22.1 (17.4-28.5)	26.5 (20.1-35.7)	30.3 (22.2-42.2)
60-day	4.93 (4.36-5.69)	6.85 (6.05-7.92)	9.57 (8.43-11.1)	11.9 (10.4-13.9)	15.4 (13.1-18.6)	18.3 (15.2-22.6)	21.5 (17.4-27.1)	25.0 (19.7-32.4)	30.2 (22.9-40.6)	34.5 (25.3-48.1)

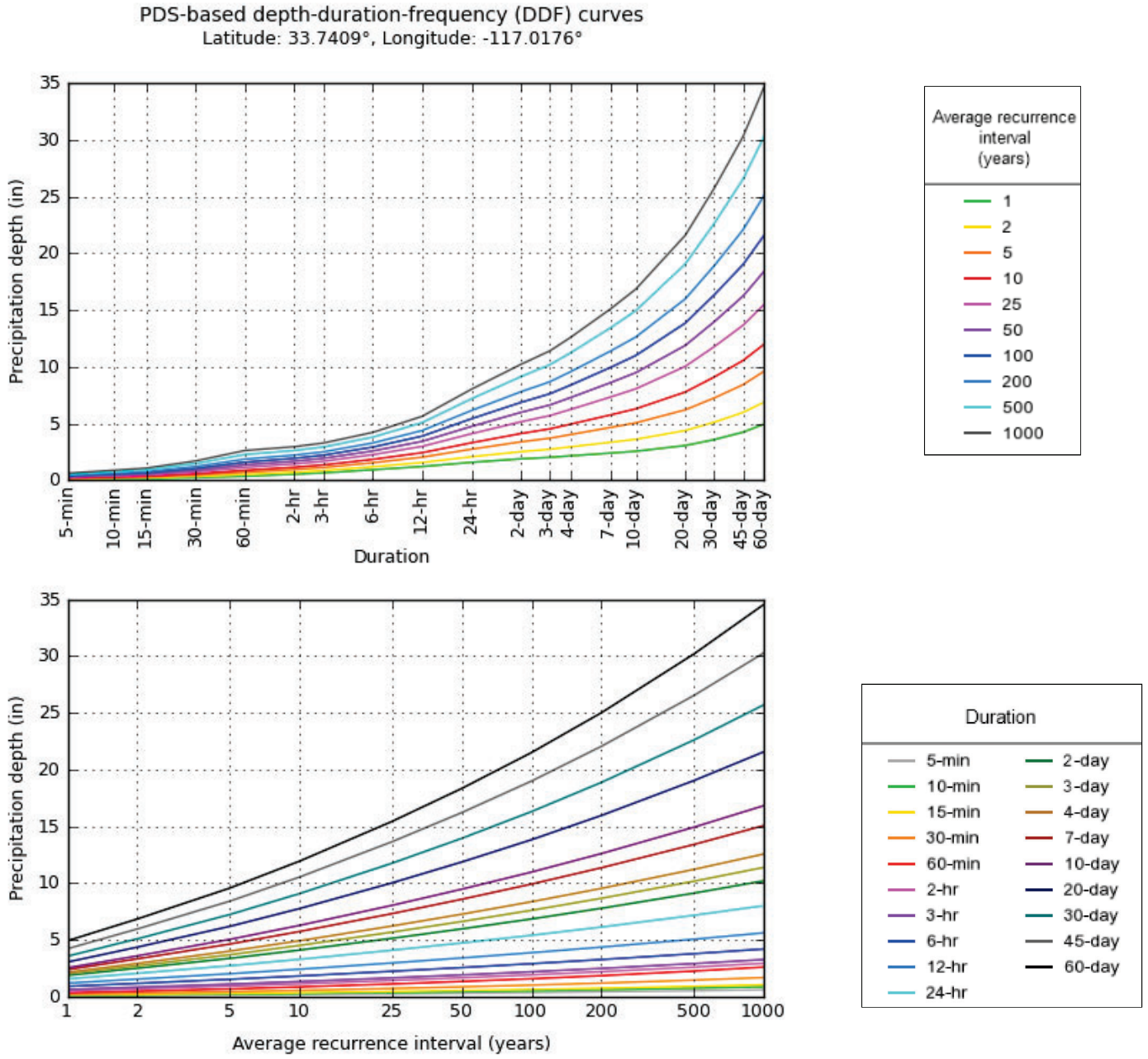
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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

Please refer to NOAA Atlas 14 document for more information.

