PRELIMINARY HYDROLOGY ANALYSIS

For:

Stater Bros. Relocation

NWC Van Buren Blvd & Washington St.
Riverside, CA 92504

Lead Agency:

County Of Riverside

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DRC Project No. 19-267

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2-year return
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SECTION I Introduction

The proposed Stater Bros. Relocation project is located on approximately 9.69 acres of partially developed land containing two (2) existing buildings at the northwest corner of Van Buren Boulevard and Washington Street in the Woodcrest area of unincorporated Riverside County, California.

The project includes demolition of one (1) existing building and construction of five (5) new buildings, along with associated paved drive aisles, parking areas, landscaping, and site improvements.

This preliminary report has been prepared to evaluate existing and proposed hydrologic conditions, including peak stormwater runoff rates and runoff volumes.

SECTION II Hydrology Methodology

For both the existing and proposed conditions, unit hydrographs were generated using Riverside County Unit Hydrograph software (UNRIV) to calculate the peak storm water runoff rates, and runoff volumes for the overall site and drainage subareas. As required by Riverside County, calculations were generated for the 1-, 3-, 6-, and 24-hour duration storm events for the 2-, 5-, and 10-year return periods.

Rainfall depths were determined using NOAA Atlas 14 and Riverside County Hydrology Manual Plate E-5. Soil group classification was determined to be Soil Group D by USDA National Resources Conservation Service Web Soil Survey online mapping tool. Runoff Index numbers were determined using Plate D-5. The table below summarizes the rainfall depths utilized as UNRIV inputs for the project.

Return period (year), duration (hour)	**Depth (inches)**
2-year, 1-hour	0.419
100-year, 1-hour	1.220
2-year, 3-hour	0.708
100-year, 3-hour	1.750
2-year, 6-hour	0.954
100-year, 6-hour	2.260
2-year, 24-hour	1.660
100-year, 24-hour	4.100

Existing and proposed drainage patterns are illustrated on the hydrology maps in Appendix B.

A preliminary detention feasibility analysis was performed using the overall site hydrology results. The total storage volume required to mitigate post-development peak flows to be at or below pre-development conditions was estimated using Autodesk Hydraflow software. The required storage volume was then proportionally allocated among the six proposed detention systems based on tributary drainage areas and associated runoff characteristics. The resulting detention volumes are intended to demonstrate feasibility of the proposed drainage concept. Final discharge routing, outlet structure sizing, and detailed detention calculations will be provided with the final hydrology report.

SECTION III Drainage Area Characteristics

Existing Site Conditions: The Project Site Consists of approximately 9.69 acres of partially developed land and is divided into four (4) separate hydrologic drainage areas, as described below.

- **Area 100** is located in the northern portion of the Site and consists of approximately 5.90 acres of undeveloped land with natural grass cover (0% impervious). Runoff generally drains via sheet flow to the southwest and ultimately enters Area 200.
- **Area 200** is located in the southwest portion of the Site and consists of approximately 1.51 acres of developed land that is approximately 81% impervious. Existing improvements include a quick-service drive-through restaurant, paved parking areas, drive aisles, and commercial landscaping. Runoff drains west and south through concrete gutters to an existing onsite catch basin, which discharges via storm drain pipe to the existing public storm drain system within Van Buren Boulevard.
- **Area 300** is located along the eastern portion of the Site adjacent to Washington Street and south of Area 100. Area 300 consists of approximately 1.48 acres of undeveloped land with natural grass cover (0% impervious). Runoff generally drains southeast via sheet flow before entering the existing curb and gutter along Washington Street, where it continues south toward Van Buren Boulevard. Flows ultimately discharge to an existing public catch basin and storm drain system.
- **Area 400** is located in the southeast corner of the Site and consists of approximately 0.80 acres of developed land that is approximately 97% impervious. Existing improvements include paved surfaces and commercial landscaping. Runoff drains southwest toward the existing driveway and then offsite to the northerly curb and gutter along Van Buren Boulevard, ultimately discharging to an existing public catch basin and storm drain system.

See the Existing Hydrology Map in Appendix B for an illustration of the Existing Site conditions.

The table below summarizes the drainage characteristics of each existing drainage area.

EXISTING CONDITION

Area	Area (acres)	U/S elev	D/S elev	Δ elev	Flowpath Length (ft)	Centroid Length (ft)	Pervious Area	Impervious %
100	5.897	1491.10	1483.90	7.20	695	375	256,888	0%
200	1.512	1483.90	1482.20	1.70	518	173	12,762	81%
300	1.484	1494.10	1485.79	8.31	501	364	61,777	4%
400	0.795	1489.20	1484.20	5.00	257	133	945	97%
Site	9.688	1491.10	1483.90	7.20	695	375	332,372	21%

Proposed Site Development: In the Proposed Condition, the Project Site will consist of 9.69 acres of fully developed land. Proposed improvements include five (5) new buildings and one (1) existing building, paved surfaces, commercial landscaping, storm drain improvements, biofiltration facilities, and detention systems. The Site is divided into nine (9) separate hydrologic drainage areas, as described below.

- **Area AL** is located in the northwest corner of the Site and consists of approximately 1.45 acres of developed land that is approximately 90% impervious. Runoff is collected by curb and gutter and directed to a proposed biofiltration planter for LID treatment before entering detention system DET-AL. Flows are then discharged through a proposed outlet control structure to the existing public storm drain system.
- **Area B** is located in the central portion of the Site and consists of approximately 3.25 acres of developed land that is approximately 87% impervious. Runoff is collected by catch basins and conveyed through the onsite storm drain system to a proposed biofiltration planter for LID treatment before entering detention system DET-B. Flows are then discharged through a proposed outlet control structure to the existing public storm drain system.
- **Area CD** is located in the northern portion of the Site and consists of approximately 1.25 acres of developed land that is approximately 79% impervious. Runoff is collected by curb and gutter and directed to a proposed biofiltration planter for LID treatment before entering detention system DET-CD. Flows are then discharged through a proposed outlet control structure to the existing public storm drain system.
- **Area EK** is located in the east-central portion of the Site and consists of approximately 0.33 acres of developed land that is approximately 88% impervious. Runoff is collected by curb and gutter and directed to a proposed biofiltration planter for LID treatment before entering detention system DET-EK. Flows are then discharged through a proposed outlet control structure to the existing public storm drain system.
- **Area GH** is located in the southwest corner of the Site and consists of approximately 1.11 acres of developed land that is approximately 84% impervious. Runoff is collected by curb and gutter and directed to proposed biofiltration planters for LID treatment before entering the onsite storm drain system and discharging to the existing public storm drain system. No dedicated detention facility is proposed for Area GH.
- **Area F** is located in the central portion of the Site north of Area GH, and consists of approximately 0.38 acres of developed land that is approximately 88% impervious. Runoff is collected by catch basins and conveyed through the onsite storm drain system to a proposed biofiltration planter for LID treatment before entering detention system DET-F. Flows are then discharged through a proposed outlet control structure to the existing public storm drain system.
- **Area I** is located in the southeast corner of the Site and consists of approximately 0.90 acres of developed land that is approximately 83% impervious. Runoff is collected by curb and gutter and directed to proposed biofiltration planters for LID treatment before entering the onsite storm drain system and discharging to the existing public storm drain system. No dedicated detention facility is proposed for Area I.
- **Area J** is located in the central portion of the Site and consists of approximately 0.34 acres of developed land that is approximately 86% impervious. Runoff is collected by curb and gutter and directed to a proposed biofiltration planter for LID treatment before entering detention system DET-J. Flows are then discharged through a proposed outlet control structure to the existing public storm drain system.
- **Offsite Area S** is located along the eastern boundary of the Site and consists of approximately 0.69 acres of proposed public street improvements that are approximately 96% impervious. Runoff is collected within the proposed public curb and gutter along Washington Street and conveyed

south toward Van Buren Boulevard, ultimately discharging to the existing public storm drain system.

The table below summarizes the drainage characteristics of each proposed drainage area.

PROPOSED CONDITION

Area	Area (acres)	U/S elev	D/S elev	Δ elev	Flowpath Length (ft)	Centroid Length (ft)	Pervious Area	Impervious %
AL	1.445	1488.30	1487.00	1.30	176	96	7,482	90%
B	3.245	1490.50	1485.90	4.60	242	63	8,409	87%
CD	1.254	1491.30	1486.40	4.90	185	45	5,613	79%
EK	0.332	1490.00	1488.50	1.50	224	94	424	88%
F	0.382	1487.80	1485.40	2.40	115	114	1,933	88%
GH	1.105	1482.70	1481.90	0.80	179	25	1,624	84%
I	0.900	1488.00	1485.00	3.00	239	157	6,725	83%
J	0.340	1487.80	1485.60	2.20	130	50	2,137	86%
S	0.685	1490.13	1485.79	4.34	755	399	5,641	81%
Site	9.688	1490.50	1485.90	4.60	242	63	66,730	84%

SECTION IV Hydrologic Results

Existing Condition: The tables below summarize the Peak Q (cfs) and total Flood Volume (cubic-feet) results calculated in UNRIV software for the 2-, 5-, 10-year return, 1-, 3-, 6-, 24-hour duration periods.

2-Year Return

Existing Area	2-year Peak Q (cfs)				2-year Flood Volume (cu-ft)			
	1-hour	*3-hour*	*6-hour*	*24-hour*	*1-hour*	*3-hour*	*6-hour*	*24-hour*
100	5.27	2.22	1.81	0.13	3,838.6	3,550.5	3,589.0	3,553.4
200	1.66	0.80	0.70	0.25	1,861.1	2,944.9	3,938.3	6,833.2
300	1.44	0.58	0.48	0.04	1,018.0	1,016.8	1,085.0	1,251.9
400	1.06	0.49	0.44	0.15	1,099.2	1,806.8	2,426.2	4,215.6
Site	9.19	4.17	3.51	0.59	7,898.4	9,434.5	11,119.9	15,761.7

5-Year Return

Existing Area	5-year Peak Q (cfs)				5-year Flood Volume (cu-ft)			
	1-hour	*3-hour*	*6-hour*	*24-hour*	*1-hour*	*3-hour*	*6-hour*	*24-hour*
100	9.26	4.43	3.80	1.08	9,957.7	11,519.2	11,586.3	13,069.3
200	2.58	1.23	1.08	0.35	2,898.3	4,203.9	5,418.4	9,198.5
300	2.48	1.13	0.98	0.27	2,533.4	2,980.9	3,071.8	3,641.4
400	1.26	0.70	0.62	0.21	1,305.7	2,492.4	3,260.8	5,671.4
Site	15.47	7.55	6.51	2.00	17,298.3	21,675.0	23,809.2	32,241.4

10-Year Return

Existing Area	10-year Peak Q (cfs)				10-year Flood Volume (cu-ft)			
	1-hour	*3-hour*	*6-hour*	*24-hour*	*1-hour*	*3-hour*	*6-hour*	*24-hour*
100	11.62	5.46	4.66	1.43	12,995.6	15,383.2	15,336.5	19,042.5
200	3.22	1.50	1.30	0.44	3,661.3	5,118.6	6,513.2	11,043.9
300	3.11	1.39	1.20	0.36	3,298.0	3,953.2	4,021.5	5,177.4
400	1.96	0.84	0.74	0.26	2,049.8	3,001.1	3,885.6	6,789.9
Site	19.36	9.23	7.91	2.57	22,289.0	28,050.2	30,344.2	43,072.9

Proposed Condition: The tables below summarize the Peak Q (cfs) and total Flood Volume (cubic-feet) results calculated in UNRIV software for the 2-, 5-, 10-year return, 1-, 3-, 6-, 24-hour duration periods.

2-Year Return

Proposed Area	2-year Peak Q (cfs)				2-year Flood Volume (cu-ft)			
	1-hour	*3-hour*	*6-hour*	*24-hour*	*1-hour*	*3-hour*	*6-hour*	*24-hour*
AL	1.91	0.85	0.76	0.27	1,898.2	3,069.6	4,112.9	7,140.0
B	4.81	1.92	1.74	0.59	4,182.2	6,723.8	9,009.1	15,642.9
CD	1.81	0.69	0.62	0.20	1,515.8	2,382.1	3,181.1	5,516.1
EK	0.43	0.19	0.17	0.06	428.8	689.3	922.5	1,600.5
F	0.56	0.22	0.20	0.07	493.4	793.1	1,061.5	1,841.5
GH	1.62	0.64	0.57	0.19	1,387.6	2,209.9	2,955.5	5,127.0
I	1.13	0.50	0.44	0.15	1,120.2	1,778.3	2,376.8	4,121.6
J	0.50	0.20	0.18	0.06	434.5	696.3	932.4	1,618.5
S	0.68	0.35	0.31	0.11	843.2	1,334.2	1,784.2	3,095.8
Site	13.34	5.24	4.82	1.69	11,787.1	19,171.1	25,832.4	44,950.2

5-Year Return

Proposed Area	5-year Peak Q (cfs)				5-year Flood Volume (cu-ft)			
	1-hour	*3-hour*	*6-hour*	*24-hour*	*1-hour*	*3-hour*	*6-hour*	*24-hour*
AL	2.88	1.25	1.11	0.37	2,890.7	4,299.1	5,586.9	9,610.4
B	7.12	2.71	2.41	0.79	6,169.5	9,183.1	11,992.3	21,028.4
CD	2.77	1.07	0.96	0.28	2,378.5	3,423.8	4,399.6	7,428.8
EK	0.65	0.28	0.25	0.08	657.6	971.1	1,258.8	2,155.1
F	0.85	0.33	0.30	0.09	756.6	1,117.4	1,448.4	2,479.6
GH	2.46	0.96	0.86	0.26	2,147.6	3,138.5	4,053.9	6,903.5
I	1.73	0.75	0.67	0.21	1,740.2	2,533.7	3,268.0	5,551.0
J	0.76	0.29	0.26	0.08	667.7	982.7	1,272.9	2,178.4
S	1.02	0.51	0.43	0.15	1,250.9	1,831.4	2,381.3	4,161.6
Site	21.13	7.95	7.07	2.28	18,005.3	26,546.4	34,567.6	60,425.7

10-Year Return

Proposed Area	10-year Peak Q (cfs)				10-year Flood Volume (cu-ft)			
	1-hour	*3-hour*	*6-hour*	*24-hour*	*1-hour*	*3-hour*	*6-hour*	*24-hour*
AL	3.58	1.51	1.33	0.45	3,626.2	5,202.3	6,683.7	11,527.3
B	9.01	3.44	3.06	1.00	8,048.9	11,465.1	14,694.9	25,235.8
CD	3.45	1.30	1.15	0.36	3,011.6	4,177.5	5,298.1	8,931.7
EK	0.81	0.34	0.30	0.10	826.5	1,176.1	1,508.3	2,588.4
F	1.06	0.40	0.36	0.11	951.0	1,354.7	1,735.4	2,978.2
GH	3.06	1.16	1.03	0.33	2,707.8	3,814.8	4,867.0	8,292.5
I	2.15	0.91	0.80	0.26	2,196.5	3,082.8	3,926.9	6,672.6
J	0.94	0.36	0.32	0.10	840.0	1,192.1	1,525.6	2,613.3
S	1.32	0.66	0.57	0.20	1,658.7	2,318.9	2,950.8	5,003.4
Site	26.82	10.20	9.06	2.92	23,738.7	33,444.5	42,669.2	72,702.8

Existing vs. Proposed Comparison: Results indicate that the proposed development increases runoff rates and runoff volumes relative to existing conditions due to the increase in impervious area across the project site. As a result, runoff mitigation is required to reduce post-development peak discharges to at or below existing condition levels.

SECTION V Preliminary Detention Feasibility Analysis

Preliminary Detention Sizing: A preliminary detention feasibility analysis was performed for the 9.69-acre project site using the results generated with UNRIV. Based on preliminary routing analyses and conceptual outlet control assumptions with Hydraflow software, approximately 40,220 cubic-feet of detention storage is required for the overall site to mitigate post-development peak discharges to be at or below existing condition peak discharges for the required 2-, 5-, and 10- year return storm events.

To evaluate feasibility of the proposed drainage concept, the total required detention volume was distributed among the six (6) proposed detention systems based on the tributary drainage areas and associated runoff characteristics contributing to each system. The resulting detention volumes are intended to demonstrate feasibility of the proposed stormwater mitigation strategy and establish a preliminary basis for sizing the detention facilities. The table below summarizes the preliminary detention storage volumes allocated to each proposed detention facility.

Detention System	Volume (cu-ft)
DET-AL	8,690
DET-B	15,990
DET-CD	7,400
DET-EK	2,300
DET-F	4,450
DET-J	4,900
Total Provided	43,730
Total Required	40,220

The six proposed detention systems provide a combined detention storage volume of approximately 43,730 cubic feet, which exceeds the preliminary required detention volume of 40,220 cubic feet by approximately 3,510 cubic feet. Accordingly, the proposed detention concept provides sufficient storage capacity to demonstrate the feasibility of the proposed runoff mitigation strategy at this stage of design.

Final detention routing calculations & outlet control sizing will be provided with the final hydrology report.

Preliminary Outlet Control: Preliminary outlet control structures were evaluated using Hydraflow routing analyses to demonstrate the feasibility of the proposed detention concept. Based on the preliminary routing analyses, a conceptual outlet configuration consisting of staged low-flow and high-flow orifices with an overflow weir was found to provide sufficient attenuation of post-development peak discharges for the required storm events.

The preliminary outlet control configuration evaluated for the overall site (based on a relative detention system invert elevation of 100.00) consisted of a 1.7-inch diameter orifice at Elevation 100.00, a 3-inch diameter orifice at Elevation 101.20, a 4-inch diameter orifice at Elevation 102.40, and a 5-foot wide rectangular weir at Elevation 103.40. These outlet control elements are preliminary in nature and are intended solely to demonstrate feasibility of the proposed detention strategy. Final outlet control sizing and stage-storage-discharge analyses will be provided with the final hydrology report.

Preliminary Drawdown Discussion: Preliminary routing of the overall detention concept indicates that approximately 40,220 cubic feet of total storage is feasible for peak flow mitigation. The routing model is intended for preliminary peak flow attenuation only and is not intended to represent the final drawdown time of each individual detention facility. Final detention facilities will be individually designed with outlet controls to provide drawdown within 72 hours, and supporting calculations will be provided with the final hydrology report.

SECTION VI Conclusions

A preliminary hydrologic analysis was performed for the proposed 9.69-acre development in accordance with Riverside County requirements. Existing and proposed runoff conditions were evaluated using Riverside County Unit Hydrograph software (UNRIV) for the 1-, 3-, 6-, and 24-hour duration storm events associated with the 2-, 5-, and 10-year return periods.

Based on the preliminary analyses, the proposed development will increase runoff rates and runoff volumes relative to existing conditions due to the increase in impervious area. To mitigate these impacts, a preliminary detention feasibility analysis was performed using conceptual outlet control assumptions and Hydraflow routing analyses. Results indicate that approximately 40,220 cubic feet of detention storage distributed among the six proposed detention systems provides a feasible basis for mitigating post-development peak discharges to at or below existing condition peak discharges for the required storm events.

The detention facilities, outlet control structures, and associated storm drain infrastructure presented herein are preliminary in nature and are intended to demonstrate the feasibility of the proposed drainage concept during the entitlement stage of project development. Final detention routing calculations, outlet control sizing, drawdown evaluations, and supporting hydrologic analyses will be provided with the final hydrology report.

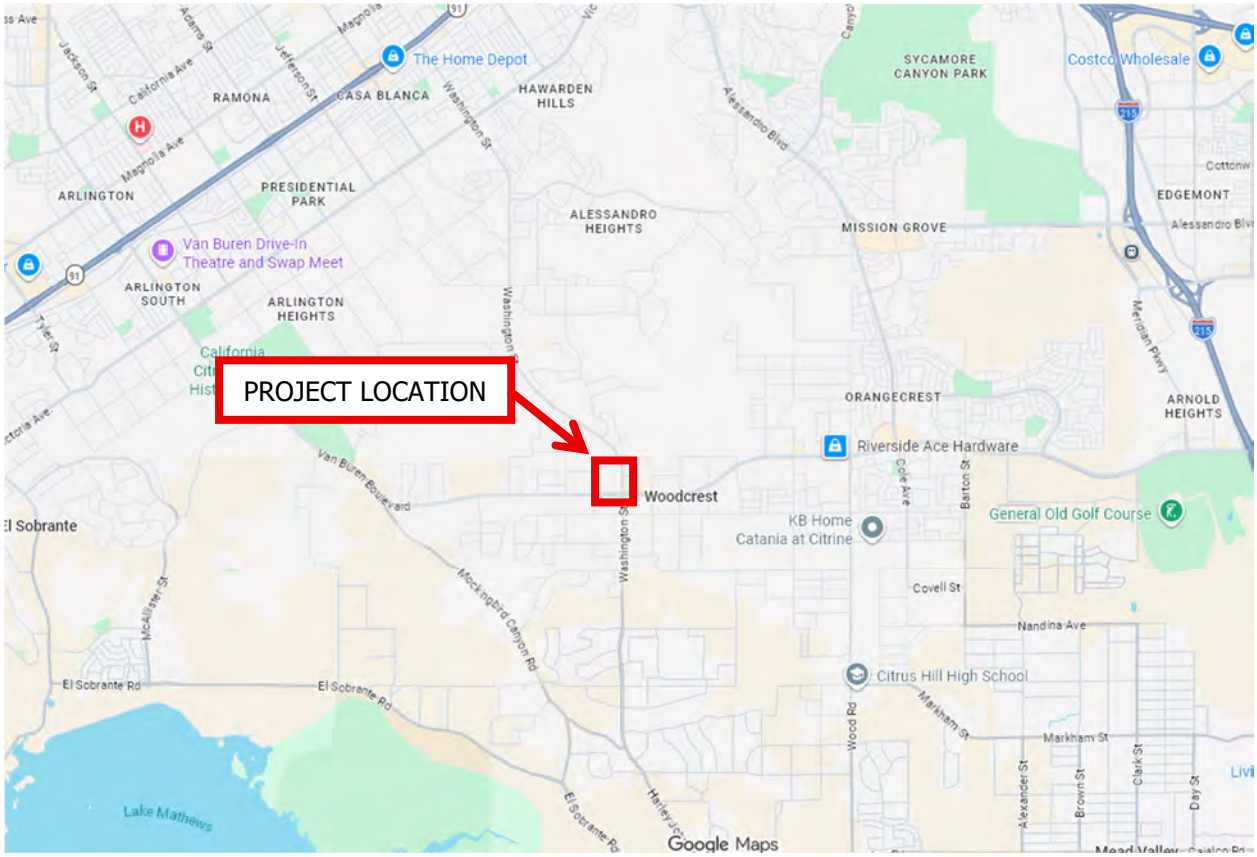
APPENDIX A - SITE INFORMATION

Location Map

USDA Natural Resources Conservation Service – Web Soil Survey

RCFC&WCD – Plate D-5.5 – Runoff Index Numbers for Pervious Area

RCFC&WCD – Plate E.5 – Rainfall Depth


PROJECT LOCATION
The Home Depot
RAMONA
CASA BLANCA
HAWARDEN HILLS
SYCAMORE CANYON PARK
Costco Wholesale
ARLINGTON
PRESIDENTIAL PARK
ALESSANDRO HEIGHTS
MISSION GROVE
EDGEMONT
Van Buren Drive-In Theatre and Swap Meet
ARLINGTON SOUTH
ARLINGTON HEIGHTS
ORANGECREST
ARNOLD HEIGHTS
Riverside Ace Hardware
Woodcrest
KB Home Catania at Citrine
General Old Golf Course
El Sobrante
Covell St
Nandina Ave
Citrus Hill High School
Markham St
El Sobrante Rd
Lake Mathews
Google Maps

Search

Properties and Qualities Ratings

Open All | Close All

- Soil Chemical Properties
- Soil Erosion Factors
- Soil Health Properties
- Soil Physical Properties

Soil Qualities and Features

- AASHTO Group Classification (Surface)
- AASHTO Group Index
- Depth to a Selected Soil Restrictive Layer
- Depth to Any Soil Restrictive Layer
- Depth to Bedrock
- Drainage Class
- Frost Action
- Frost-Free Days
- **Hydrologic Soil Group**

View Description | View Rating

View Options

Map ☑
Table ☑
Description of Rating ☑
Rating Options ☑
Detailed Description

Advanced Options

Aggregation Method: Dominant Condition
Component Percent Cutoff:
Tie-break Rule: Lower / Higher

View Description | View Rating

- Map Unit Name
- Parent Material Name
- Representative Slope
- Soil Slippage Potential
- Subsidence, Initial
- Subsidence, Total
- Unified Soil Classification (Selected Depth)
- Unified Soil Classification (Surface)

Water Features

Map — Hydrologic Soil Group

Scale (not to scale)



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

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:15,800. The design of map units and the level of detail shown in the resulting soil map are dependent on that map 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.

Tables — Hydrologic Soil Group — Summary By Map Unit

Summary by Map Unit — Western Riverside Area, California (CA679)

Summary by Map Unit — Western Riverside Area, California (CA679)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BdC	Bonsall fine sandy loam, 2 to 8 percent slopes	D	5.7	58.9%
BuC2	Buren fine sandy loam, 2 to 8 percent slopes, eroded	C	3.5	36.8%
FaD2	Fallbrook sandy loam, 8 to 15 percent slopes, eroded	C	0.4	4.3%
Totals for Area of Interest			**9.6**	**100.0%**

Description — Hydrologic Soil Group

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 — Hydrologic Soil Group

Aggregation Method: Dominant Condition
Component Percent Cutoff: *None Specified*
Tie-break Rule: Higher

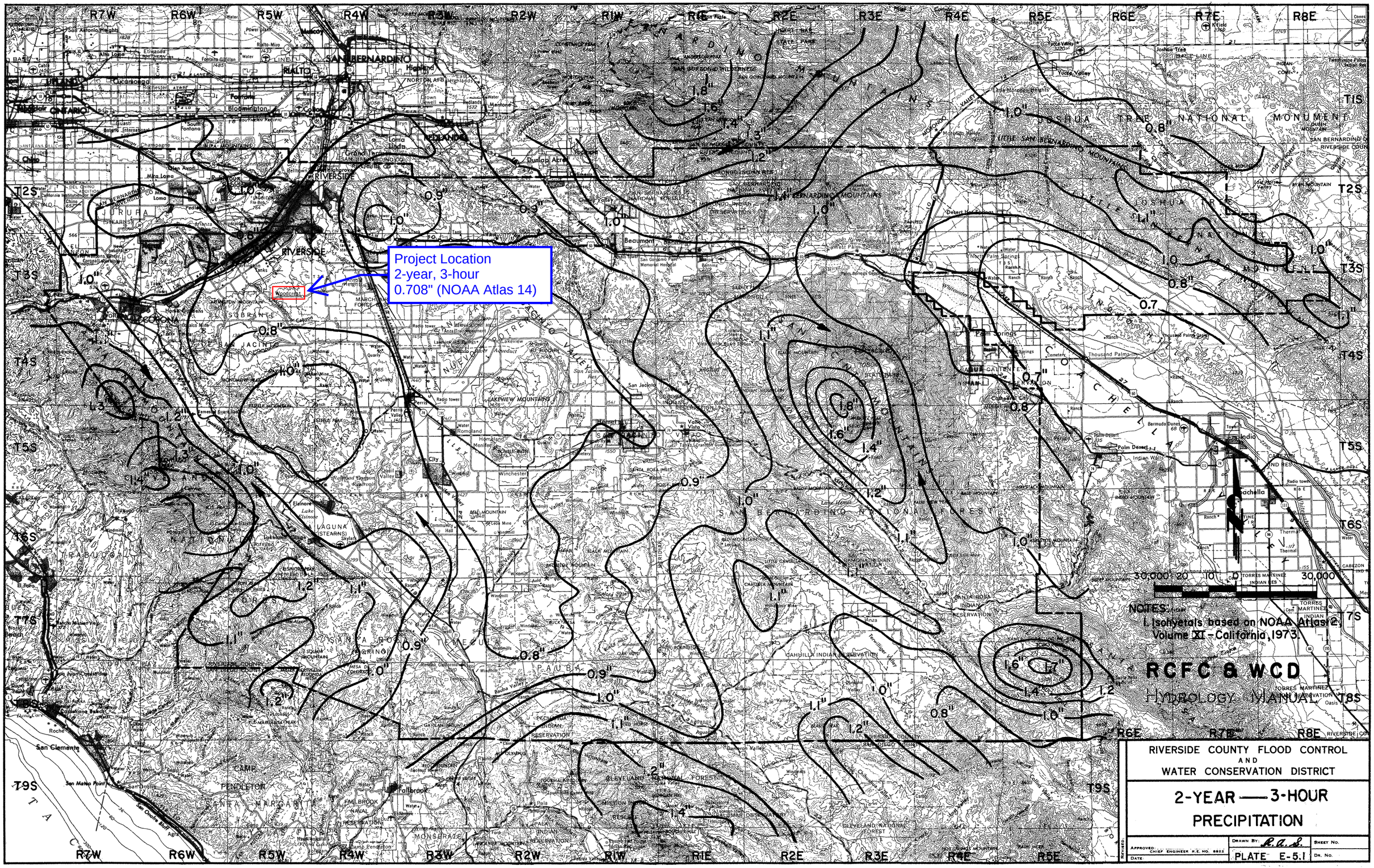
USDA National Resources Conservation Service
WebSoilSurvey
DRC Project: 19-267
Date: 6/4/2026
Project Soil Group: D

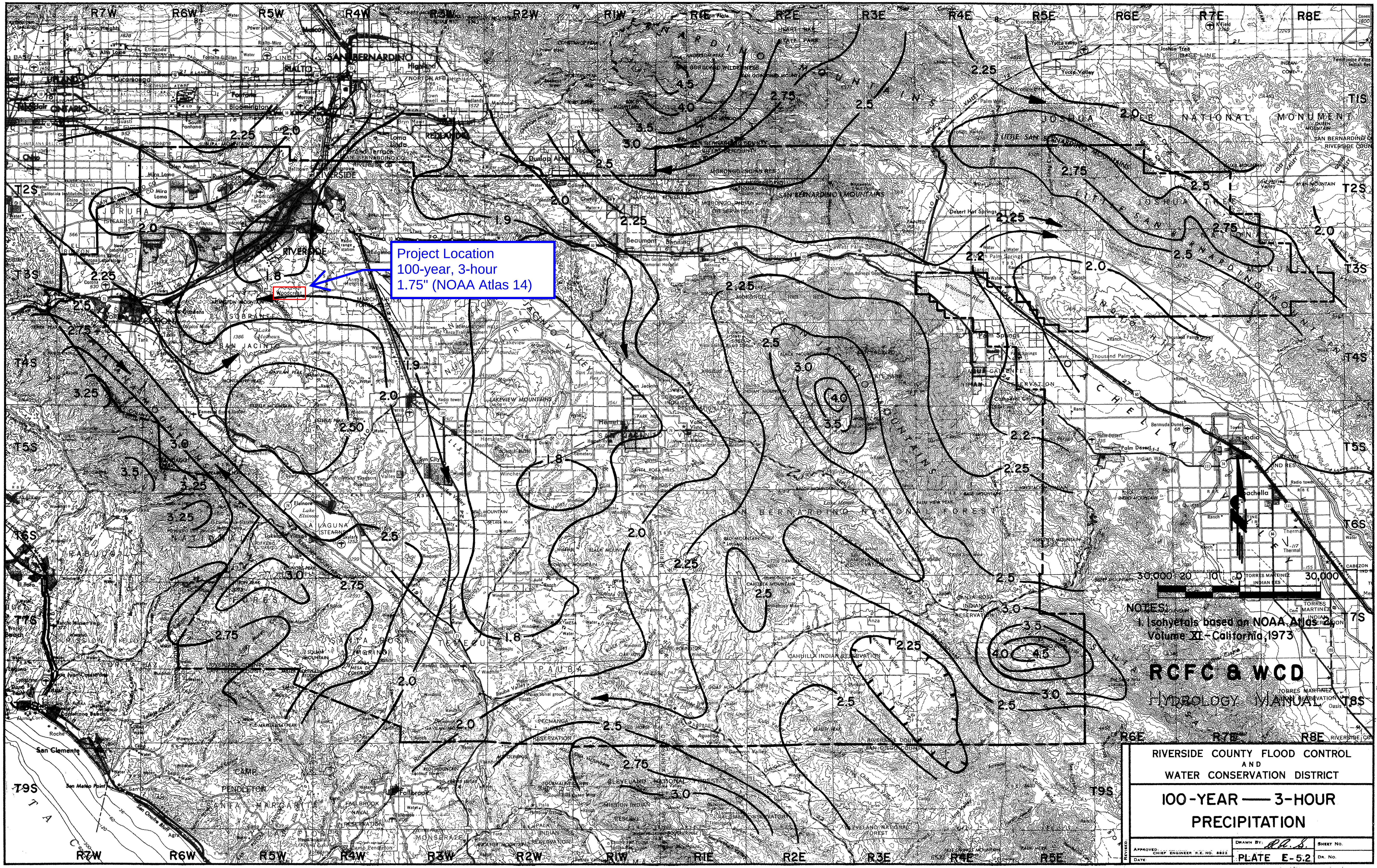
RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

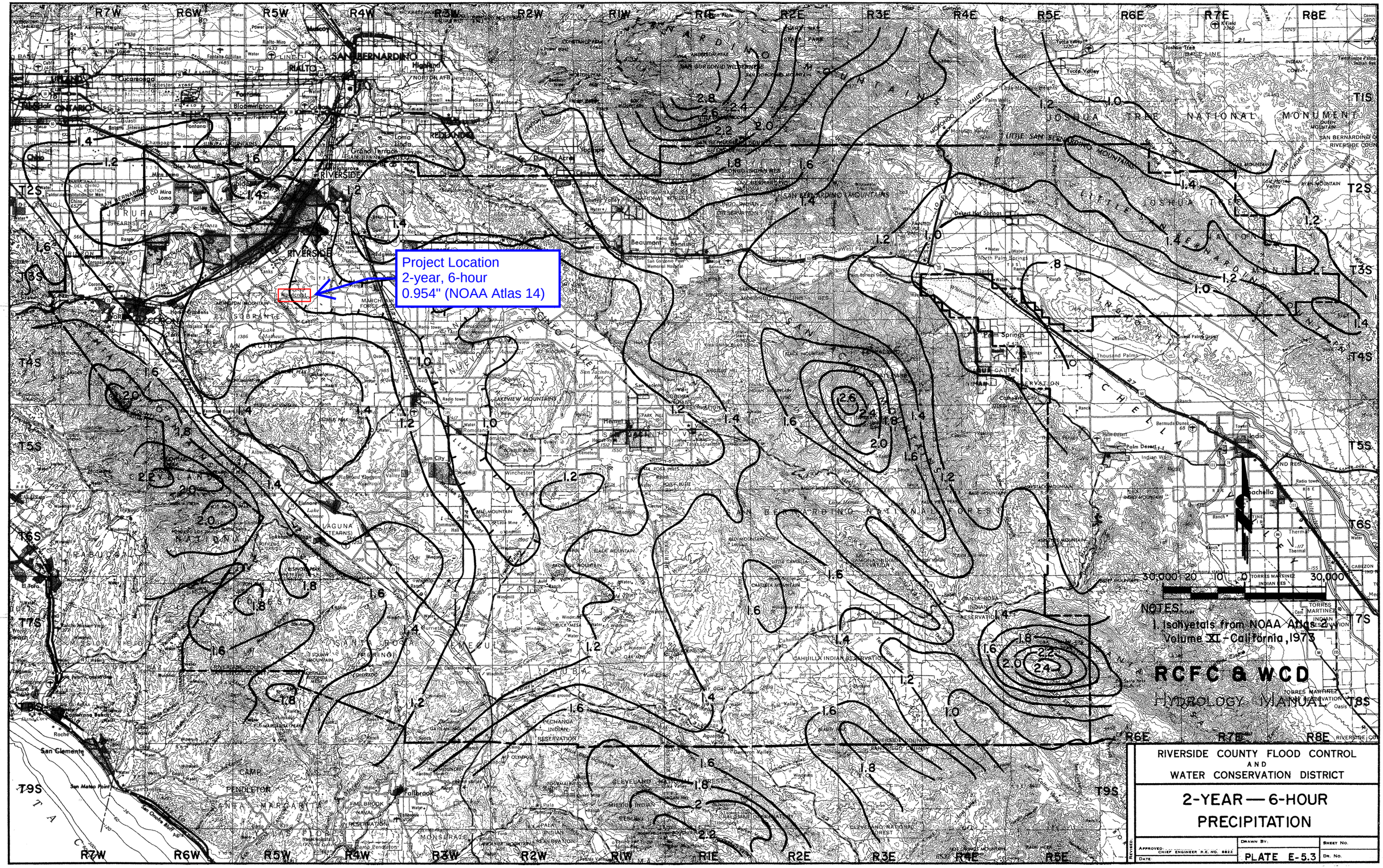
Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	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

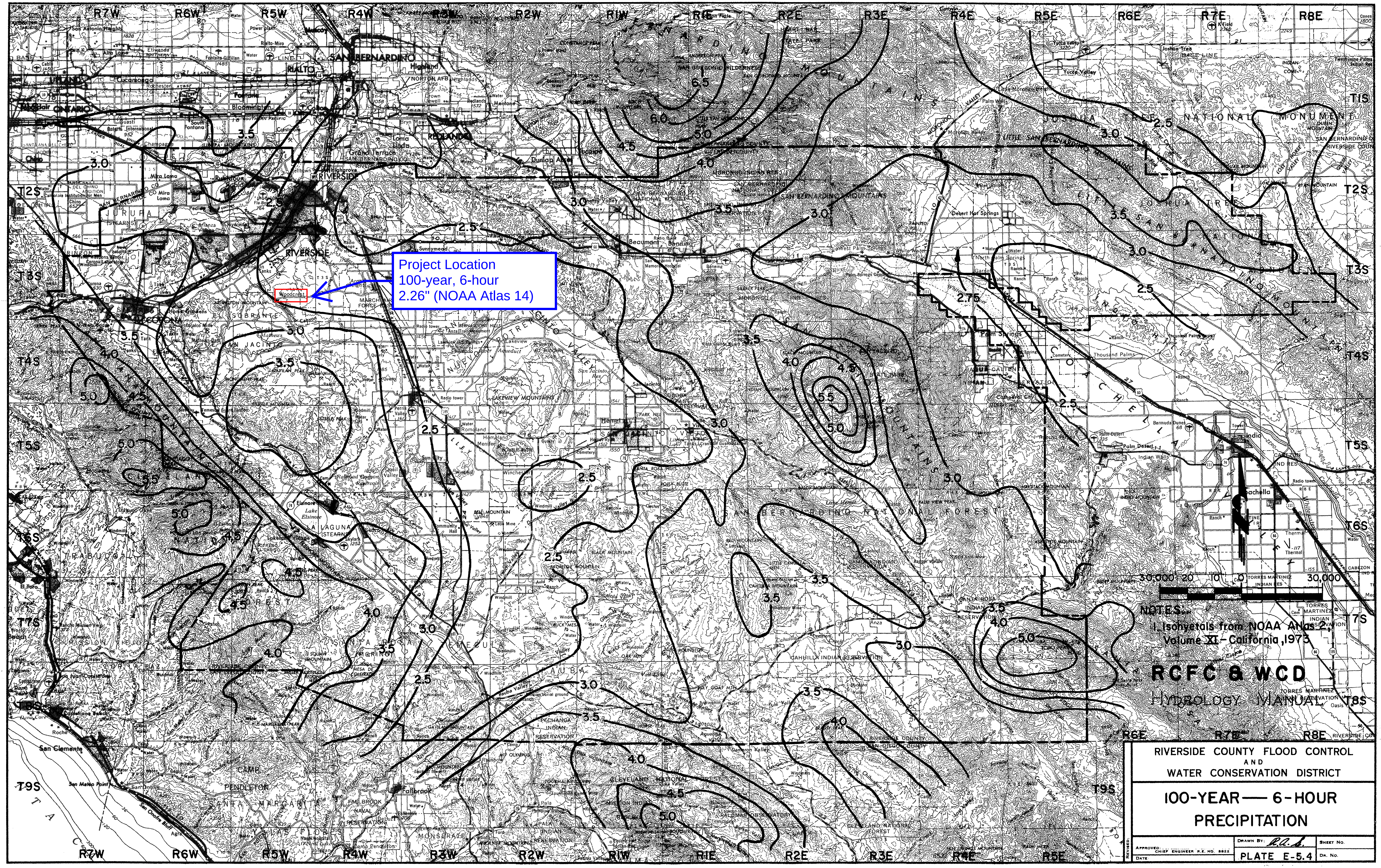
RCFC & WCD
HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREA

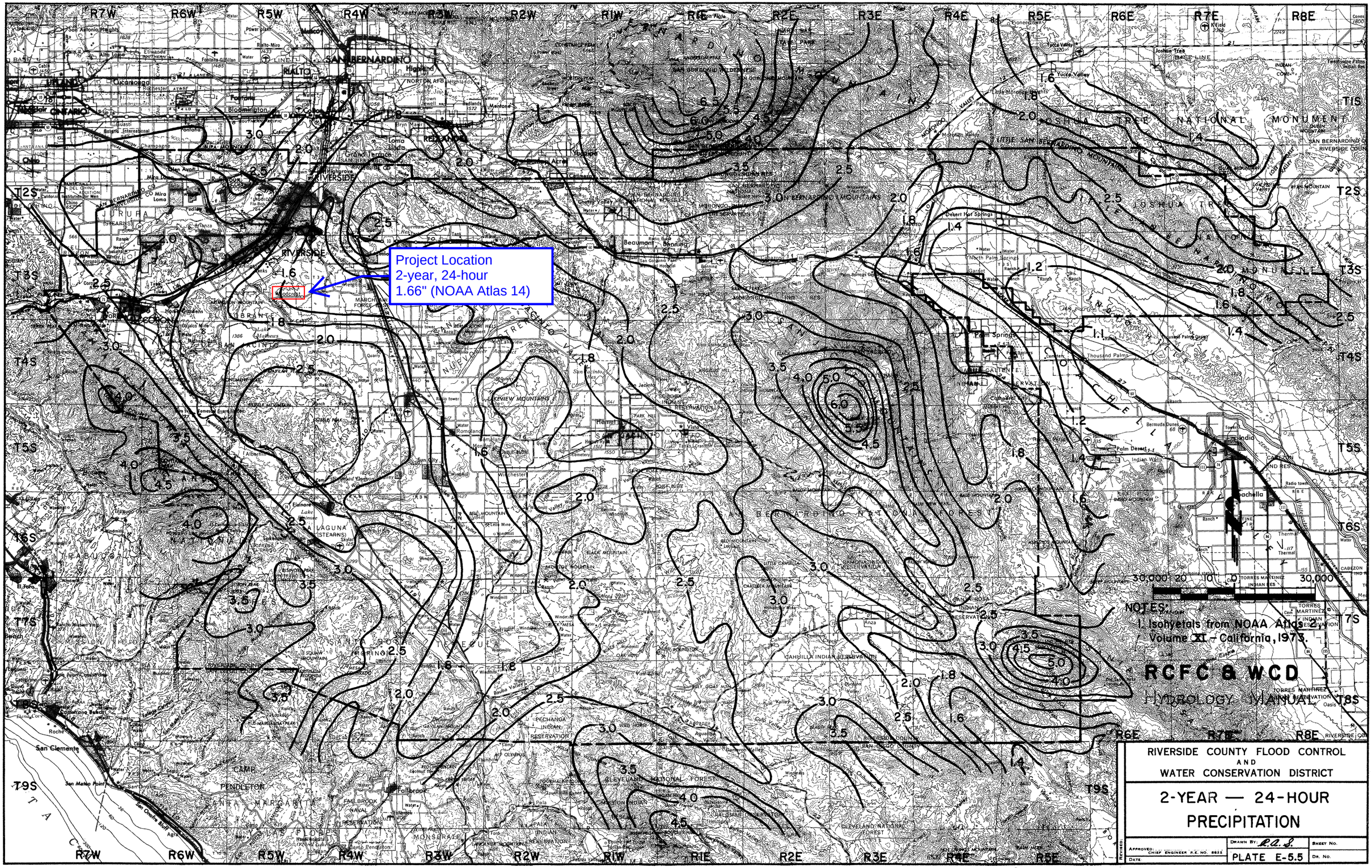

Project Location
2-year, 3-hour
0.708" (NOAA Atlas 14)
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 3-HOUR PRECIPITATION
DRAWN BY: R.A.S.
SHEET NO.
APPROVED: CHIEF ENGINEER R.E. NO. 6822
PLATE E-5.1
DR. No.
DATE:
REVISED

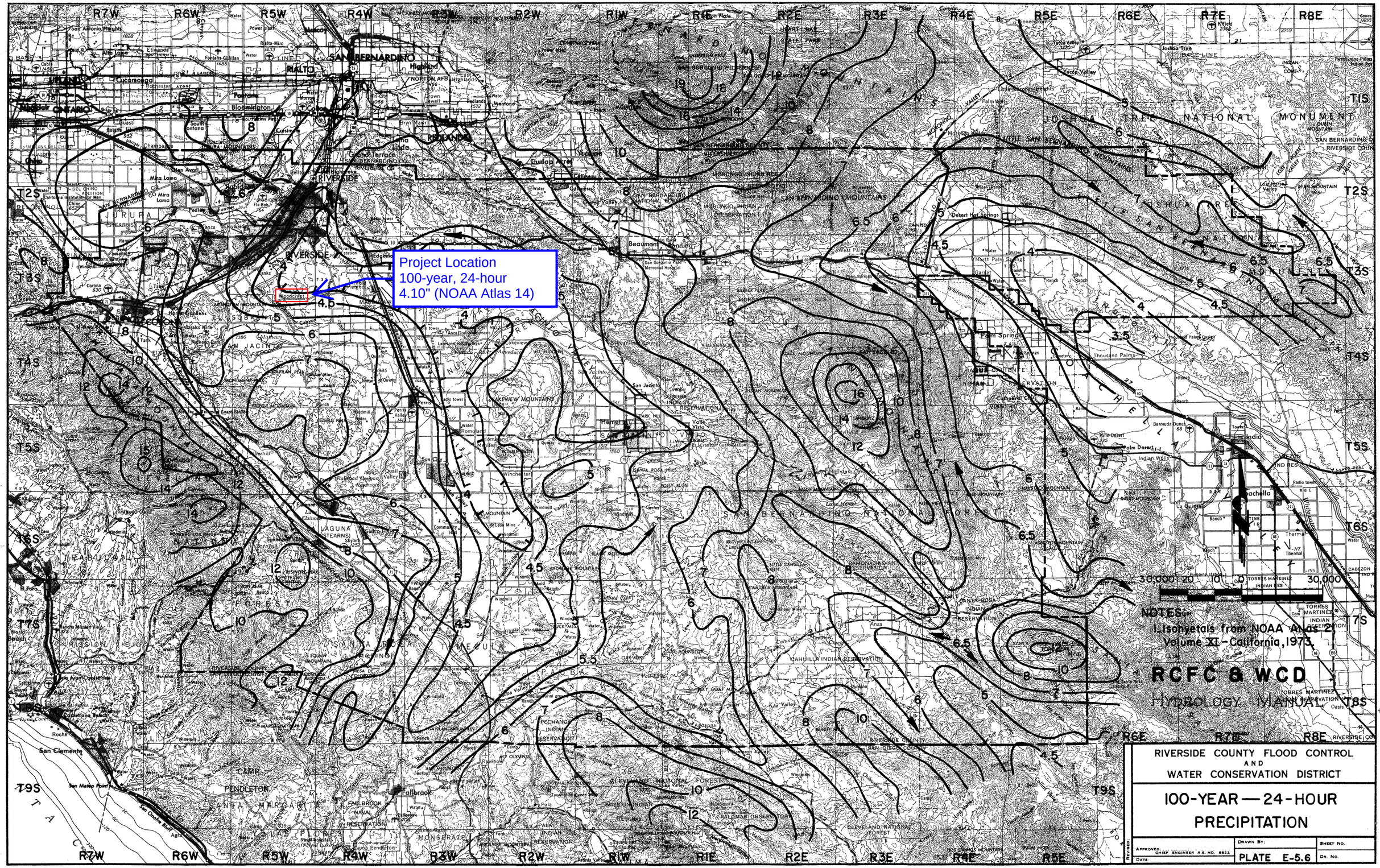

Project Location
100-year, 3-hour
1.75" (NOAA Atlas 14)
Woodcrest
RIVERSIDE
SAN BERNARDINO
REDLANDS
ONTARIO
UPLAND
Beaumont
Banning
Palm Springs
Palm Desert
Indio
Coachella
Hemet
Sun City
Elsinore
Temecula
Fallbrook
San Clemente
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E R4E R5E R6E R7E R8E
T1S T2S T3S T4S T5S T6S T7S T8S T9S
30,000 20 10 0 30,000
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
100-YEAR —— 3-HOUR
PRECIPITATION
APPROVED: CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED:
DRAWN BY: R.A.S.
PLATE E-5.2
SHEET NO.
DR. NO.


Project Location
2-year, 6-hour
0.954" (NOAA Atlas 14)
NOTES
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 6-HOUR PRECIPITATION
DRAWN BY:
SHEET NO.
APPROVED CHIEF ENGINEER R.E. NO. 6822
DATE
PLATE E-5.3
DR. NO.
REVISED



Project Location
100-year, 6-hour
2.26" (NOAA Atlas 14)
Woodcrest
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR
PRECIPITATION
APPROVED: CHIEF ENGINEER R.E. NO. 8822
DATE
DRAWN BY: R.A.S.
SHEET NO.
PLATE E-5.4
DR. NO.
REVISED:

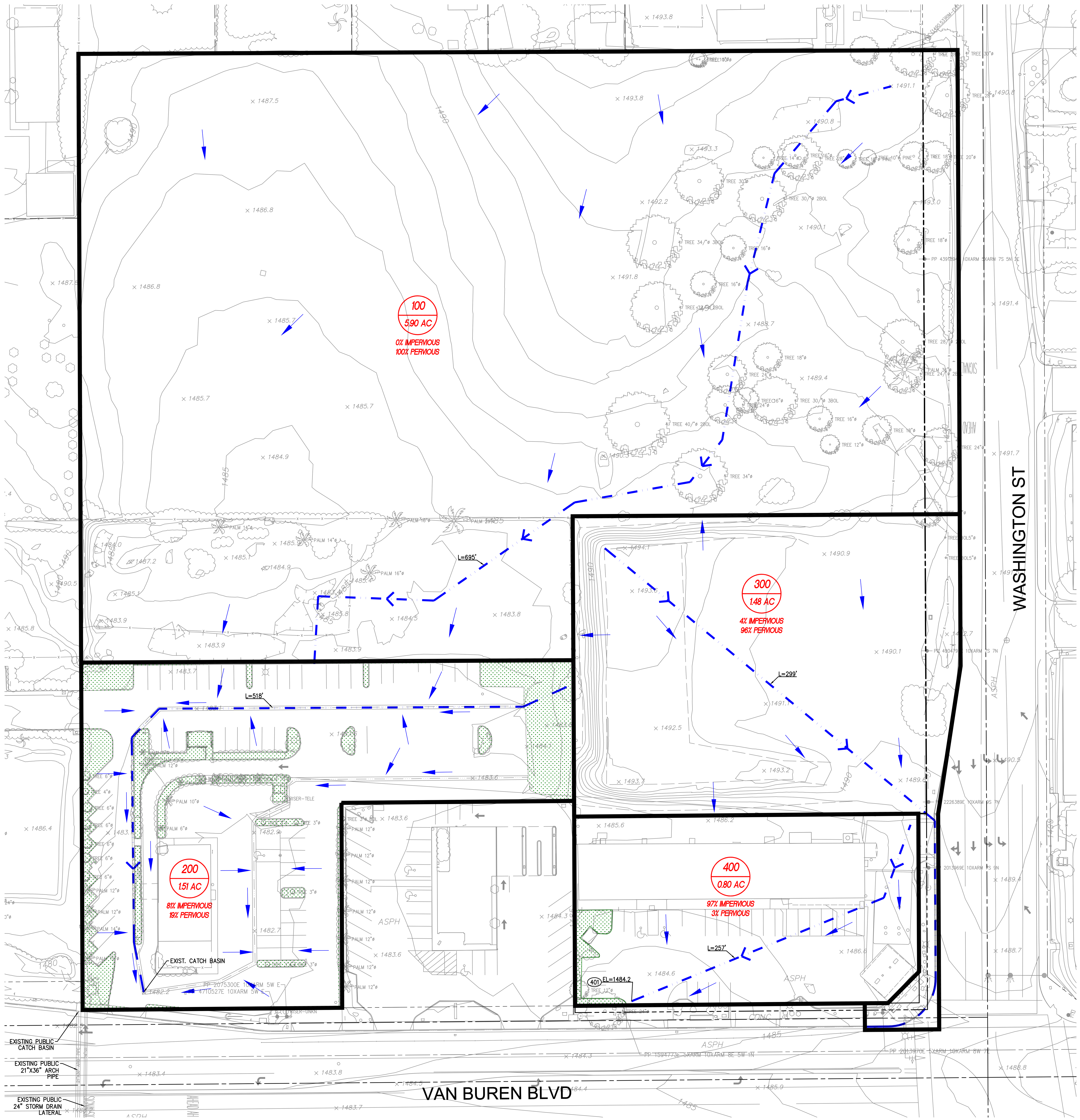

Project Location
2-year, 24-hour
1.66" (NOAA Atlas 14)
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 24-HOUR PRECIPITATION
PLATE E-5.5
SHEET NO.
DR. NO.
DRAWN BY: R.A.S.
APPROVED: CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED

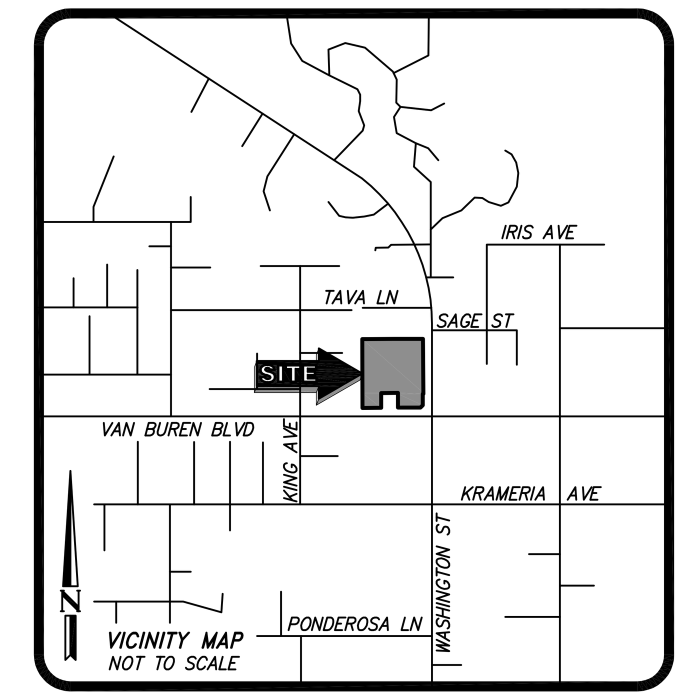

Project Location
100-year, 24-hour
4.10" (NOAA Atlas 14)
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 24-HOUR PRECIPITATION
PLATE E-5.6
SHEET No.
DRAWN BY:
APPROVED: CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED

APPENDIX B – SITE HYDROLOGY MAPS AND EXHIBITS

Existing Hydrology Map

Proposed Hydrology Map





LEGEND

(heavy line)	SUB-AREA BOUNDARY
X	SUB-AREA
X.XX AC	SUB-AREA ACREAGE
(dotted pattern)	COMMERCIAL LANDSCAPE AREA
(arrow)	DIRECTION OF RUNOFF
(dashed line)	DRAINAGE FLOWPATH

30' 0' 30' 60' 90'

GRAPHIC SCALE: 1"=30'

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning

160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

NOT FOR CONSTRUCTION

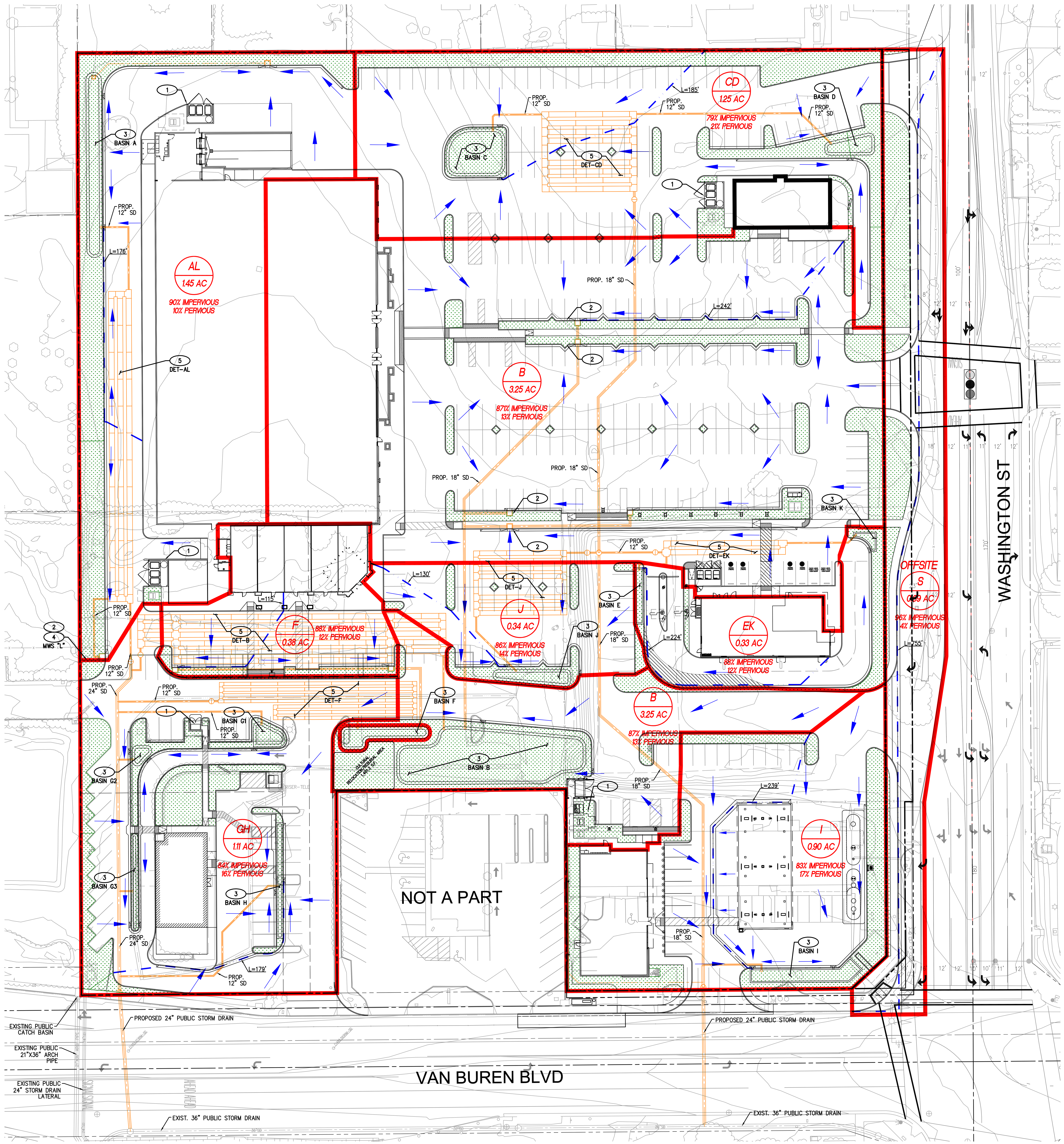
NO.:	REVISION:	DATE:

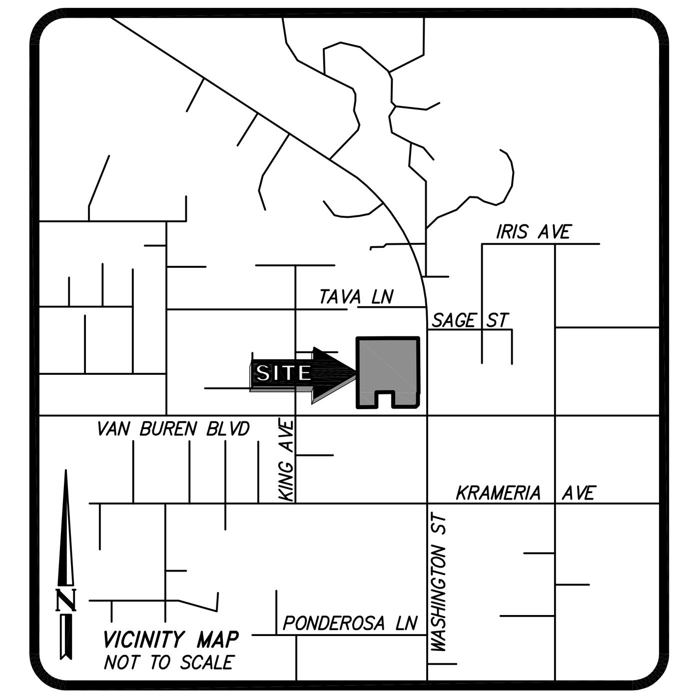
PROJECT:
STATER BROS. RELOCATION
NWC OF VAN BUREN BLVD & WASHINGTON ST
RIVERSIDE, CA 92504

DRAWING NAME:
EXISTING HYDROLOGY MAP

ISSUE:	1ST PRELIMINARY
DATE:	6/2/2026
CHECKED: RJV	DRAWN: MAB
DRAWING FILE:	EXISTING HM
PROJECT NO.:	19-267
SHEET NUMBER:	1 OF 1 SHEETS
SCALE:	AS SHOWN

EXTERNAL REFERENCES: 9267mac02 9267ab101 9267ft101 9267at101 9267 AR_Site 9267ct101 19267 TE SS
FILENAME: M:\2019\19-267 LJC Enterprises Van Buren\HM\9267 EX. HM Zone.dwg, LAST SAVED ON: Jun 04 2026 12:03pm PLOTTED BY: LEO, ON: Jun 04 2026 12:06pm, CFG:





SOURCE CONTROL BMPS

1. TRASH STORAGE AREAS – KEEP LIDS CLOSED & CLEAN
2. STORM DRAIN SIGNAGE
3. BIOFILTRATION POND – KEEP AREAS CLEAN
   NOTE: ALL ROCK OR SAND TO BE PLACED IN POST-CONSTRUCTION BMPs SHALL BE CLEAN-WASHED ROCK TO THE SATISFACTION OF THE GRADING INSPECTOR
4. MODULAR WETLANDS LINEAR BIO-FILTRATION SYSTEM
   NOTE: UNIT MUST HAVE OPEN VEGETATION TOP
5. UNDERGROUND PIPE DETENTION CHAMBERS WITH DOWNSTREAM OUTLET CONTROL STRUCTURE
   NOTE: PROPOSED DETENTION CHAMBER PIPES SHOULD PROVIDE MINIMUM 50-YEAR SERVICE LIFE.

LEGEND

- SUB-AREA BOUNDARY
- X — SUB-AREA
- X.XX AC — SUB-AREA ACREAGE
- COMMERCIAL LANDSCAPE AREA
- DIRECTION OF RUNOFF
- DRAINAGE FLOWPATH

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

NOT FOR CONSTRUCTION

NO.:	REVISION:	DATE:

PROJECT: **STATER BROS. RELOCATION**
NWC OF VAN BUREN BLVD & WASHINGTON ST
RIVERSIDE, CA 92504

DRAWING NAME: **PROPOSED HYDROLOGY MAP**

ISSUE:	1ST PRELIMINARY
DATE:	6/1/2026
CHECKED: RJV	DRAWN: LDI
DRAWING FILE:	PROPOSED HM
PROJECT NO.:	19-267
SHEET NUMBER:	1 OF 1 SHEETS
SCALE:	AS SHOWN

EXTERNAL REFERENCES: 9267mac02 9267ab101 9267ft101 9267at101 9267 AR_Site 9267ct101 9267cg301 Zone 19267 TE SS
FILENAME: M:\2019\19-267 LJC Enterprises Van Buren\HM\9267 PROP. HM Zone.dwg, LAST SAVED ON: Jun 04 2026 12:03pm PLOTTED BY: LEO, ON: Jun 04 2026 12:06pm, CFG:

APPENDIX C - UNIT HYDROGRAPH RESULTS

Existing Condition

2-year return – 1-, 3-, 6-, 24-hour duration

5-year return – 1-, 3-, 6-, 24-hour duration

10-year return – 1-, 3-, 6-, 24-hour duration

Proposed Condition

2-year return – 1-, 3-, 6-, 24-hour duration

5-year return – 1-, 3-, 6-, 24-hour duration

10-year return – 1-, 3-, 6-, 24-hour duration

Existing Condition

2-year return – 1-, 3-, 6-, 24-hour duration

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 06/03/26 File: 19267e002A12.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	0.42	2.47

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	1.22	7.19

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.419(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.419(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.000	0.286	1.000	0.286
					Sum (F) =	0.286

Area averaged mean soil loss (F) (In/Hr) = 0.286
Minimum soil loss rate ((In/Hr)) = 0.143
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
		Sum = 100.000	Sum=	5.943

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	3.30	0.166	(0.286)	0.149	0.017
2	0.17	4.20	0.211	(0.286)	0.190	0.021
3	0.25	4.40	0.221	(0.286)	0.199	0.022
4	0.33	4.80	0.241	(0.286)	0.217	0.024
5	0.42	5.20	0.261	(0.286)	0.235	0.026
6	0.50	6.20	0.312	(0.286)	0.281	0.031
7	0.58	6.80	0.342	0.286	(0.308)	0.055
8	0.67	8.80	0.442	0.286	(0.398)	0.156

```
 9   0.75    13.90      0.699          0.286    (  0.629)        0.412
10   0.83    31.40      1.579          0.286    (  1.421)        1.292
11   0.92     7.20      0.362          0.286    (  0.326)        0.076
12   1.00     3.80      0.191       (  0.286)       0.172        0.019
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     2.2
    Flood volume = Effective rainfall      0.18(In)
     times area       5.9(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.24(In)
    Total soil loss =     0.118(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        3838.6 Cubic Feet
    Total soil loss =        5130.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      5.275(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0004      0.06  Q         |         |         |         |
   0+10       0.0011      0.11  Q         |         |         |         |
   0+15       0.0020      0.13  Q         |         |         |         |
   0+20       0.0029      0.14  QV        |         |         |         |
   0+25       0.0040      0.15  QV        |         |         |         |
   0+30       0.0052      0.17  Q V       |         |         |         |
   0+35       0.0070      0.26  |Q V      |         |         |         |
   0+40       0.0115      0.65  | Q  V    |         |         |         |
   0+45       0.0235      1.74  |     Q   V         |         |         |
   0+50       0.0598      5.28  |         |         |Q     V  |         |
   0+55       0.0825      3.30  |         |  Q      |         |      V  |
   1+ 0       0.0876      0.74  | Q       |         |         |        V|
   1+ 5       0.0881      0.07  Q         |         |         |        V|
   1+10       0.0881      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 06/03/26 File: 19267e002B12.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	0.42	0.62

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        1.48             1.22                 1.81

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.419(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.419(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     1.484           89.00          0.040
 Total Area Entered =      1.48(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
89.0  76.4      0.286     0.040        0.276        1.000      0.276
                                                    Sum (F) =   0.276
Area averaged mean soil loss (F) (In/Hr) =  0.276
Minimum soil loss rate ((In/Hr)) =  0.138
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.860
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        366.114         62.598             0.936
    2   0.167        732.229         33.736             0.505
    3   0.250       1098.343          3.666             0.055
                              Sum = 100.000   Sum=       1.496
------------------------------------------------------------------------

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     3.30      0.166       (  0.276)       0.143        0.023
  2   0.17     4.20      0.211       (  0.276)       0.182        0.030
  3   0.25     4.40      0.221       (  0.276)       0.190        0.031
  4   0.33     4.80      0.241       (  0.276)       0.208        0.034
  5   0.42     5.20      0.261       (  0.276)       0.225        0.037
  6   0.50     6.20      0.312       (  0.276)       0.268        0.044
  7   0.58     6.80      0.342          0.276    (  0.294)        0.066
  8   0.67     8.80      0.442          0.276    (  0.381)        0.166
```

```
 9   0.75    13.90      0.699          0.276    (  0.601)        0.423
10   0.83    31.40      1.579          0.276    (  1.358)        1.303
11   0.92     7.20      0.362          0.276    (  0.311)        0.086
12   1.00     3.80      0.191       (  0.276)       0.164        0.027
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     2.3
    Flood volume = Effective rainfall      0.19(In)
     times area       1.5(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.23(In)
    Total soil loss =     0.028(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        1018.0 Cubic Feet
    Total soil loss =        1239.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.443(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
               Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0001      0.02  Q          |         |         |          |
   0+10       0.0004      0.04  Q          |         |         |          |
   0+15       0.0007      0.05  QV         |         |         |          |
   0+20       0.0011      0.05  QV         |         |         |          |
   0+25       0.0014      0.05  Q V        |         |         |          |
   0+30       0.0019      0.06  Q  V       |         |         |          |
   0+35       0.0024      0.09  Q   V      |         |         |          |
   0+40       0.0038      0.19  Q     V    |         |         |          |
   0+45       0.0071      0.48  |Q         | V       |         |          |
   0+50       0.0170      1.44  |   Q     |         |         V|          |
   0+55       0.0223      0.76  |  Q       |         |         |        V |
   1+ 0       0.0232      0.14  Q          |         |         |         V|
   1+ 5       0.0234      0.02  Q          |         |         |         V|
   1+10       0.0234      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 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	0.42	0.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	1.22	1.84

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.419(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.419(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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	3.30	0.166	(0.136)	0.041	0.124
2	0.17	4.20	0.211	(0.136)	0.053	0.158
3	0.25	4.40	0.221	(0.136)	0.055	0.166
4	0.33	4.80	0.241	(0.136)	0.060	0.181
5	0.42	5.20	0.261	(0.136)	0.065	0.196
6	0.50	6.20	0.312	(0.136)	0.078	0.234
7	0.58	6.80	0.342	(0.136)	0.085	0.256
8	0.67	8.80	0.442	(0.136)	0.111	0.332

```
 9   0.75    13.90      0.699          0.136    (  0.175)        0.563
10   0.83    31.40      1.579          0.136    (  0.395)        1.443
11   0.92     7.20      0.362       (  0.136)       0.091        0.272
12   1.00     3.80      0.191       (  0.136)       0.048        0.143
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     4.1
    Flood volume = Effective rainfall      0.34(In)
     times area       1.5(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.08(In)
    Total soil loss =     0.010(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        1861.1 Cubic Feet
    Total soil loss =         438.6 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.669(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                  R u n o f f     H y d r o g r a p h
    ---------------------------------------------------------------------
               Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0008      0.12  Q         |         |         |         |
   0+10       0.0023      0.21  Q V       |         |         |         |
   0+15       0.0040      0.25  Q  V      |         |         |         |
   0+20       0.0058      0.27  |Q   V     |         |         |         |
   0+25       0.0078      0.29  |Q     V   |         |         |         |
   0+30       0.0101      0.33  |Q       V|         |         |         |
   0+35       0.0127      0.38  |Q        |V        |         |         |
   0+40       0.0159      0.46  |Q        |   V     |         |         |
   0+45       0.0208      0.72  | Q       |        V|         |         |
   0+50       0.0323      1.67  |    Q    |         |         V         |
   0+55       0.0395      1.05  |   Q     |         |         |     V   |
   1+ 0       0.0420      0.37  |Q        |         |         |        V|
   1+ 5       0.0427      0.09  Q         |         |         |        V|
   1+10       0.0427      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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	0.42	0.33

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        0.80             1.22                 0.97

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.419(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.419(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     0.795           75.00          0.970
 Total Area Entered =      0.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  57.0      0.501     0.970        0.064        1.000      0.064
                                                    Sum (F) =   0.064
Area averaged mean soil loss (F) (In/Hr) =  0.064
Minimum soil loss rate ((In/Hr)) =  0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.120
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        713.013         78.934             0.632
    2   0.167       1426.025         21.066             0.169
                               Sum = 100.000   Sum=       0.801
------------------------------------------------------------------------

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     3.30      0.166       (  0.064)       0.020        0.146
  2   0.17     4.20      0.211       (  0.064)       0.025        0.186
  3   0.25     4.40      0.221       (  0.064)       0.027        0.195
  4   0.33     4.80      0.241       (  0.064)       0.029        0.212
  5   0.42     5.20      0.261       (  0.064)       0.031        0.230
  6   0.50     6.20      0.312       (  0.064)       0.037        0.274
  7   0.58     6.80      0.342       (  0.064)       0.041        0.301
  8   0.67     8.80      0.442       (  0.064)       0.053        0.389
  9   0.75    13.90      0.699          0.064    (  0.084)        0.635
```

```
 10   0.83    31.40      1.579          0.064    (  0.189)        1.515
 11   0.92     7.20      0.362       (  0.064)       0.043        0.319
 12   1.00     3.80      0.191       (  0.064)       0.023        0.168
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     4.6
    Flood volume = Effective rainfall      0.38(In)
     times area       0.8(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.04(In)
    Total soil loss =     0.003(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        1099.2 Cubic Feet
    Total soil loss =         109.9 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.066(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0006      0.09  QV        |         |         |         |
   0+10       0.0016      0.14  Q V       |         |         |         |
   0+15       0.0027      0.15  Q   V     |         |         |         |
   0+20       0.0038      0.17  Q     V   |         |         |         |
   0+25       0.0051      0.18  Q       V |         |         |         |
   0+30       0.0065      0.21  Q         V         |         |         |
   0+35       0.0082      0.24  Q         | V       |         |         |
   0+40       0.0102      0.30  |Q        |     V   |         |         |
   0+45       0.0134      0.47  |Q        |         |V        |         |
   0+50       0.0208      1.07  |   Q     |         |         | V       |
   0+55       0.0239      0.46  |Q        |         |         |      V  |
   1+ 0       0.0250      0.16  Q         |         |         |        V|
   1+ 5       0.0252      0.03  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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	0.42	4.06

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	1.22	11.82

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.419(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.419(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.210	0.232	1.000	0.232
					Sum (F) =	0.232

Area averaged mean soil loss (F) (In/Hr) = 0.232
Minimum soil loss rate ((In/Hr)) = 0.116
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
		Sum = 100.000	Sum=	9.764

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	3.30	0.166	(0.232)	0.121	0.045
2	0.17	4.20	0.211	(0.232)	0.154	0.057
3	0.25	4.40	0.221	(0.232)	0.161	0.060
4	0.33	4.80	0.241	(0.232)	0.176	0.065
5	0.42	5.20	0.261	(0.232)	0.191	0.071
6	0.50	6.20	0.312	(0.232)	0.228	0.084
7	0.58	6.80	0.342	0.232	(0.250)	0.110
8	0.67	8.80	0.442	0.232	(0.323)	0.210

```
 9   0.75    13.90      0.699          0.232    (  0.510)        0.466
10   0.83    31.40      1.579          0.232    (  1.152)        1.346
11   0.92     7.20      0.362          0.232    (  0.264)        0.130
12   1.00     3.80      0.191       (  0.232)       0.139        0.052
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     2.7
    Flood volume = Effective rainfall      0.22(In)
     times area       9.7(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.19(In)
    Total soil loss =     0.157(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        7898.4 Cubic Feet
    Total soil loss =        6835.5 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      9.195(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0017      0.24  Q         |         |         |         |
   0+10       0.0050      0.48  |Q        |         |         |         |
   0+15       0.0088      0.56  |VQ       |         |         |         |
   0+20       0.0131      0.61  | Q       |         |         |         |
   0+25       0.0176      0.66  | QV      |         |         |         |
   0+30       0.0229      0.76  |  Q V    |         |         |         |
   0+35       0.0294      0.95  |  Q  V   |         |         |         |
   0+40       0.0404      1.60  |     Q V |         |         |         |
   0+45       0.0638      3.39  |         |  QV     |         |         |
   0+50       0.1271      9.20  |         |         |       V |     Q   |
   0+55       0.1681      5.95  |         |         |  Q      |      V  |
   1+ 0       0.1792      1.62  |     Q   |         |         |        V|
   1+ 5       0.1811      0.27  |Q        |         |         |        V|
   1+10       0.1813      0.03  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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	0.71	4.18

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	1.75	10.32

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.000	0.286	1.000	0.286
					Sum (F) =	0.286

Area averaged mean soil loss (F) (In/Hr) = 0.286
Minimum soil loss rate ((In/Hr)) = 0.143
(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 (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
		Sum = 100.000	Sum=	5.943

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	0.110	(0.286)	0.099	0.011
2	0.17	1.30	0.110	(0.286)	0.099	0.011
3	0.25	1.10	0.093	(0.286)	0.084	0.009
4	0.33	1.50	0.127	(0.286)	0.115	0.013
5	0.42	1.50	0.127	(0.286)	0.115	0.013
6	0.50	1.80	0.153	(0.286)	0.138	0.015
7	0.58	1.50	0.127	(0.286)	0.115	0.013
8	0.67	1.80	0.153	(0.286)	0.138	0.015
9	0.75	1.80	0.153	(0.286)	0.138	0.015
10	0.83	1.50	0.127	(0.286)	0.115	0.013

11	0.92	1.60	0.136	(0.286)	0.122	0.014
12	1.00	1.80	0.153	(0.286)	0.138	0.015
13	1.08	2.20	0.187	(0.286)	0.168	0.019
14	1.17	2.20	0.187	(0.286)	0.168	0.019
15	1.25	2.20	0.187	(0.286)	0.168	0.019
16	1.33	2.00	0.170	(0.286)	0.153	0.017
17	1.42	2.60	0.221	(0.286)	0.199	0.022
18	1.50	2.70	0.229	(0.286)	0.206	0.023
19	1.58	2.40	0.204	(0.286)	0.184	0.020
20	1.67	2.70	0.229	(0.286)	0.206	0.023
21	1.75	3.30	0.280	(0.286)	0.252	0.028
22	1.83	3.10	0.263	(0.286)	0.237	0.026
23	1.92	2.90	0.246	(0.286)	0.222	0.025
24	2.00	3.00	0.255	(0.286)	0.229	0.025
25	2.08	3.10	0.263	(0.286)	0.237	0.026
26	2.17	4.20	0.357	0.286	(0.321)	0.070
27	2.25	5.00	0.425	0.286	(0.382)	0.138
28	2.33	3.50	0.297	(0.286)	0.268	0.030
29	2.42	6.80	0.578	0.286	(0.520)	0.291
30	2.50	7.30	0.620	0.286	(0.558)	0.334
31	2.58	8.20	0.697	0.286	(0.627)	0.410
32	2.67	5.90	0.501	0.286	(0.451)	0.215
33	2.75	2.00	0.170	(0.286)	0.153	0.017
34	2.83	1.80	0.153	(0.286)	0.138	0.015
35	2.92	1.80	0.153	(0.286)	0.138	0.015
36	3.00	0.60	0.051	(0.286)	0.046	0.005

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.0

Flood volume = Effective rainfall 0.17(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.54(In)
Total soil loss = 0.266(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 3550.5 Cubic Feet
Total soil loss = 11604.6 Cubic Feet

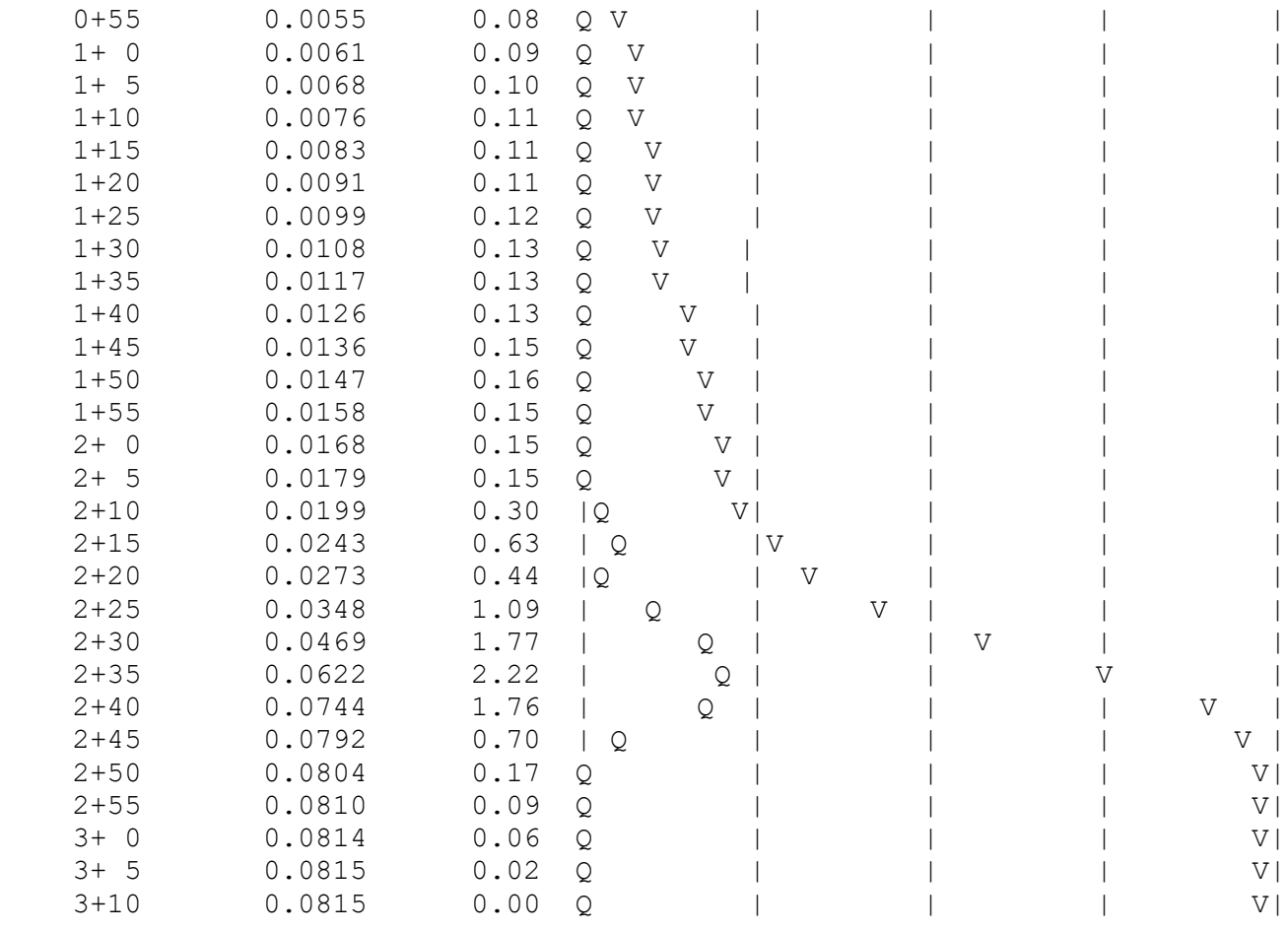
Peak flow rate of this hydrograph = 2.222(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q				
0+10	0.0007	0.06	Q				
0+15	0.0011	0.06	Q				
0+20	0.0016	0.07	Q				
0+25	0.0021	0.07	QV				
0+30	0.0026	0.08	QV				
0+35	0.0032	0.08	QV				
0+40	0.0038	0.09	QV				
0+45	0.0044	0.09	Q V				
0+50	0.0050	0.08	Q V				


0+55 0.0055 0.08
1+ 0 0.0061 0.09
1+ 5 0.0068 0.10
1+10 0.0076 0.11
1+15 0.0083 0.11
1+20 0.0091 0.11
1+25 0.0099 0.12
1+30 0.0108 0.13
1+35 0.0117 0.13
1+40 0.0126 0.13
1+45 0.0136 0.15
1+50 0.0147 0.16
1+55 0.0158 0.15
2+ 0 0.0168 0.15
2+ 5 0.0179 0.15
2+10 0.0199 0.30
2+15 0.0243 0.63
2+20 0.0273 0.44
2+25 0.0348 1.09
2+30 0.0469 1.77
2+35 0.0622 2.22
2+40 0.0744 1.76
2+45 0.0792 0.70
2+50 0.0804 0.17
2+55 0.0810 0.09
3+ 0 0.0814 0.06
3+ 5 0.0815 0.02
3+10 0.0815 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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 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]
1.48	0.71	1.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	1.75	2.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.484	89.00	0.040

Total Area Entered = 1.48(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.040	0.276	1.000	0.276
					Sum (F) =	0.276

Area averaged mean soil loss (F) (In/Hr) = 0.276
Minimum soil loss rate ((In/Hr)) = 0.138
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	366.114	62.598	0.936
2	0.167	732.229	33.736	0.505
3	0.250	1098.343	3.666	0.055
		Sum = 100.000	Sum=	1.496

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	0.110	(0.276)	0.095	0.015
2	0.17	1.30	0.110	(0.276)	0.095	0.015
3	0.25	1.10	0.093	(0.276)	0.080	0.013
4	0.33	1.50	0.127	(0.276)	0.110	0.018
5	0.42	1.50	0.127	(0.276)	0.110	0.018
6	0.50	1.80	0.153	(0.276)	0.132	0.021
7	0.58	1.50	0.127	(0.276)	0.110	0.018
8	0.67	1.80	0.153	(0.276)	0.132	0.021
9	0.75	1.80	0.153	(0.276)	0.132	0.021
10	0.83	1.50	0.127	(0.276)	0.110	0.018

11	0.92	1.60	0.136	(0.276)	0.117	0.019
12	1.00	1.80	0.153	(0.276)	0.132	0.021
13	1.08	2.20	0.187	(0.276)	0.161	0.026
14	1.17	2.20	0.187	(0.276)	0.161	0.026
15	1.25	2.20	0.187	(0.276)	0.161	0.026
16	1.33	2.00	0.170	(0.276)	0.146	0.024
17	1.42	2.60	0.221	(0.276)	0.190	0.031
18	1.50	2.70	0.229	(0.276)	0.197	0.032
19	1.58	2.40	0.204	(0.276)	0.175	0.029
20	1.67	2.70	0.229	(0.276)	0.197	0.032
21	1.75	3.30	0.280	(0.276)	0.241	0.039
22	1.83	3.10	0.263	(0.276)	0.227	0.037
23	1.92	2.90	0.246	(0.276)	0.212	0.034
24	2.00	3.00	0.255	(0.276)	0.219	0.036
25	2.08	3.10	0.263	(0.276)	0.227	0.037
26	2.17	4.20	0.357	0.276	(0.307)	0.081
27	2.25	5.00	0.425	0.276	(0.365)	0.149
28	2.33	3.50	0.297	(0.276)	0.256	0.042
29	2.42	6.80	0.578	0.276	(0.497)	0.302
30	2.50	7.30	0.620	0.276	(0.533)	0.344
31	2.58	8.20	0.697	0.276	(0.599)	0.421
32	2.67	5.90	0.501	0.276	(0.431)	0.225
33	2.75	2.00	0.170	(0.276)	0.146	0.024
34	2.83	1.80	0.153	(0.276)	0.132	0.021
35	2.92	1.80	0.153	(0.276)	0.132	0.021
36	3.00	0.60	0.051	(0.276)	0.044	0.007

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.3

Flood volume = Effective rainfall 0.19(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.064(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 1016.8 Cubic Feet
Total soil loss = 2797.1 Cubic Feet

Peak flow rate of this hydrograph = 0.584(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	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q	|	|	|	|
0+10	0.0003	0.02	Q	|	|	|	|
0+15	0.0004	0.02	Q	|	|	|	|
0+20	0.0006	0.02	Q	|	|	|	|
0+25	0.0007	0.03	QV	|	|	|	|
0+30	0.0010	0.03	QV	|	|	|	|
0+35	0.0011	0.03	QV	|	|	|	|
0+40	0.0014	0.03	Q V	|	|	|	|
0+45	0.0016	0.03	Q V	|	|	|	|
0+50	0.0018	0.03	Q V	|	|	|	|

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    0+55       0.0020      0.03  Q  V      |         |         |         |
    1+ 0       0.0022      0.03  Q  V      |         |         |         |
    1+ 5       0.0024      0.04  Q   V     |         |         |         |
    1+10       0.0027      0.04  Q   V     |         |         |         |
    1+15       0.0030      0.04  Q    V    |         |         |         |
    1+20       0.0032      0.04  Q    V    |         |         |         |
    1+25       0.0035      0.04  Q     V   |         |         |         |
    1+30       0.0038      0.05  Q     V   |         |         |         |
    1+35       0.0041      0.04  Q      V  |         |         |         |
    1+40       0.0045      0.05  Q      V  |         |         |         |
    1+45       0.0048      0.05  Q       V |         |         |         |
    1+50       0.0052      0.06  Q       V |         |         |         |
    1+55       0.0056      0.05  Q        V|         |         |         |
    2+ 0       0.0060      0.05  Q         V         |         |         |
    2+ 5       0.0063      0.05  Q         V         |         |         |
    2+10       0.0070      0.10  Q         |V        |         |         |
    2+15       0.0082      0.18  Q         |   V     |         |         |
    2+20       0.0091      0.12  Q         |    V    |         |         |
    2+25       0.0112      0.31  |Q        |        V|         |         |
    2+30       0.0145      0.48  |Q        |         |   V     |         |
    2+35       0.0185      0.58  | Q       |         |         |V        |
    2+40       0.0216      0.44  |Q        |         |         |     V   |
    2+45       0.0227      0.16  Q         |         |         |       V |
    2+50       0.0230      0.04  Q         |         |         |        V|
    2+55       0.0232      0.03  Q         |         |         |        V|
    3+ 0       0.0233      0.02  Q         |         |         |        V|
    3+ 5       0.0233      0.00  Q         |         |         |        V|
    3+10       0.0233      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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	0.71	1.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	1.75	2.65

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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	0.110	(0.136)	0.028	0.083
2	0.17	1.30	0.110	(0.136)	0.028	0.083
3	0.25	1.10	0.093	(0.136)	0.023	0.070
4	0.33	1.50	0.127	(0.136)	0.032	0.096
5	0.42	1.50	0.127	(0.136)	0.032	0.096
6	0.50	1.80	0.153	(0.136)	0.038	0.115
7	0.58	1.50	0.127	(0.136)	0.032	0.096
8	0.67	1.80	0.153	(0.136)	0.038	0.115
9	0.75	1.80	0.153	(0.136)	0.038	0.115
10	0.83	1.50	0.127	(0.136)	0.032	0.096

11	0.92	1.60	0.136	(0.136)	0.034	0.102
12	1.00	1.80	0.153	(0.136)	0.038	0.115
13	1.08	2.20	0.187	(0.136)	0.047	0.140
14	1.17	2.20	0.187	(0.136)	0.047	0.140
15	1.25	2.20	0.187	(0.136)	0.047	0.140
16	1.33	2.00	0.170	(0.136)	0.042	0.127
17	1.42	2.60	0.221	(0.136)	0.055	0.166
18	1.50	2.70	0.229	(0.136)	0.057	0.172
19	1.58	2.40	0.204	(0.136)	0.051	0.153
20	1.67	2.70	0.229	(0.136)	0.057	0.172
21	1.75	3.30	0.280	(0.136)	0.070	0.210
22	1.83	3.10	0.263	(0.136)	0.066	0.198
23	1.92	2.90	0.246	(0.136)	0.062	0.185
24	2.00	3.00	0.255	(0.136)	0.064	0.191
25	2.08	3.10	0.263	(0.136)	0.066	0.198
26	2.17	4.20	0.357	(0.136)	0.089	0.268
27	2.25	5.00	0.425	(0.136)	0.106	0.319
28	2.33	3.50	0.297	(0.136)	0.074	0.223
29	2.42	6.80	0.578	0.136	(0.144)	0.442
30	2.50	7.30	0.620	0.136	(0.155)	0.485
31	2.58	8.20	0.697	0.136	(0.174)	0.561
32	2.67	5.90	0.501	(0.136)	0.125	0.376
33	2.75	2.00	0.170	(0.136)	0.042	0.127
34	2.83	1.80	0.153	(0.136)	0.038	0.115
35	2.92	1.80	0.153	(0.136)	0.038	0.115
36	3.00	0.60	0.051	(0.136)	0.013	0.038

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.4

Flood volume = Effective rainfall 0.54(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.022(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 2944.9 Cubic Feet
Total soil loss = 941.0 Cubic Feet

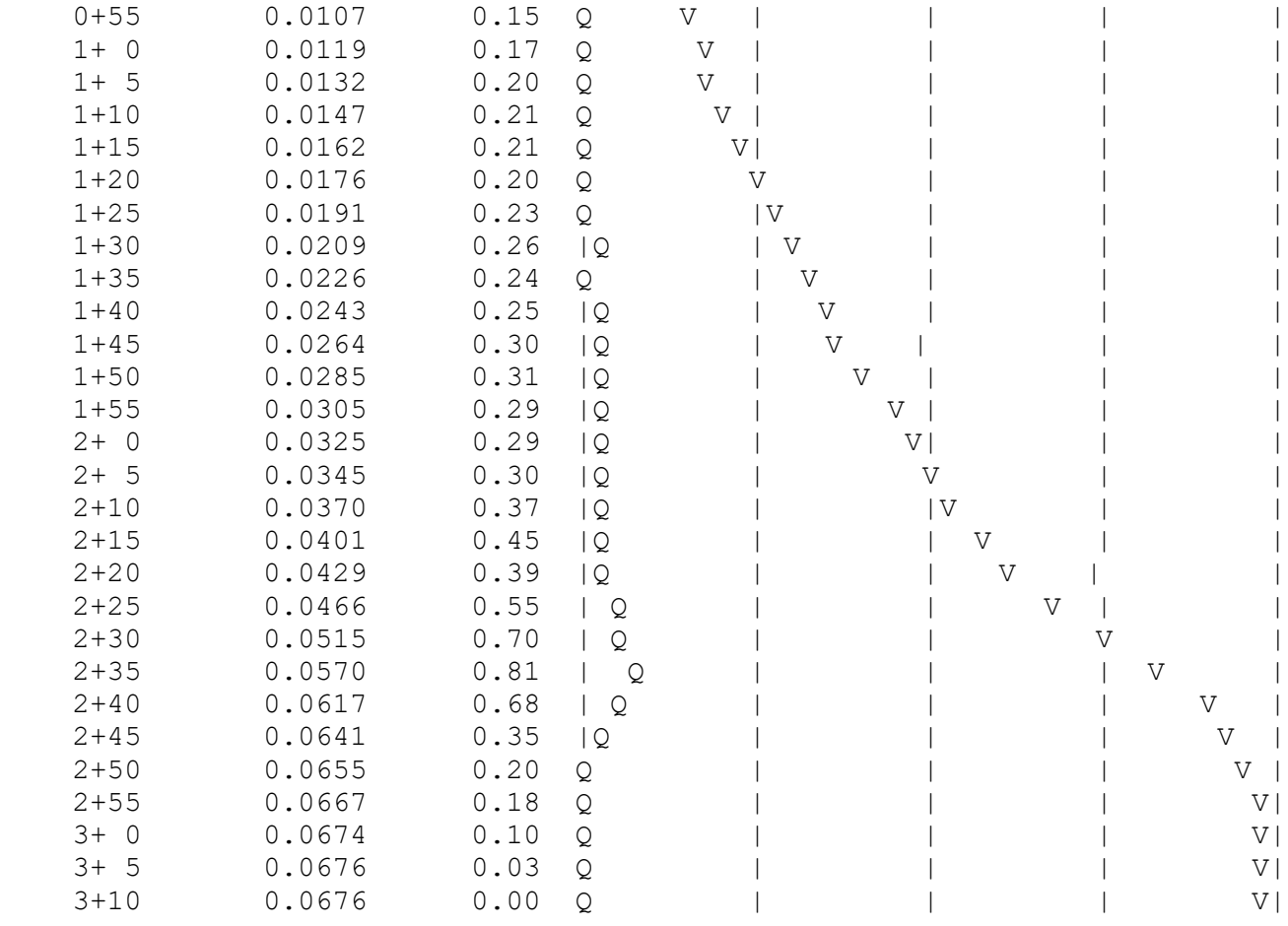
Peak flow rate of this hydrograph = 0.808(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0005	0.08	Q	|	|	|	|
0+10	0.0014	0.12	Q	|	|	|	|
0+15	0.0022	0.11	QV	|	|	|	|
0+20	0.0031	0.13	QV	|	|	|	|
0+25	0.0041	0.14	Q V	|	|	|	|
0+30	0.0052	0.16	Q V	|	|	|	|
0+35	0.0063	0.16	Q V	|	|	|	|
0+40	0.0074	0.16	Q V	|	|	|	|
0+45	0.0086	0.17	Q V	|	|	|	|
0+50	0.0097	0.16	Q V	|	|	|	|


0+55 0.0107 0.15
1+ 0 0.0119 0.17
1+ 5 0.0132 0.20
1+10 0.0147 0.21
1+15 0.0162 0.21
1+20 0.0176 0.20
1+25 0.0191 0.23
1+30 0.0209 0.26
1+35 0.0226 0.24
1+40 0.0243 0.25
1+45 0.0264 0.30
1+50 0.0285 0.31
1+55 0.0305 0.29
2+ 0 0.0325 0.29
2+ 5 0.0345 0.30
2+10 0.0370 0.37
2+15 0.0401 0.45
2+20 0.0429 0.39
2+25 0.0466 0.55
2+30 0.0515 0.70
2+35 0.0570 0.81
2+40 0.0617 0.68
2+45 0.0641 0.35
2+50 0.0655 0.20
2+55 0.0667 0.18
3+ 0 0.0674 0.10
3+ 5 0.0676 0.03
3+10 0.0676 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 06/03/26 File: 19267e002I32.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	0.71	0.56

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.80	1.75	1.39

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.795	75.00	0.970

Total Area Entered = 0.80(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.970	0.064	1.000	0.064
					Sum (F) =	0.064

Area averaged mean soil loss (F) (In/Hr) = 0.064
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.120

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	713.013	78.934	0.632
2	0.167	1426.025	21.066	0.169
			Sum = 100.000 Sum=	0.801

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	0.110	(0.064)	0.013	0.097
2	0.17	1.30	0.110	(0.064)	0.013	0.097
3	0.25	1.10	0.093	(0.064)	0.011	0.082
4	0.33	1.50	0.127	(0.064)	0.015	0.112
5	0.42	1.50	0.127	(0.064)	0.015	0.112
6	0.50	1.80	0.153	(0.064)	0.018	0.135
7	0.58	1.50	0.127	(0.064)	0.015	0.112
8	0.67	1.80	0.153	(0.064)	0.018	0.135
9	0.75	1.80	0.153	(0.064)	0.018	0.135
10	0.83	1.50	0.127	(0.064)	0.015	0.112
11	0.92	1.60	0.136	(0.064)	0.016	0.120

12	1.00	1.80	0.153	(0.064)	0.018	0.135
13	1.08	2.20	0.187	(0.064)	0.022	0.164
14	1.17	2.20	0.187	(0.064)	0.022	0.164
15	1.25	2.20	0.187	(0.064)	0.022	0.164
16	1.33	2.00	0.170	(0.064)	0.020	0.150
17	1.42	2.60	0.221	(0.064)	0.027	0.194
18	1.50	2.70	0.229	(0.064)	0.028	0.202
19	1.58	2.40	0.204	(0.064)	0.024	0.179
20	1.67	2.70	0.229	(0.064)	0.028	0.202
21	1.75	3.30	0.280	(0.064)	0.034	0.247
22	1.83	3.10	0.263	(0.064)	0.032	0.232
23	1.92	2.90	0.246	(0.064)	0.030	0.217
24	2.00	3.00	0.255	(0.064)	0.031	0.224
25	2.08	3.10	0.263	(0.064)	0.032	0.232
26	2.17	4.20	0.357	(0.064)	0.043	0.314
27	2.25	5.00	0.425	(0.064)	0.051	0.374
28	2.33	3.50	0.297	(0.064)	0.036	0.262
29	2.42	6.80	0.578	0.064	(0.069)	0.514
30	2.50	7.30	0.620	0.064	(0.074)	0.557
31	2.58	8.20	0.697	0.064	(0.084)	0.633
32	2.67	5.90	0.501	(0.064)	0.060	0.441
33	2.75	2.00	0.170	(0.064)	0.020	0.150
34	2.83	1.80	0.153	(0.064)	0.018	0.135
35	2.92	1.80	0.153	(0.064)	0.018	0.135
36	3.00	0.60	0.051	(0.064)	0.006	0.045

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.5

Flood volume = Effective rainfall 0.63(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.08(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 1806.8 Cubic Feet
Total soil loss = 236.4 Cubic Feet

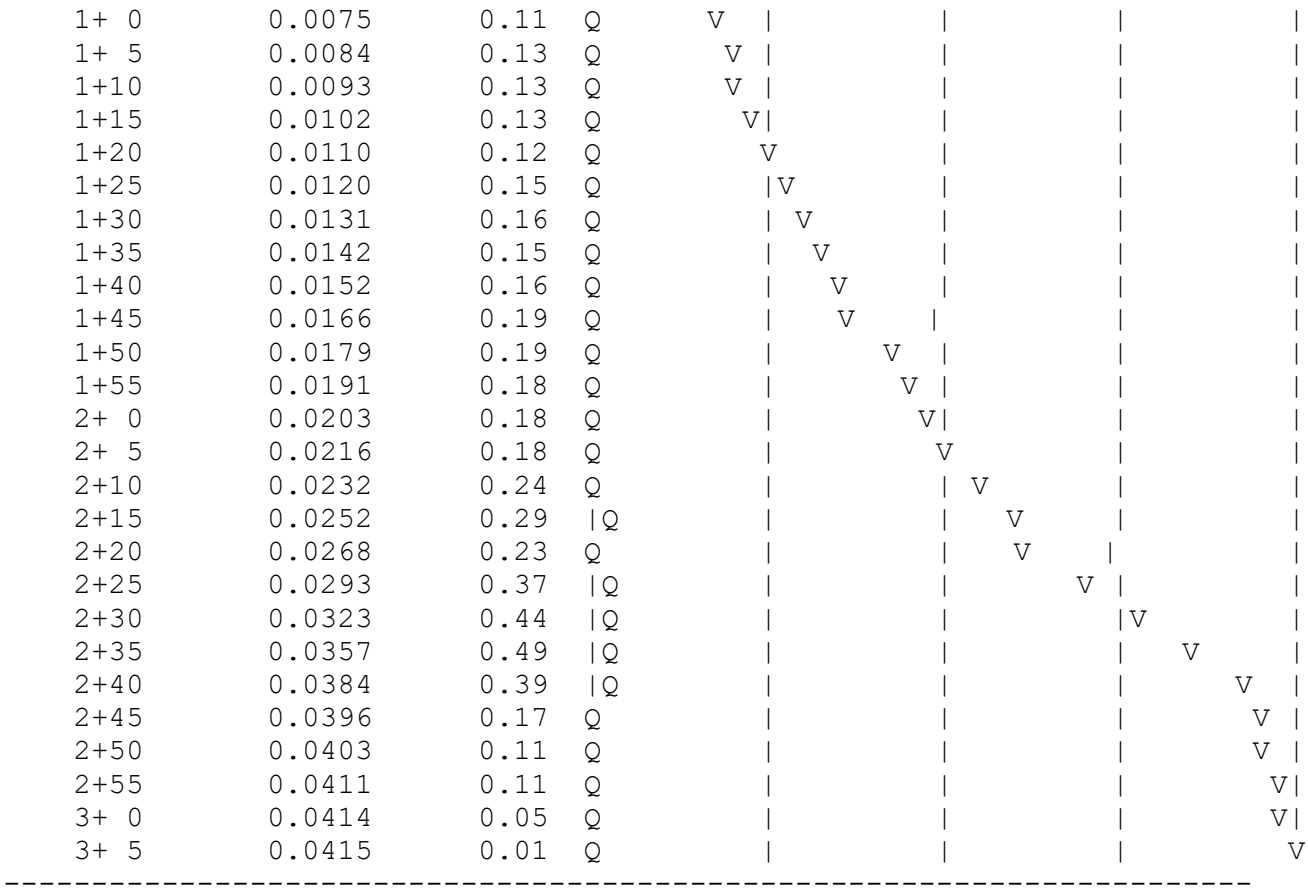
Peak flow rate of this hydrograph = 0.495(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q	|	|	|	|
0+10	0.0010	0.08	Q	|	|	|	|
0+15	0.0014	0.07	QV	|	|	|	|
0+20	0.0020	0.08	QV	|	|	|	|
0+25	0.0026	0.09	Q V	|	|	|	|
0+30	0.0034	0.10	Q V	|	|	|	|
0+35	0.0040	0.09	Q V	|	|	|	|
0+40	0.0047	0.10	Q V	|	|	|	|
0+45	0.0055	0.11	Q V	|	|	|	|
0+50	0.0061	0.09	Q V	|	|	|	|
0+55	0.0068	0.09	Q V	|	|	|	|


1+ 0 0.0075 0.11 Q
1+ 5 0.0084 0.13 Q
1+10 0.0093 0.13 Q
1+15 0.0102 0.13 Q
1+20 0.0110 0.12 Q
1+25 0.0120 0.15 Q
1+30 0.0131 0.16 Q
1+35 0.0142 0.15 Q
1+40 0.0152 0.16 Q
1+45 0.0166 0.19 Q
1+50 0.0179 0.19 Q
1+55 0.0191 0.18 Q
2+ 0 0.0203 0.18 Q
2+ 5 0.0216 0.18 Q
2+10 0.0232 0.24 Q
2+15 0.0252 0.29 |Q
2+20 0.0268 0.23 Q
2+25 0.0293 0.37 |Q
2+30 0.0323 0.44 |Q
2+35 0.0357 0.49 |Q
2+40 0.0384 0.39 |Q
2+45 0.0396 0.17 Q
2+50 0.0403 0.11 Q
2+55 0.0411 0.11 Q
3+ 0 0.0414 0.05 Q
3+ 5 0.0415 0.01 Q

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 06/03/26 File: 19267e002site32.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	0.71	6.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	1.75	16.95

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.210	0.232	1.000	0.232
					Sum (F) =	0.232

Area averaged mean soil loss (F) (In/Hr) = 0.232
Minimum soil loss rate ((In/Hr)) = 0.116
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
		Sum = 100.000	Sum=	9.764

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	0.110	(0.232)	0.081	0.030
2	0.17	1.30	0.110	(0.232)	0.081	0.030
3	0.25	1.10	0.093	(0.232)	0.068	0.025
4	0.33	1.50	0.127	(0.232)	0.093	0.034
5	0.42	1.50	0.127	(0.232)	0.093	0.034
6	0.50	1.80	0.153	(0.232)	0.112	0.041
7	0.58	1.50	0.127	(0.232)	0.093	0.034
8	0.67	1.80	0.153	(0.232)	0.112	0.041
9	0.75	1.80	0.153	(0.232)	0.112	0.041
10	0.83	1.50	0.127	(0.232)	0.093	0.034

11	0.92	1.60	0.136	(	0.232)	0.099	0.037
12	1.00	1.80	0.153	(	0.232)	0.112	0.041
13	1.08	2.20	0.187	(	0.232)	0.136	0.050
14	1.17	2.20	0.187	(	0.232)	0.136	0.050
15	1.25	2.20	0.187	(	0.232)	0.136	0.050
16	1.33	2.00	0.170	(	0.232)	0.124	0.046
17	1.42	2.60	0.221	(	0.232)	0.161	0.060
18	1.50	2.70	0.229	(	0.232)	0.167	0.062
19	1.58	2.40	0.204	(	0.232)	0.149	0.055
20	1.67	2.70	0.229	(	0.232)	0.167	0.062
21	1.75	3.30	0.280	(	0.232)	0.205	0.076
22	1.83	3.10	0.263	(	0.232)	0.192	0.071
23	1.92	2.90	0.246	(	0.232)	0.180	0.067
24	2.00	3.00	0.255	(	0.232)	0.186	0.069
25	2.08	3.10	0.263	(	0.232)	0.192	0.071
26	2.17	4.20	0.357		0.232	(0.260)	0.124
27	2.25	5.00	0.425		0.232	(0.310)	0.192
28	2.33	3.50	0.297	(	0.232)	0.217	0.080
29	2.42	6.80	0.578		0.232	(0.422)	0.345
30	2.50	7.30	0.620		0.232	(0.453)	0.388
31	2.58	8.20	0.697		0.232	(0.509)	0.464
32	2.67	5.90	0.501		0.232	(0.366)	0.269
33	2.75	2.00	0.170	(	0.232)	0.124	0.046
34	2.83	1.80	0.153	(	0.232)	0.112	0.041
35	2.92	1.80	0.153	(	0.232)	0.112	0.041
36	3.00	0.60	0.051	(	0.232)	0.037	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.2

Flood volume = Effective rainfall 0.27(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.44(In)
Total soil loss = 0.355(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 9434.5 Cubic Feet
Total soil loss = 15463.0 Cubic Feet

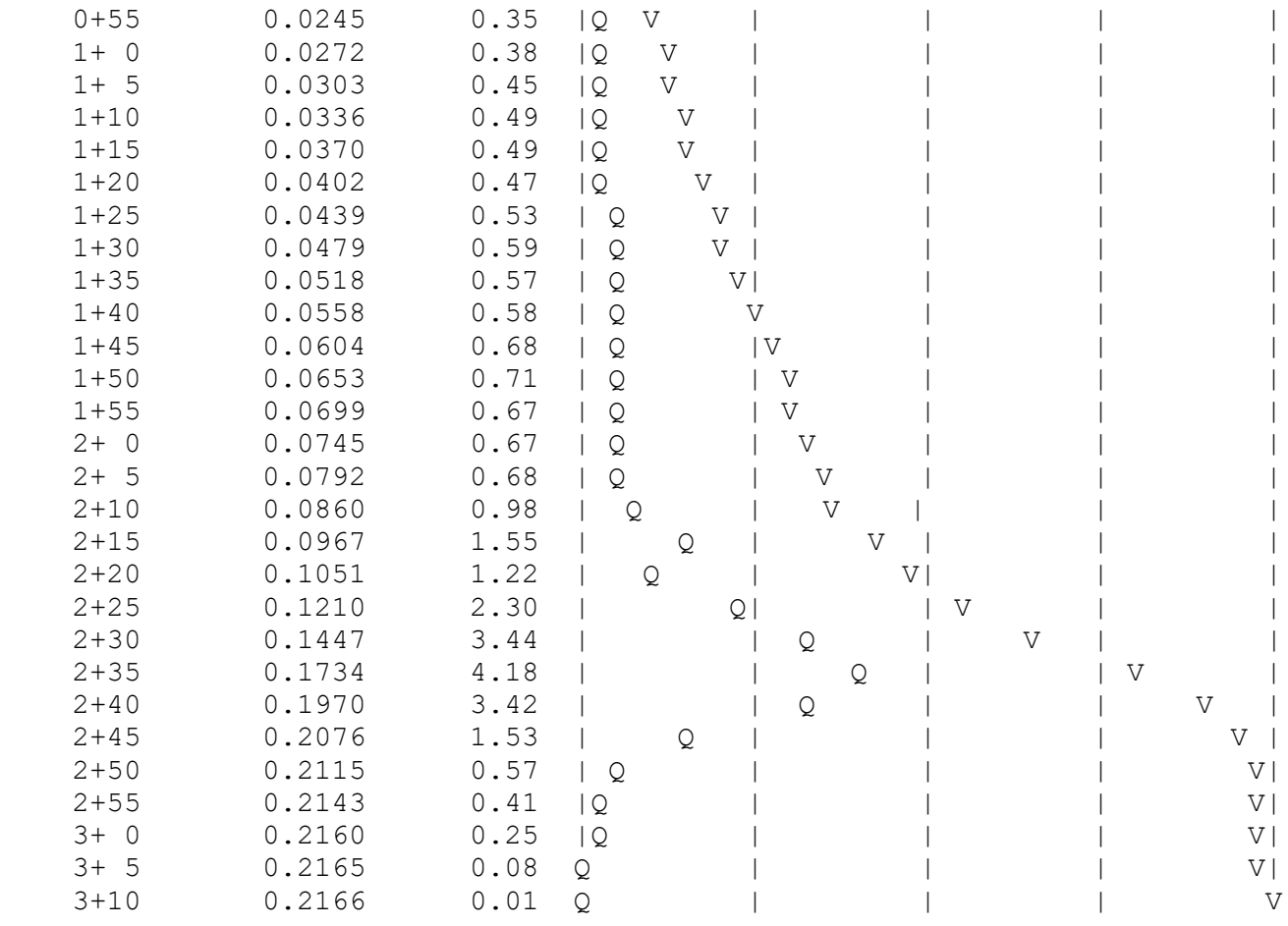
Peak flow rate of this hydrograph = 4.179(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0011	0.16	Q				
0+10	0.0030	0.27	VQ				
0+15	0.0048	0.27	VQ				
0+20	0.0069	0.30	|Q				
0+25	0.0092	0.33	|Q				
0+30	0.0117	0.37	|QV				
0+35	0.0142	0.36	|QV				
0+40	0.0168	0.38	|Q V				
0+45	0.0196	0.40	|Q V				
0+50	0.0221	0.37	|Q V				


0+55 0.0245 0.35
1+ 0 0.0272 0.38
1+ 5 0.0303 0.45
1+10 0.0336 0.49
1+15 0.0370 0.49
1+20 0.0402 0.47
1+25 0.0439 0.53
1+30 0.0479 0.59
1+35 0.0518 0.57
1+40 0.0558 0.58
1+45 0.0604 0.68
1+50 0.0653 0.71
1+55 0.0699 0.67
2+ 0 0.0745 0.67
2+ 5 0.0792 0.68
2+10 0.0860 0.98
2+15 0.0967 1.55
2+20 0.1051 1.22
2+25 0.1210 2.30
2+30 0.1447 3.44
2+35 0.1734 4.18
2+40 0.1970 3.42
2+45 0.2076 1.53
2+50 0.2115 0.57
2+55 0.2143 0.41
3+ 0 0.2160 0.25
3+ 5 0.2165 0.08
3+10 0.2166 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 06/03/26 File: 19267e002A62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	0.95	5.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	2.26	13.33

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.000	0.286	1.000	0.286
					Sum (F) =	0.286

Area averaged mean soil loss (F) (In/Hr) = 0.286
Minimum soil loss rate ((In/Hr)) = 0.143
(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 (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
		Sum = 100.000	Sum=	5.943

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	0.057	(0.286)	0.052	0.006
2	0.17	0.60	0.069	(0.286)	0.062	0.007
3	0.25	0.60	0.069	(0.286)	0.062	0.007
4	0.33	0.60	0.069	(0.286)	0.062	0.007
5	0.42	0.60	0.069	(0.286)	0.062	0.007
6	0.50	0.70	0.080	(0.286)	0.072	0.008
7	0.58	0.70	0.080	(0.286)	0.072	0.008
8	0.67	0.70	0.080	(0.286)	0.072	0.008
9	0.75	0.70	0.080	(0.286)	0.072	0.008
10	0.83	0.70	0.080	(0.286)	0.072	0.008

11	0.92	0.70	0.080	(0.286)	0.072	0.008
12	1.00	0.80	0.092	(0.286)	0.082	0.009
13	1.08	0.80	0.092	(0.286)	0.082	0.009
14	1.17	0.80	0.092	(0.286)	0.082	0.009
15	1.25	0.80	0.092	(0.286)	0.082	0.009
16	1.33	0.80	0.092	(0.286)	0.082	0.009
17	1.42	0.80	0.092	(0.286)	0.082	0.009
18	1.50	0.80	0.092	(0.286)	0.082	0.009
19	1.58	0.80	0.092	(0.286)	0.082	0.009
20	1.67	0.80	0.092	(0.286)	0.082	0.009
21	1.75	0.80	0.092	(0.286)	0.082	0.009
22	1.83	0.80	0.092	(0.286)	0.082	0.009
23	1.92	0.80	0.092	(0.286)	0.082	0.009
24	2.00	0.90	0.103	(0.286)	0.093	0.010
25	2.08	0.80	0.092	(0.286)	0.082	0.009
26	2.17	0.90	0.103	(0.286)	0.093	0.010
27	2.25	0.90	0.103	(0.286)	0.093	0.010
28	2.33	0.90	0.103	(0.286)	0.093	0.010
29	2.42	0.90	0.103	(0.286)	0.093	0.010
30	2.50	0.90	0.103	(0.286)	0.093	0.010
31	2.58	0.90	0.103	(0.286)	0.093	0.010
32	2.67	0.90	0.103	(0.286)	0.093	0.010
33	2.75	1.00	0.114	(0.286)	0.103	0.011
34	2.83	1.00	0.114	(0.286)	0.103	0.011
35	2.92	1.00	0.114	(0.286)	0.103	0.011
36	3.00	1.00	0.114	(0.286)	0.103	0.011
37	3.08	1.00	0.114	(0.286)	0.103	0.011
38	3.17	1.10	0.126	(0.286)	0.113	0.013
39	3.25	1.10	0.126	(0.286)	0.113	0.013
40	3.33	1.10	0.126	(0.286)	0.113	0.013
41	3.42	1.20	0.137	(0.286)	0.124	0.014
42	3.50	1.30	0.149	(0.286)	0.134	0.015
43	3.58	1.40	0.160	(0.286)	0.144	0.016
44	3.67	1.40	0.160	(0.286)	0.144	0.016
45	3.75	1.50	0.172	(0.286)	0.155	0.017
46	3.83	1.50	0.172	(0.286)	0.155	0.017
47	3.92	1.60	0.183	(0.286)	0.165	0.018
48	4.00	1.60	0.183	(0.286)	0.165	0.018
49	4.08	1.70	0.195	(0.286)	0.175	0.019
50	4.17	1.80	0.206	(0.286)	0.185	0.021
51	4.25	1.90	0.218	(0.286)	0.196	0.022
52	4.33	2.00	0.229	(0.286)	0.206	0.023
53	4.42	2.10	0.240	(0.286)	0.216	0.024
54	4.50	2.10	0.240	(0.286)	0.216	0.024
55	4.58	2.20	0.252	(0.286)	0.227	0.025
56	4.67	2.30	0.263	(0.286)	0.237	0.026
57	4.75	2.40	0.275	(0.286)	0.247	0.027
58	4.83	2.40	0.275	(0.286)	0.247	0.027
59	4.92	2.50	0.286	(0.286)	0.258	0.029
60	5.00	2.60	0.298	(0.286)	0.268	0.030
61	5.08	3.10	0.355	0.286	(0.319)	0.068
62	5.17	3.60	0.412	0.286	(0.371)	0.126
63	5.25	3.90	0.446	0.286	(0.402)	0.160
64	5.33	4.20	0.481	0.286	(0.433)	0.194
65	5.42	4.70	0.538	0.286	(0.484)	0.252
66	5.50	5.60	0.641	0.286	(0.577)	0.355
67	5.58	1.90	0.218	(0.286)	0.196	0.022

68	5.67	0.90	0.103	(0.286)	0.093	0.010
69	5.75	0.60	0.069	(0.286)	0.062	0.007
70	5.83	0.50	0.057	(0.286)	0.052	0.006
71	5.92	0.30	0.034	(0.286)	0.031	0.003
72	6.00	0.20	0.023	(0.286)	0.021	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.0

Flood volume = Effective rainfall 0.17(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.79(In)
Total soil loss = 0.386(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 3589.0 Cubic Feet
Total soil loss = 16832.0 Cubic Feet

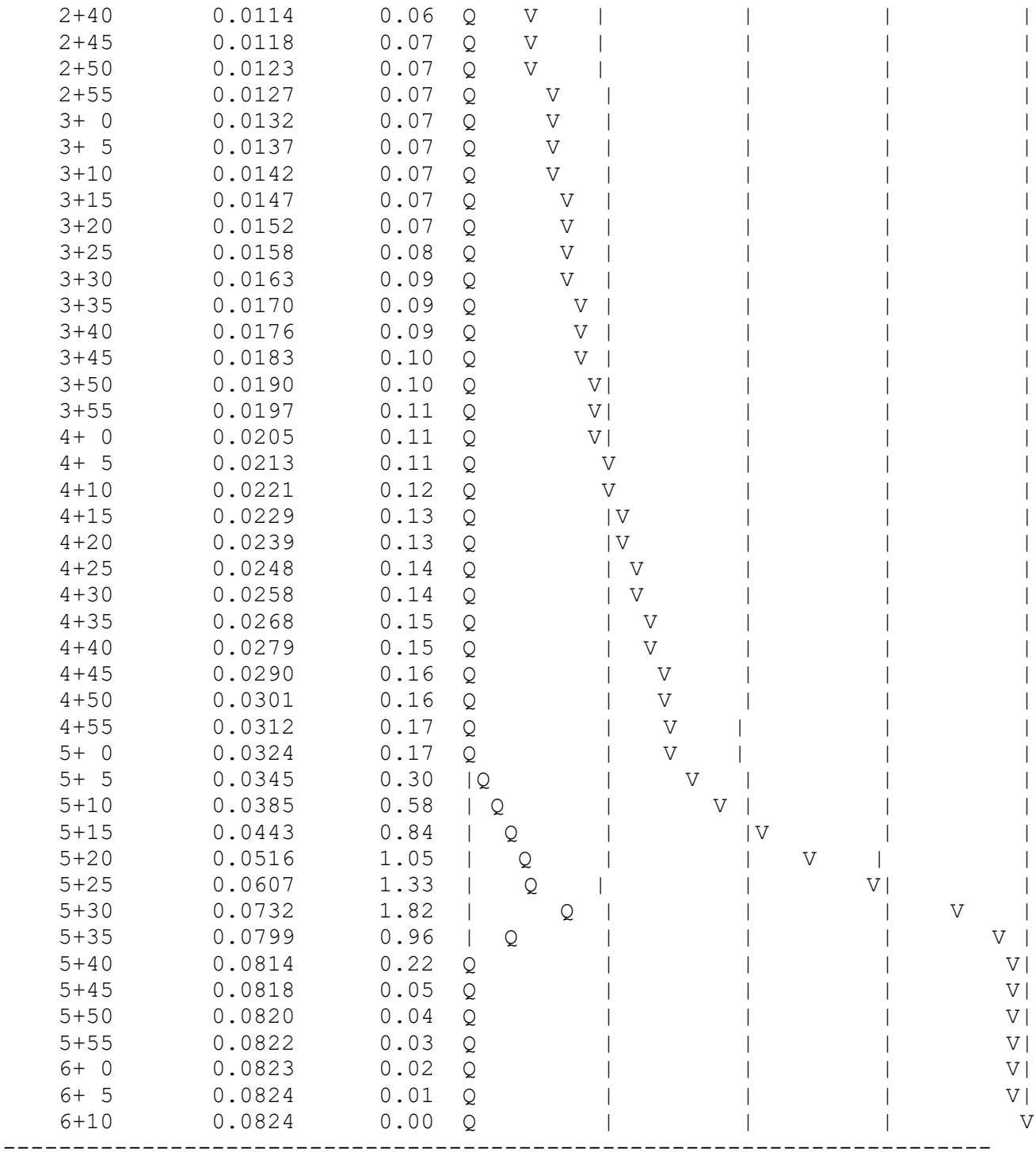
Peak flow rate of this hydrograph = 1.816(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q				
0+10	0.0004	0.04	Q				
0+15	0.0007	0.04	Q				
0+20	0.0009	0.04	Q				
0+25	0.0012	0.04	Q				
0+30	0.0015	0.04	Q				
0+35	0.0018	0.05	Q				
0+40	0.0022	0.05	QV				
0+45	0.0025	0.05	QV				
0+50	0.0028	0.05	QV				
0+55	0.0032	0.05	QV				
1+ 0	0.0035	0.05	QV				
1+ 5	0.0039	0.05	QV				
1+10	0.0043	0.05	Q V				
1+15	0.0046	0.05	Q V				
1+20	0.0050	0.05	Q V				
1+25	0.0054	0.05	Q V				
1+30	0.0058	0.05	Q V				
1+35	0.0061	0.05	Q V				
1+40	0.0065	0.05	Q V				
1+45	0.0069	0.05	Q V				
1+50	0.0073	0.05	Q V				
1+55	0.0076	0.05	Q V				
2+ 0	0.0080	0.06	Q V				
2+ 5	0.0084	0.06	Q V				
2+10	0.0088	0.06	Q V				
2+15	0.0093	0.06	Q V				
2+20	0.0097	0.06	Q V				
2+25	0.0101	0.06	Q V				
2+30	0.0105	0.06	Q V				
2+35	0.0109	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 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 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]
1.48	0.95	1.42

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	2.26	3.35

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.484	89.00	0.040

Total Area Entered = 1.48(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.040	0.276	1.000	0.276
					Sum (F) =	0.276

Area averaged mean soil loss (F) (In/Hr) = 0.276
Minimum soil loss rate ((In/Hr)) = 0.138
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	366.114	62.598	0.936
2	0.167	732.229	33.736	0.505
3	0.250	1098.343	3.666	0.055
		Sum = 100.000	Sum=	1.496

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	0.057	(0.276)	0.049	0.008
2	0.17	0.60	0.069	(0.276)	0.059	0.010
3	0.25	0.60	0.069	(0.276)	0.059	0.010
4	0.33	0.60	0.069	(0.276)	0.059	0.010
5	0.42	0.60	0.069	(0.276)	0.059	0.010
6	0.50	0.70	0.080	(0.276)	0.069	0.011
7	0.58	0.70	0.080	(0.276)	0.069	0.011
8	0.67	0.70	0.080	(0.276)	0.069	0.011
9	0.75	0.70	0.080	(0.276)	0.069	0.011
10	0.83	0.70	0.080	(0.276)	0.069	0.011

11	0.92	0.70	0.080	(0.276)	0.069	0.011
12	1.00	0.80	0.092	(0.276)	0.079	0.013
13	1.08	0.80	0.092	(0.276)	0.079	0.013
14	1.17	0.80	0.092	(0.276)	0.079	0.013
15	1.25	0.80	0.092	(0.276)	0.079	0.013
16	1.33	0.80	0.092	(0.276)	0.079	0.013
17	1.42	0.80	0.092	(0.276)	0.079	0.013
18	1.50	0.80	0.092	(0.276)	0.079	0.013
19	1.58	0.80	0.092	(0.276)	0.079	0.013
20	1.67	0.80	0.092	(0.276)	0.079	0.013
21	1.75	0.80	0.092	(0.276)	0.079	0.013
22	1.83	0.80	0.092	(0.276)	0.079	0.013
23	1.92	0.80	0.092	(0.276)	0.079	0.013
24	2.00	0.90	0.103	(0.276)	0.089	0.014
25	2.08	0.80	0.092	(0.276)	0.079	0.013
26	2.17	0.90	0.103	(0.276)	0.089	0.014
27	2.25	0.90	0.103	(0.276)	0.089	0.014
28	2.33	0.90	0.103	(0.276)	0.089	0.014
29	2.42	0.90	0.103	(0.276)	0.089	0.014
30	2.50	0.90	0.103	(0.276)	0.089	0.014
31	2.58	0.90	0.103	(0.276)	0.089	0.014
32	2.67	0.90	0.103	(0.276)	0.089	0.014
33	2.75	1.00	0.114	(0.276)	0.098	0.016
34	2.83	1.00	0.114	(0.276)	0.098	0.016
35	2.92	1.00	0.114	(0.276)	0.098	0.016
36	3.00	1.00	0.114	(0.276)	0.098	0.016
37	3.08	1.00	0.114	(0.276)	0.098	0.016
38	3.17	1.10	0.126	(0.276)	0.108	0.018
39	3.25	1.10	0.126	(0.276)	0.108	0.018
40	3.33	1.10	0.126	(0.276)	0.108	0.018
41	3.42	1.20	0.137	(0.276)	0.118	0.019
42	3.50	1.30	0.149	(0.276)	0.128	0.021
43	3.58	1.40	0.160	(0.276)	0.138	0.022
44	3.67	1.40	0.160	(0.276)	0.138	0.022
45	3.75	1.50	0.172	(0.276)	0.148	0.024
46	3.83	1.50	0.172	(0.276)	0.148	0.024
47	3.92	1.60	0.183	(0.276)	0.158	0.026
48	4.00	1.60	0.183	(0.276)	0.158	0.026
49	4.08	1.70	0.195	(0.276)	0.167	0.027
50	4.17	1.80	0.206	(0.276)	0.177	0.029
51	4.25	1.90	0.218	(0.276)	0.187	0.030
52	4.33	2.00	0.229	(0.276)	0.197	0.032
53	4.42	2.10	0.240	(0.276)	0.207	0.034
54	4.50	2.10	0.240	(0.276)	0.207	0.034
55	4.58	2.20	0.252	(0.276)	0.217	0.035
56	4.67	2.30	0.263	(0.276)	0.226	0.037
57	4.75	2.40	0.275	(0.276)	0.236	0.038
58	4.83	2.40	0.275	(0.276)	0.236	0.038
59	4.92	2.50	0.286	(0.276)	0.246	0.040
60	5.00	2.60	0.298	(0.276)	0.256	0.042
61	5.08	3.10	0.355	0.276	(0.305)	0.079
62	5.17	3.60	0.412	0.276	(0.354)	0.136
63	5.25	3.90	0.446	0.276	(0.384)	0.170
64	5.33	4.20	0.481	0.276	(0.413)	0.205
65	5.42	4.70	0.538	0.276	(0.463)	0.262
66	5.50	5.60	0.641	0.276	(0.551)	0.365
67	5.58	1.90	0.218	(0.276)	0.187	0.030

68	5.67	0.90	0.103	(0.276)	0.089	0.014
69	5.75	0.60	0.069	(0.276)	0.059	0.010
70	5.83	0.50	0.057	(0.276)	0.049	0.008
71	5.92	0.30	0.034	(0.276)	0.030	0.005
72	6.00	0.20	0.023	(0.276)	0.020	0.003

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.4

Flood volume = Effective rainfall 0.20(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.75(In)
Total soil loss = 0.093(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 1085.0 Cubic Feet
Total soil loss = 4054.1 Cubic Feet

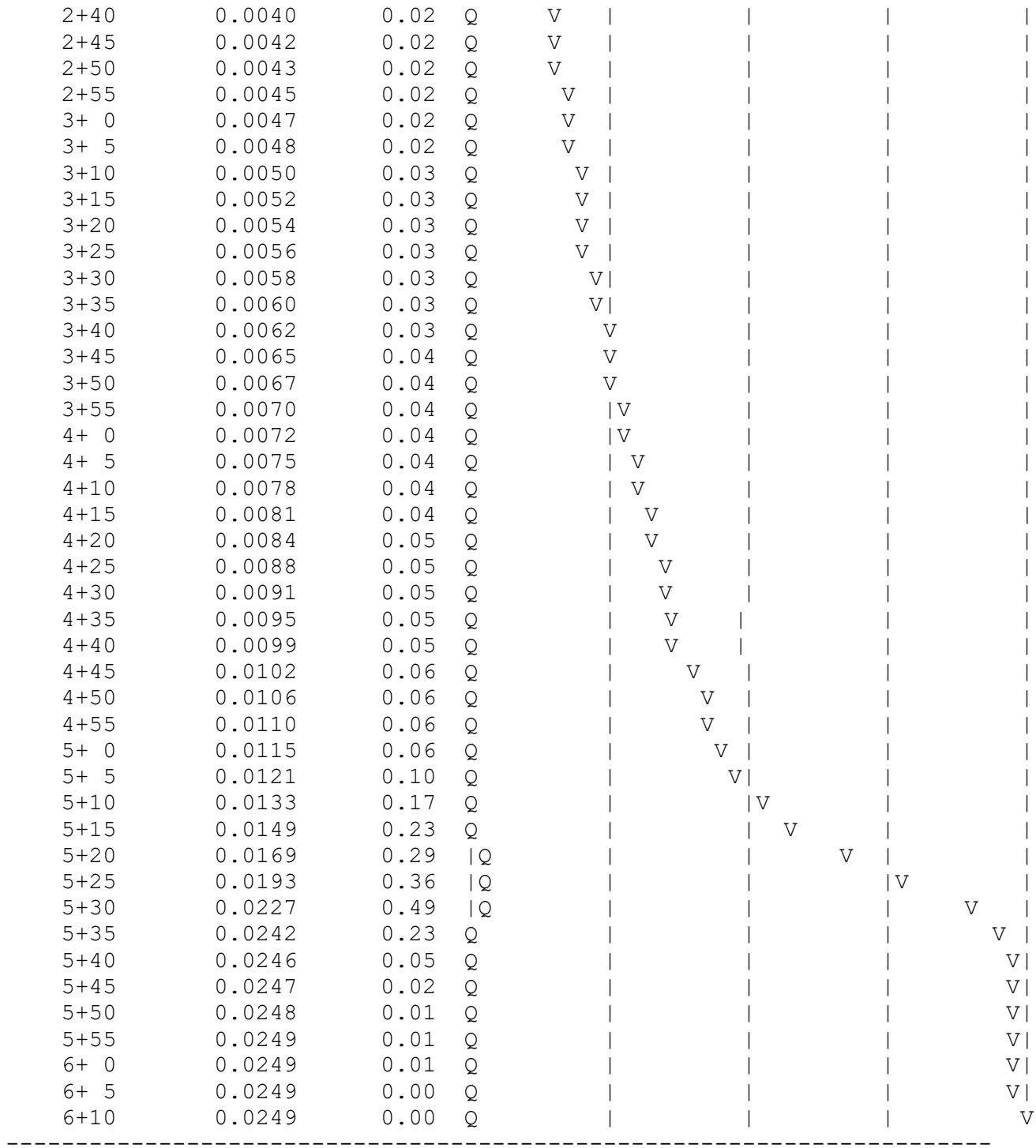
Peak flow rate of this hydrograph = 0.485(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0003	0.01	Q				
0+25	0.0004	0.01	Q				
0+30	0.0005	0.02	Q				
0+35	0.0007	0.02	QV				
0+40	0.0008	0.02	QV				
0+45	0.0009	0.02	QV				
0+50	0.0010	0.02	QV				
0+55	0.0011	0.02	QV				
1+ 0	0.0013	0.02	Q V				
1+ 5	0.0014	0.02	Q V				
1+10	0.0015	0.02	Q V				
1+15	0.0016	0.02	Q V				
1+20	0.0018	0.02	Q V				
1+25	0.0019	0.02	Q V				
1+30	0.0020	0.02	Q V				
1+35	0.0022	0.02	Q V				
1+40	0.0023	0.02	Q V				
1+45	0.0024	0.02	Q V				
1+50	0.0026	0.02	Q V				
1+55	0.0027	0.02	Q V				
2+ 0	0.0028	0.02	Q V				
2+ 5	0.0030	0.02	Q V				
2+10	0.0031	0.02	Q V				
2+15	0.0033	0.02	Q V				
2+20	0.0034	0.02	Q V				
2+25	0.0036	0.02	Q V				
2+30	0.0037	0.02	Q V				
2+35	0.0039	0.02	Q V				


2+40 0.0040 0.02
2+45 0.0042 0.02
2+50 0.0043 0.02
2+55 0.0045 0.02
3+ 0 0.0047 0.02
3+ 5 0.0048 0.02
3+10 0.0050 0.03
3+15 0.0052 0.03
3+20 0.0054 0.03
3+25 0.0056 0.03
3+30 0.0058 0.03
3+35 0.0060 0.03
3+40 0.0062 0.03
3+45 0.0065 0.04
3+50 0.0067 0.04
3+55 0.0070 0.04
4+ 0 0.0072 0.04
4+ 5 0.0075 0.04
4+10 0.0078 0.04
4+15 0.0081 0.04
4+20 0.0084 0.05
4+25 0.0088 0.05
4+30 0.0091 0.05
4+35 0.0095 0.05
4+40 0.0099 0.05
4+45 0.0102 0.06
4+50 0.0106 0.06
4+55 0.0110 0.06
5+ 0 0.0115 0.06
5+ 5 0.0121 0.10
5+10 0.0133 0.17
5+15 0.0149 0.23
5+20 0.0169 0.29
5+25 0.0193 0.36
5+30 0.0227 0.49
5+35 0.0242 0.23
5+40 0.0246 0.05
5+45 0.0247 0.02
5+50 0.0248 0.01
5+55 0.0249 0.01
6+ 0 0.0249 0.01
6+ 5 0.0249 0.00
6+10 0.0249 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 06/03/26 File: 19267e002GH62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	0.95	1.44

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	2.26	3.42

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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	0.057	(0.136)	0.014	0.043
2	0.17	0.60	0.069	(0.136)	0.017	0.052
3	0.25	0.60	0.069	(0.136)	0.017	0.052
4	0.33	0.60	0.069	(0.136)	0.017	0.052
5	0.42	0.60	0.069	(0.136)	0.017	0.052
6	0.50	0.70	0.080	(0.136)	0.020	0.060
7	0.58	0.70	0.080	(0.136)	0.020	0.060
8	0.67	0.70	0.080	(0.136)	0.020	0.060
9	0.75	0.70	0.080	(0.136)	0.020	0.060
10	0.83	0.70	0.080	(0.136)	0.020	0.060

11	0.92	0.70	0.080	(0.136)	0.020	0.060
12	1.00	0.80	0.092	(0.136)	0.023	0.069
13	1.08	0.80	0.092	(0.136)	0.023	0.069
14	1.17	0.80	0.092	(0.136)	0.023	0.069
15	1.25	0.80	0.092	(0.136)	0.023	0.069
16	1.33	0.80	0.092	(0.136)	0.023	0.069
17	1.42	0.80	0.092	(0.136)	0.023	0.069
18	1.50	0.80	0.092	(0.136)	0.023	0.069
19	1.58	0.80	0.092	(0.136)	0.023	0.069
20	1.67	0.80	0.092	(0.136)	0.023	0.069
21	1.75	0.80	0.092	(0.136)	0.023	0.069
22	1.83	0.80	0.092	(0.136)	0.023	0.069
23	1.92	0.80	0.092	(0.136)	0.023	0.069
24	2.00	0.90	0.103	(0.136)	0.026	0.077
25	2.08	0.80	0.092	(0.136)	0.023	0.069
26	2.17	0.90	0.103	(0.136)	0.026	0.077
27	2.25	0.90	0.103	(0.136)	0.026	0.077
28	2.33	0.90	0.103	(0.136)	0.026	0.077
29	2.42	0.90	0.103	(0.136)	0.026	0.077
30	2.50	0.90	0.103	(0.136)	0.026	0.077
31	2.58	0.90	0.103	(0.136)	0.026	0.077
32	2.67	0.90	0.103	(0.136)	0.026	0.077
33	2.75	1.00	0.114	(0.136)	0.029	0.086
34	2.83	1.00	0.114	(0.136)	0.029	0.086
35	2.92	1.00	0.114	(0.136)	0.029	0.086
36	3.00	1.00	0.114	(0.136)	0.029	0.086
37	3.08	1.00	0.114	(0.136)	0.029	0.086
38	3.17	1.10	0.126	(0.136)	0.031	0.094
39	3.25	1.10	0.126	(0.136)	0.031	0.094
40	3.33	1.10	0.126	(0.136)	0.031	0.094
41	3.42	1.20	0.137	(0.136)	0.034	0.103
42	3.50	1.30	0.149	(0.136)	0.037	0.112
43	3.58	1.40	0.160	(0.136)	0.040	0.120
44	3.67	1.40	0.160	(0.136)	0.040	0.120
45	3.75	1.50	0.172	(0.136)	0.043	0.129
46	3.83	1.50	0.172	(0.136)	0.043	0.129
47	3.92	1.60	0.183	(0.136)	0.046	0.137
48	4.00	1.60	0.183	(0.136)	0.046	0.137
49	4.08	1.70	0.195	(0.136)	0.049	0.146
50	4.17	1.80	0.206	(0.136)	0.052	0.155
51	4.25	1.90	0.218	(0.136)	0.054	0.163
52	4.33	2.00	0.229	(0.136)	0.057	0.172
53	4.42	2.10	0.240	(0.136)	0.060	0.180
54	4.50	2.10	0.240	(0.136)	0.060	0.180
55	4.58	2.20	0.252	(0.136)	0.063	0.189
56	4.67	2.30	0.263	(0.136)	0.066	0.197
57	4.75	2.40	0.275	(0.136)	0.069	0.206
58	4.83	2.40	0.275	(0.136)	0.069	0.206
59	4.92	2.50	0.286	(0.136)	0.072	0.215
60	5.00	2.60	0.298	(0.136)	0.074	0.223
61	5.08	3.10	0.355	(0.136)	0.089	0.266
62	5.17	3.60	0.412	(0.136)	0.103	0.309
63	5.25	3.90	0.446	(0.136)	0.112	0.335
64	5.33	4.20	0.481	(0.136)	0.120	0.361
65	5.42	4.70	0.538	(0.136)	0.135	0.404
66	5.50	5.60	0.641	0.136	(0.160)	0.505
67	5.58	1.90	0.218	(0.136)	0.054	0.163

68	5.67	0.90	0.103	(0.136)	0.026	0.077
69	5.75	0.60	0.069	(0.136)	0.017	0.052
70	5.83	0.50	0.057	(0.136)	0.014	0.043
71	5.92	0.30	0.034	(0.136)	0.009	0.026
72	6.00	0.20	0.023	(0.136)	0.006	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.6

Flood volume = Effective rainfall 0.72(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.24(In)
Total soil loss = 0.030(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 3938.3 Cubic Feet
Total soil loss = 1297.8 Cubic Feet

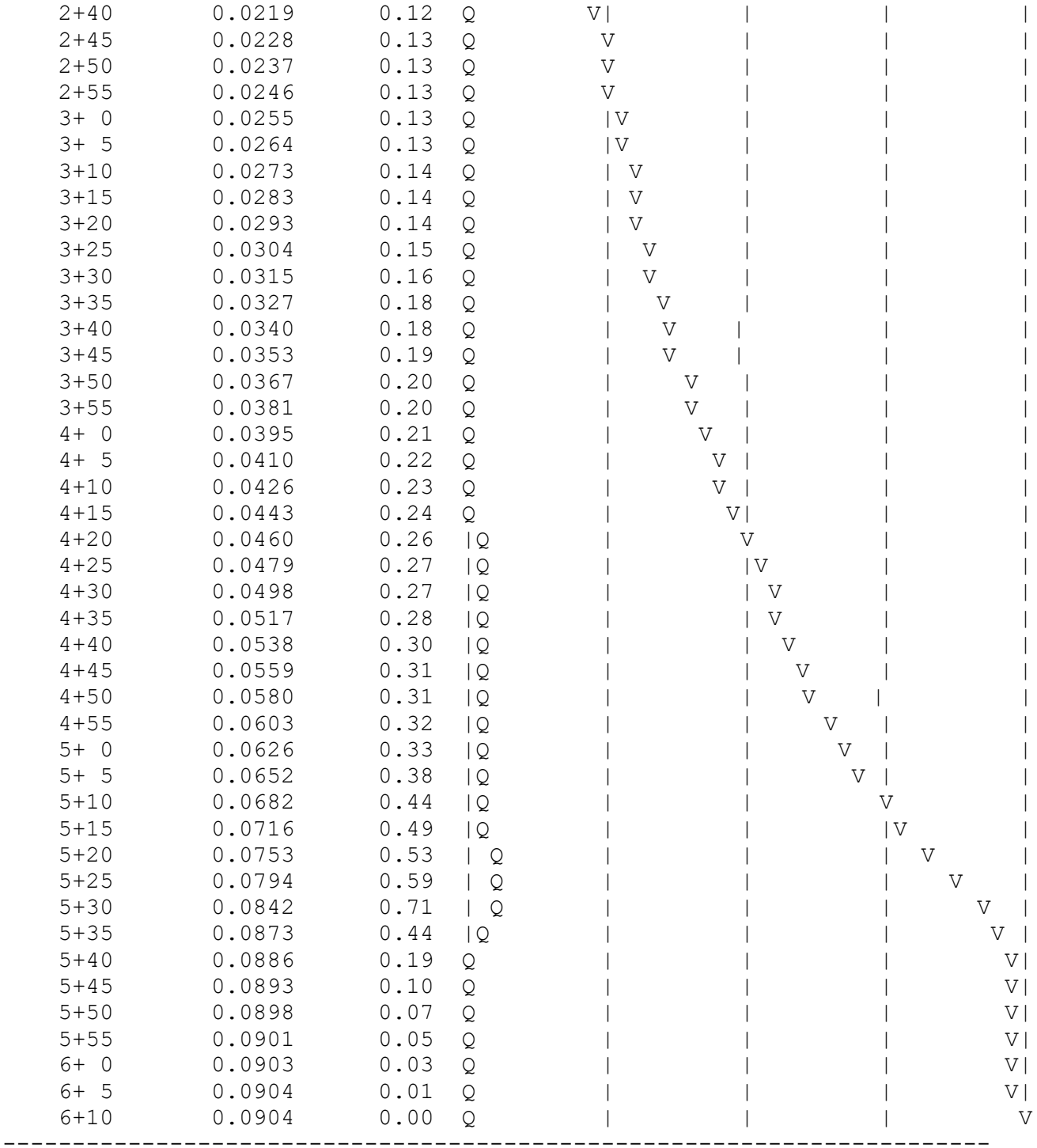
Peak flow rate of this hydrograph = 0.708(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q				
0+10	0.0008	0.07	Q				
0+15	0.0013	0.08	Q				
0+20	0.0018	0.08	Q				
0+25	0.0024	0.08	QV				
0+30	0.0030	0.09	QV				
0+35	0.0036	0.09	QV				
0+40	0.0042	0.09	QV				
0+45	0.0049	0.09	Q V				
0+50	0.0055	0.09	Q V				
0+55	0.0061	0.09	Q V				
1+ 0	0.0068	0.10	Q V				
1+ 5	0.0075	0.10	Q V				
1+10	0.0083	0.10	Q V				
1+15	0.0090	0.10	Q V				
1+20	0.0097	0.10	Q V				
1+25	0.0104	0.10	Q V				
1+30	0.0111	0.10	Q V				
1+35	0.0119	0.10	Q V				
1+40	0.0126	0.10	Q V				
1+45	0.0133	0.10	Q V				
1+50	0.0140	0.10	Q V				
1+55	0.0147	0.10	Q V				
2+ 0	0.0155	0.11	Q V				
2+ 5	0.0163	0.11	Q V				
2+10	0.0171	0.11	Q V				
2+15	0.0179	0.12	Q V				
2+20	0.0187	0.12	Q V				
2+25	0.0195	0.12	Q V				
2+30	0.0203	0.12	Q V				
2+35	0.0211	0.12	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 06/03/26 File: 19267e002I62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	0.95	0.76

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.80	2.26	1.80

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.795	75.00	0.970

Total Area Entered = 0.80(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.970	0.064	1.000	0.064
					Sum (F) =	0.064

Area averaged mean soil loss (F) (In/Hr) = 0.064
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.120

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	713.013	78.934	0.632
2	0.167	1426.025	21.066	0.169
		Sum = 100.000	Sum=	0.801

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	0.057	(0.064)	0.007	0.050
2	0.17	0.60	0.069	(0.064)	0.008	0.060
3	0.25	0.60	0.069	(0.064)	0.008	0.060
4	0.33	0.60	0.069	(0.064)	0.008	0.060
5	0.42	0.60	0.069	(0.064)	0.008	0.060
6	0.50	0.70	0.080	(0.064)	0.010	0.071
7	0.58	0.70	0.080	(0.064)	0.010	0.071
8	0.67	0.70	0.080	(0.064)	0.010	0.071
9	0.75	0.70	0.080	(0.064)	0.010	0.071
10	0.83	0.70	0.080	(0.064)	0.010	0.071
11	0.92	0.70	0.080	(0.064)	0.010	0.071

12	1.00	0.80	0.092	(0.064)	0.011	0.081
13	1.08	0.80	0.092	(0.064)	0.011	0.081
14	1.17	0.80	0.092	(0.064)	0.011	0.081
15	1.25	0.80	0.092	(0.064)	0.011	0.081
16	1.33	0.80	0.092	(0.064)	0.011	0.081
17	1.42	0.80	0.092	(0.064)	0.011	0.081
18	1.50	0.80	0.092	(0.064)	0.011	0.081
19	1.58	0.80	0.092	(0.064)	0.011	0.081
20	1.67	0.80	0.092	(0.064)	0.011	0.081
21	1.75	0.80	0.092	(0.064)	0.011	0.081
22	1.83	0.80	0.092	(0.064)	0.011	0.081
23	1.92	0.80	0.092	(0.064)	0.011	0.081
24	2.00	0.90	0.103	(0.064)	0.012	0.091
25	2.08	0.80	0.092	(0.064)	0.011	0.081
26	2.17	0.90	0.103	(0.064)	0.012	0.091
27	2.25	0.90	0.103	(0.064)	0.012	0.091
28	2.33	0.90	0.103	(0.064)	0.012	0.091
29	2.42	0.90	0.103	(0.064)	0.012	0.091
30	2.50	0.90	0.103	(0.064)	0.012	0.091
31	2.58	0.90	0.103	(0.064)	0.012	0.091
32	2.67	0.90	0.103	(0.064)	0.012	0.091
33	2.75	1.00	0.114	(0.064)	0.014	0.101
34	2.83	1.00	0.114	(0.064)	0.014	0.101
35	2.92	1.00	0.114	(0.064)	0.014	0.101
36	3.00	1.00	0.114	(0.064)	0.014	0.101
37	3.08	1.00	0.114	(0.064)	0.014	0.101
38	3.17	1.10	0.126	(0.064)	0.015	0.111
39	3.25	1.10	0.126	(0.064)	0.015	0.111
40	3.33	1.10	0.126	(0.064)	0.015	0.111
41	3.42	1.20	0.137	(0.064)	0.016	0.121
42	3.50	1.30	0.149	(0.064)	0.018	0.131
43	3.58	1.40	0.160	(0.064)	0.019	0.141
44	3.67	1.40	0.160	(0.064)	0.019	0.141
45	3.75	1.50	0.172	(0.064)	0.021	0.151
46	3.83	1.50	0.172	(0.064)	0.021	0.151
47	3.92	1.60	0.183	(0.064)	0.022	0.161
48	4.00	1.60	0.183	(0.064)	0.022	0.161
49	4.08	1.70	0.195	(0.064)	0.023	0.171
50	4.17	1.80	0.206	(0.064)	0.025	0.181
51	4.25	1.90	0.218	(0.064)	0.026	0.191
52	4.33	2.00	0.229	(0.064)	0.027	0.201
53	4.42	2.10	0.240	(0.064)	0.029	0.212
54	4.50	2.10	0.240	(0.064)	0.029	0.212
55	4.58	2.20	0.252	(0.064)	0.030	0.222
56	4.67	2.30	0.263	(0.064)	0.032	0.232
57	4.75	2.40	0.275	(0.064)	0.033	0.242
58	4.83	2.40	0.275	(0.064)	0.033	0.242
59	4.92	2.50	0.286	(0.064)	0.034	0.252
60	5.00	2.60	0.298	(0.064)	0.036	0.262
61	5.08	3.10	0.355	(0.064)	0.043	0.312
62	5.17	3.60	0.412	(0.064)	0.049	0.363
63	5.25	3.90	0.446	(0.064)	0.054	0.393
64	5.33	4.20	0.481	(0.064)	0.058	0.423
65	5.42	4.70	0.538	0.064	(0.065)	0.474
66	5.50	5.60	0.641	0.064	(0.077)	0.578
67	5.58	1.90	0.218	(0.064)	0.026	0.191
68	5.67	0.90	0.103	(0.064)	0.012	0.091

69	5.75	0.60	0.069	(0.064)	0.008	0.060
70	5.83	0.50	0.057	(0.064)	0.007	0.050
71	5.92	0.30	0.034	(0.064)	0.004	0.030
72	6.00	0.20	0.023	(0.064)	0.003	0.020

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.1

Flood volume = Effective rainfall 0.84(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.11(In)
Total soil loss = 0.008(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 2426.2 Cubic Feet
Total soil loss = 326.9 Cubic Feet

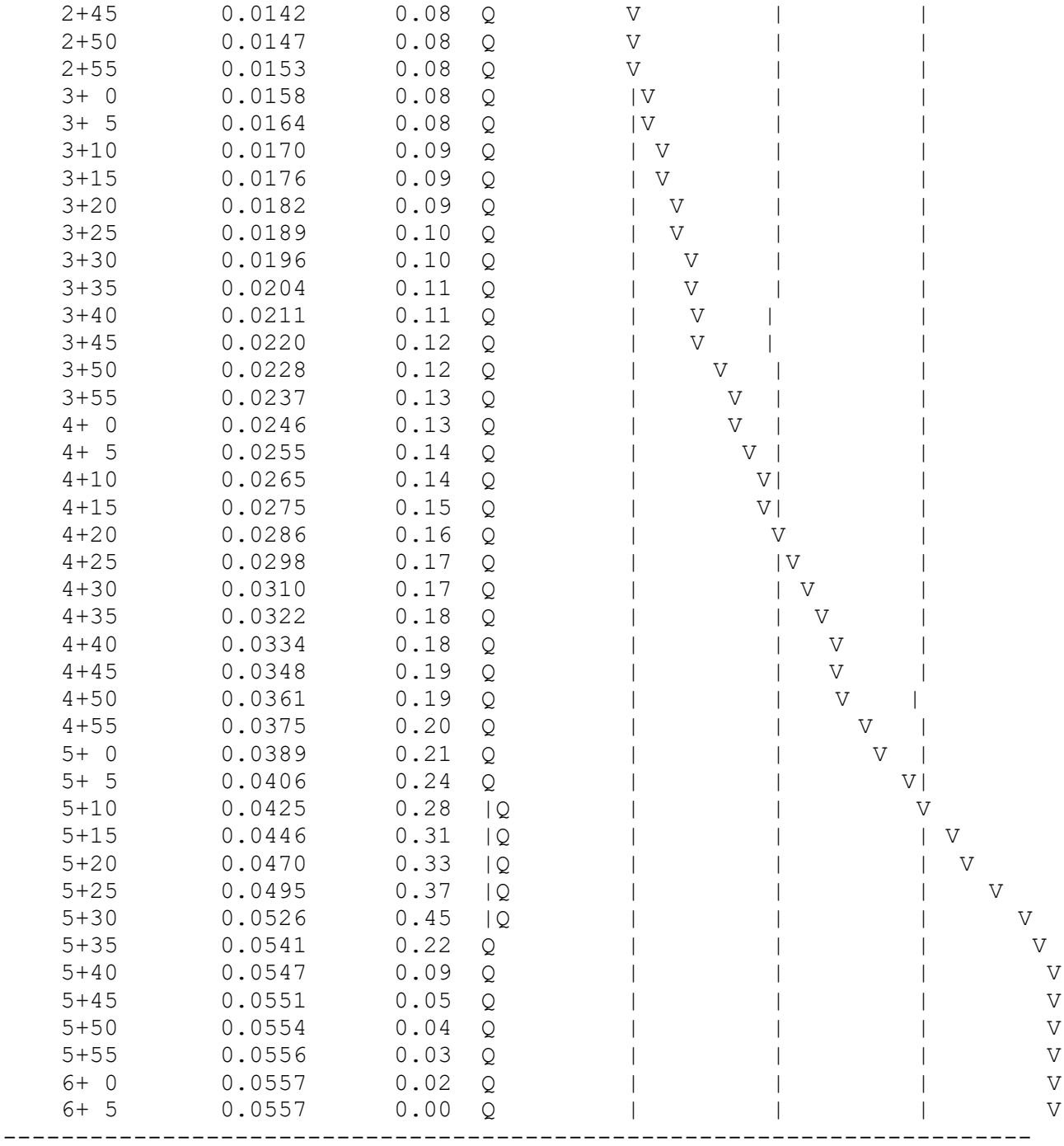
Peak flow rate of this hydrograph = 0.446(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.05	Q				
0+15	0.0009	0.05	Q				
0+20	0.0012	0.05	Q				
0+25	0.0015	0.05	QV				
0+30	0.0019	0.05	QV				
0+35	0.0023	0.06	QV				
0+40	0.0027	0.06	QV				
0+45	0.0031	0.06	Q V				
0+50	0.0035	0.06	Q V				
0+55	0.0039	0.06	Q V				
1+ 0	0.0043	0.06	Q V				
1+ 5	0.0047	0.06	Q V				
1+10	0.0052	0.06	Q V				
1+15	0.0056	0.06	Q V				
1+20	0.0061	0.06	Q V				
1+25	0.0065	0.06	Q V				
1+30	0.0070	0.06	Q V				
1+35	0.0074	0.06	Q V				
1+40	0.0079	0.06	Q V				
1+45	0.0083	0.06	Q V				
1+50	0.0087	0.06	Q V				
1+55	0.0092	0.06	Q V				
2+ 0	0.0097	0.07	Q V				
2+ 5	0.0101	0.07	Q V				
2+10	0.0106	0.07	Q V				
2+15	0.0111	0.07	Q V				
2+20	0.0116	0.07	Q V				
2+25	0.0121	0.07	Q V				
2+30	0.0126	0.07	Q V				
2+35	0.0131	0.07	Q V				
2+40	0.0136	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 06/03/26 File: 19267e002site62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	0.95	9.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	2.26	21.89

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.210	0.232	1.000	0.232
					Sum (F) =	0.232

Area averaged mean soil loss (F) (In/Hr) = 0.232
Minimum soil loss rate ((In/Hr)) = 0.116
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
			Sum = 100.000	Sum= 9.764

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	0.057	(0.232)	0.042	0.015
2	0.17	0.60	0.069	(0.232)	0.050	0.019
3	0.25	0.60	0.069	(0.232)	0.050	0.019
4	0.33	0.60	0.069	(0.232)	0.050	0.019
5	0.42	0.60	0.069	(0.232)	0.050	0.019
6	0.50	0.70	0.080	(0.232)	0.058	0.022
7	0.58	0.70	0.080	(0.232)	0.058	0.022
8	0.67	0.70	0.080	(0.232)	0.058	0.022
9	0.75	0.70	0.080	(0.232)	0.058	0.022
10	0.83	0.70	0.080	(0.232)	0.058	0.022

11	0.92	0.70	0.080	(0.232)	0.058	0.022
12	1.00	0.80	0.092	(0.232)	0.067	0.025
13	1.08	0.80	0.092	(0.232)	0.067	0.025
14	1.17	0.80	0.092	(0.232)	0.067	0.025
15	1.25	0.80	0.092	(0.232)	0.067	0.025
16	1.33	0.80	0.092	(0.232)	0.067	0.025
17	1.42	0.80	0.092	(0.232)	0.067	0.025
18	1.50	0.80	0.092	(0.232)	0.067	0.025
19	1.58	0.80	0.092	(0.232)	0.067	0.025
20	1.67	0.80	0.092	(0.232)	0.067	0.025
21	1.75	0.80	0.092	(0.232)	0.067	0.025
22	1.83	0.80	0.092	(0.232)	0.067	0.025
23	1.92	0.80	0.092	(0.232)	0.067	0.025
24	2.00	0.90	0.103	(0.232)	0.075	0.028
25	2.08	0.80	0.092	(0.232)	0.067	0.025
26	2.17	0.90	0.103	(0.232)	0.075	0.028
27	2.25	0.90	0.103	(0.232)	0.075	0.028
28	2.33	0.90	0.103	(0.232)	0.075	0.028
29	2.42	0.90	0.103	(0.232)	0.075	0.028
30	2.50	0.90	0.103	(0.232)	0.075	0.028
31	2.58	0.90	0.103	(0.232)	0.075	0.028
32	2.67	0.90	0.103	(0.232)	0.075	0.028
33	2.75	1.00	0.114	(0.232)	0.084	0.031
34	2.83	1.00	0.114	(0.232)	0.084	0.031
35	2.92	1.00	0.114	(0.232)	0.084	0.031
36	3.00	1.00	0.114	(0.232)	0.084	0.031
37	3.08	1.00	0.114	(0.232)	0.084	0.031
38	3.17	1.10	0.126	(0.232)	0.092	0.034
39	3.25	1.10	0.126	(0.232)	0.092	0.034
40	3.33	1.10	0.126	(0.232)	0.092	0.034
41	3.42	1.20	0.137	(0.232)	0.100	0.037
42	3.50	1.30	0.149	(0.232)	0.109	0.040
43	3.58	1.40	0.160	(0.232)	0.117	0.043
44	3.67	1.40	0.160	(0.232)	0.117	0.043
45	3.75	1.50	0.172	(0.232)	0.125	0.046
46	3.83	1.50	0.172	(0.232)	0.125	0.046
47	3.92	1.60	0.183	(0.232)	0.134	0.049
48	4.00	1.60	0.183	(0.232)	0.134	0.049
49	4.08	1.70	0.195	(0.232)	0.142	0.053
50	4.17	1.80	0.206	(0.232)	0.150	0.056
51	4.25	1.90	0.218	(0.232)	0.159	0.059
52	4.33	2.00	0.229	(0.232)	0.167	0.062
53	4.42	2.10	0.240	(0.232)	0.175	0.065
54	4.50	2.10	0.240	(0.232)	0.175	0.065
55	4.58	2.20	0.252	(0.232)	0.184	0.068
56	4.67	2.30	0.263	(0.232)	0.192	0.071
57	4.75	2.40	0.275	(0.232)	0.201	0.074
58	4.83	2.40	0.275	(0.232)	0.201	0.074
59	4.92	2.50	0.286	(0.232)	0.209	0.077
60	5.00	2.60	0.298	(0.232)	0.217	0.080
61	5.08	3.10	0.355	0.232	(0.259)	0.123
62	5.17	3.60	0.412	0.232	(0.301)	0.180
63	5.25	3.90	0.446	0.232	(0.326)	0.214
64	5.33	4.20	0.481	0.232	(0.351)	0.248
65	5.42	4.70	0.538	0.232	(0.393)	0.306
66	5.50	5.60	0.641	0.232	(0.468)	0.409
67	5.58	1.90	0.218	(0.232)	0.159	0.059

68	5.67	0.90	0.103	(0.232)	0.075	0.028
69	5.75	0.60	0.069	(0.232)	0.050	0.019
70	5.83	0.50	0.057	(0.232)	0.042	0.015
71	5.92	0.30	0.034	(0.232)	0.025	0.009
72	6.00	0.20	0.023	(0.232)	0.017	0.006

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.8

Flood volume = Effective rainfall 0.32(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.64(In)
Total soil loss = 0.515(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 11119.9 Cubic Feet
Total soil loss = 22428.7 Cubic Feet

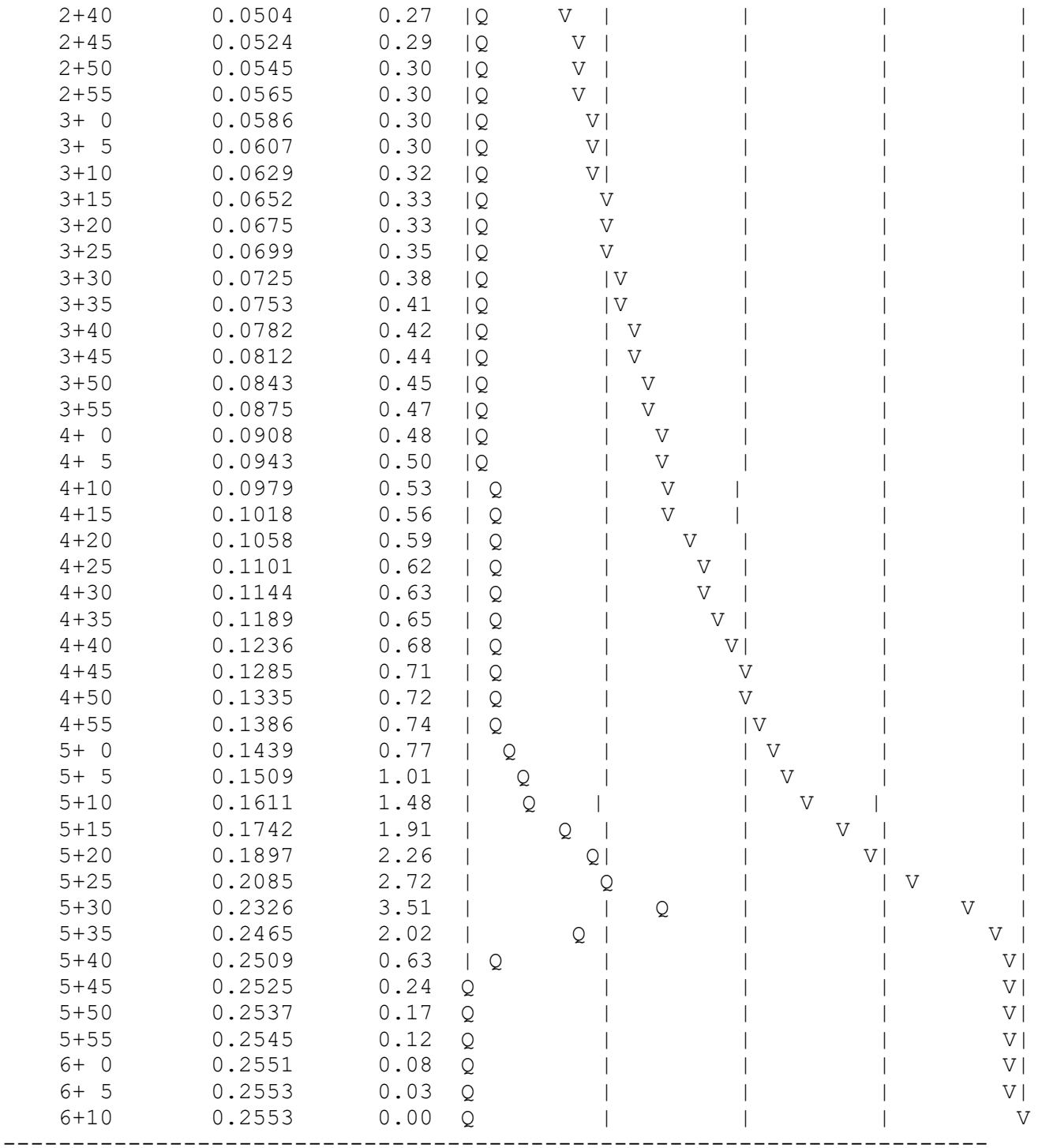
Peak flow rate of this hydrograph = 3.512(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0006	0.08	Q	|	|	|	|
0+10	0.0017	0.16	Q	|	|	|	|
0+15	0.0029	0.18	Q	|	|	|	|
0+20	0.0042	0.18	Q	|	|	|	|
0+25	0.0054	0.18	Q	|	|	|	|
0+30	0.0068	0.20	QV	|	|	|	|
0+35	0.0082	0.21	QV	|	|	|	|
0+40	0.0097	0.21	QV	|	|	|	|
0+45	0.0111	0.21	QV	|	|	|	|
0+50	0.0126	0.21	QV	|	|	|	|
0+55	0.0140	0.21	Q V	|	|	|	|
1+ 0	0.0156	0.23	Q V	|	|	|	|
1+ 5	0.0172	0.24	Q V	|	|	|	|
1+10	0.0189	0.24	Q V	|	|	|	|
1+15	0.0206	0.24	Q V	|	|	|	|
1+20	0.0222	0.24	Q V	|	|	|	|
1+25	0.0239	0.24	Q V	|	|	|	|
1+30	0.0256	0.24	Q V	|	|	|	|
1+35	0.0272	0.24	Q V	|	|	|	|
1+40	0.0289	0.24	Q V	|	|	|	|
1+45	0.0306	0.24	Q V	|	|	|	|
1+50	0.0322	0.24	Q V	|	|	|	|
1+55	0.0339	0.24	Q V	|	|	|	|
2+ 0	0.0357	0.26	|Q V	|	|	|	|
2+ 5	0.0374	0.25	|Q V	|	|	|	|
2+10	0.0392	0.26	|Q V	|	|	|	|
2+15	0.0411	0.27	|Q V	|	|	|	|
2+20	0.0429	0.27	|Q V	|	|	|	|
2+25	0.0448	0.27	|Q V	|	|	|	|
2+30	0.0467	0.27	|Q V	|	|	|	|
2+35	0.0485	0.27	|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 06/03/26 File: 19267e002A242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	1.66	9.79

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	4.10	24.18

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.000	0.286	1.000	0.286
					Sum (F) =	0.286

Area averaged mean soil loss (F) (In/Hr) = 0.286
Minimum soil loss rate ((In/Hr)) = 0.143
(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 (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
		Sum = 100.000	Sum=	5.943

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	0.013	(0.508)	0.012	0.001
2	0.17	0.07	0.013	(0.506)	0.012	0.001
3	0.25	0.07	0.013	(0.504)	0.012	0.001
4	0.33	0.10	0.020	(0.502)	0.018	0.002
5	0.42	0.10	0.020	(0.500)	0.018	0.002
6	0.50	0.10	0.020	(0.498)	0.018	0.002
7	0.58	0.10	0.020	(0.496)	0.018	0.002
8	0.67	0.10	0.020	(0.494)	0.018	0.002
9	0.75	0.10	0.020	(0.492)	0.018	0.002
10	0.83	0.13	0.027	(0.490)	0.024	0.003

11	0.92	0.13	0.027	(0.488)	0.024	0.003
12	1.00	0.13	0.027	(0.486)	0.024	0.003
13	1.08	0.10	0.020	(0.485)	0.018	0.002
14	1.17	0.10	0.020	(0.483)	0.018	0.002
15	1.25	0.10	0.020	(0.481)	0.018	0.002
16	1.33	0.10	0.020	(0.479)	0.018	0.002
17	1.42	0.10	0.020	(0.477)	0.018	0.002
18	1.50	0.10	0.020	(0.475)	0.018	0.002
19	1.58	0.10	0.020	(0.473)	0.018	0.002
20	1.67	0.10	0.020	(0.471)	0.018	0.002
21	1.75	0.10	0.020	(0.469)	0.018	0.002
22	1.83	0.13	0.027	(0.467)	0.024	0.003
23	1.92	0.13	0.027	(0.466)	0.024	0.003
24	2.00	0.13	0.027	(0.464)	0.024	0.003
25	2.08	0.13	0.027	(0.462)	0.024	0.003
26	2.17	0.13	0.027	(0.460)	0.024	0.003
27	2.25	0.13	0.027	(0.458)	0.024	0.003
28	2.33	0.13	0.027	(0.456)	0.024	0.003
29	2.42	0.13	0.027	(0.454)	0.024	0.003
30	2.50	0.13	0.027	(0.452)	0.024	0.003
31	2.58	0.17	0.033	(0.451)	0.030	0.003
32	2.67	0.17	0.033	(0.449)	0.030	0.003
33	2.75	0.17	0.033	(0.447)	0.030	0.003
34	2.83	0.17	0.033	(0.445)	0.030	0.003
35	2.92	0.17	0.033	(0.443)	0.030	0.003
36	3.00	0.17	0.033	(0.441)	0.030	0.003
37	3.08	0.17	0.033	(0.440)	0.030	0.003
38	3.17	0.17	0.033	(0.438)	0.030	0.003
39	3.25	0.17	0.033	(0.436)	0.030	0.003
40	3.33	0.17	0.033	(0.434)	0.030	0.003
41	3.42	0.17	0.033	(0.432)	0.030	0.003
42	3.50	0.17	0.033	(0.430)	0.030	0.003
43	3.58	0.17	0.033	(0.429)	0.030	0.003
44	3.67	0.17	0.033	(0.427)	0.030	0.003
45	3.75	0.17	0.033	(0.425)	0.030	0.003
46	3.83	0.20	0.040	(0.423)	0.036	0.004
47	3.92	0.20	0.040	(0.422)	0.036	0.004
48	4.00	0.20	0.040	(0.420)	0.036	0.004
49	4.08	0.20	0.040	(0.418)	0.036	0.004
50	4.17	0.20	0.040	(0.416)	0.036	0.004
51	4.25	0.20	0.040	(0.414)	0.036	0.004
52	4.33	0.23	0.046	(0.413)	0.042	0.005
53	4.42	0.23	0.046	(0.411)	0.042	0.005
54	4.50	0.23	0.046	(0.409)	0.042	0.005
55	4.58	0.23	0.046	(0.407)	0.042	0.005
56	4.67	0.23	0.046	(0.406)	0.042	0.005
57	4.75	0.23	0.046	(0.404)	0.042	0.005
58	4.83	0.27	0.053	(0.402)	0.048	0.005
59	4.92	0.27	0.053	(0.400)	0.048	0.005
60	5.00	0.27	0.053	(0.399)	0.048	0.005
61	5.08	0.20	0.040	(0.397)	0.036	0.004
62	5.17	0.20	0.040	(0.395)	0.036	0.004
63	5.25	0.20	0.040	(0.393)	0.036	0.004
64	5.33	0.23	0.046	(0.392)	0.042	0.005
65	5.42	0.23	0.046	(0.390)	0.042	0.005
66	5.50	0.23	0.046	(0.388)	0.042	0.005
67	5.58	0.27	0.053	(0.387)	0.048	0.005

68	5.67	0.27	0.053	(0.385)	0.048	0.005
69	5.75	0.27	0.053	(0.383)	0.048	0.005
70	5.83	0.27	0.053	(0.382)	0.048	0.005
71	5.92	0.27	0.053	(0.380)	0.048	0.005
72	6.00	0.27	0.053	(0.378)	0.048	0.005
73	6.08	0.30	0.060	(0.376)	0.054	0.006
74	6.17	0.30	0.060	(0.375)	0.054	0.006
75	6.25	0.30	0.060	(0.373)	0.054	0.006
76	6.33	0.30	0.060	(0.371)	0.054	0.006
77	6.42	0.30	0.060	(0.370)	0.054	0.006
78	6.50	0.30	0.060	(0.368)	0.054	0.006
79	6.58	0.33	0.066	(0.366)	0.060	0.007
80	6.67	0.33	0.066	(0.365)	0.060	0.007
81	6.75	0.33	0.066	(0.363)	0.060	0.007
82	6.83	0.33	0.066	(0.362)	0.060	0.007
83	6.92	0.33	0.066	(0.360)	0.060	0.007
84	7.00	0.33	0.066	(0.358)	0.060	0.007
85	7.08	0.33	0.066	(0.357)	0.060	0.007
86	7.17	0.33	0.066	(0.355)	0.060	0.007
87	7.25	0.33	0.066	(0.353)	0.060	0.007
88	7.33	0.37	0.073	(0.352)	0.066	0.007
89	7.42	0.37	0.073	(0.350)	0.066	0.007
90	7.50	0.37	0.073	(0.349)	0.066	0.007
91	7.58	0.40	0.080	(0.347)	0.072	0.008
92	7.67	0.40	0.080	(0.345)	0.072	0.008
93	7.75	0.40	0.080	(0.344)	0.072	0.008
94	7.83	0.43	0.086	(0.342)	0.078	0.009
95	7.92	0.43	0.086	(0.341)	0.078	0.009
96	8.00	0.43	0.086	(0.339)	0.078	0.009
97	8.08	0.50	0.100	(0.337)	0.090	0.010
98	8.17	0.50	0.100	(0.336)	0.090	0.010
99	8.25	0.50	0.100	(0.334)	0.090	0.010
100	8.33	0.50	0.100	(0.333)	0.090	0.010
101	8.42	0.50	0.100	(0.331)	0.090	0.010
102	8.50	0.50	0.100	(0.330)	0.090	0.010
103	8.58	0.53	0.106	(0.328)	0.096	0.011
104	8.67	0.53	0.106	(0.327)	0.096	0.011
105	8.75	0.53	0.106	(0.325)	0.096	0.011
106	8.83	0.57	0.113	(0.323)	0.102	0.011
107	8.92	0.57	0.113	(0.322)	0.102	0.011
108	9.00	0.57	0.113	(0.320)	0.102	0.011
109	9.08	0.63	0.126	(0.319)	0.114	0.013
110	9.17	0.63	0.126	(0.317)	0.114	0.013
111	9.25	0.63	0.126	(0.316)	0.114	0.013
112	9.33	0.67	0.133	(0.314)	0.120	0.013
113	9.42	0.67	0.133	(0.313)	0.120	0.013
114	9.50	0.67	0.133	(0.311)	0.120	0.013
115	9.58	0.70	0.139	(0.310)	0.125	0.014
116	9.67	0.70	0.139	(0.308)	0.125	0.014
117	9.75	0.70	0.139	(0.307)	0.125	0.014
118	9.83	0.73	0.146	(0.305)	0.131	0.015
119	9.92	0.73	0.146	(0.304)	0.131	0.015
120	10.00	0.73	0.146	(0.303)	0.131	0.015
121	10.08	0.50	0.100	(0.301)	0.090	0.010
122	10.17	0.50	0.100	(0.300)	0.090	0.010
123	10.25	0.50	0.100	(0.298)	0.090	0.010
124	10.33	0.50	0.100	(0.297)	0.090	0.010

125	10.42	0.50	0.100	(0.295)	0.090	0.010
126	10.50	0.50	0.100	(0.294)	0.090	0.010
127	10.58	0.67	0.133	(0.292)	0.120	0.013
128	10.67	0.67	0.133	(0.291)	0.120	0.013
129	10.75	0.67	0.133	(0.290)	0.120	0.013
130	10.83	0.67	0.133	(0.288)	0.120	0.013
131	10.92	0.67	0.133	(0.287)	0.120	0.013
132	11.00	0.67	0.133	(0.285)	0.120	0.013
133	11.08	0.63	0.126	(0.284)	0.114	0.013
134	11.17	0.63	0.126	(0.282)	0.114	0.013
135	11.25	0.63	0.126	(0.281)	0.114	0.013
136	11.33	0.63	0.126	(0.280)	0.114	0.013
137	11.42	0.63	0.126	(0.278)	0.114	0.013
138	11.50	0.63	0.126	(0.277)	0.114	0.013
139	11.58	0.57	0.113	(0.276)	0.102	0.011
140	11.67	0.57	0.113	(0.274)	0.102	0.011
141	11.75	0.57	0.113	(0.273)	0.102	0.011
142	11.83	0.60	0.120	(0.271)	0.108	0.012
143	11.92	0.60	0.120	(0.270)	0.108	0.012
144	12.00	0.60	0.120	(0.269)	0.108	0.012
145	12.08	0.83	0.166	(0.267)	0.149	0.017
146	12.17	0.83	0.166	(0.266)	0.149	0.017
147	12.25	0.83	0.166	(0.265)	0.149	0.017
148	12.33	0.87	0.173	(0.263)	0.155	0.017
149	12.42	0.87	0.173	(0.262)	0.155	0.017
150	12.50	0.87	0.173	(0.261)	0.155	0.017
151	12.58	0.93	0.186	(0.259)	0.167	0.019
152	12.67	0.93	0.186	(0.258)	0.167	0.019
153	12.75	0.93	0.186	(0.257)	0.167	0.019
154	12.83	0.97	0.193	(0.256)	0.173	0.019
155	12.92	0.97	0.193	(0.254)	0.173	0.019
156	13.00	0.97	0.193	(0.253)	0.173	0.019
157	13.08	1.13	0.226	(0.252)	0.203	0.023
158	13.17	1.13	0.226	(0.250)	0.203	0.023
159	13.25	1.13	0.226	(0.249)	0.203	0.023
160	13.33	1.13	0.226	(0.248)	0.203	0.023
161	13.42	1.13	0.226	(0.247)	0.203	0.023
162	13.50	1.13	0.226	(0.245)	0.203	0.023
163	13.58	0.77	0.153	(0.244)	0.137	0.015
164	13.67	0.77	0.153	(0.243)	0.137	0.015
165	13.75	0.77	0.153	(0.242)	0.137	0.015
166	13.83	0.77	0.153	(0.240)	0.137	0.015
167	13.92	0.77	0.153	(0.239)	0.137	0.015
168	14.00	0.77	0.153	(0.238)	0.137	0.015
169	14.08	0.90	0.179	(0.237)	0.161	0.018
170	14.17	0.90	0.179	(0.236)	0.161	0.018
171	14.25	0.90	0.179	(0.234)	0.161	0.018
172	14.33	0.87	0.173	(0.233)	0.155	0.017
173	14.42	0.87	0.173	(0.232)	0.155	0.017
174	14.50	0.87	0.173	(0.231)	0.155	0.017
175	14.58	0.87	0.173	(0.230)	0.155	0.017
176	14.67	0.87	0.173	(0.228)	0.155	0.017
177	14.75	0.87	0.173	(0.227)	0.155	0.017
178	14.83	0.83	0.166	(0.226)	0.149	0.017
179	14.92	0.83	0.166	(0.225)	0.149	0.017
180	15.00	0.83	0.166	(0.224)	0.149	0.017
181	15.08	0.80	0.159	(0.223)	0.143	0.016

182	15.17	0.80	0.159	(0.221)	0.143	0.016
183	15.25	0.80	0.159	(0.220)	0.143	0.016
184	15.33	0.77	0.153	(0.219)	0.137	0.015
185	15.42	0.77	0.153	(0.218)	0.137	0.015
186	15.50	0.77	0.153	(0.217)	0.137	0.015
187	15.58	0.63	0.126	(0.216)	0.114	0.013
188	15.67	0.63	0.126	(0.215)	0.114	0.013
189	15.75	0.63	0.126	(0.214)	0.114	0.013
190	15.83	0.63	0.126	(0.213)	0.114	0.013
191	15.92	0.63	0.126	(0.211)	0.114	0.013
192	16.00	0.63	0.126	(0.210)	0.114	0.013
193	16.08	0.13	0.027	(0.209)	0.024	0.003
194	16.17	0.13	0.027	(0.208)	0.024	0.003
195	16.25	0.13	0.027	(0.207)	0.024	0.003
196	16.33	0.13	0.027	(0.206)	0.024	0.003
197	16.42	0.13	0.027	(0.205)	0.024	0.003
198	16.50	0.13	0.027	(0.204)	0.024	0.003
199	16.58	0.10	0.020	(0.203)	0.018	0.002
200	16.67	0.10	0.020	(0.202)	0.018	0.002
201	16.75	0.10	0.020	(0.201)	0.018	0.002
202	16.83	0.10	0.020	(0.200)	0.018	0.002
203	16.92	0.10	0.020	(0.199)	0.018	0.002
204	17.00	0.10	0.020	(0.198)	0.018	0.002
205	17.08	0.17	0.033	(0.197)	0.030	0.003
206	17.17	0.17	0.033	(0.196)	0.030	0.003
207	17.25	0.17	0.033	(0.195)	0.030	0.003
208	17.33	0.17	0.033	(0.194)	0.030	0.003
209	17.42	0.17	0.033	(0.193)	0.030	0.003
210	17.50	0.17	0.033	(0.192)	0.030	0.003
211	17.58	0.17	0.033	(0.191)	0.030	0.003
212	17.67	0.17	0.033	(0.190)	0.030	0.003
213	17.75	0.17	0.033	(0.189)	0.030	0.003
214	17.83	0.13	0.027	(0.188)	0.024	0.003
215	17.92	0.13	0.027	(0.187)	0.024	0.003
216	18.00	0.13	0.027	(0.186)	0.024	0.003
217	18.08	0.13	0.027	(0.185)	0.024	0.003
218	18.17	0.13	0.027	(0.185)	0.024	0.003
219	18.25	0.13	0.027	(0.184)	0.024	0.003
220	18.33	0.13	0.027	(0.183)	0.024	0.003
221	18.42	0.13	0.027	(0.182)	0.024	0.003
222	18.50	0.13	0.027	(0.181)	0.024	0.003
223	18.58	0.10	0.020	(0.180)	0.018	0.002
224	18.67	0.10	0.020	(0.179)	0.018	0.002
225	18.75	0.10	0.020	(0.178)	0.018	0.002
226	18.83	0.07	0.013	(0.177)	0.012	0.001
227	18.92	0.07	0.013	(0.177)	0.012	0.001
228	19.00	0.07	0.013	(0.176)	0.012	0.001
229	19.08	0.10	0.020	(0.175)	0.018	0.002
230	19.17	0.10	0.020	(0.174)	0.018	0.002
231	19.25	0.10	0.020	(0.173)	0.018	0.002
232	19.33	0.13	0.027	(0.173)	0.024	0.003
233	19.42	0.13	0.027	(0.172)	0.024	0.003
234	19.50	0.13	0.027	(0.171)	0.024	0.003
235	19.58	0.10	0.020	(0.170)	0.018	0.002
236	19.67	0.10	0.020	(0.169)	0.018	0.002
237	19.75	0.10	0.020	(0.169)	0.018	0.002
238	19.83	0.07	0.013	(0.168)	0.012	0.001

239	19.92	0.07	0.013	(0.167)	0.012	0.001
240	20.00	0.07	0.013	(0.166)	0.012	0.001
241	20.08	0.10	0.020	(0.166)	0.018	0.002
242	20.17	0.10	0.020	(0.165)	0.018	0.002
243	20.25	0.10	0.020	(0.164)	0.018	0.002
244	20.33	0.10	0.020	(0.163)	0.018	0.002
245	20.42	0.10	0.020	(0.163)	0.018	0.002
246	20.50	0.10	0.020	(0.162)	0.018	0.002
247	20.58	0.10	0.020	(0.161)	0.018	0.002
248	20.67	0.10	0.020	(0.161)	0.018	0.002
249	20.75	0.10	0.020	(0.160)	0.018	0.002
250	20.83	0.07	0.013	(0.159)	0.012	0.001
251	20.92	0.07	0.013	(0.159)	0.012	0.001
252	21.00	0.07	0.013	(0.158)	0.012	0.001
253	21.08	0.10	0.020	(0.157)	0.018	0.002
254	21.17	0.10	0.020	(0.157)	0.018	0.002
255	21.25	0.10	0.020	(0.156)	0.018	0.002
256	21.33	0.07	0.013	(0.156)	0.012	0.001
257	21.42	0.07	0.013	(0.155)	0.012	0.001
258	21.50	0.07	0.013	(0.155)	0.012	0.001
259	21.58	0.10	0.020	(0.154)	0.018	0.002
260	21.67	0.10	0.020	(0.153)	0.018	0.002
261	21.75	0.10	0.020	(0.153)	0.018	0.002
262	21.83	0.07	0.013	(0.152)	0.012	0.001
263	21.92	0.07	0.013	(0.152)	0.012	0.001
264	22.00	0.07	0.013	(0.151)	0.012	0.001
265	22.08	0.10	0.020	(0.151)	0.018	0.002
266	22.17	0.10	0.020	(0.150)	0.018	0.002
267	22.25	0.10	0.020	(0.150)	0.018	0.002
268	22.33	0.07	0.013	(0.149)	0.012	0.001
269	22.42	0.07	0.013	(0.149)	0.012	0.001
270	22.50	0.07	0.013	(0.148)	0.012	0.001
271	22.58	0.07	0.013	(0.148)	0.012	0.001
272	22.67	0.07	0.013	(0.148)	0.012	0.001
273	22.75	0.07	0.013	(0.147)	0.012	0.001
274	22.83	0.07	0.013	(0.147)	0.012	0.001
275	22.92	0.07	0.013	(0.146)	0.012	0.001
276	23.00	0.07	0.013	(0.146)	0.012	0.001
277	23.08	0.07	0.013	(0.146)	0.012	0.001
278	23.17	0.07	0.013	(0.145)	0.012	0.001
279	23.25	0.07	0.013	(0.145)	0.012	0.001
280	23.33	0.07	0.013	(0.145)	0.012	0.001
281	23.42	0.07	0.013	(0.145)	0.012	0.001
282	23.50	0.07	0.013	(0.144)	0.012	0.001
283	23.58	0.07	0.013	(0.144)	0.012	0.001
284	23.67	0.07	0.013	(0.144)	0.012	0.001
285	23.75	0.07	0.013	(0.144)	0.012	0.001
286	23.83	0.07	0.013	(0.143)	0.012	0.001
287	23.92	0.07	0.013	(0.143)	0.012	0.001
288	24.00	0.07	0.013	(0.143)	0.012	0.001

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.0

Flood volume = Effective rainfall 0.17(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.49(In)
Total soil loss = 0.734(Ac.Ft)
Total rainfall = 1.66(In)

Flood volume = 3553.4 Cubic Feet
Total soil loss = 31980.4 Cubic Feet

Peak flow rate of this hydrograph = 0.134(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.01	Q				
0+35	0.0004	0.01	Q				
0+40	0.0005	0.01	Q				
0+45	0.0006	0.01	Q				
0+50	0.0007	0.01	Q				
0+55	0.0008	0.02	Q				
1+ 0	0.0009	0.02	Q				
1+ 5	0.0010	0.01	Q				
1+10	0.0011	0.01	Q				
1+15	0.0012	0.01	Q				
1+20	0.0013	0.01	Q				
1+25	0.0013	0.01	Q				
1+30	0.0014	0.01	Q				
1+35	0.0015	0.01	Q				
1+40	0.0016	0.01	Q				
1+45	0.0017	0.01	Q				
1+50	0.0018	0.01	Q				
1+55	0.0019	0.02	Q				
2+ 0	0.0020	0.02	Q				
2+ 5	0.0021	0.02	QV				
2+10	0.0022	0.02	QV				
2+15	0.0023	0.02	QV				
2+20	0.0024	0.02	QV				
2+25	0.0025	0.02	QV				
2+30	0.0026	0.02	QV				
2+35	0.0028	0.02	QV				
2+40	0.0029	0.02	QV				
2+45	0.0030	0.02	QV				
2+50	0.0032	0.02	QV				
2+55	0.0033	0.02	QV				
3+ 0	0.0034	0.02	QV				
3+ 5	0.0036	0.02	QV				
3+10	0.0037	0.02	QV				
3+15	0.0038	0.02	QV				
3+20	0.0040	0.02	QV				
3+25	0.0041	0.02	Q V				
3+30	0.0043	0.02	Q V				
3+35	0.0044	0.02	Q V				

3+40	0.0045	0.02	Q V	|	|	|	|
3+45	0.0047	0.02	Q V	|	|	|	|
3+50	0.0048	0.02	Q V	|	|	|	|
3+55	0.0050	0.02	Q V	|	|	|	|
4+ 0	0.0051	0.02	Q V	|	|	|	|
4+ 5	0.0053	0.02	Q V	|	|	|	|
4+10	0.0055	0.02	Q V	|	|	|	|
4+15	0.0056	0.02	Q V	|	|	|	|
4+20	0.0058	0.03	Q V	|	|	|	|
4+25	0.0060	0.03	Q V	|	|	|	|
4+30	0.0062	0.03	Q V	|	|	|	|
4+35	0.0064	0.03	Q V	|	|	|	|
4+40	0.0066	0.03	Q V	|	|	|	|
4+45	0.0068	0.03	Q V	|	|	|	|
4+50	0.0070	0.03	Q V	|	|	|	|
4+55	0.0072	0.03	Q V	|	|	|	|
5+ 0	0.0074	0.03	Q V	|	|	|	|
5+ 5	0.0076	0.03	Q V	|	|	|	|
5+10	0.0077	0.02	Q V	|	|	|	|
5+15	0.0079	0.02	Q V	|	|	|	|
5+20	0.0081	0.03	Q V	|	|	|	|
5+25	0.0083	0.03	Q V	|	|	|	|
5+30	0.0085	0.03	Q V	|	|	|	|
5+35	0.0087	0.03	Q V	|	|	|	|
5+40	0.0089	0.03	Q V	|	|	|	|
5+45	0.0091	0.03	Q V	|	|	|	|
5+50	0.0093	0.03	Q V	|	|	|	|
5+55	0.0095	0.03	Q V	|	|	|	|
6+ 0	0.0098	0.03	Q V	|	|	|	|
6+ 5	0.0100	0.03	Q V	|	|	|	|
6+10	0.0102	0.04	Q V	|	|	|	|
6+15	0.0105	0.04	Q V	|	|	|	|
6+20	0.0107	0.04	Q V	|	|	|	|
6+25	0.0110	0.04	Q V	|	|	|	|
6+30	0.0112	0.04	Q V	|	|	|	|
6+35	0.0115	0.04	Q V	|	|	|	|
6+40	0.0117	0.04	Q V	|	|	|	|
6+45	0.0120	0.04	Q V	|	|	|	|
6+50	0.0123	0.04	Q V	|	|	|	|
6+55	0.0126	0.04	Q V	|	|	|	|
7+ 0	0.0128	0.04	Q V	|	|	|	|
7+ 5	0.0131	0.04	Q V	|	|	|	|
7+10	0.0134	0.04	Q V	|	|	|	|
7+15	0.0136	0.04	Q V	|	|	|	|
7+20	0.0139	0.04	Q V	|	|	|	|
7+25	0.0142	0.04	Q V	|	|	|	|
7+30	0.0145	0.04	Q V	|	|	|	|
7+35	0.0148	0.05	Q V	|	|	|	|
7+40	0.0152	0.05	Q V	|	|	|	|
7+45	0.0155	0.05	Q V	|	|	|	|
7+50	0.0158	0.05	Q V	|	|	|	|
7+55	0.0162	0.05	Q V	|	|	|	|
8+ 0	0.0165	0.05	Q V	|	|	|	|
8+ 5	0.0169	0.06	Q V	|	|	|	|
8+10	0.0173	0.06	Q V	|	|	|	|
8+15	0.0177	0.06	Q V	|	|	|	|
8+20	0.0181	0.06	Q V	|	|	|	|

8+25	0.0186	0.06	Q	V|				
8+30	0.0190	0.06	Q	V|				
8+35	0.0194	0.06	Q	V|				
8+40	0.0198	0.06	Q	V|				
8+45	0.0203	0.06	Q	V|				
8+50	0.0207	0.07	Q	V				
8+55	0.0212	0.07	Q	V				
9+ 0	0.0216	0.07	Q	V				
9+ 5	0.0221	0.07	Q	V				
9+10	0.0226	0.07	Q	|V				
9+15	0.0231	0.08	Q	|V				
9+20	0.0237	0.08	Q	|V				
9+25	0.0242	0.08	Q	|V				
9+30	0.0248	0.08	Q	| V				
9+35	0.0253	0.08	Q	| V				
9+40	0.0259	0.08	Q	| V				
9+45	0.0265	0.08	Q	| V				
9+50	0.0271	0.09	Q	| V				
9+55	0.0276	0.09	Q	| V				
10+ 0	0.0282	0.09	Q	| V				
10+ 5	0.0287	0.07	Q	| V				
10+10	0.0292	0.06	Q	| V				
10+15	0.0296	0.06	Q	| V				
10+20	0.0300	0.06	Q	| V				
10+25	0.0304	0.06	Q	| V				
10+30	0.0308	0.06	Q	| V	|			
10+35	0.0313	0.07	Q	| V	|			
10+40	0.0318	0.08	Q	| V	|			
10+45	0.0324	0.08	Q	| V	|			
10+50	0.0329	0.08	Q	| V	|			
10+55	0.0334	0.08	Q	| V	|			
11+ 0	0.0340	0.08	Q	| V	|			
11+ 5	0.0345	0.08	Q	| V	|			
11+10	0.0350	0.08	Q	| V	|			
11+15	0.0355	0.08	Q	| V	|			
11+20	0.0361	0.08	Q	| V	|			
11+25	0.0366	0.08	Q	| V	|			
11+30	0.0371	0.08	Q	| V	|			
11+35	0.0376	0.07	Q	| V	|			
11+40	0.0381	0.07	Q	| V	|			
11+45	0.0385	0.07	Q	| V	|			
11+50	0.0390	0.07	Q	| V	|			
11+55	0.0395	0.07	Q	| V	|			
12+ 0	0.0400	0.07	Q	| V	|			
12+ 5	0.0406	0.09	Q	| V	|			
12+10	0.0412	0.10	Q	| V				
12+15	0.0419	0.10	Q	| V				
12+20	0.0426	0.10	Q	| V				
12+25	0.0433	0.10	Q	| |V				
12+30	0.0440	0.10	Q	| |V				
12+35	0.0448	0.11	Q	| |V				
12+40	0.0455	0.11	Q	| | V				
12+45	0.0463	0.11	Q	| | V				
12+50	0.0471	0.11	Q	| | V				
12+55	0.0478	0.11	Q	| | V				
13+ 0	0.0486	0.11	Q	| | V				
13+ 5	0.0495	0.13	Q	| | V				

13+10	0.0504	0.13	Q	|	|	V |	|	|
13+15	0.0513	0.13	Q	|	|	V |	|	|
13+20	0.0523	0.13	Q	|	|	V |	|	|
13+25	0.0532	0.13	Q	|	|	V |	|	|
13+30	0.0541	0.13	Q	|	|	V |	|	|
13+35	0.0549	0.11	Q	|	|	V |	|	|
13+40	0.0555	0.09	Q	|	|	V |	|	|
13+45	0.0561	0.09	Q	|	|	V |	|	|
13+50	0.0568	0.09	Q	|	|	V |	|	|
13+55	0.0574	0.09	Q	|	|	V |	|	|
14+ 0	0.0580	0.09	Q	|	|	V |	|	|
14+ 5	0.0587	0.10	Q	|	|	V |	|	|
14+10	0.0594	0.11	Q	|	|	V|	|	|
14+15	0.0602	0.11	Q	|	|	V|	|	|
14+20	0.0609	0.10	Q	|	|	V|	|	|
14+25	0.0616	0.10	Q	|	|	V |	|	|
14+30	0.0623	0.10	Q	|	|	V |	|	|
14+35	0.0630	0.10	Q	|	|	V |	|	|
14+40	0.0637	0.10	Q	|	|	|V |	|	|
14+45	0.0644	0.10	Q	|	|	|V |	|	|
14+50	0.0651	0.10	Q	|	|	|V |	|	|
14+55	0.0658	0.10	Q	|	|	| V |	|	|
15+ 0	0.0665	0.10	Q	|	|	| V |	|	|
15+ 5	0.0671	0.10	Q	|	|	| V |	|	|
15+10	0.0678	0.10	Q	|	|	| V |	|	|
15+15	0.0684	0.09	Q	|	|	| V |	|	|
15+20	0.0691	0.09	Q	|	|	| V |	|	|
15+25	0.0697	0.09	Q	|	|	| V |	|	|
15+30	0.0703	0.09	Q	|	|	| V |	|	|
15+35	0.0709	0.08	Q	|	|	| V |	|	|
15+40	0.0714	0.08	Q	|	|	| V |	|	|
15+45	0.0719	0.08	Q	|	|	| V |	|	|
15+50	0.0724	0.08	Q	|	|	| V |	|	|
15+55	0.0730	0.08	Q	|	|	| V |	|	|
16+ 0	0.0735	0.08	Q	|	|	| V |	|	|
16+ 5	0.0738	0.04	Q	|	|	| V |	|	|
16+10	0.0739	0.02	Q	|	|	| V |	|	|
16+15	0.0740	0.02	Q	|	|	| V |	|	|
16+20	0.0741	0.02	Q	|	|	| V |	|	|
16+25	0.0742	0.02	Q	|	|	| V |	|	|
16+30	0.0743	0.02	Q	|	|	| V |	|	|
16+35	0.0744	0.01	Q	|	|	| V |	|	|
16+40	0.0745	0.01	Q	|	|	| V |	|	|
16+45	0.0746	0.01	Q	|	|	| V |	|	|
16+50	0.0747	0.01	Q	|	|	| V |	|	|
16+55	0.0748	0.01	Q	|	|	| V |	|	|
17+ 0	0.0748	0.01	Q	|	|	| V |	|	|
17+ 5	0.0750	0.02	Q	|	|	| V |	|	|
17+10	0.0751	0.02	Q	|	|	| V |	|	|
17+15	0.0752	0.02	Q	|	|	| V |	|	|
17+20	0.0754	0.02	Q	|	|	| V |	|	|
17+25	0.0755	0.02	Q	|	|	| V |	|	|
17+30	0.0756	0.02	Q	|	|	| V |	|	|
17+35	0.0758	0.02	Q	|	|	| V |	|	|
17+40	0.0759	0.02	Q	|	|	| V |	|	|
17+45	0.0760	0.02	Q	|	|	| V |	|	|
17+50	0.0762	0.02	Q	|	|	| V |	|	|

17+55	0.0763	0.02	Q	|	|	|	V |
18+ 0	0.0764	0.02	Q	|	|	|	V |
18+ 5	0.0765	0.02	Q	|	|	|	V |
18+10	0.0766	0.02	Q	|	|	|	V |
18+15	0.0767	0.02	Q	|	|	|	V |
18+20	0.0768	0.02	Q	|	|	|	V |
18+25	0.0769	0.02	Q	|	|	|	V |
18+30	0.0770	0.02	Q	|	|	|	V |
18+35	0.0771	0.01	Q	|	|	|	V |
18+40	0.0772	0.01	Q	|	|	|	V |
18+45	0.0773	0.01	Q	|	|	|	V |
18+50	0.0774	0.01	Q	|	|	|	V |
18+55	0.0774	0.01	Q	|	|	|	V |
19+ 0	0.0775	0.01	Q	|	|	|	V |
19+ 5	0.0775	0.01	Q	|	|	|	V |
19+10	0.0776	0.01	Q	|	|	|	V |
19+15	0.0777	0.01	Q	|	|	|	V |
19+20	0.0778	0.01	Q	|	|	|	V |
19+25	0.0779	0.02	Q	|	|	|	V |
19+30	0.0780	0.02	Q	|	|	|	V |
19+35	0.0781	0.01	Q	|	|	|	V |
19+40	0.0782	0.01	Q	|	|	|	V |
19+45	0.0783	0.01	Q	|	|	|	V |
19+50	0.0783	0.01	Q	|	|	|	V |
19+55	0.0784	0.01	Q	|	|	|	V |
20+ 0	0.0784	0.01	Q	|	|	|	V |
20+ 5	0.0785	0.01	Q	|	|	|	V |
20+10	0.0786	0.01	Q	|	|	|	V |
20+15	0.0787	0.01	Q	|	|	|	V |
20+20	0.0788	0.01	Q	|	|	|	V |
20+25	0.0788	0.01	Q	|	|	|	V |
20+30	0.0789	0.01	Q	|	|	|	V |
20+35	0.0790	0.01	Q	|	|	|	V |
20+40	0.0791	0.01	Q	|	|	|	V |
20+45	0.0792	0.01	Q	|	|	|	V |
20+50	0.0792	0.01	Q	|	|	|	V |
20+55	0.0793	0.01	Q	|	|	|	V |
21+ 0	0.0793	0.01	Q	|	|	|	V |
21+ 5	0.0794	0.01	Q	|	|	|	V |
21+10	0.0795	0.01	Q	|	|	|	V |
21+15	0.0796	0.01	Q	|	|	|	V|
21+20	0.0796	0.01	Q	|	|	|	V|
21+25	0.0797	0.01	Q	|	|	|	V|
21+30	0.0798	0.01	Q	|	|	|	V|
21+35	0.0798	0.01	Q	|	|	|	V|
21+40	0.0799	0.01	Q	|	|	|	V|
21+45	0.0800	0.01	Q	|	|	|	V|
21+50	0.0800	0.01	Q	|	|	|	V|
21+55	0.0801	0.01	Q	|	|	|	V|
22+ 0	0.0802	0.01	Q	|	|	|	V|
22+ 5	0.0802	0.01	Q	|	|	|	V|
22+10	0.0803	0.01	Q	|	|	|	V|
22+15	0.0804	0.01	Q	|	|	|	V|
22+20	0.0805	0.01	Q	|	|	|	V|
22+25	0.0805	0.01	Q	|	|	|	V|
22+30	0.0806	0.01	Q	|	|	|	V|
22+35	0.0806	0.01	Q	|	|	|	V|

22+40	0.0807	0.01	Q	|	|	|	V|
22+45	0.0807	0.01	Q	|	|	|	V|
22+50	0.0808	0.01	Q	|	|	|	V|
22+55	0.0808	0.01	Q	|	|	|	V|
23+ 0	0.0809	0.01	Q	|	|	|	V|
23+ 5	0.0809	0.01	Q	|	|	|	V|
23+10	0.0810	0.01	Q	|	|	|	V|
23+15	0.0811	0.01	Q	|	|	|	V|
23+20	0.0811	0.01	Q	|	|	|	V|
23+25	0.0812	0.01	Q	|	|	|	V|
23+30	0.0812	0.01	Q	|	|	|	V|
23+35	0.0813	0.01	Q	|	|	|	V|
23+40	0.0813	0.01	Q	|	|	|	V|
23+45	0.0814	0.01	Q	|	|	|	V|
23+50	0.0814	0.01	Q	|	|	|	V|
23+55	0.0815	0.01	Q	|	|	|	V|
24+ 0	0.0815	0.01	Q	|	|	|	V|
24+ 5	0.0816	0.00	Q	|	|	|	V|
24+10	0.0816	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 06/03/26 File: 19267e002B242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	1.66	2.46

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	4.10	6.08

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.484	89.00	0.040

Total Area Entered = 1.48(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.040	0.276	1.000	0.276
					Sum (F) =	0.276

Area averaged mean soil loss (F) (In/Hr) = 0.276
Minimum soil loss rate ((In/Hr)) = 0.138
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	366.114	62.598	0.936
2	0.167	732.229	33.736	0.505
3	0.250	1098.343	3.666	0.055
			Sum = 100.000	Sum= 1.496

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	0.013	(0.490)	0.011	0.002
2	0.17	0.07	0.013	(0.488)	0.011	0.002
3	0.25	0.07	0.013	(0.486)	0.011	0.002
4	0.33	0.10	0.020	(0.484)	0.017	0.003
5	0.42	0.10	0.020	(0.482)	0.017	0.003
6	0.50	0.10	0.020	(0.480)	0.017	0.003
7	0.58	0.10	0.020	(0.478)	0.017	0.003
8	0.67	0.10	0.020	(0.476)	0.017	0.003
9	0.75	0.10	0.020	(0.475)	0.017	0.003
10	0.83	0.13	0.027	(0.473)	0.023	0.004

11	0.92	0.13	0.027	(0.471)	0.023	0.004
12	1.00	0.13	0.027	(0.469)	0.023	0.004
13	1.08	0.10	0.020	(0.467)	0.017	0.003
14	1.17	0.10	0.020	(0.465)	0.017	0.003
15	1.25	0.10	0.020	(0.463)	0.017	0.003
16	1.33	0.10	0.020	(0.462)	0.017	0.003
17	1.42	0.10	0.020	(0.460)	0.017	0.003
18	1.50	0.10	0.020	(0.458)	0.017	0.003
19	1.58	0.10	0.020	(0.456)	0.017	0.003
20	1.67	0.10	0.020	(0.454)	0.017	0.003
21	1.75	0.10	0.020	(0.452)	0.017	0.003
22	1.83	0.13	0.027	(0.451)	0.023	0.004
23	1.92	0.13	0.027	(0.449)	0.023	0.004
24	2.00	0.13	0.027	(0.447)	0.023	0.004
25	2.08	0.13	0.027	(0.445)	0.023	0.004
26	2.17	0.13	0.027	(0.443)	0.023	0.004
27	2.25	0.13	0.027	(0.442)	0.023	0.004
28	2.33	0.13	0.027	(0.440)	0.023	0.004
29	2.42	0.13	0.027	(0.438)	0.023	0.004
30	2.50	0.13	0.027	(0.436)	0.023	0.004
31	2.58	0.17	0.033	(0.434)	0.029	0.005
32	2.67	0.17	0.033	(0.433)	0.029	0.005
33	2.75	0.17	0.033	(0.431)	0.029	0.005
34	2.83	0.17	0.033	(0.429)	0.029	0.005
35	2.92	0.17	0.033	(0.427)	0.029	0.005
36	3.00	0.17	0.033	(0.426)	0.029	0.005
37	3.08	0.17	0.033	(0.424)	0.029	0.005
38	3.17	0.17	0.033	(0.422)	0.029	0.005
39	3.25	0.17	0.033	(0.420)	0.029	0.005
40	3.33	0.17	0.033	(0.418)	0.029	0.005
41	3.42	0.17	0.033	(0.417)	0.029	0.005
42	3.50	0.17	0.033	(0.415)	0.029	0.005
43	3.58	0.17	0.033	(0.413)	0.029	0.005
44	3.67	0.17	0.033	(0.412)	0.029	0.005
45	3.75	0.17	0.033	(0.410)	0.029	0.005
46	3.83	0.20	0.040	(0.408)	0.034	0.006
47	3.92	0.20	0.040	(0.406)	0.034	0.006
48	4.00	0.20	0.040	(0.405)	0.034	0.006
49	4.08	0.20	0.040	(0.403)	0.034	0.006
50	4.17	0.20	0.040	(0.401)	0.034	0.006
51	4.25	0.20	0.040	(0.399)	0.034	0.006
52	4.33	0.23	0.046	(0.398)	0.040	0.007
53	4.42	0.23	0.046	(0.396)	0.040	0.007
54	4.50	0.23	0.046	(0.394)	0.040	0.007
55	4.58	0.23	0.046	(0.393)	0.040	0.007
56	4.67	0.23	0.046	(0.391)	0.040	0.007
57	4.75	0.23	0.046	(0.389)	0.040	0.007
58	4.83	0.27	0.053	(0.388)	0.046	0.007
59	4.92	0.27	0.053	(0.386)	0.046	0.007
60	5.00	0.27	0.053	(0.384)	0.046	0.007
61	5.08	0.20	0.040	(0.383)	0.034	0.006
62	5.17	0.20	0.040	(0.381)	0.034	0.006
63	5.25	0.20	0.040	(0.379)	0.034	0.006
64	5.33	0.23	0.046	(0.378)	0.040	0.007
65	5.42	0.23	0.046	(0.376)	0.040	0.007
66	5.50	0.23	0.046	(0.374)	0.040	0.007
67	5.58	0.27	0.053	(0.373)	0.046	0.007

68	5.67	0.27	0.053	(0.371)	0.046	0.007
69	5.75	0.27	0.053	(0.369)	0.046	0.007
70	5.83	0.27	0.053	(0.368)	0.046	0.007
71	5.92	0.27	0.053	(0.366)	0.046	0.007
72	6.00	0.27	0.053	(0.365)	0.046	0.007
73	6.08	0.30	0.060	(0.363)	0.051	0.008
74	6.17	0.30	0.060	(0.361)	0.051	0.008
75	6.25	0.30	0.060	(0.360)	0.051	0.008
76	6.33	0.30	0.060	(0.358)	0.051	0.008
77	6.42	0.30	0.060	(0.356)	0.051	0.008
78	6.50	0.30	0.060	(0.355)	0.051	0.008
79	6.58	0.33	0.066	(0.353)	0.057	0.009
80	6.67	0.33	0.066	(0.352)	0.057	0.009
81	6.75	0.33	0.066	(0.350)	0.057	0.009
82	6.83	0.33	0.066	(0.349)	0.057	0.009
83	6.92	0.33	0.066	(0.347)	0.057	0.009
84	7.00	0.33	0.066	(0.345)	0.057	0.009
85	7.08	0.33	0.066	(0.344)	0.057	0.009
86	7.17	0.33	0.066	(0.342)	0.057	0.009
87	7.25	0.33	0.066	(0.341)	0.057	0.009
88	7.33	0.37	0.073	(0.339)	0.063	0.010
89	7.42	0.37	0.073	(0.338)	0.063	0.010
90	7.50	0.37	0.073	(0.336)	0.063	0.010
91	7.58	0.40	0.080	(0.334)	0.069	0.011
92	7.67	0.40	0.080	(0.333)	0.069	0.011
93	7.75	0.40	0.080	(0.331)	0.069	0.011
94	7.83	0.43	0.086	(0.330)	0.074	0.012
95	7.92	0.43	0.086	(0.328)	0.074	0.012
96	8.00	0.43	0.086	(0.327)	0.074	0.012
97	8.08	0.50	0.100	(0.325)	0.086	0.014
98	8.17	0.50	0.100	(0.324)	0.086	0.014
99	8.25	0.50	0.100	(0.322)	0.086	0.014
100	8.33	0.50	0.100	(0.321)	0.086	0.014
101	8.42	0.50	0.100	(0.319)	0.086	0.014
102	8.50	0.50	0.100	(0.318)	0.086	0.014
103	8.58	0.53	0.106	(0.316)	0.091	0.015
104	8.67	0.53	0.106	(0.315)	0.091	0.015
105	8.75	0.53	0.106	(0.313)	0.091	0.015
106	8.83	0.57	0.113	(0.312)	0.097	0.016
107	8.92	0.57	0.113	(0.310)	0.097	0.016
108	9.00	0.57	0.113	(0.309)	0.097	0.016
109	9.08	0.63	0.126	(0.307)	0.108	0.018
110	9.17	0.63	0.126	(0.306)	0.108	0.018
111	9.25	0.63	0.126	(0.305)	0.108	0.018
112	9.33	0.67	0.133	(0.303)	0.114	0.019
113	9.42	0.67	0.133	(0.302)	0.114	0.019
114	9.50	0.67	0.133	(0.300)	0.114	0.019
115	9.58	0.70	0.139	(0.299)	0.120	0.020
116	9.67	0.70	0.139	(0.297)	0.120	0.020
117	9.75	0.70	0.139	(0.296)	0.120	0.020
118	9.83	0.73	0.146	(0.294)	0.126	0.020
119	9.92	0.73	0.146	(0.293)	0.126	0.020
120	10.00	0.73	0.146	(0.292)	0.126	0.020
121	10.08	0.50	0.100	(0.290)	0.086	0.014
122	10.17	0.50	0.100	(0.289)	0.086	0.014
123	10.25	0.50	0.100	(0.287)	0.086	0.014
124	10.33	0.50	0.100	(0.286)	0.086	0.014

125	10.42	0.50	0.100	(0.285)	0.086	0.014
126	10.50	0.50	0.100	(0.283)	0.086	0.014
127	10.58	0.67	0.133	(0.282)	0.114	0.019
128	10.67	0.67	0.133	(0.280)	0.114	0.019
129	10.75	0.67	0.133	(0.279)	0.114	0.019
130	10.83	0.67	0.133	(0.278)	0.114	0.019
131	10.92	0.67	0.133	(0.276)	0.114	0.019
132	11.00	0.67	0.133	(0.275)	0.114	0.019
133	11.08	0.63	0.126	(0.274)	0.108	0.018
134	11.17	0.63	0.126	(0.272)	0.108	0.018
135	11.25	0.63	0.126	(0.271)	0.108	0.018
136	11.33	0.63	0.126	(0.270)	0.108	0.018
137	11.42	0.63	0.126	(0.268)	0.108	0.018
138	11.50	0.63	0.126	(0.267)	0.108	0.018
139	11.58	0.57	0.113	(0.266)	0.097	0.016
140	11.67	0.57	0.113	(0.264)	0.097	0.016
141	11.75	0.57	0.113	(0.263)	0.097	0.016
142	11.83	0.60	0.120	(0.262)	0.103	0.017
143	11.92	0.60	0.120	(0.260)	0.103	0.017
144	12.00	0.60	0.120	(0.259)	0.103	0.017
145	12.08	0.83	0.166	(0.258)	0.143	0.023
146	12.17	0.83	0.166	(0.257)	0.143	0.023
147	12.25	0.83	0.166	(0.255)	0.143	0.023
148	12.33	0.87	0.173	(0.254)	0.148	0.024
149	12.42	0.87	0.173	(0.253)	0.148	0.024
150	12.50	0.87	0.173	(0.251)	0.148	0.024
151	12.58	0.93	0.186	(0.250)	0.160	0.026
152	12.67	0.93	0.186	(0.249)	0.160	0.026
153	12.75	0.93	0.186	(0.248)	0.160	0.026
154	12.83	0.97	0.193	(0.246)	0.166	0.027
155	12.92	0.97	0.193	(0.245)	0.166	0.027
156	13.00	0.97	0.193	(0.244)	0.166	0.027
157	13.08	1.13	0.226	(0.243)	0.194	0.032
158	13.17	1.13	0.226	(0.241)	0.194	0.032
159	13.25	1.13	0.226	(0.240)	0.194	0.032
160	13.33	1.13	0.226	(0.239)	0.194	0.032
161	13.42	1.13	0.226	(0.238)	0.194	0.032
162	13.50	1.13	0.226	(0.237)	0.194	0.032
163	13.58	0.77	0.153	(0.235)	0.131	0.021
164	13.67	0.77	0.153	(0.234)	0.131	0.021
165	13.75	0.77	0.153	(0.233)	0.131	0.021
166	13.83	0.77	0.153	(0.232)	0.131	0.021
167	13.92	0.77	0.153	(0.231)	0.131	0.021
168	14.00	0.77	0.153	(0.229)	0.131	0.021
169	14.08	0.90	0.179	(0.228)	0.154	0.025
170	14.17	0.90	0.179	(0.227)	0.154	0.025
171	14.25	0.90	0.179	(0.226)	0.154	0.025
172	14.33	0.87	0.173	(0.225)	0.148	0.024
173	14.42	0.87	0.173	(0.224)	0.148	0.024
174	14.50	0.87	0.173	(0.222)	0.148	0.024
175	14.58	0.87	0.173	(0.221)	0.148	0.024
176	14.67	0.87	0.173	(0.220)	0.148	0.024
177	14.75	0.87	0.173	(0.219)	0.148	0.024
178	14.83	0.83	0.166	(0.218)	0.143	0.023
179	14.92	0.83	0.166	(0.217)	0.143	0.023
180	15.00	0.83	0.166	(0.216)	0.143	0.023
181	15.08	0.80	0.159	(0.215)	0.137	0.022

182	15.17	0.80	0.159	(0.213)	0.137	0.022
183	15.25	0.80	0.159	(0.212)	0.137	0.022
184	15.33	0.77	0.153	(0.211)	0.131	0.021
185	15.42	0.77	0.153	(0.210)	0.131	0.021
186	15.50	0.77	0.153	(0.209)	0.131	0.021
187	15.58	0.63	0.126	(0.208)	0.108	0.018
188	15.67	0.63	0.126	(0.207)	0.108	0.018
189	15.75	0.63	0.126	(0.206)	0.108	0.018
190	15.83	0.63	0.126	(0.205)	0.108	0.018
191	15.92	0.63	0.126	(0.204)	0.108	0.018
192	16.00	0.63	0.126	(0.203)	0.108	0.018
193	16.08	0.13	0.027	(0.202)	0.023	0.004
194	16.17	0.13	0.027	(0.201)	0.023	0.004
195	16.25	0.13	0.027	(0.200)	0.023	0.004
196	16.33	0.13	0.027	(0.199)	0.023	0.004
197	16.42	0.13	0.027	(0.198)	0.023	0.004
198	16.50	0.13	0.027	(0.197)	0.023	0.004
199	16.58	0.10	0.020	(0.196)	0.017	0.003
200	16.67	0.10	0.020	(0.195)	0.017	0.003
201	16.75	0.10	0.020	(0.194)	0.017	0.003
202	16.83	0.10	0.020	(0.193)	0.017	0.003
203	16.92	0.10	0.020	(0.192)	0.017	0.003
204	17.00	0.10	0.020	(0.191)	0.017	0.003
205	17.08	0.17	0.033	(0.190)	0.029	0.005
206	17.17	0.17	0.033	(0.189)	0.029	0.005
207	17.25	0.17	0.033	(0.188)	0.029	0.005
208	17.33	0.17	0.033	(0.187)	0.029	0.005
209	17.42	0.17	0.033	(0.186)	0.029	0.005
210	17.50	0.17	0.033	(0.185)	0.029	0.005
211	17.58	0.17	0.033	(0.184)	0.029	0.005
212	17.67	0.17	0.033	(0.183)	0.029	0.005
213	17.75	0.17	0.033	(0.182)	0.029	0.005
214	17.83	0.13	0.027	(0.181)	0.023	0.004
215	17.92	0.13	0.027	(0.181)	0.023	0.004
216	18.00	0.13	0.027	(0.180)	0.023	0.004
217	18.08	0.13	0.027	(0.179)	0.023	0.004
218	18.17	0.13	0.027	(0.178)	0.023	0.004
219	18.25	0.13	0.027	(0.177)	0.023	0.004
220	18.33	0.13	0.027	(0.176)	0.023	0.004
221	18.42	0.13	0.027	(0.175)	0.023	0.004
222	18.50	0.13	0.027	(0.174)	0.023	0.004
223	18.58	0.10	0.020	(0.174)	0.017	0.003
224	18.67	0.10	0.020	(0.173)	0.017	0.003
225	18.75	0.10	0.020	(0.172)	0.017	0.003
226	18.83	0.07	0.013	(0.171)	0.011	0.002
227	18.92	0.07	0.013	(0.170)	0.011	0.002
228	19.00	0.07	0.013	(0.169)	0.011	0.002
229	19.08	0.10	0.020	(0.169)	0.017	0.003
230	19.17	0.10	0.020	(0.168)	0.017	0.003
231	19.25	0.10	0.020	(0.167)	0.017	0.003
232	19.33	0.13	0.027	(0.166)	0.023	0.004
233	19.42	0.13	0.027	(0.166)	0.023	0.004
234	19.50	0.13	0.027	(0.165)	0.023	0.004
235	19.58	0.10	0.020	(0.164)	0.017	0.003
236	19.67	0.10	0.020	(0.163)	0.017	0.003
237	19.75	0.10	0.020	(0.163)	0.017	0.003
238	19.83	0.07	0.013	(0.162)	0.011	0.002

239	19.92	0.07	0.013	(0.161)	0.011	0.002
240	20.00	0.07	0.013	(0.160)	0.011	0.002
241	20.08	0.10	0.020	(0.160)	0.017	0.003
242	20.17	0.10	0.020	(0.159)	0.017	0.003
243	20.25	0.10	0.020	(0.158)	0.017	0.003
244	20.33	0.10	0.020	(0.158)	0.017	0.003
245	20.42	0.10	0.020	(0.157)	0.017	0.003
246	20.50	0.10	0.020	(0.156)	0.017	0.003
247	20.58	0.10	0.020	(0.156)	0.017	0.003
248	20.67	0.10	0.020	(0.155)	0.017	0.003
249	20.75	0.10	0.020	(0.154)	0.017	0.003
250	20.83	0.07	0.013	(0.154)	0.011	0.002
251	20.92	0.07	0.013	(0.153)	0.011	0.002
252	21.00	0.07	0.013	(0.152)	0.011	0.002
253	21.08	0.10	0.020	(0.152)	0.017	0.003
254	21.17	0.10	0.020	(0.151)	0.017	0.003
255	21.25	0.10	0.020	(0.151)	0.017	0.003
256	21.33	0.07	0.013	(0.150)	0.011	0.002
257	21.42	0.07	0.013	(0.149)	0.011	0.002
258	21.50	0.07	0.013	(0.149)	0.011	0.002
259	21.58	0.10	0.020	(0.148)	0.017	0.003
260	21.67	0.10	0.020	(0.148)	0.017	0.003
261	21.75	0.10	0.020	(0.147)	0.017	0.003
262	21.83	0.07	0.013	(0.147)	0.011	0.002
263	21.92	0.07	0.013	(0.146)	0.011	0.002
264	22.00	0.07	0.013	(0.146)	0.011	0.002
265	22.08	0.10	0.020	(0.145)	0.017	0.003
266	22.17	0.10	0.020	(0.145)	0.017	0.003
267	22.25	0.10	0.020	(0.144)	0.017	0.003
268	22.33	0.07	0.013	(0.144)	0.011	0.002
269	22.42	0.07	0.013	(0.144)	0.011	0.002
270	22.50	0.07	0.013	(0.143)	0.011	0.002
271	22.58	0.07	0.013	(0.143)	0.011	0.002
272	22.67	0.07	0.013	(0.142)	0.011	0.002
273	22.75	0.07	0.013	(0.142)	0.011	0.002
274	22.83	0.07	0.013	(0.142)	0.011	0.002
275	22.92	0.07	0.013	(0.141)	0.011	0.002
276	23.00	0.07	0.013	(0.141)	0.011	0.002
277	23.08	0.07	0.013	(0.140)	0.011	0.002
278	23.17	0.07	0.013	(0.140)	0.011	0.002
279	23.25	0.07	0.013	(0.140)	0.011	0.002
280	23.33	0.07	0.013	(0.140)	0.011	0.002
281	23.42	0.07	0.013	(0.139)	0.011	0.002
282	23.50	0.07	0.013	(0.139)	0.011	0.002
283	23.58	0.07	0.013	(0.139)	0.011	0.002
284	23.67	0.07	0.013	(0.139)	0.011	0.002
285	23.75	0.07	0.013	(0.138)	0.011	0.002
286	23.83	0.07	0.013	(0.138)	0.011	0.002
287	23.92	0.07	0.013	(0.138)	0.011	0.002
288	24.00	0.07	0.013	(0.138)	0.011	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.8

Flood volume = Effective rainfall 0.23(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.43(In)
Total soil loss = 0.177(Ac.Ft)
Total rainfall = 1.66(In)

Flood volume = 1251.9 Cubic Feet
Total soil loss = 7690.3 Cubic Feet

Peak flow rate of this hydrograph = 0.047(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.00	Q				
0+30	0.0001	0.00	Q				
0+35	0.0002	0.00	Q				
0+40	0.0002	0.00	Q				
0+45	0.0002	0.00	Q				
0+50	0.0003	0.01	Q				
0+55	0.0003	0.01	Q				
1+ 0	0.0003	0.01	Q				
1+ 5	0.0004	0.00	Q				
1+10	0.0004	0.00	Q				
1+15	0.0004	0.00	Q				
1+20	0.0004	0.00	Q				
1+25	0.0005	0.00	Q				
1+30	0.0005	0.00	Q				
1+35	0.0005	0.00	Q				
1+40	0.0006	0.00	Q				
1+45	0.0006	0.00	Q				
1+50	0.0006	0.01	Q				
1+55	0.0007	0.01	Q				
2+ 0	0.0007	0.01	Q				
2+ 5	0.0007	0.01	QV				
2+10	0.0008	0.01	QV				
2+15	0.0008	0.01	QV				
2+20	0.0009	0.01	QV				
2+25	0.0009	0.01	QV				
2+30	0.0009	0.01	QV				
2+35	0.0010	0.01	QV				
2+40	0.0010	0.01	QV				
2+45	0.0011	0.01	QV				
2+50	0.0011	0.01	QV				
2+55	0.0012	0.01	QV				
3+ 0	0.0012	0.01	QV				
3+ 5	0.0013	0.01	QV				
3+10	0.0013	0.01	QV				
3+15	0.0014	0.01	QV				
3+20	0.0014	0.01	QV				
3+25	0.0015	0.01	Q V				
3+30	0.0015	0.01	Q V				
3+35	0.0016	0.01	Q V				

3+40	0.0016	0.01	Q V	|	|	|	|
3+45	0.0016	0.01	Q V	|	|	|	|
3+50	0.0017	0.01	Q V	|	|	|	|
3+55	0.0018	0.01	Q V	|	|	|	|
4+ 0	0.0018	0.01	Q V	|	|	|	|
4+ 5	0.0019	0.01	Q V	|	|	|	|
4+10	0.0019	0.01	Q V	|	|	|	|
4+15	0.0020	0.01	Q V	|	|	|	|
4+20	0.0021	0.01	Q V	|	|	|	|
4+25	0.0021	0.01	Q V	|	|	|	|
4+30	0.0022	0.01	Q V	|	|	|	|
4+35	0.0023	0.01	Q V	|	|	|	|
4+40	0.0023	0.01	Q V	|	|	|	|
4+45	0.0024	0.01	Q V	|	|	|	|
4+50	0.0025	0.01	Q V	|	|	|	|
4+55	0.0025	0.01	Q V	|	|	|	|
5+ 0	0.0026	0.01	Q V	|	|	|	|
5+ 5	0.0027	0.01	Q V	|	|	|	|
5+10	0.0027	0.01	Q V	|	|	|	|
5+15	0.0028	0.01	Q V	|	|	|	|
5+20	0.0029	0.01	Q V	|	|	|	|
5+25	0.0029	0.01	Q V	|	|	|	|
5+30	0.0030	0.01	Q V	|	|	|	|
5+35	0.0031	0.01	Q V	|	|	|	|
5+40	0.0031	0.01	Q V	|	|	|	|
5+45	0.0032	0.01	Q V	|	|	|	|
5+50	0.0033	0.01	Q V	|	|	|	|
5+55	0.0034	0.01	Q V	|	|	|	|
6+ 0	0.0034	0.01	Q V	|	|	|	|
6+ 5	0.0035	0.01	Q V	|	|	|	|
6+10	0.0036	0.01	Q V	|	|	|	|
6+15	0.0037	0.01	Q V	|	|	|	|
6+20	0.0038	0.01	Q V	|	|	|	|
6+25	0.0039	0.01	Q V	|	|	|	|
6+30	0.0040	0.01	Q V	|	|	|	|
6+35	0.0041	0.01	Q V	|	|	|	|
6+40	0.0041	0.01	Q V	|	|	|	|
6+45	0.0042	0.01	Q V	|	|	|	|
6+50	0.0043	0.01	Q V	|	|	|	|
6+55	0.0044	0.01	Q V	|	|	|	|
7+ 0	0.0045	0.01	Q V	|	|	|	|
7+ 5	0.0046	0.01	Q V	|	|	|	|
7+10	0.0047	0.01	Q V	|	|	|	|
7+15	0.0048	0.01	Q V	|	|	|	|
7+20	0.0049	0.01	Q V	|	|	|	|
7+25	0.0050	0.02	Q V	|	|	|	|
7+30	0.0051	0.02	Q V	|	|	|	|
7+35	0.0052	0.02	Q V	|	|	|	|
7+40	0.0054	0.02	Q V	|	|	|	|
7+45	0.0055	0.02	Q V	|	|	|	|
7+50	0.0056	0.02	Q V	|	|	|	|
7+55	0.0057	0.02	Q V	|	|	|	|
8+ 0	0.0058	0.02	Q V	|	|	|	|
8+ 5	0.0060	0.02	Q V	|	|	|	|
8+10	0.0061	0.02	Q V	|	|	|	|
8+15	0.0063	0.02	Q V	|	|	|	|
8+20	0.0064	0.02	Q V	|	|	|	|

8+25	0.0066	0.02	Q	V|	|	|	|
8+30	0.0067	0.02	Q	V|	|	|	|
8+35	0.0068	0.02	Q	V|	|	|	|
8+40	0.0070	0.02	Q	V|	|	|	|
8+45	0.0072	0.02	Q	V|	|	|	|
8+50	0.0073	0.02	Q	V	|	|	|
8+55	0.0075	0.02	Q	V	|	|	|
9+ 0	0.0076	0.02	Q	V	|	|	|
9+ 5	0.0078	0.03	Q	V	|	|	|
9+10	0.0080	0.03	Q	|V	|	|	|
9+15	0.0082	0.03	Q	|V	|	|	|
9+20	0.0084	0.03	Q	|V	|	|	|
9+25	0.0086	0.03	Q	|V	|	|	|
9+30	0.0087	0.03	Q	| V	|	|	|
9+35	0.0089	0.03	Q	| V	|	|	|
9+40	0.0091	0.03	Q	| V	|	|	|
9+45	0.0093	0.03	Q	| V	|	|	|
9+50	0.0096	0.03	Q	| V	|	|	|
9+55	0.0098	0.03	Q	| V	|	|	|
10+ 0	0.0100	0.03	Q	| V	|	|	|
10+ 5	0.0101	0.02	Q	| V	|	|	|
10+10	0.0103	0.02	Q	| V	|	|	|
10+15	0.0104	0.02	Q	| V	|	|	|
10+20	0.0106	0.02	Q	| V	|	|	|
10+25	0.0107	0.02	Q	| V	|	|	|
10+30	0.0109	0.02	Q	| V	|	|	|
10+35	0.0110	0.03	Q	| V	|	|	|
10+40	0.0112	0.03	Q	| V	|	|	|
10+45	0.0114	0.03	Q	| V	|	|	|
10+50	0.0116	0.03	Q	| V	|	|	|
10+55	0.0118	0.03	Q	| V	|	|	|
11+ 0	0.0120	0.03	Q	| V	|	|	|
11+ 5	0.0122	0.03	Q	| V	|	|	|
11+10	0.0124	0.03	Q	| V	|	|	|
11+15	0.0125	0.03	Q	| V	|	|	|
11+20	0.0127	0.03	Q	| V	|	|	|
11+25	0.0129	0.03	Q	| V	|	|	|
11+30	0.0131	0.03	Q	| V	|	|	|
11+35	0.0133	0.02	Q	| V	|	|	|
11+40	0.0134	0.02	Q	| V	|	|	|
11+45	0.0136	0.02	Q	| V	|	|	|
11+50	0.0138	0.02	Q	| V	|	|	|
11+55	0.0139	0.02	Q	| V	|	|	|
12+ 0	0.0141	0.03	Q	| V	|	|	|
12+ 5	0.0143	0.03	Q	| V	|	|	|
12+10	0.0145	0.03	Q	| V	|	|	|
12+15	0.0148	0.03	Q	| V	|	|	|
12+20	0.0150	0.04	Q	| V	|	|	|
12+25	0.0153	0.04	Q	| V	|	|	|
12+30	0.0155	0.04	Q	| V	|	|	|
12+35	0.0158	0.04	Q	| V	|	|	|
12+40	0.0161	0.04	Q	| V	|	|	|
12+45	0.0163	0.04	Q	| V	|	|	|
12+50	0.0166	0.04	Q	| V	|	|	|
12+55	0.0169	0.04	Q	| V	|	|	|
13+ 0	0.0172	0.04	Q	| V	|	|	|
13+ 5	0.0175	0.04	Q	| V	|	|	|

13+10	0.0178	0.05	Q	|	|	V |	|	|
13+15	0.0181	0.05	Q	|	|	V |	|	|
13+20	0.0184	0.05	Q	|	|	V |	|	|
13+25	0.0188	0.05	Q	|	|	V |	|	|
13+30	0.0191	0.05	Q	|	|	V |	|	|
13+35	0.0194	0.04	Q	|	|	V |	|	|
13+40	0.0196	0.03	Q	|	|	V |	|	|
13+45	0.0198	0.03	Q	|	|	V |	|	|
13+50	0.0200	0.03	Q	|	|	V |	|	|
13+55	0.0202	0.03	Q	|	|	V |	|	|
14+ 0	0.0205	0.03	Q	|	|	V |	|	|
14+ 5	0.0207	0.04	Q	|	|	V |	|	|
14+10	0.0210	0.04	Q	|	|	V|	|	|
14+15	0.0212	0.04	Q	|	|	V|	|	|
14+20	0.0215	0.04	Q	|	|	V|	|	|
14+25	0.0217	0.04	Q	|	|	V |	|	|
14+30	0.0220	0.04	Q	|	|	V |	|	|
14+35	0.0222	0.04	Q	|	|	V |	|	|
14+40	0.0225	0.04	Q	|	|	|V |	|	|
14+45	0.0227	0.04	Q	|	|	|V |	|	|
14+50	0.0230	0.04	Q	|	|	|V |	|	|
14+55	0.0232	0.03	Q	|	|	| V |	|	|
15+ 0	0.0234	0.03	Q	|	|	| V |	|	|
15+ 5	0.0237	0.03	Q	|	|	| V |	|	|
15+10	0.0239	0.03	Q	|	|	| V |	|	|
15+15	0.0241	0.03	Q	|	|	| V |	|	|
15+20	0.0244	0.03	Q	|	|	| V |	|	|
15+25	0.0246	0.03	Q	|	|	| V |	|	|
15+30	0.0248	0.03	Q	|	|	| V |	|	|
15+35	0.0250	0.03	Q	|	|	| V |	|	|
15+40	0.0252	0.03	Q	|	|	| V |	|	|
15+45	0.0254	0.03	Q	|	|	| V |	|	|
15+50	0.0255	0.03	Q	|	|	| V |	|	|
15+55	0.0257	0.03	Q	|	|	| V |	|	|
16+ 0	0.0259	0.03	Q	|	|	| V |	|	|
16+ 5	0.0260	0.01	Q	|	|	| V |	|	|
16+10	0.0260	0.01	Q	|	|	| V |	|	|
16+15	0.0261	0.01	Q	|	|	| V |	|	|
16+20	0.0261	0.01	Q	|	|	| V |	|	|
16+25	0.0262	0.01	Q	|	|	| V |	|	|
16+30	0.0262	0.01	Q	|	|	| V |	|	|
16+35	0.0262	0.00	Q	|	|	| V |	|	|
16+40	0.0263	0.00	Q	|	|	| V |	|	|
16+45	0.0263	0.00	Q	|	|	| V |	|	|
16+50	0.0263	0.00	Q	|	|	| V |	|	|
16+55	0.0263	0.00	Q	|	|	| V |	|	|
17+ 0	0.0264	0.00	Q	|	|	| V |	|	|
17+ 5	0.0264	0.01	Q	|	|	| V |	|	|
17+10	0.0265	0.01	Q	|	|	| V |	|	|
17+15	0.0265	0.01	Q	|	|	| V |	|	|
17+20	0.0266	0.01	Q	|	|	| V |	|	|
17+25	0.0266	0.01	Q	|	|	| V |	|	|
17+30	0.0267	0.01	Q	|	|	| V |	|	|
17+35	0.0267	0.01	Q	|	|	| V |	|	|
17+40	0.0267	0.01	Q	|	|	| V |	|	|
17+45	0.0268	0.01	Q	|	|	| V |	|	|
17+50	0.0268	0.01	Q	|	|	| V |	|	|

17+55	0.0269	0.01	Q	|	|	|	V |
18+ 0	0.0269	0.01	Q	|	|	|	V |
18+ 5	0.0270	0.01	Q	|	|	|	V |
18+10	0.0270	0.01	Q	|	|	|	V |
18+15	0.0270	0.01	Q	|	|	|	V |
18+20	0.0271	0.01	Q	|	|	|	V |
18+25	0.0271	0.01	Q	|	|	|	V |
18+30	0.0271	0.01	Q	|	|	|	V |
18+35	0.0272	0.00	Q	|	|	|	V |
18+40	0.0272	0.00	Q	|	|	|	V |
18+45	0.0272	0.00	Q	|	|	|	V |
18+50	0.0273	0.00	Q	|	|	|	V |
18+55	0.0273	0.00	Q	|	|	|	V |
19+ 0	0.0273	0.00	Q	|	|	|	V |
19+ 5	0.0273	0.00	Q	|	|	|	V |
19+10	0.0273	0.00	Q	|	|	|	V |
19+15	0.0274	0.00	Q	|	|	|	V |
19+20	0.0274	0.01	Q	|	|	|	V |
19+25	0.0275	0.01	Q	|	|	|	V |
19+30	0.0275	0.01	Q	|	|	|	V |
19+35	0.0275	0.00	Q	|	|	|	V |
19+40	0.0275	0.00	Q	|	|	|	V |
19+45	0.0276	0.00	Q	|	|	|	V |
19+50	0.0276	0.00	Q	|	|	|	V |
19+55	0.0276	0.00	Q	|	|	|	V |
20+ 0	0.0276	0.00	Q	|	|	|	V |
20+ 5	0.0277	0.00	Q	|	|	|	V |
20+10	0.0277	0.00	Q	|	|	|	V |
20+15	0.0277	0.00	Q	|	|	|	V |
20+20	0.0278	0.00	Q	|	|	|	V |
20+25	0.0278	0.00	Q	|	|	|	V |
20+30	0.0278	0.00	Q	|	|	|	V |
20+35	0.0278	0.00	Q	|	|	|	V |
20+40	0.0279	0.00	Q	|	|	|	V |
20+45	0.0279	0.00	Q	|	|	|	V |
20+50	0.0279	0.00	Q	|	|	|	V |
20+55	0.0279	0.00	Q	|	|	|	V |
21+ 0	0.0280	0.00	Q	|	|	|	V |
21+ 5	0.0280	0.00	Q	|	|	|	V |
21+10	0.0280	0.00	Q	|	|	|	V |
21+15	0.0280	0.00	Q	|	|	|	V|
21+20	0.0281	0.00	Q	|	|	|	V|
21+25	0.0281	0.00	Q	|	|	|	V|
21+30	0.0281	0.00	Q	|	|	|	V|
21+35	0.0281	0.00	Q	|	|	|	V|
21+40	0.0282	0.00	Q	|	|	|	V|
21+45	0.0282	0.00	Q	|	|	|	V|
21+50	0.0282	0.00	Q	|	|	|	V|
21+55	0.0282	0.00	Q	|	|	|	V|
22+ 0	0.0282	0.00	Q	|	|	|	V|
22+ 5	0.0283	0.00	Q	|	|	|	V|
22+10	0.0283	0.00	Q	|	|	|	V|
22+15	0.0283	0.00	Q	|	|	|	V|
22+20	0.0283	0.00	Q	|	|	|	V|
22+25	0.0284	0.00	Q	|	|	|	V|
22+30	0.0284	0.00	Q	|	|	|	V|
22+35	0.0284	0.00	Q	|	|	|	V|

22+40	0.0284	0.00	Q				V|
22+45	0.0284	0.00	Q				V|
22+50	0.0285	0.00	Q				V|
22+55	0.0285	0.00	Q				V|
23+ 0	0.0285	0.00	Q				V|
23+ 5	0.0285	0.00	Q				V|
23+10	0.0285	0.00	Q				V|
23+15	0.0286	0.00	Q				V|
23+20	0.0286	0.00	Q				V|
23+25	0.0286	0.00	Q				V|
23+30	0.0286	0.00	Q				V|
23+35	0.0286	0.00	Q				V|
23+40	0.0287	0.00	Q				V|
23+45	0.0287	0.00	Q				V|
23+50	0.0287	0.00	Q				V|
23+55	0.0287	0.00	Q				V|
24+ 0	0.0287	0.00	Q				V|
24+ 5	0.0287	0.00	Q				V|
24+10	0.0287	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 06/03/26 File: 19267e002GH242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	1.66	2.51

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	4.10	6.20

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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	0.013	(0.240)	0.003	0.010
2	0.17	0.07	0.013	(0.240)	0.003	0.010
3	0.25	0.07	0.013	(0.239)	0.003	0.010
4	0.33	0.10	0.020	(0.238)	0.005	0.015
5	0.42	0.10	0.020	(0.237)	0.005	0.015
6	0.50	0.10	0.020	(0.236)	0.005	0.015
7	0.58	0.10	0.020	(0.235)	0.005	0.015
8	0.67	0.10	0.020	(0.234)	0.005	0.015
9	0.75	0.10	0.020	(0.233)	0.005	0.015
10	0.83	0.13	0.027	(0.232)	0.007	0.020

11	0.92	0.13	0.027	(0.231)	0.007	0.020
12	1.00	0.13	0.027	(0.230)	0.007	0.020
13	1.08	0.10	0.020	(0.229)	0.005	0.015
14	1.17	0.10	0.020	(0.229)	0.005	0.015
15	1.25	0.10	0.020	(0.228)	0.005	0.015
16	1.33	0.10	0.020	(0.227)	0.005	0.015
17	1.42	0.10	0.020	(0.226)	0.005	0.015
18	1.50	0.10	0.020	(0.225)	0.005	0.015
19	1.58	0.10	0.020	(0.224)	0.005	0.015
20	1.67	0.10	0.020	(0.223)	0.005	0.015
21	1.75	0.10	0.020	(0.222)	0.005	0.015
22	1.83	0.13	0.027	(0.221)	0.007	0.020
23	1.92	0.13	0.027	(0.220)	0.007	0.020
24	2.00	0.13	0.027	(0.220)	0.007	0.020
25	2.08	0.13	0.027	(0.219)	0.007	0.020
26	2.17	0.13	0.027	(0.218)	0.007	0.020
27	2.25	0.13	0.027	(0.217)	0.007	0.020
28	2.33	0.13	0.027	(0.216)	0.007	0.020
29	2.42	0.13	0.027	(0.215)	0.007	0.020
30	2.50	0.13	0.027	(0.214)	0.007	0.020
31	2.58	0.17	0.033	(0.213)	0.008	0.025
32	2.67	0.17	0.033	(0.213)	0.008	0.025
33	2.75	0.17	0.033	(0.212)	0.008	0.025
34	2.83	0.17	0.033	(0.211)	0.008	0.025
35	2.92	0.17	0.033	(0.210)	0.008	0.025
36	3.00	0.17	0.033	(0.209)	0.008	0.025
37	3.08	0.17	0.033	(0.208)	0.008	0.025
38	3.17	0.17	0.033	(0.207)	0.008	0.025
39	3.25	0.17	0.033	(0.206)	0.008	0.025
40	3.33	0.17	0.033	(0.206)	0.008	0.025
41	3.42	0.17	0.033	(0.205)	0.008	0.025
42	3.50	0.17	0.033	(0.204)	0.008	0.025
43	3.58	0.17	0.033	(0.203)	0.008	0.025
44	3.67	0.17	0.033	(0.202)	0.008	0.025
45	3.75	0.17	0.033	(0.201)	0.008	0.025
46	3.83	0.20	0.040	(0.200)	0.010	0.030
47	3.92	0.20	0.040	(0.200)	0.010	0.030
48	4.00	0.20	0.040	(0.199)	0.010	0.030
49	4.08	0.20	0.040	(0.198)	0.010	0.030
50	4.17	0.20	0.040	(0.197)	0.010	0.030
51	4.25	0.20	0.040	(0.196)	0.010	0.030
52	4.33	0.23	0.046	(0.195)	0.012	0.035
53	4.42	0.23	0.046	(0.195)	0.012	0.035
54	4.50	0.23	0.046	(0.194)	0.012	0.035
55	4.58	0.23	0.046	(0.193)	0.012	0.035
56	4.67	0.23	0.046	(0.192)	0.012	0.035
57	4.75	0.23	0.046	(0.191)	0.012	0.035
58	4.83	0.27	0.053	(0.190)	0.013	0.040
59	4.92	0.27	0.053	(0.190)	0.013	0.040
60	5.00	0.27	0.053	(0.189)	0.013	0.040
61	5.08	0.20	0.040	(0.188)	0.010	0.030
62	5.17	0.20	0.040	(0.187)	0.010	0.030
63	5.25	0.20	0.040	(0.186)	0.010	0.030
64	5.33	0.23	0.046	(0.186)	0.012	0.035
65	5.42	0.23	0.046	(0.185)	0.012	0.035
66	5.50	0.23	0.046	(0.184)	0.012	0.035
67	5.58	0.27	0.053	(0.183)	0.013	0.040

68	5.67	0.27	0.053	(0.182)	0.013	0.040
69	5.75	0.27	0.053	(0.181)	0.013	0.040
70	5.83	0.27	0.053	(0.181)	0.013	0.040
71	5.92	0.27	0.053	(0.180)	0.013	0.040
72	6.00	0.27	0.053	(0.179)	0.013	0.040
73	6.08	0.30	0.060	(0.178)	0.015	0.045
74	6.17	0.30	0.060	(0.177)	0.015	0.045
75	6.25	0.30	0.060	(0.177)	0.015	0.045
76	6.33	0.30	0.060	(0.176)	0.015	0.045
77	6.42	0.30	0.060	(0.175)	0.015	0.045
78	6.50	0.30	0.060	(0.174)	0.015	0.045
79	6.58	0.33	0.066	(0.174)	0.017	0.050
80	6.67	0.33	0.066	(0.173)	0.017	0.050
81	6.75	0.33	0.066	(0.172)	0.017	0.050
82	6.83	0.33	0.066	(0.171)	0.017	0.050
83	6.92	0.33	0.066	(0.170)	0.017	0.050
84	7.00	0.33	0.066	(0.170)	0.017	0.050
85	7.08	0.33	0.066	(0.169)	0.017	0.050
86	7.17	0.33	0.066	(0.168)	0.017	0.050
87	7.25	0.33	0.066	(0.167)	0.017	0.050
88	7.33	0.37	0.073	(0.167)	0.018	0.055
89	7.42	0.37	0.073	(0.166)	0.018	0.055
90	7.50	0.37	0.073	(0.165)	0.018	0.055
91	7.58	0.40	0.080	(0.164)	0.020	0.060
92	7.67	0.40	0.080	(0.164)	0.020	0.060
93	7.75	0.40	0.080	(0.163)	0.020	0.060
94	7.83	0.43	0.086	(0.162)	0.022	0.065
95	7.92	0.43	0.086	(0.161)	0.022	0.065
96	8.00	0.43	0.086	(0.161)	0.022	0.065
97	8.08	0.50	0.100	(0.160)	0.025	0.075
98	8.17	0.50	0.100	(0.159)	0.025	0.075
99	8.25	0.50	0.100	(0.158)	0.025	0.075
100	8.33	0.50	0.100	(0.158)	0.025	0.075
101	8.42	0.50	0.100	(0.157)	0.025	0.075
102	8.50	0.50	0.100	(0.156)	0.025	0.075
103	8.58	0.53	0.106	(0.155)	0.027	0.080
104	8.67	0.53	0.106	(0.155)	0.027	0.080
105	8.75	0.53	0.106	(0.154)	0.027	0.080
106	8.83	0.57	0.113	(0.153)	0.028	0.085
107	8.92	0.57	0.113	(0.152)	0.028	0.085
108	9.00	0.57	0.113	(0.152)	0.028	0.085
109	9.08	0.63	0.126	(0.151)	0.032	0.095
110	9.17	0.63	0.126	(0.150)	0.032	0.095
111	9.25	0.63	0.126	(0.150)	0.032	0.095
112	9.33	0.67	0.133	(0.149)	0.033	0.100
113	9.42	0.67	0.133	(0.148)	0.033	0.100
114	9.50	0.67	0.133	(0.147)	0.033	0.100
115	9.58	0.70	0.139	(0.147)	0.035	0.105
116	9.67	0.70	0.139	(0.146)	0.035	0.105
117	9.75	0.70	0.139	(0.145)	0.035	0.105
118	9.83	0.73	0.146	(0.145)	0.037	0.110
119	9.92	0.73	0.146	(0.144)	0.037	0.110
120	10.00	0.73	0.146	(0.143)	0.037	0.110
121	10.08	0.50	0.100	(0.143)	0.025	0.075
122	10.17	0.50	0.100	(0.142)	0.025	0.075
123	10.25	0.50	0.100	(0.141)	0.025	0.075
124	10.33	0.50	0.100	(0.141)	0.025	0.075

125	10.42	0.50	0.100	(0.140)	0.025	0.075
126	10.50	0.50	0.100	(0.139)	0.025	0.075
127	10.58	0.67	0.133	(0.138)	0.033	0.100
128	10.67	0.67	0.133	(0.138)	0.033	0.100
129	10.75	0.67	0.133	(0.137)	0.033	0.100
130	10.83	0.67	0.133	(0.136)	0.033	0.100
131	10.92	0.67	0.133	(0.136)	0.033	0.100
132	11.00	0.67	0.133	(0.135)	0.033	0.100
133	11.08	0.63	0.126	(0.134)	0.032	0.095
134	11.17	0.63	0.126	(0.134)	0.032	0.095
135	11.25	0.63	0.126	(0.133)	0.032	0.095
136	11.33	0.63	0.126	(0.132)	0.032	0.095
137	11.42	0.63	0.126	(0.132)	0.032	0.095
138	11.50	0.63	0.126	(0.131)	0.032	0.095
139	11.58	0.57	0.113	(0.130)	0.028	0.085
140	11.67	0.57	0.113	(0.130)	0.028	0.085
141	11.75	0.57	0.113	(0.129)	0.028	0.085
142	11.83	0.60	0.120	(0.129)	0.030	0.090
143	11.92	0.60	0.120	(0.128)	0.030	0.090
144	12.00	0.60	0.120	(0.127)	0.030	0.090
145	12.08	0.83	0.166	(0.127)	0.041	0.124
146	12.17	0.83	0.166	(0.126)	0.041	0.124
147	12.25	0.83	0.166	(0.125)	0.041	0.124
148	12.33	0.87	0.173	(0.125)	0.043	0.129
149	12.42	0.87	0.173	(0.124)	0.043	0.129
150	12.50	0.87	0.173	(0.123)	0.043	0.129
151	12.58	0.93	0.186	(0.123)	0.046	0.139
152	12.67	0.93	0.186	(0.122)	0.046	0.139
153	12.75	0.93	0.186	(0.122)	0.046	0.139
154	12.83	0.97	0.193	(0.121)	0.048	0.144
155	12.92	0.97	0.193	(0.120)	0.048	0.144
156	13.00	0.97	0.193	(0.120)	0.048	0.144
157	13.08	1.13	0.226	(0.119)	0.056	0.169
158	13.17	1.13	0.226	(0.119)	0.056	0.169
159	13.25	1.13	0.226	(0.118)	0.056	0.169
160	13.33	1.13	0.226	(0.117)	0.056	0.169
161	13.42	1.13	0.226	(0.117)	0.056	0.169
162	13.50	1.13	0.226	(0.116)	0.056	0.169
163	13.58	0.77	0.153	(0.116)	0.038	0.115
164	13.67	0.77	0.153	(0.115)	0.038	0.115
165	13.75	0.77	0.153	(0.114)	0.038	0.115
166	13.83	0.77	0.153	(0.114)	0.038	0.115
167	13.92	0.77	0.153	(0.113)	0.038	0.115
168	14.00	0.77	0.153	(0.113)	0.038	0.115
169	14.08	0.90	0.179	(0.112)	0.045	0.134
170	14.17	0.90	0.179	(0.112)	0.045	0.134
171	14.25	0.90	0.179	(0.111)	0.045	0.134
172	14.33	0.87	0.173	(0.110)	0.043	0.129
173	14.42	0.87	0.173	(0.110)	0.043	0.129
174	14.50	0.87	0.173	(0.109)	0.043	0.129
175	14.58	0.87	0.173	(0.109)	0.043	0.129
176	14.67	0.87	0.173	(0.108)	0.043	0.129
177	14.75	0.87	0.173	(0.108)	0.043	0.129
178	14.83	0.83	0.166	(0.107)	0.041	0.124
179	14.92	0.83	0.166	(0.107)	0.041	0.124
180	15.00	0.83	0.166	(0.106)	0.041	0.124
181	15.08	0.80	0.159	(0.105)	0.040	0.120

182	15.17	0.80	0.159	(0.105)	0.040	0.120
183	15.25	0.80	0.159	(0.104)	0.040	0.120
184	15.33	0.77	0.153	(0.104)	0.038	0.115
185	15.42	0.77	0.153	(0.103)	0.038	0.115
186	15.50	0.77	0.153	(0.103)	0.038	0.115
187	15.58	0.63	0.126	(0.102)	0.032	0.095
188	15.67	0.63	0.126	(0.102)	0.032	0.095
189	15.75	0.63	0.126	(0.101)	0.032	0.095
190	15.83	0.63	0.126	(0.101)	0.032	0.095
191	15.92	0.63	0.126	(0.100)	0.032	0.095
192	16.00	0.63	0.126	(0.100)	0.032	0.095
193	16.08	0.13	0.027	(0.099)	0.007	0.020
194	16.17	0.13	0.027	(0.099)	0.007	0.020
195	16.25	0.13	0.027	(0.098)	0.007	0.020
196	16.33	0.13	0.027	(0.098)	0.007	0.020
197	16.42	0.13	0.027	(0.097)	0.007	0.020
198	16.50	0.13	0.027	(0.097)	0.007	0.020
199	16.58	0.10	0.020	(0.096)	0.005	0.015
200	16.67	0.10	0.020	(0.096)	0.005	0.015
201	16.75	0.10	0.020	(0.095)	0.005	0.015
202	16.83	0.10	0.020	(0.095)	0.005	0.015
203	16.92	0.10	0.020	(0.094)	0.005	0.015
204	17.00	0.10	0.020	(0.094)	0.005	0.015
205	17.08	0.17	0.033	(0.093)	0.008	0.025
206	17.17	0.17	0.033	(0.093)	0.008	0.025
207	17.25	0.17	0.033	(0.092)	0.008	0.025
208	17.33	0.17	0.033	(0.092)	0.008	0.025
209	17.42	0.17	0.033	(0.091)	0.008	0.025
210	17.50	0.17	0.033	(0.091)	0.008	0.025
211	17.58	0.17	0.033	(0.090)	0.008	0.025
212	17.67	0.17	0.033	(0.090)	0.008	0.025
213	17.75	0.17	0.033	(0.090)	0.008	0.025
214	17.83	0.13	0.027	(0.089)	0.007	0.020
215	17.92	0.13	0.027	(0.089)	0.007	0.020
216	18.00	0.13	0.027	(0.088)	0.007	0.020
217	18.08	0.13	0.027	(0.088)	0.007	0.020
218	18.17	0.13	0.027	(0.087)	0.007	0.020
219	18.25	0.13	0.027	(0.087)	0.007	0.020
220	18.33	0.13	0.027	(0.087)	0.007	0.020
221	18.42	0.13	0.027	(0.086)	0.007	0.020
222	18.50	0.13	0.027	(0.086)	0.007	0.020
223	18.58	0.10	0.020	(0.085)	0.005	0.015
224	18.67	0.10	0.020	(0.085)	0.005	0.015
225	18.75	0.10	0.020	(0.084)	0.005	0.015
226	18.83	0.07	0.013	(0.084)	0.003	0.010
227	18.92	0.07	0.013	(0.084)	0.003	0.010
228	19.00	0.07	0.013	(0.083)	0.003	0.010
229	19.08	0.10	0.020	(0.083)	0.005	0.015
230	19.17	0.10	0.020	(0.082)	0.005	0.015
231	19.25	0.10	0.020	(0.082)	0.005	0.015
232	19.33	0.13	0.027	(0.082)	0.007	0.020
233	19.42	0.13	0.027	(0.081)	0.007	0.020
234	19.50	0.13	0.027	(0.081)	0.007	0.020
235	19.58	0.10	0.020	(0.081)	0.005	0.015
236	19.67	0.10	0.020	(0.080)	0.005	0.015
237	19.75	0.10	0.020	(0.080)	0.005	0.015
238	19.83	0.07	0.013	(0.079)	0.003	0.010

239	19.92	0.07	0.013	(0.079)	0.003	0.010
240	20.00	0.07	0.013	(0.079)	0.003	0.010
241	20.08	0.10	0.020	(0.078)	0.005	0.015
242	20.17	0.10	0.020	(0.078)	0.005	0.015
243	20.25	0.10	0.020	(0.078)	0.005	0.015
244	20.33	0.10	0.020	(0.077)	0.005	0.015
245	20.42	0.10	0.020	(0.077)	0.005	0.015
246	20.50	0.10	0.020	(0.077)	0.005	0.015
247	20.58	0.10	0.020	(0.076)	0.005	0.015
248	20.67	0.10	0.020	(0.076)	0.005	0.015
249	20.75	0.10	0.020	(0.076)	0.005	0.015
250	20.83	0.07	0.013	(0.075)	0.003	0.010
251	20.92	0.07	0.013	(0.075)	0.003	0.010
252	21.00	0.07	0.013	(0.075)	0.003	0.010
253	21.08	0.10	0.020	(0.075)	0.005	0.015
254	21.17	0.10	0.020	(0.074)	0.005	0.015
255	21.25	0.10	0.020	(0.074)	0.005	0.015
256	21.33	0.07	0.013	(0.074)	0.003	0.010
257	21.42	0.07	0.013	(0.073)	0.003	0.010
258	21.50	0.07	0.013	(0.073)	0.003	0.010
259	21.58	0.10	0.020	(0.073)	0.005	0.015
260	21.67	0.10	0.020	(0.073)	0.005	0.015
261	21.75	0.10	0.020	(0.072)	0.005	0.015
262	21.83	0.07	0.013	(0.072)	0.003	0.010
263	21.92	0.07	0.013	(0.072)	0.003	0.010
264	22.00	0.07	0.013	(0.072)	0.003	0.010
265	22.08	0.10	0.020	(0.071)	0.005	0.015
266	22.17	0.10	0.020	(0.071)	0.005	0.015
267	22.25	0.10	0.020	(0.071)	0.005	0.015
268	22.33	0.07	0.013	(0.071)	0.003	0.010
269	22.42	0.07	0.013	(0.070)	0.003	0.010
270	22.50	0.07	0.013	(0.070)	0.003	0.010
271	22.58	0.07	0.013	(0.070)	0.003	0.010
272	22.67	0.07	0.013	(0.070)	0.003	0.010
273	22.75	0.07	0.013	(0.070)	0.003	0.010
274	22.83	0.07	0.013	(0.070)	0.003	0.010
275	22.92	0.07	0.013	(0.069)	0.003	0.010
276	23.00	0.07	0.013	(0.069)	0.003	0.010
277	23.08	0.07	0.013	(0.069)	0.003	0.010
278	23.17	0.07	0.013	(0.069)	0.003	0.010
279	23.25	0.07	0.013	(0.069)	0.003	0.010
280	23.33	0.07	0.013	(0.069)	0.003	0.010
281	23.42	0.07	0.013	(0.068)	0.003	0.010
282	23.50	0.07	0.013	(0.068)	0.003	0.010
283	23.58	0.07	0.013	(0.068)	0.003	0.010
284	23.67	0.07	0.013	(0.068)	0.003	0.010
285	23.75	0.07	0.013	(0.068)	0.003	0.010
286	23.83	0.07	0.013	(0.068)	0.003	0.010
287	23.92	0.07	0.013	(0.068)	0.003	0.010
288	24.00	0.07	0.013	(0.068)	0.003	0.010

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.9

Flood volume = Effective rainfall 1.24(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

Total soil loss = 0.41(In)

Total soil loss = 0.052(Ac.Ft)

Total rainfall = 1.66(In)

Flood volume = 6833.2 Cubic Feet
Total soil loss = 2277.7 Cubic Feet

Peak flow rate of this hydrograph = 0.258(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	0.0001	0.01	Q				
0+10	0.0002	0.01	Q				
0+15	0.0003	0.02	Q				
0+20	0.0004	0.02	Q				
0+25	0.0006	0.02	Q				
0+30	0.0007	0.02	Q				
0+35	0.0009	0.02	Q				
0+40	0.0010	0.02	Q				
0+45	0.0012	0.02	Q				
0+50	0.0014	0.03	Q				
0+55	0.0016	0.03	Q				
1+ 0	0.0018	0.03	Q				
1+ 5	0.0020	0.03	Q				
1+10	0.0021	0.02	Q				
1+15	0.0023	0.02	Q				
1+20	0.0024	0.02	Q				
1+25	0.0026	0.02	Q				
1+30	0.0028	0.02	Q				
1+35	0.0029	0.02	Q				
1+40	0.0031	0.02	Q				
1+45	0.0032	0.02	Q				
1+50	0.0034	0.03	Q				
1+55	0.0036	0.03	Q				
2+ 0	0.0038	0.03	Q				
2+ 5	0.0040	0.03	QV				
2+10	0.0043	0.03	QV				
2+15	0.0045	0.03	QV				
2+20	0.0047	0.03	QV				
2+25	0.0049	0.03	QV				
2+30	0.0051	0.03	QV				
2+35	0.0053	0.04	QV				
2+40	0.0056	0.04	QV				
2+45	0.0058	0.04	QV				
2+50	0.0061	0.04	QV				
2+55	0.0064	0.04	QV				
3+ 0	0.0066	0.04	QV				
3+ 5	0.0069	0.04	QV				
3+10	0.0072	0.04	QV				
3+15	0.0074	0.04	QV				
3+20	0.0077	0.04	QV				
3+25	0.0079	0.04	Q V				
3+30	0.0082	0.04	Q V				
3+35	0.0085	0.04	Q V				

3+40	0.0087	0.04	Q V	|	|	|	|
3+45	0.0090	0.04	Q V	|	|	|	|
3+50	0.0093	0.04	Q V	|	|	|	|
3+55	0.0096	0.05	Q V	|	|	|	|
4+ 0	0.0099	0.05	Q V	|	|	|	|
4+ 5	0.0102	0.05	Q V	|	|	|	|
4+10	0.0105	0.05	Q V	|	|	|	|
4+15	0.0108	0.05	Q V	|	|	|	|
4+20	0.0112	0.05	Q V	|	|	|	|
4+25	0.0116	0.05	Q V	|	|	|	|
4+30	0.0119	0.05	Q V	|	|	|	|
4+35	0.0123	0.05	Q V	|	|	|	|
4+40	0.0127	0.05	Q V	|	|	|	|
4+45	0.0130	0.05	Q V	|	|	|	|
4+50	0.0134	0.06	Q V	|	|	|	|
4+55	0.0138	0.06	Q V	|	|	|	|
5+ 0	0.0143	0.06	Q V	|	|	|	|
5+ 5	0.0146	0.05	Q V	|	|	|	|
5+10	0.0149	0.05	Q V	|	|	|	|
5+15	0.0152	0.05	Q V	|	|	|	|
5+20	0.0156	0.05	Q V	|	|	|	|
5+25	0.0159	0.05	Q V	|	|	|	|
5+30	0.0163	0.05	Q V	|	|	|	|
5+35	0.0167	0.06	Q V	|	|	|	|
5+40	0.0171	0.06	Q V	|	|	|	|
5+45	0.0175	0.06	Q V	|	|	|	|
5+50	0.0180	0.06	Q V	|	|	|	|
5+55	0.0184	0.06	Q V	|	|	|	|
6+ 0	0.0188	0.06	Q V	|	|	|	|
6+ 5	0.0193	0.07	Q V	|	|	|	|
6+10	0.0197	0.07	Q V	|	|	|	|
6+15	0.0202	0.07	Q V	|	|	|	|
6+20	0.0207	0.07	Q V	|	|	|	|
6+25	0.0211	0.07	Q V	|	|	|	|
6+30	0.0216	0.07	Q V	|	|	|	|
6+35	0.0221	0.07	Q V	|	|	|	|
6+40	0.0226	0.08	Q V	|	|	|	|
6+45	0.0232	0.08	Q V	|	|	|	|
6+50	0.0237	0.08	Q V	|	|	|	|
6+55	0.0242	0.08	Q V	|	|	|	|
7+ 0	0.0247	0.08	Q V	|	|	|	|
7+ 5	0.0252	0.08	Q V	|	|	|	|
7+10	0.0258	0.08	Q V	|	|	|	|
7+15	0.0263	0.08	Q V	|	|	|	|
7+20	0.0268	0.08	Q V	|	|	|	|
7+25	0.0274	0.08	Q V	|	|	|	|
7+30	0.0280	0.08	Q V	|	|	|	|
7+35	0.0286	0.09	Q V	|	|	|	|
7+40	0.0292	0.09	Q V	|	|	|	|
7+45	0.0299	0.09	Q V	|	|	|	|
7+50	0.0305	0.10	Q V	|	|	|	|
7+55	0.0312	0.10	Q V	|	|	|	|
8+ 0	0.0319	0.10	Q V	|	|	|	|
8+ 5	0.0326	0.11	Q V	|	|	|	|
8+10	0.0334	0.11	Q V	|	|	|	|
8+15	0.0342	0.11	Q V	|	|	|	|
8+20	0.0350	0.11	Q V	|	|	|	|

8+25	0.0357	0.11	Q	V|	|	|	|
8+30	0.0365	0.11	Q	V|	|	|	|
8+35	0.0373	0.12	Q	V|	|	|	|
8+40	0.0382	0.12	Q	V|	|	|	|
8+45	0.0390	0.12	Q	V|	|	|	|
8+50	0.0399	0.13	Q	V	|	|	|
8+55	0.0408	0.13	Q	V	|	|	|
9+ 0	0.0417	0.13	Q	V	|	|	|
9+ 5	0.0426	0.14	Q	V	|	|	|
9+10	0.0436	0.14	Q	|V	|	|	|
9+15	0.0446	0.14	Q	|V	|	|	|
9+20	0.0456	0.15	Q	|V	|	|	|
9+25	0.0467	0.15	Q	|V	|	|	|
9+30	0.0477	0.15	Q	| V	|	|	|
9+35	0.0488	0.16	Q	| V	|	|	|
9+40	0.0499	0.16	Q	| V	|	|	|
9+45	0.0510	0.16	Q	| V	|	|	|
9+50	0.0521	0.16	Q	| V	|	|	|
9+55	0.0533	0.17	Q	| V	|	|	|
10+ 0	0.0544	0.17	Q	| V	|	|	|
10+ 5	0.0553	0.13	Q	| V	|	|	|
10+10	0.0561	0.12	Q	| V	|	|	|
10+15	0.0569	0.11	Q	| V	|	|	|
10+20	0.0577	0.11	Q	| V	|	|	|
10+25	0.0585	0.11	Q	| V	|	|	|
10+30	0.0593	0.11	Q	| V	|	|	|
10+35	0.0602	0.14	Q	| V	|	|	|
10+40	0.0613	0.15	Q	| V	|	|	|
10+45	0.0623	0.15	Q	| V	|	|	|
10+50	0.0633	0.15	Q	| V	|	|	|
10+55	0.0644	0.15	Q	| V	|	|	|
11+ 0	0.0654	0.15	Q	| V	|	|	|
11+ 5	0.0665	0.15	Q	| V	|	|	|
11+10	0.0674	0.14	Q	| V	|	|	|
11+15	0.0684	0.14	Q	| V	|	|	|
11+20	0.0694	0.14	Q	| V	|	|	|
11+25	0.0704	0.14	Q	| V	|	|	|
11+30	0.0714	0.14	Q	| V	|	|	|
11+35	0.0724	0.13	Q	| V	|	|	|
11+40	0.0732	0.13	Q	| V	|	|	|
11+45	0.0741	0.13	Q	| V	|	|	|
11+50	0.0751	0.13	Q	| V	|	|	|
11+55	0.0760	0.14	Q	| V	|	|	|
12+ 0	0.0769	0.14	Q	| V	|	|	|
12+ 5	0.0781	0.17	Q	| V	|	|	|
12+10	0.0794	0.19	Q	| V	|	|	|
12+15	0.0807	0.19	Q	| V	|	|	|
12+20	0.0820	0.19	Q	| V	|	|	|
12+25	0.0834	0.20	Q	| V	|	|	|
12+30	0.0848	0.20	Q	| V	|	|	|
12+35	0.0862	0.21	Q	| V	|	|	|
12+40	0.0876	0.21	Q	| V	|	|	|
12+45	0.0891	0.21	Q	| V	|	|	|
12+50	0.0906	0.22	Q	| V	|	|	|
12+55	0.0921	0.22	Q	| V	|	|	|
13+ 0	0.0936	0.22	Q	| V	|	|	|
13+ 5	0.0953	0.24	Q	| V	|	|	|

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13+10       0.0971      0.26  |Q        |          |   V     |          |
13+15       0.0989      0.26  |Q        |          |    V    |          |
13+20       0.1006      0.26  |Q        |          |    V    |          |
13+25       0.1024      0.26  |Q        |          |     V   |          |
13+30       0.1042      0.26  |Q        |          |     V   |          |
13+35       0.1056      0.21  Q         |          |     V   |          |
13+40       0.1068      0.18  Q         |          |      V  |          |
13+45       0.1080      0.17  Q         |          |      V  |          |
13+50       0.1092      0.17  Q         |          |      V  |          |
13+55       0.1104      0.17  Q         |          |       V |          |
14+ 0       0.1116      0.17  Q         |          |       V |          |
14+ 5       0.1130      0.19  Q         |          |       V |          |
14+10       0.1144      0.20  Q         |          |        V|          |
14+15       0.1158      0.20  Q         |          |        V|          |
14+20       0.1172      0.20  Q         |          |        V|          |
14+25       0.1185      0.20  Q         |          |         V          |
14+30       0.1199      0.20  Q         |          |         V          |
14+35       0.1213      0.20  Q         |          |         V          |
14+40       0.1226      0.20  Q         |          |          |V        |
14+45       0.1240      0.20  Q         |          |          |V        |
14+50       0.1253      0.19  Q         |          |          |V        |
14+55       0.1266      0.19  Q         |          |          | V       |
15+ 0       0.1279      0.19  Q         |          |          | V       |
15+ 5       0.1292      0.19  Q         |          |          | V       |
15+10       0.1305      0.18  Q         |          |          |  V      |
15+15       0.1317      0.18  Q         |          |          |  V      |
15+20       0.1329      0.18  Q         |          |          |  V      |
15+25       0.1341      0.17  Q         |          |          |   V     |
15+30       0.1353      0.17  Q         |          |          |   V     |
15+35       0.1364      0.16  Q         |          |          |   V     |
15+40       0.1374      0.15  Q         |          |          |    V    |
15+45       0.1384      0.14  Q         |          |          |    V    |
15+50       0.1394      0.14  Q         |          |          |    V    |
15+55       0.1404      0.14  Q         |          |          |    V    |
16+ 0       0.1414      0.14  Q         |          |          |     V   |
16+ 5       0.1419      0.07  Q         |          |          |     V   |
16+10       0.1421      0.04  Q         |          |          |     V   |
16+15       0.1423      0.03  Q         |          |          |     V   |
16+20       0.1426      0.03  Q         |          |          |     V   |
16+25       0.1428      0.03  Q         |          |          |     V   |
16+30       0.1430      0.03  Q         |          |          |     V   |
16+35       0.1432      0.03  Q         |          |          |     V   |
16+40       0.1433      0.02  Q         |          |          |     V   |
16+45       0.1435      0.02  Q         |          |          |     V   |
16+50       0.1436      0.02  Q         |          |          |     V   |
16+55       0.1438      0.02  Q         |          |          |     V   |
17+ 0       0.1439      0.02  Q         |          |          |     V   |
17+ 5       0.1442      0.03  Q         |          |          |     V   |
17+10       0.1444      0.04  Q         |          |          |     V   |
17+15       0.1447      0.04  Q         |          |          |     V   |
17+20       0.1449      0.04  Q         |          |          |     V   |
17+25       0.1452      0.04  Q         |          |          |      V  |
17+30       0.1455      0.04  Q         |          |          |      V  |
17+35       0.1457      0.04  Q         |          |          |      V  |
17+40       0.1460      0.04  Q         |          |          |      V  |
17+45       0.1462      0.04  Q         |          |          |      V  |
17+50       0.1465      0.03  Q         |          |          |      V  |
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17+55	0.1467	0.03	Q	|	|	|	V |
18+ 0	0.1469	0.03	Q	|	|	|	V |
18+ 5	0.1471	0.03	Q	|	|	|	V |
18+10	0.1473	0.03	Q	|	|	|	V |
18+15	0.1475	0.03	Q	|	|	|	V |
18+20	0.1477	0.03	Q	|	|	|	V |
18+25	0.1479	0.03	Q	|	|	|	V |
18+30	0.1482	0.03	Q	|	|	|	V |
18+35	0.1483	0.03	Q	|	|	|	V |
18+40	0.1485	0.02	Q	|	|	|	V |
18+45	0.1486	0.02	Q	|	|	|	V |
18+50	0.1488	0.02	Q	|	|	|	V |
18+55	0.1489	0.02	Q	|	|	|	V |
19+ 0	0.1490	0.02	Q	|	|	|	V |
19+ 5	0.1491	0.02	Q	|	|	|	V |
19+10	0.1493	0.02	Q	|	|	|	V |
19+15	0.1494	0.02	Q	|	|	|	V |
19+20	0.1496	0.03	Q	|	|	|	V |
19+25	0.1498	0.03	Q	|	|	|	V |
19+30	0.1500	0.03	Q	|	|	|	V |
19+35	0.1502	0.03	Q	|	|	|	V |
19+40	0.1504	0.02	Q	|	|	|	V |
19+45	0.1505	0.02	Q	|	|	|	V |
19+50	0.1507	0.02	Q	|	|	|	V |
19+55	0.1508	0.02	Q	|	|	|	V |
20+ 0	0.1509	0.02	Q	|	|	|	V |
20+ 5	0.1510	0.02	Q	|	|	|	V |
20+10	0.1512	0.02	Q	|	|	|	V |
20+15	0.1513	0.02	Q	|	|	|	V |
20+20	0.1515	0.02	Q	|	|	|	V |
20+25	0.1516	0.02	Q	|	|	|	V |
20+30	0.1518	0.02	Q	|	|	|	V |
20+35	0.1519	0.02	Q	|	|	|	V |
20+40	0.1521	0.02	Q	|	|	|	V |
20+45	0.1523	0.02	Q	|	|	|	V |
20+50	0.1524	0.02	Q	|	|	|	V |
20+55	0.1525	0.02	Q	|	|	|	V |
21+ 0	0.1526	0.02	Q	|	|	|	V |
21+ 5	0.1527	0.02	Q	|	|	|	V |
21+10	0.1529	0.02	Q	|	|	|	V |
21+15	0.1530	0.02	Q	|	|	|	V|
21+20	0.1532	0.02	Q	|	|	|	V|
21+25	0.1533	0.02	Q	|	|	|	V|
21+30	0.1534	0.02	Q	|	|	|	V|
21+35	0.1535	0.02	Q	|	|	|	V|
21+40	0.1537	0.02	Q	|	|	|	V|
21+45	0.1538	0.02	Q	|	|	|	V|
21+50	0.1539	0.02	Q	|	|	|	V|
21+55	0.1541	0.02	Q	|	|	|	V|
22+ 0	0.1542	0.02	Q	|	|	|	V|
22+ 5	0.1543	0.02	Q	|	|	|	V|
22+10	0.1544	0.02	Q	|	|	|	V|
22+15	0.1546	0.02	Q	|	|	|	V|
22+20	0.1547	0.02	Q	|	|	|	V|
22+25	0.1548	0.02	Q	|	|	|	V|
22+30	0.1549	0.02	Q	|	|	|	V|
22+35	0.1550	0.02	Q	|	|	|	V|

22+40	0.1552	0.02	Q	|	|	|	V|
22+45	0.1553	0.02	Q	|	|	|	V|
22+50	0.1554	0.02	Q	|	|	|	V|
22+55	0.1555	0.02	Q	|	|	|	V|
23+ 0	0.1556	0.02	Q	|	|	|	V|
23+ 5	0.1557	0.02	Q	|	|	|	V|
23+10	0.1558	0.02	Q	|	|	|	V|
23+15	0.1559	0.02	Q	|	|	|	V|
23+20	0.1560	0.02	Q	|	|	|	V|
23+25	0.1561	0.02	Q	|	|	|	V|
23+30	0.1562	0.02	Q	|	|	|	V|
23+35	0.1563	0.02	Q	|	|	|	V|
23+40	0.1564	0.02	Q	|	|	|	V|
23+45	0.1565	0.02	Q	|	|	|	V|
23+50	0.1566	0.02	Q	|	|	|	V|
23+55	0.1567	0.02	Q	|	|	|	V|
24+ 0	0.1568	0.02	Q	|	|	|	V|
24+ 5	0.1569	0.01	Q	|	|	|	V|
24+10	0.1569	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 06/03/26 File: 19267e002I242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	1.66	1.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.80	4.10	3.26

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.795	75.00	0.970

Total Area Entered = 0.80(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.970	0.064	1.000	0.064
					Sum (F) =	0.064

Area averaged mean soil loss (F) (In/Hr) = 0.064
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.120

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	713.013	78.934	0.632
2	0.167	1426.025	21.066	0.169
		Sum = 100.000	Sum=	0.801

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	0.013	(0.113)	0.002	0.012
2	0.17	0.07	0.013	(0.112)	0.002	0.012
3	0.25	0.07	0.013	(0.112)	0.002	0.012
4	0.33	0.10	0.020	(0.111)	0.002	0.018
5	0.42	0.10	0.020	(0.111)	0.002	0.018
6	0.50	0.10	0.020	(0.111)	0.002	0.018
7	0.58	0.10	0.020	(0.110)	0.002	0.018
8	0.67	0.10	0.020	(0.110)	0.002	0.018
9	0.75	0.10	0.020	(0.109)	0.002	0.018
10	0.83	0.13	0.027	(0.109)	0.003	0.023
11	0.92	0.13	0.027	(0.108)	0.003	0.023

12	1.00	0.13	0.027	(0.108)	0.003	0.023
13	1.08	0.10	0.020	(0.108)	0.002	0.018
14	1.17	0.10	0.020	(0.107)	0.002	0.018
15	1.25	0.10	0.020	(0.107)	0.002	0.018
16	1.33	0.10	0.020	(0.106)	0.002	0.018
17	1.42	0.10	0.020	(0.106)	0.002	0.018
18	1.50	0.10	0.020	(0.105)	0.002	0.018
19	1.58	0.10	0.020	(0.105)	0.002	0.018
20	1.67	0.10	0.020	(0.105)	0.002	0.018
21	1.75	0.10	0.020	(0.104)	0.002	0.018
22	1.83	0.13	0.027	(0.104)	0.003	0.023
23	1.92	0.13	0.027	(0.103)	0.003	0.023
24	2.00	0.13	0.027	(0.103)	0.003	0.023
25	2.08	0.13	0.027	(0.102)	0.003	0.023
26	2.17	0.13	0.027	(0.102)	0.003	0.023
27	2.25	0.13	0.027	(0.102)	0.003	0.023
28	2.33	0.13	0.027	(0.101)	0.003	0.023
29	2.42	0.13	0.027	(0.101)	0.003	0.023
30	2.50	0.13	0.027	(0.100)	0.003	0.023
31	2.58	0.17	0.033	(0.100)	0.004	0.029
32	2.67	0.17	0.033	(0.100)	0.004	0.029
33	2.75	0.17	0.033	(0.099)	0.004	0.029
34	2.83	0.17	0.033	(0.099)	0.004	0.029
35	2.92	0.17	0.033	(0.098)	0.004	0.029
36	3.00	0.17	0.033	(0.098)	0.004	0.029
37	3.08	0.17	0.033	(0.098)	0.004	0.029
38	3.17	0.17	0.033	(0.097)	0.004	0.029
39	3.25	0.17	0.033	(0.097)	0.004	0.029
40	3.33	0.17	0.033	(0.096)	0.004	0.029
41	3.42	0.17	0.033	(0.096)	0.004	0.029
42	3.50	0.17	0.033	(0.096)	0.004	0.029
43	3.58	0.17	0.033	(0.095)	0.004	0.029
44	3.67	0.17	0.033	(0.095)	0.004	0.029
45	3.75	0.17	0.033	(0.094)	0.004	0.029
46	3.83	0.20	0.040	(0.094)	0.005	0.035
47	3.92	0.20	0.040	(0.094)	0.005	0.035
48	4.00	0.20	0.040	(0.093)	0.005	0.035
49	4.08	0.20	0.040	(0.093)	0.005	0.035
50	4.17	0.20	0.040	(0.092)	0.005	0.035
51	4.25	0.20	0.040	(0.092)	0.005	0.035
52	4.33	0.23	0.046	(0.092)	0.006	0.041
53	4.42	0.23	0.046	(0.091)	0.006	0.041
54	4.50	0.23	0.046	(0.091)	0.006	0.041
55	4.58	0.23	0.046	(0.090)	0.006	0.041
56	4.67	0.23	0.046	(0.090)	0.006	0.041
57	4.75	0.23	0.046	(0.090)	0.006	0.041
58	4.83	0.27	0.053	(0.089)	0.006	0.047
59	4.92	0.27	0.053	(0.089)	0.006	0.047
60	5.00	0.27	0.053	(0.088)	0.006	0.047
61	5.08	0.20	0.040	(0.088)	0.005	0.035
62	5.17	0.20	0.040	(0.088)	0.005	0.035
63	5.25	0.20	0.040	(0.087)	0.005	0.035
64	5.33	0.23	0.046	(0.087)	0.006	0.041
65	5.42	0.23	0.046	(0.087)	0.006	0.041
66	5.50	0.23	0.046	(0.086)	0.006	0.041
67	5.58	0.27	0.053	(0.086)	0.006	0.047
68	5.67	0.27	0.053	(0.085)	0.006	0.047

69	5.75	0.27	0.053	(0.085)	0.006	0.047
70	5.83	0.27	0.053	(0.085)	0.006	0.047
71	5.92	0.27	0.053	(0.084)	0.006	0.047
72	6.00	0.27	0.053	(0.084)	0.006	0.047
73	6.08	0.30	0.060	(0.084)	0.007	0.053
74	6.17	0.30	0.060	(0.083)	0.007	0.053
75	6.25	0.30	0.060	(0.083)	0.007	0.053
76	6.33	0.30	0.060	(0.082)	0.007	0.053
77	6.42	0.30	0.060	(0.082)	0.007	0.053
78	6.50	0.30	0.060	(0.082)	0.007	0.053
79	6.58	0.33	0.066	(0.081)	0.008	0.058
80	6.67	0.33	0.066	(0.081)	0.008	0.058
81	6.75	0.33	0.066	(0.081)	0.008	0.058
82	6.83	0.33	0.066	(0.080)	0.008	0.058
83	6.92	0.33	0.066	(0.080)	0.008	0.058
84	7.00	0.33	0.066	(0.080)	0.008	0.058
85	7.08	0.33	0.066	(0.079)	0.008	0.058
86	7.17	0.33	0.066	(0.079)	0.008	0.058
87	7.25	0.33	0.066	(0.078)	0.008	0.058
88	7.33	0.37	0.073	(0.078)	0.009	0.064
89	7.42	0.37	0.073	(0.078)	0.009	0.064
90	7.50	0.37	0.073	(0.077)	0.009	0.064
91	7.58	0.40	0.080	(0.077)	0.010	0.070
92	7.67	0.40	0.080	(0.077)	0.010	0.070
93	7.75	0.40	0.080	(0.076)	0.010	0.070
94	7.83	0.43	0.086	(0.076)	0.010	0.076
95	7.92	0.43	0.086	(0.076)	0.010	0.076
96	8.00	0.43	0.086	(0.075)	0.010	0.076
97	8.08	0.50	0.100	(0.075)	0.012	0.088
98	8.17	0.50	0.100	(0.075)	0.012	0.088
99	8.25	0.50	0.100	(0.074)	0.012	0.088
100	8.33	0.50	0.100	(0.074)	0.012	0.088
101	8.42	0.50	0.100	(0.074)	0.012	0.088
102	8.50	0.50	0.100	(0.073)	0.012	0.088
103	8.58	0.53	0.106	(0.073)	0.013	0.093
104	8.67	0.53	0.106	(0.072)	0.013	0.093
105	8.75	0.53	0.106	(0.072)	0.013	0.093
106	8.83	0.57	0.113	(0.072)	0.014	0.099
107	8.92	0.57	0.113	(0.071)	0.014	0.099
108	9.00	0.57	0.113	(0.071)	0.014	0.099
109	9.08	0.63	0.126	(0.071)	0.015	0.111
110	9.17	0.63	0.126	(0.070)	0.015	0.111
111	9.25	0.63	0.126	(0.070)	0.015	0.111
112	9.33	0.67	0.133	(0.070)	0.016	0.117
113	9.42	0.67	0.133	(0.069)	0.016	0.117
114	9.50	0.67	0.133	(0.069)	0.016	0.117
115	9.58	0.70	0.139	(0.069)	0.017	0.123
116	9.67	0.70	0.139	(0.068)	0.017	0.123
117	9.75	0.70	0.139	(0.068)	0.017	0.123
118	9.83	0.73	0.146	(0.068)	0.018	0.129
119	9.92	0.73	0.146	(0.067)	0.018	0.129
120	10.00	0.73	0.146	(0.067)	0.018	0.129
121	10.08	0.50	0.100	(0.067)	0.012	0.088
122	10.17	0.50	0.100	(0.066)	0.012	0.088
123	10.25	0.50	0.100	(0.066)	0.012	0.088
124	10.33	0.50	0.100	(0.066)	0.012	0.088
125	10.42	0.50	0.100	(0.066)	0.012	0.088

126	10.50	0.50	0.100	(0.065)	0.012	0.088
127	10.58	0.67	0.133	(0.065)	0.016	0.117
128	10.67	0.67	0.133	(0.065)	0.016	0.117
129	10.75	0.67	0.133	(0.064)	0.016	0.117
130	10.83	0.67	0.133	(0.064)	0.016	0.117
131	10.92	0.67	0.133	(0.064)	0.016	0.117
132	11.00	0.67	0.133	(0.063)	0.016	0.117
133	11.08	0.63	0.126	(0.063)	0.015	0.111
134	11.17	0.63	0.126	(0.063)	0.015	0.111
135	11.25	0.63	0.126	(0.062)	0.015	0.111
136	11.33	0.63	0.126	(0.062)	0.015	0.111
137	11.42	0.63	0.126	(0.062)	0.015	0.111
138	11.50	0.63	0.126	(0.061)	0.015	0.111
139	11.58	0.57	0.113	(0.061)	0.014	0.099
140	11.67	0.57	0.113	(0.061)	0.014	0.099
141	11.75	0.57	0.113	(0.061)	0.014	0.099
142	11.83	0.60	0.120	(0.060)	0.014	0.105
143	11.92	0.60	0.120	(0.060)	0.014	0.105
144	12.00	0.60	0.120	(0.060)	0.014	0.105
145	12.08	0.83	0.166	(0.059)	0.020	0.146
146	12.17	0.83	0.166	(0.059)	0.020	0.146
147	12.25	0.83	0.166	(0.059)	0.020	0.146
148	12.33	0.87	0.173	(0.058)	0.021	0.152
149	12.42	0.87	0.173	(0.058)	0.021	0.152
150	12.50	0.87	0.173	(0.058)	0.021	0.152
151	12.58	0.93	0.186	(0.058)	0.022	0.164
152	12.67	0.93	0.186	(0.057)	0.022	0.164
153	12.75	0.93	0.186	(0.057)	0.022	0.164
154	12.83	0.97	0.193	(0.057)	0.023	0.169
155	12.92	0.97	0.193	(0.056)	0.023	0.169
156	13.00	0.97	0.193	(0.056)	0.023	0.169
157	13.08	1.13	0.226	(0.056)	0.027	0.199
158	13.17	1.13	0.226	(0.056)	0.027	0.199
159	13.25	1.13	0.226	(0.055)	0.027	0.199
160	13.33	1.13	0.226	(0.055)	0.027	0.199
161	13.42	1.13	0.226	(0.055)	0.027	0.199
162	13.50	1.13	0.226	(0.054)	0.027	0.199
163	13.58	0.77	0.153	(0.054)	0.018	0.134
164	13.67	0.77	0.153	(0.054)	0.018	0.134
165	13.75	0.77	0.153	(0.054)	0.018	0.134
166	13.83	0.77	0.153	(0.053)	0.018	0.134
167	13.92	0.77	0.153	(0.053)	0.018	0.134
168	14.00	0.77	0.153	(0.053)	0.018	0.134
169	14.08	0.90	0.179	(0.053)	0.022	0.158
170	14.17	0.90	0.179	(0.052)	0.022	0.158
171	14.25	0.90	0.179	(0.052)	0.022	0.158
172	14.33	0.87	0.173	(0.052)	0.021	0.152
173	14.42	0.87	0.173	(0.051)	0.021	0.152
174	14.50	0.87	0.173	(0.051)	0.021	0.152
175	14.58	0.87	0.173	(0.051)	0.021	0.152
176	14.67	0.87	0.173	(0.051)	0.021	0.152
177	14.75	0.87	0.173	(0.050)	0.021	0.152
178	14.83	0.83	0.166	(0.050)	0.020	0.146
179	14.92	0.83	0.166	(0.050)	0.020	0.146
180	15.00	0.83	0.166	(0.050)	0.020	0.146
181	15.08	0.80	0.159	(0.049)	0.019	0.140
182	15.17	0.80	0.159	(0.049)	0.019	0.140

183	15.25	0.80	0.159	(0.049)	0.019	0.140
184	15.33	0.77	0.153	(0.049)	0.018	0.134
185	15.42	0.77	0.153	(0.048)	0.018	0.134
186	15.50	0.77	0.153	(0.048)	0.018	0.134
187	15.58	0.63	0.126	(0.048)	0.015	0.111
188	15.67	0.63	0.126	(0.048)	0.015	0.111
189	15.75	0.63	0.126	(0.047)	0.015	0.111
190	15.83	0.63	0.126	(0.047)	0.015	0.111
191	15.92	0.63	0.126	(0.047)	0.015	0.111
192	16.00	0.63	0.126	(0.047)	0.015	0.111
193	16.08	0.13	0.027	(0.046)	0.003	0.023
194	16.17	0.13	0.027	(0.046)	0.003	0.023
195	16.25	0.13	0.027	(0.046)	0.003	0.023
196	16.33	0.13	0.027	(0.046)	0.003	0.023
197	16.42	0.13	0.027	(0.046)	0.003	0.023
198	16.50	0.13	0.027	(0.045)	0.003	0.023
199	16.58	0.10	0.020	(0.045)	0.002	0.018
200	16.67	0.10	0.020	(0.045)	0.002	0.018
201	16.75	0.10	0.020	(0.045)	0.002	0.018
202	16.83	0.10	0.020	(0.044)	0.002	0.018
203	16.92	0.10	0.020	(0.044)	0.002	0.018
204	17.00	0.10	0.020	(0.044)	0.002	0.018
205	17.08	0.17	0.033	(0.044)	0.004	0.029
206	17.17	0.17	0.033	(0.043)	0.004	0.029
207	17.25	0.17	0.033	(0.043)	0.004	0.029
208	17.33	0.17	0.033	(0.043)	0.004	0.029
209	17.42	0.17	0.033	(0.043)	0.004	0.029
210	17.50	0.17	0.033	(0.043)	0.004	0.029
211	17.58	0.17	0.033	(0.042)	0.004	0.029
212	17.67	0.17	0.033	(0.042)	0.004	0.029
213	17.75	0.17	0.033	(0.042)	0.004	0.029
214	17.83	0.13	0.027	(0.042)	0.003	0.023
215	17.92	0.13	0.027	(0.042)	0.003	0.023
216	18.00	0.13	0.027	(0.041)	0.003	0.023
217	18.08	0.13	0.027	(0.041)	0.003	0.023
218	18.17	0.13	0.027	(0.041)	0.003	0.023
219	18.25	0.13	0.027	(0.041)	0.003	0.023
220	18.33	0.13	0.027	(0.041)	0.003	0.023
221	18.42	0.13	0.027	(0.040)	0.003	0.023
222	18.50	0.13	0.027	(0.040)	0.003	0.023
223	18.58	0.10	0.020	(0.040)	0.002	0.018
224	18.67	0.10	0.020	(0.040)	0.002	0.018
225	18.75	0.10	0.020	(0.040)	0.002	0.018
226	18.83	0.07	0.013	(0.039)	0.002	0.012
227	18.92	0.07	0.013	(0.039)	0.002	0.012
228	19.00	0.07	0.013	(0.039)	0.002	0.012
229	19.08	0.10	0.020	(0.039)	0.002	0.018
230	19.17	0.10	0.020	(0.039)	0.002	0.018
231	19.25	0.10	0.020	(0.038)	0.002	0.018
232	19.33	0.13	0.027	(0.038)	0.003	0.023
233	19.42	0.13	0.027	(0.038)	0.003	0.023
234	19.50	0.13	0.027	(0.038)	0.003	0.023
235	19.58	0.10	0.020	(0.038)	0.002	0.018
236	19.67	0.10	0.020	(0.038)	0.002	0.018
237	19.75	0.10	0.020	(0.037)	0.002	0.018
238	19.83	0.07	0.013	(0.037)	0.002	0.012
239	19.92	0.07	0.013	(0.037)	0.002	0.012

240	20.00	0.07	0.013	(0.037)	0.002	0.012
241	20.08	0.10	0.020	(0.037)	0.002	0.018
242	20.17	0.10	0.020	(0.037)	0.002	0.018
243	20.25	0.10	0.020	(0.036)	0.002	0.018
244	20.33	0.10	0.020	(0.036)	0.002	0.018
245	20.42	0.10	0.020	(0.036)	0.002	0.018
246	20.50	0.10	0.020	(0.036)	0.002	0.018
247	20.58	0.10	0.020	(0.036)	0.002	0.018
248	20.67	0.10	0.020	(0.036)	0.002	0.018
249	20.75	0.10	0.020	(0.036)	0.002	0.018
250	20.83	0.07	0.013	(0.035)	0.002	0.012
251	20.92	0.07	0.013	(0.035)	0.002	0.012
252	21.00	0.07	0.013	(0.035)	0.002	0.012
253	21.08	0.10	0.020	(0.035)	0.002	0.018
254	21.17	0.10	0.020	(0.035)	0.002	0.018
255	21.25	0.10	0.020	(0.035)	0.002	0.018
256	21.33	0.07	0.013	(0.035)	0.002	0.012
257	21.42	0.07	0.013	(0.034)	0.002	0.012
258	21.50	0.07	0.013	(0.034)	0.002	0.012
259	21.58	0.10	0.020	(0.034)	0.002	0.018
260	21.67	0.10	0.020	(0.034)	0.002	0.018
261	21.75	0.10	0.020	(0.034)	0.002	0.018
262	21.83	0.07	0.013	(0.034)	0.002	0.012
263	21.92	0.07	0.013	(0.034)	0.002	0.012
264	22.00	0.07	0.013	(0.034)	0.002	0.012
265	22.08	0.10	0.020	(0.033)	0.002	0.018
266	22.17	0.10	0.020	(0.033)	0.002	0.018
267	22.25	0.10	0.020	(0.033)	0.002	0.018
268	22.33	0.07	0.013	(0.033)	0.002	0.012
269	22.42	0.07	0.013	(0.033)	0.002	0.012
270	22.50	0.07	0.013	(0.033)	0.002	0.012
271	22.58	0.07	0.013	(0.033)	0.002	0.012
272	22.67	0.07	0.013	(0.033)	0.002	0.012
273	22.75	0.07	0.013	(0.033)	0.002	0.012
274	22.83	0.07	0.013	(0.033)	0.002	0.012
275	22.92	0.07	0.013	(0.032)	0.002	0.012
276	23.00	0.07	0.013	(0.032)	0.002	0.012
277	23.08	0.07	0.013	(0.032)	0.002	0.012
278	23.17	0.07	0.013	(0.032)	0.002	0.012
279	23.25	0.07	0.013	(0.032)	0.002	0.012
280	23.33	0.07	0.013	(0.032)	0.002	0.012
281	23.42	0.07	0.013	(0.032)	0.002	0.012
282	23.50	0.07	0.013	(0.032)	0.002	0.012
283	23.58	0.07	0.013	(0.032)	0.002	0.012
284	23.67	0.07	0.013	(0.032)	0.002	0.012
285	23.75	0.07	0.013	(0.032)	0.002	0.012
286	23.83	0.07	0.013	(0.032)	0.002	0.012
287	23.92	0.07	0.013	(0.032)	0.002	0.012
288	24.00	0.07	0.013	(0.032)	0.002	0.012

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.5

Flood volume = Effective rainfall 1.46(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.20(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 4215.6 Cubic Feet

Total soil loss = 574.9 Cubic Feet

Peak flow rate of this hydrograph = 0.159(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	0.0001	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0003	0.01	Q				
0+25	0.0004	0.01	Q				
0+30	0.0005	0.01	Q				
0+35	0.0006	0.01	Q				
0+40	0.0007	0.01	Q				
0+45	0.0008	0.01	Q				
0+50	0.0009	0.02	Q				
0+55	0.0010	0.02	Q				
1+ 0	0.0011	0.02	Q				
1+ 5	0.0012	0.02	Q				
1+10	0.0013	0.01	Q				
1+15	0.0014	0.01	Q				
1+20	0.0015	0.01	Q				
1+25	0.0016	0.01	Q				
1+30	0.0017	0.01	Q				
1+35	0.0018	0.01	Q				
1+40	0.0019	0.01	Q				
1+45	0.0020	0.01	Q				
1+50	0.0021	0.02	Q				
1+55	0.0023	0.02	Q				
2+ 0	0.0024	0.02	Q				
2+ 5	0.0025	0.02	QV				
2+10	0.0027	0.02	QV				
2+15	0.0028	0.02	QV				
2+20	0.0029	0.02	QV				
2+25	0.0030	0.02	QV				
2+30	0.0032	0.02	QV				
2+35	0.0033	0.02	QV				
2+40	0.0035	0.02	QV				
2+45	0.0036	0.02	QV				
2+50	0.0038	0.02	QV				
2+55	0.0040	0.02	QV				
3+ 0	0.0041	0.02	QV				
3+ 5	0.0043	0.02	QV				
3+10	0.0045	0.02	QV				
3+15	0.0046	0.02	QV				
3+20	0.0048	0.02	QV				
3+25	0.0049	0.02	Q V				
3+30	0.0051	0.02	Q V				
3+35	0.0053	0.02	Q V				
3+40	0.0054	0.02	Q V				

3+45	0.0056	0.02	Q V	|	|	|	|
3+50	0.0058	0.03	Q V	|	|	|	|
3+55	0.0060	0.03	Q V	|	|	|	|
4+ 0	0.0062	0.03	Q V	|	|	|	|
4+ 5	0.0063	0.03	Q V	|	|	|	|
4+10	0.0065	0.03	Q V	|	|	|	|
4+15	0.0067	0.03	Q V	|	|	|	|
4+20	0.0070	0.03	Q V	|	|	|	|
4+25	0.0072	0.03	Q V	|	|	|	|
4+30	0.0074	0.03	Q V	|	|	|	|
4+35	0.0076	0.03	Q V	|	|	|	|
4+40	0.0079	0.03	Q V	|	|	|	|
4+45	0.0081	0.03	Q V	|	|	|	|
4+50	0.0083	0.04	Q V	|	|	|	|
4+55	0.0086	0.04	Q V	|	|	|	|
5+ 0	0.0088	0.04	Q V	|	|	|	|
5+ 5	0.0091	0.03	Q V	|	|	|	|
5+10	0.0092	0.03	Q V	|	|	|	|
5+15	0.0094	0.03	Q V	|	|	|	|
5+20	0.0097	0.03	Q V	|	|	|	|
5+25	0.0099	0.03	Q V	|	|	|	|
5+30	0.0101	0.03	Q V	|	|	|	|
5+35	0.0104	0.04	Q V	|	|	|	|
5+40	0.0106	0.04	Q V	|	|	|	|
5+45	0.0109	0.04	Q V	|	|	|	|
5+50	0.0111	0.04	Q V	|	|	|	|
5+55	0.0114	0.04	Q V	|	|	|	|
6+ 0	0.0117	0.04	Q V	|	|	|	|
6+ 5	0.0119	0.04	Q V	|	|	|	|
6+10	0.0122	0.04	Q V	|	|	|	|
6+15	0.0125	0.04	Q V	|	|	|	|
6+20	0.0128	0.04	Q V	|	|	|	|
6+25	0.0131	0.04	Q V	|	|	|	|
6+30	0.0134	0.04	Q V	|	|	|	|
6+35	0.0137	0.05	Q V	|	|	|	|
6+40	0.0140	0.05	Q V	|	|	|	|
6+45	0.0144	0.05	Q V	|	|	|	|
6+50	0.0147	0.05	Q V	|	|	|	|
6+55	0.0150	0.05	Q V	|	|	|	|
7+ 0	0.0153	0.05	Q V	|	|	|	|
7+ 5	0.0156	0.05	Q V	|	|	|	|
7+10	0.0160	0.05	Q V	|	|	|	|
7+15	0.0163	0.05	Q V	|	|	|	|
7+20	0.0166	0.05	Q V	|	|	|	|
7+25	0.0170	0.05	Q V	|	|	|	|
7+30	0.0173	0.05	Q V	|	|	|	|
7+35	0.0177	0.06	Q V	|	|	|	|
7+40	0.0181	0.06	Q V	|	|	|	|
7+45	0.0185	0.06	Q V	|	|	|	|
7+50	0.0189	0.06	Q V	|	|	|	|
7+55	0.0193	0.06	Q V	|	|	|	|
8+ 0	0.0198	0.06	Q V	|	|	|	|
8+ 5	0.0202	0.07	Q V	|	|	|	|
8+10	0.0207	0.07	Q V	|	|	|	|
8+15	0.0212	0.07	Q V	|	|	|	|
8+20	0.0217	0.07	Q V	|	|	|	|
8+25	0.0222	0.07	Q V	|	|	|	|

8+30	0.0226	0.07	Q	V|				
8+35	0.0232	0.07	Q	V|				
8+40	0.0237	0.07	Q	V|				
8+45	0.0242	0.07	Q	V|				
8+50	0.0247	0.08	Q	V				
8+55	0.0253	0.08	Q	V				
9+ 0	0.0258	0.08	Q	V				
9+ 5	0.0264	0.09	Q	V				
9+10	0.0270	0.09	Q	|V				
9+15	0.0276	0.09	Q	|V				
9+20	0.0283	0.09	Q	|V				
9+25	0.0289	0.09	Q	|V				
9+30	0.0296	0.09	Q	| V				
9+35	0.0302	0.10	Q	| V				
9+40	0.0309	0.10	Q	| V				
9+45	0.0316	0.10	Q	| V				
9+50	0.0323	0.10	Q	| V				
9+55	0.0330	0.10	Q	| V				
10+ 0	0.0337	0.10	Q	| V				
10+ 5	0.0343	0.08	Q	| V				
10+10	0.0347	0.07	Q	| V				
10+15	0.0352	0.07	Q	| V				
10+20	0.0357	0.07	Q	| V				
10+25	0.0362	0.07	Q	| V				
10+30	0.0367	0.07	Q	| V |				
10+35	0.0373	0.09	Q	| V |				
10+40	0.0379	0.09	Q	| V |				
10+45	0.0386	0.09	Q	| V |				
10+50	0.0392	0.09	Q	| V |				
10+55	0.0399	0.09	Q	| V |				
11+ 0	0.0405	0.09	Q	| V |				
11+ 5	0.0411	0.09	Q	| V |				
11+10	0.0417	0.09	Q	| V |				
11+15	0.0424	0.09	Q	| V |				
11+20	0.0430	0.09	Q	| V |				
11+25	0.0436	0.09	Q	| V |				
11+30	0.0442	0.09	Q	| V |				
11+35	0.0448	0.08	Q	| V |				
11+40	0.0453	0.08	Q	| V |				
11+45	0.0459	0.08	Q	| V |				
11+50	0.0464	0.08	Q	| V|				
11+55	0.0470	0.08	Q	| V|				
12+ 0	0.0476	0.08	Q	| V|				
12+ 5	0.0483	0.11	Q	| V|				
12+10	0.0492	0.12	Q	| V				
12+15	0.0500	0.12	Q	| V				
12+20	0.0508	0.12	Q	| V				
12+25	0.0516	0.12	Q	| |V				
12+30	0.0525	0.12	Q	| |V				
12+35	0.0534	0.13	Q	| | V				
12+40	0.0543	0.13	Q	| | V				
12+45	0.0552	0.13	Q	| | V				
12+50	0.0561	0.13	Q	| | V				
12+55	0.0570	0.14	Q	| | V				
13+ 0	0.0580	0.14	Q	| | V				
13+ 5	0.0590	0.15	Q	| | V				
13+10	0.0601	0.16	Q	| | V				

13+15	0.0612	0.16	Q	|	|	V |	|
13+20	0.0623	0.16	Q	|	|	V |	|
13+25	0.0634	0.16	Q	|	|	V |	|
13+30	0.0645	0.16	Q	|	|	V |	|
13+35	0.0653	0.12	Q	|	|	V |	|
13+40	0.0661	0.11	Q	|	|	V |	|
13+45	0.0668	0.11	Q	|	|	V |	|
13+50	0.0676	0.11	Q	|	|	V |	|
13+55	0.0683	0.11	Q	|	|	V |	|
14+ 0	0.0690	0.11	Q	|	|	V |	|
14+ 5	0.0699	0.12	Q	|	|	V |	|
14+10	0.0708	0.13	Q	|	|	V|	|
14+15	0.0716	0.13	Q	|	|	V|	|
14+20	0.0725	0.12	Q	|	|	V|	|
14+25	0.0733	0.12	Q	|	|	V	|
14+30	0.0741	0.12	Q	|	|	V	|
14+35	0.0750	0.12	Q	|	|	V	|
14+40	0.0758	0.12	Q	|	|	|V	|
14+45	0.0767	0.12	Q	|	|	|V	|
14+50	0.0775	0.12	Q	|	|	| V	|
14+55	0.0783	0.12	Q	|	|	| V	|
15+ 0	0.0791	0.12	Q	|	|	| V	|
15+ 5	0.0799	0.11	Q	|	|	| V	|
15+10	0.0806	0.11	Q	|	|	| V	|
15+15	0.0814	0.11	Q	|	|	| V	|
15+20	0.0822	0.11	Q	|	|	| V	|
15+25	0.0829	0.11	Q	|	|	| V	|
15+30	0.0837	0.11	Q	|	|	| V	|
15+35	0.0843	0.09	Q	|	|	| V	|
15+40	0.0849	0.09	Q	|	|	| V	|
15+45	0.0855	0.09	Q	|	|	| V	|
15+50	0.0861	0.09	Q	|	|	| V	|
15+55	0.0867	0.09	Q	|	|	| V	|
16+ 0	0.0874	0.09	Q	|	|	| V	|
16+ 5	0.0876	0.03	Q	|	|	| V	|
16+10	0.0877	0.02	Q	|	|	| V	|
16+15	0.0878	0.02	Q	|	|	| V	|
16+20	0.0880	0.02	Q	|	|	| V	|
16+25	0.0881	0.02	Q	|	|	| V	|
16+30	0.0882	0.02	Q	|	|	| V	|
16+35	0.0883	0.02	Q	|	|	| V	|
16+40	0.0884	0.01	Q	|	|	| V	|
16+45	0.0885	0.01	Q	|	|	| V	|
16+50	0.0886	0.01	Q	|	|	| V	|
16+55	0.0887	0.01	Q	|	|	| V	|
17+ 0	0.0888	0.01	Q	|	|	| V	|
17+ 5	0.0890	0.02	Q	|	|	| V	|
17+10	0.0891	0.02	Q	|	|	| V	|
17+15	0.0893	0.02	Q	|	|	| V	|
17+20	0.0895	0.02	Q	|	|	| V	|
17+25	0.0896	0.02	Q	|	|	| V	|
17+30	0.0898	0.02	Q	|	|	| V	|
17+35	0.0899	0.02	Q	|	|	| V	|
17+40	0.0901	0.02	Q	|	|	| V	|
17+45	0.0903	0.02	Q	|	|	| V	|
17+50	0.0904	0.02	Q	|	|	| V	|
17+55	0.0905	0.02	Q	|	|	| V	|

18+ 0	0.0907	0.02	Q	|	|	|	V |
18+ 5	0.0908	0.02	Q	|	|	|	V |
18+10	0.0909	0.02	Q	|	|	|	V |
18+15	0.0910	0.02	Q	|	|	|	V |
18+20	0.0912	0.02	Q	|	|	|	V |
18+25	0.0913	0.02	Q	|	|	|	V |
18+30	0.0914	0.02	Q	|	|	|	V |
18+35	0.0915	0.02	Q	|	|	|	V |
18+40	0.0916	0.01	Q	|	|	|	V |
18+45	0.0917	0.01	Q	|	|	|	V |
18+50	0.0918	0.01	Q	|	|	|	V |
18+55	0.0919	0.01	Q	|	|	|	V |
19+ 0	0.0919	0.01	Q	|	|	|	V |
19+ 5	0.0920	0.01	Q	|	|	|	V |
19+10	0.0921	0.01	Q	|	|	|	V |
19+15	0.0922	0.01	Q	|	|	|	V |
19+20	0.0923	0.02	Q	|	|	|	V |
19+25	0.0925	0.02	Q	|	|	|	V |
19+30	0.0926	0.02	Q	|	|	|	V |
19+35	0.0927	0.02	Q	|	|	|	V |
19+40	0.0928	0.01	Q	|	|	|	V |
19+45	0.0929	0.01	Q	|	|	|	V |
19+50	0.0930	0.01	Q	|	|	|	V |
19+55	0.0930	0.01	Q	|	|	|	V |
20+ 0	0.0931	0.01	Q	|	|	|	V |
20+ 5	0.0932	0.01	Q	|	|	|	V |
20+10	0.0933	0.01	Q	|	|	|	V |
20+15	0.0934	0.01	Q	|	|	|	V |
20+20	0.0935	0.01	Q	|	|	|	V |
20+25	0.0936	0.01	Q	|	|	|	V |
20+30	0.0937	0.01	Q	|	|	|	V |
20+35	0.0938	0.01	Q	|	|	|	V |
20+40	0.0939	0.01	Q	|	|	|	V |
20+45	0.0940	0.01	Q	|	|	|	V |
20+50	0.0940	0.01	Q	|	|	|	V |
20+55	0.0941	0.01	Q	|	|	|	V |
21+ 0	0.0942	0.01	Q	|	|	|	V |
21+ 5	0.0942	0.01	Q	|	|	|	V |
21+10	0.0943	0.01	Q	|	|	|	V |
21+15	0.0944	0.01	Q	|	|	|	V|
21+20	0.0945	0.01	Q	|	|	|	V|
21+25	0.0946	0.01	Q	|	|	|	V|
21+30	0.0946	0.01	Q	|	|	|	V|
21+35	0.0947	0.01	Q	|	|	|	V|
21+40	0.0948	0.01	Q	|	|	|	V|
21+45	0.0949	0.01	Q	|	|	|	V|
21+50	0.0950	0.01	Q	|	|	|	V|
21+55	0.0951	0.01	Q	|	|	|	V|
22+ 0	0.0951	0.01	Q	|	|	|	V|
22+ 5	0.0952	0.01	Q	|	|	|	V|
22+10	0.0953	0.01	Q	|	|	|	V|
22+15	0.0954	0.01	Q	|	|	|	V|
22+20	0.0955	0.01	Q	|	|	|	V|
22+25	0.0955	0.01	Q	|	|	|	V|
22+30	0.0956	0.01	Q	|	|	|	V|
22+35	0.0957	0.01	Q	|	|	|	V|
22+40	0.0957	0.01	Q	|	|	|	V|

22+45	0.0958	0.01	Q	|	|	|	V|
22+50	0.0959	0.01	Q	|	|	|	V|
22+55	0.0959	0.01	Q	|	|	|	V|
23+ 0	0.0960	0.01	Q	|	|	|	V|
23+ 5	0.0961	0.01	Q	|	|	|	V|
23+10	0.0961	0.01	Q	|	|	|	V|
23+15	0.0962	0.01	Q	|	|	|	V|
23+20	0.0962	0.01	Q	|	|	|	V|
23+25	0.0963	0.01	Q	|	|	|	V|
23+30	0.0964	0.01	Q	|	|	|	V|
23+35	0.0964	0.01	Q	|	|	|	V|
23+40	0.0965	0.01	Q	|	|	|	V|
23+45	0.0966	0.01	Q	|	|	|	V|
23+50	0.0966	0.01	Q	|	|	|	V|
23+55	0.0967	0.01	Q	|	|	|	V|
24+ 0	0.0968	0.01	Q	|	|	|	V|
24+ 5	0.0968	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 06/03/26 File: 19267e002site242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
2-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	1.66	16.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	4.10	39.72

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	76.4	0.286	0.210	0.232	1.000	0.232
					Sum (F) =	0.232

Area averaged mean soil loss (F) (In/Hr) = 0.232
Minimum soil loss rate ((In/Hr)) = 0.116
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
			Sum = 100.000	Sum= 9.764

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	0.013	(0.412)	0.010	0.004
2	0.17	0.07	0.013	(0.410)	0.010	0.004
3	0.25	0.07	0.013	(0.409)	0.010	0.004
4	0.33	0.10	0.020	(0.407)	0.015	0.005
5	0.42	0.10	0.020	(0.406)	0.015	0.005
6	0.50	0.10	0.020	(0.404)	0.015	0.005
7	0.58	0.10	0.020	(0.402)	0.015	0.005
8	0.67	0.10	0.020	(0.401)	0.015	0.005
9	0.75	0.10	0.020	(0.399)	0.015	0.005
10	0.83	0.13	0.027	(0.398)	0.019	0.007

11	0.92	0.13	0.027	(0.396)	0.019	0.007
12	1.00	0.13	0.027	(0.395)	0.019	0.007
13	1.08	0.10	0.020	(0.393)	0.015	0.005
14	1.17	0.10	0.020	(0.391)	0.015	0.005
15	1.25	0.10	0.020	(0.390)	0.015	0.005
16	1.33	0.10	0.020	(0.388)	0.015	0.005
17	1.42	0.10	0.020	(0.387)	0.015	0.005
18	1.50	0.10	0.020	(0.385)	0.015	0.005
19	1.58	0.10	0.020	(0.384)	0.015	0.005
20	1.67	0.10	0.020	(0.382)	0.015	0.005
21	1.75	0.10	0.020	(0.381)	0.015	0.005
22	1.83	0.13	0.027	(0.379)	0.019	0.007
23	1.92	0.13	0.027	(0.378)	0.019	0.007
24	2.00	0.13	0.027	(0.376)	0.019	0.007
25	2.08	0.13	0.027	(0.374)	0.019	0.007
26	2.17	0.13	0.027	(0.373)	0.019	0.007
27	2.25	0.13	0.027	(0.371)	0.019	0.007
28	2.33	0.13	0.027	(0.370)	0.019	0.007
29	2.42	0.13	0.027	(0.368)	0.019	0.007
30	2.50	0.13	0.027	(0.367)	0.019	0.007
31	2.58	0.17	0.033	(0.365)	0.024	0.009
32	2.67	0.17	0.033	(0.364)	0.024	0.009
33	2.75	0.17	0.033	(0.362)	0.024	0.009
34	2.83	0.17	0.033	(0.361)	0.024	0.009
35	2.92	0.17	0.033	(0.359)	0.024	0.009
36	3.00	0.17	0.033	(0.358)	0.024	0.009
37	3.08	0.17	0.033	(0.356)	0.024	0.009
38	3.17	0.17	0.033	(0.355)	0.024	0.009
39	3.25	0.17	0.033	(0.354)	0.024	0.009
40	3.33	0.17	0.033	(0.352)	0.024	0.009
41	3.42	0.17	0.033	(0.351)	0.024	0.009
42	3.50	0.17	0.033	(0.349)	0.024	0.009
43	3.58	0.17	0.033	(0.348)	0.024	0.009
44	3.67	0.17	0.033	(0.346)	0.024	0.009
45	3.75	0.17	0.033	(0.345)	0.024	0.009
46	3.83	0.20	0.040	(0.343)	0.029	0.011
47	3.92	0.20	0.040	(0.342)	0.029	0.011
48	4.00	0.20	0.040	(0.340)	0.029	0.011
49	4.08	0.20	0.040	(0.339)	0.029	0.011
50	4.17	0.20	0.040	(0.338)	0.029	0.011
51	4.25	0.20	0.040	(0.336)	0.029	0.011
52	4.33	0.23	0.046	(0.335)	0.034	0.013
53	4.42	0.23	0.046	(0.333)	0.034	0.013
54	4.50	0.23	0.046	(0.332)	0.034	0.013
55	4.58	0.23	0.046	(0.330)	0.034	0.013
56	4.67	0.23	0.046	(0.329)	0.034	0.013
57	4.75	0.23	0.046	(0.328)	0.034	0.013
58	4.83	0.27	0.053	(0.326)	0.039	0.014
59	4.92	0.27	0.053	(0.325)	0.039	0.014
60	5.00	0.27	0.053	(0.323)	0.039	0.014
61	5.08	0.20	0.040	(0.322)	0.029	0.011
62	5.17	0.20	0.040	(0.320)	0.029	0.011
63	5.25	0.20	0.040	(0.319)	0.029	0.011
64	5.33	0.23	0.046	(0.318)	0.034	0.013
65	5.42	0.23	0.046	(0.316)	0.034	0.013
66	5.50	0.23	0.046	(0.315)	0.034	0.013
67	5.58	0.27	0.053	(0.314)	0.039	0.014

68	5.67	0.27	0.053	(0.312)	0.039	0.014
69	5.75	0.27	0.053	(0.311)	0.039	0.014
70	5.83	0.27	0.053	(0.309)	0.039	0.014
71	5.92	0.27	0.053	(0.308)	0.039	0.014
72	6.00	0.27	0.053	(0.307)	0.039	0.014
73	6.08	0.30	0.060	(0.305)	0.044	0.016
74	6.17	0.30	0.060	(0.304)	0.044	0.016
75	6.25	0.30	0.060	(0.303)	0.044	0.016
76	6.33	0.30	0.060	(0.301)	0.044	0.016
77	6.42	0.30	0.060	(0.300)	0.044	0.016
78	6.50	0.30	0.060	(0.299)	0.044	0.016
79	6.58	0.33	0.066	(0.297)	0.048	0.018
80	6.67	0.33	0.066	(0.296)	0.048	0.018
81	6.75	0.33	0.066	(0.295)	0.048	0.018
82	6.83	0.33	0.066	(0.293)	0.048	0.018
83	6.92	0.33	0.066	(0.292)	0.048	0.018
84	7.00	0.33	0.066	(0.291)	0.048	0.018
85	7.08	0.33	0.066	(0.289)	0.048	0.018
86	7.17	0.33	0.066	(0.288)	0.048	0.018
87	7.25	0.33	0.066	(0.287)	0.048	0.018
88	7.33	0.37	0.073	(0.285)	0.053	0.020
89	7.42	0.37	0.073	(0.284)	0.053	0.020
90	7.50	0.37	0.073	(0.283)	0.053	0.020
91	7.58	0.40	0.080	(0.281)	0.058	0.022
92	7.67	0.40	0.080	(0.280)	0.058	0.022
93	7.75	0.40	0.080	(0.279)	0.058	0.022
94	7.83	0.43	0.086	(0.278)	0.063	0.023
95	7.92	0.43	0.086	(0.276)	0.063	0.023
96	8.00	0.43	0.086	(0.275)	0.063	0.023
97	8.08	0.50	0.100	(0.274)	0.073	0.027
98	8.17	0.50	0.100	(0.272)	0.073	0.027
99	8.25	0.50	0.100	(0.271)	0.073	0.027
100	8.33	0.50	0.100	(0.270)	0.073	0.027
101	8.42	0.50	0.100	(0.269)	0.073	0.027
102	8.50	0.50	0.100	(0.267)	0.073	0.027
103	8.58	0.53	0.106	(0.266)	0.078	0.029
104	8.67	0.53	0.106	(0.265)	0.078	0.029
105	8.75	0.53	0.106	(0.264)	0.078	0.029
106	8.83	0.57	0.113	(0.262)	0.082	0.030
107	8.92	0.57	0.113	(0.261)	0.082	0.030
108	9.00	0.57	0.113	(0.260)	0.082	0.030
109	9.08	0.63	0.126	(0.259)	0.092	0.034
110	9.17	0.63	0.126	(0.257)	0.092	0.034
111	9.25	0.63	0.126	(0.256)	0.092	0.034
112	9.33	0.67	0.133	(0.255)	0.097	0.036
113	9.42	0.67	0.133	(0.254)	0.097	0.036
114	9.50	0.67	0.133	(0.253)	0.097	0.036
115	9.58	0.70	0.139	(0.251)	0.102	0.038
116	9.67	0.70	0.139	(0.250)	0.102	0.038
117	9.75	0.70	0.139	(0.249)	0.102	0.038
118	9.83	0.73	0.146	(0.248)	0.107	0.039
119	9.92	0.73	0.146	(0.247)	0.107	0.039
120	10.00	0.73	0.146	(0.245)	0.107	0.039
121	10.08	0.50	0.100	(0.244)	0.073	0.027
122	10.17	0.50	0.100	(0.243)	0.073	0.027
123	10.25	0.50	0.100	(0.242)	0.073	0.027
124	10.33	0.50	0.100	(0.241)	0.073	0.027

125	10.42	0.50	0.100	(0.239)	0.073	0.027
126	10.50	0.50	0.100	(0.238)	0.073	0.027
127	10.58	0.67	0.133	(0.237)	0.097	0.036
128	10.67	0.67	0.133	(0.236)	0.097	0.036
129	10.75	0.67	0.133	(0.235)	0.097	0.036
130	10.83	0.67	0.133	(0.234)	0.097	0.036
131	10.92	0.67	0.133	(0.233)	0.097	0.036
132	11.00	0.67	0.133	(0.231)	0.097	0.036
133	11.08	0.63	0.126	(0.230)	0.092	0.034
134	11.17	0.63	0.126	(0.229)	0.092	0.034
135	11.25	0.63	0.126	(0.228)	0.092	0.034
136	11.33	0.63	0.126	(0.227)	0.092	0.034
137	11.42	0.63	0.126	(0.226)	0.092	0.034
138	11.50	0.63	0.126	(0.225)	0.092	0.034
139	11.58	0.57	0.113	(0.223)	0.082	0.030
140	11.67	0.57	0.113	(0.222)	0.082	0.030
141	11.75	0.57	0.113	(0.221)	0.082	0.030
142	11.83	0.60	0.120	(0.220)	0.087	0.032
143	11.92	0.60	0.120	(0.219)	0.087	0.032
144	12.00	0.60	0.120	(0.218)	0.087	0.032
145	12.08	0.83	0.166	(0.217)	0.121	0.045
146	12.17	0.83	0.166	(0.216)	0.121	0.045
147	12.25	0.83	0.166	(0.215)	0.121	0.045
148	12.33	0.87	0.173	(0.214)	0.126	0.047
149	12.42	0.87	0.173	(0.213)	0.126	0.047
150	12.50	0.87	0.173	(0.211)	0.126	0.047
151	12.58	0.93	0.186	(0.210)	0.136	0.050
152	12.67	0.93	0.186	(0.209)	0.136	0.050
153	12.75	0.93	0.186	(0.208)	0.136	0.050
154	12.83	0.97	0.193	(0.207)	0.141	0.052
155	12.92	0.97	0.193	(0.206)	0.141	0.052
156	13.00	0.97	0.193	(0.205)	0.141	0.052
157	13.08	1.13	0.226	(0.204)	0.165	0.061
158	13.17	1.13	0.226	(0.203)	0.165	0.061
159	13.25	1.13	0.226	(0.202)	0.165	0.061
160	13.33	1.13	0.226	(0.201)	0.165	0.061
161	13.42	1.13	0.226	(0.200)	0.165	0.061
162	13.50	1.13	0.226	(0.199)	0.165	0.061
163	13.58	0.77	0.153	(0.198)	0.111	0.041
164	13.67	0.77	0.153	(0.197)	0.111	0.041
165	13.75	0.77	0.153	(0.196)	0.111	0.041
166	13.83	0.77	0.153	(0.195)	0.111	0.041
167	13.92	0.77	0.153	(0.194)	0.111	0.041
168	14.00	0.77	0.153	(0.193)	0.111	0.041
169	14.08	0.90	0.179	(0.192)	0.131	0.048
170	14.17	0.90	0.179	(0.191)	0.131	0.048
171	14.25	0.90	0.179	(0.190)	0.131	0.048
172	14.33	0.87	0.173	(0.189)	0.126	0.047
173	14.42	0.87	0.173	(0.188)	0.126	0.047
174	14.50	0.87	0.173	(0.187)	0.126	0.047
175	14.58	0.87	0.173	(0.186)	0.126	0.047
176	14.67	0.87	0.173	(0.185)	0.126	0.047
177	14.75	0.87	0.173	(0.184)	0.126	0.047
178	14.83	0.83	0.166	(0.183)	0.121	0.045
179	14.92	0.83	0.166	(0.182)	0.121	0.045
180	15.00	0.83	0.166	(0.181)	0.121	0.045
181	15.08	0.80	0.159	(0.181)	0.116	0.043

182	15.17	0.80	0.159	(0.180)	0.116	0.043
183	15.25	0.80	0.159	(0.179)	0.116	0.043
184	15.33	0.77	0.153	(0.178)	0.111	0.041
185	15.42	0.77	0.153	(0.177)	0.111	0.041
186	15.50	0.77	0.153	(0.176)	0.111	0.041
187	15.58	0.63	0.126	(0.175)	0.092	0.034
188	15.67	0.63	0.126	(0.174)	0.092	0.034
189	15.75	0.63	0.126	(0.173)	0.092	0.034
190	15.83	0.63	0.126	(0.172)	0.092	0.034
191	15.92	0.63	0.126	(0.171)	0.092	0.034
192	16.00	0.63	0.126	(0.171)	0.092	0.034
193	16.08	0.13	0.027	(0.170)	0.019	0.007
194	16.17	0.13	0.027	(0.169)	0.019	0.007
195	16.25	0.13	0.027	(0.168)	0.019	0.007
196	16.33	0.13	0.027	(0.167)	0.019	0.007
197	16.42	0.13	0.027	(0.166)	0.019	0.007
198	16.50	0.13	0.027	(0.165)	0.019	0.007
199	16.58	0.10	0.020	(0.165)	0.015	0.005
200	16.67	0.10	0.020	(0.164)	0.015	0.005
201	16.75	0.10	0.020	(0.163)	0.015	0.005
202	16.83	0.10	0.020	(0.162)	0.015	0.005
203	16.92	0.10	0.020	(0.161)	0.015	0.005
204	17.00	0.10	0.020	(0.160)	0.015	0.005
205	17.08	0.17	0.033	(0.160)	0.024	0.009
206	17.17	0.17	0.033	(0.159)	0.024	0.009
207	17.25	0.17	0.033	(0.158)	0.024	0.009
208	17.33	0.17	0.033	(0.157)	0.024	0.009
209	17.42	0.17	0.033	(0.156)	0.024	0.009
210	17.50	0.17	0.033	(0.156)	0.024	0.009
211	17.58	0.17	0.033	(0.155)	0.024	0.009
212	17.67	0.17	0.033	(0.154)	0.024	0.009
213	17.75	0.17	0.033	(0.153)	0.024	0.009
214	17.83	0.13	0.027	(0.153)	0.019	0.007
215	17.92	0.13	0.027	(0.152)	0.019	0.007
216	18.00	0.13	0.027	(0.151)	0.019	0.007
217	18.08	0.13	0.027	(0.150)	0.019	0.007
218	18.17	0.13	0.027	(0.150)	0.019	0.007
219	18.25	0.13	0.027	(0.149)	0.019	0.007
220	18.33	0.13	0.027	(0.148)	0.019	0.007
221	18.42	0.13	0.027	(0.147)	0.019	0.007
222	18.50	0.13	0.027	(0.147)	0.019	0.007
223	18.58	0.10	0.020	(0.146)	0.015	0.005
224	18.67	0.10	0.020	(0.145)	0.015	0.005
225	18.75	0.10	0.020	(0.145)	0.015	0.005
226	18.83	0.07	0.013	(0.144)	0.010	0.004
227	18.92	0.07	0.013	(0.143)	0.010	0.004
228	19.00	0.07	0.013	(0.143)	0.010	0.004
229	19.08	0.10	0.020	(0.142)	0.015	0.005
230	19.17	0.10	0.020	(0.141)	0.015	0.005
231	19.25	0.10	0.020	(0.141)	0.015	0.005
232	19.33	0.13	0.027	(0.140)	0.019	0.007
233	19.42	0.13	0.027	(0.139)	0.019	0.007
234	19.50	0.13	0.027	(0.139)	0.019	0.007
235	19.58	0.10	0.020	(0.138)	0.015	0.005
236	19.67	0.10	0.020	(0.137)	0.015	0.005
237	19.75	0.10	0.020	(0.137)	0.015	0.005
238	19.83	0.07	0.013	(0.136)	0.010	0.004

239	19.92	0.07	0.013	(0.136)	0.010	0.004
240	20.00	0.07	0.013	(0.135)	0.010	0.004
241	20.08	0.10	0.020	(0.134)	0.015	0.005
242	20.17	0.10	0.020	(0.134)	0.015	0.005
243	20.25	0.10	0.020	(0.133)	0.015	0.005
244	20.33	0.10	0.020	(0.133)	0.015	0.005
245	20.42	0.10	0.020	(0.132)	0.015	0.005
246	20.50	0.10	0.020	(0.131)	0.015	0.005
247	20.58	0.10	0.020	(0.131)	0.015	0.005
248	20.67	0.10	0.020	(0.130)	0.015	0.005
249	20.75	0.10	0.020	(0.130)	0.015	0.005
250	20.83	0.07	0.013	(0.129)	0.010	0.004
251	20.92	0.07	0.013	(0.129)	0.010	0.004
252	21.00	0.07	0.013	(0.128)	0.010	0.004
253	21.08	0.10	0.020	(0.128)	0.015	0.005
254	21.17	0.10	0.020	(0.127)	0.015	0.005
255	21.25	0.10	0.020	(0.127)	0.015	0.005
256	21.33	0.07	0.013	(0.126)	0.010	0.004
257	21.42	0.07	0.013	(0.126)	0.010	0.004
258	21.50	0.07	0.013	(0.125)	0.010	0.004
259	21.58	0.10	0.020	(0.125)	0.015	0.005
260	21.67	0.10	0.020	(0.124)	0.015	0.005
261	21.75	0.10	0.020	(0.124)	0.015	0.005
262	21.83	0.07	0.013	(0.124)	0.010	0.004
263	21.92	0.07	0.013	(0.123)	0.010	0.004
264	22.00	0.07	0.013	(0.123)	0.010	0.004
265	22.08	0.10	0.020	(0.122)	0.015	0.005
266	22.17	0.10	0.020	(0.122)	0.015	0.005
267	22.25	0.10	0.020	(0.121)	0.015	0.005
268	22.33	0.07	0.013	(0.121)	0.010	0.004
269	22.42	0.07	0.013	(0.121)	0.010	0.004
270	22.50	0.07	0.013	(0.120)	0.010	0.004
271	22.58	0.07	0.013	(0.120)	0.010	0.004
272	22.67	0.07	0.013	(0.120)	0.010	0.004
273	22.75	0.07	0.013	(0.119)	0.010	0.004
274	22.83	0.07	0.013	(0.119)	0.010	0.004
275	22.92	0.07	0.013	(0.119)	0.010	0.004
276	23.00	0.07	0.013	(0.118)	0.010	0.004
277	23.08	0.07	0.013	(0.118)	0.010	0.004
278	23.17	0.07	0.013	(0.118)	0.010	0.004
279	23.25	0.07	0.013	(0.118)	0.010	0.004
280	23.33	0.07	0.013	(0.117)	0.010	0.004