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PF graphical



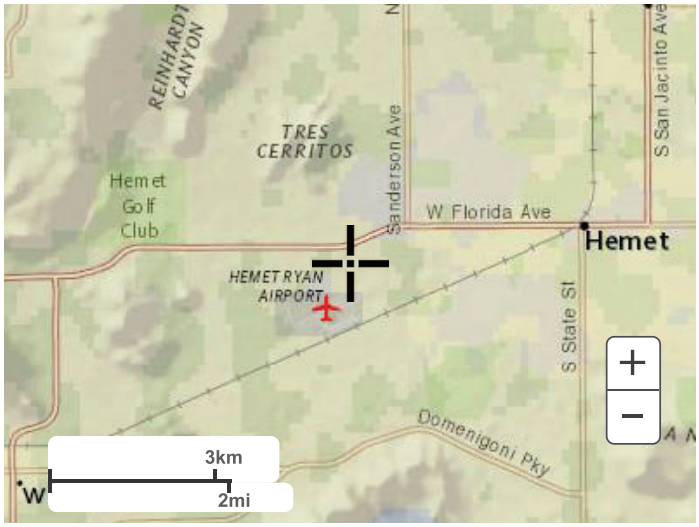
NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Mon May 15 16:58:48 2023

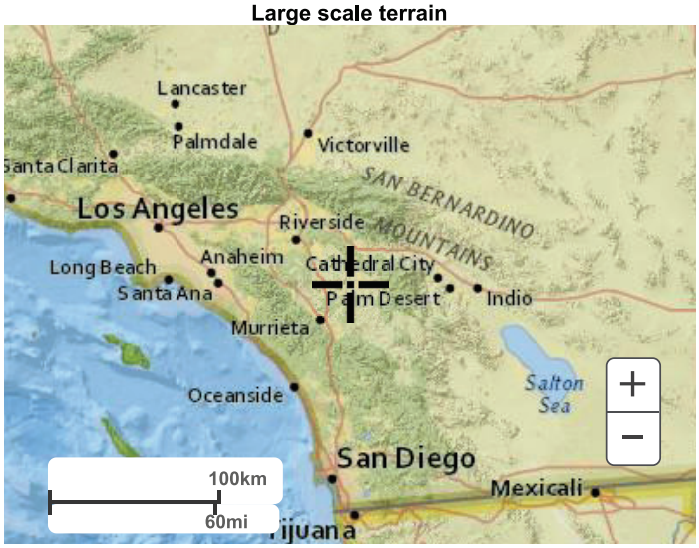
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Maps & aerials

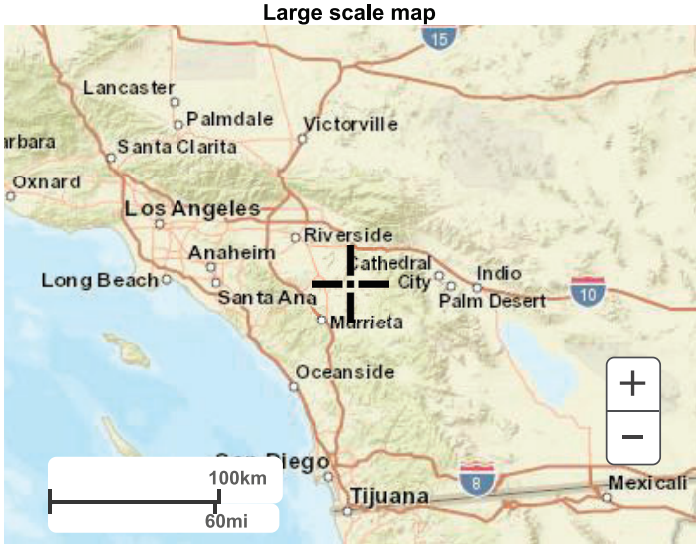
Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



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Disclaimer

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

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	72	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	28	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

RCFC & WCD
HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREA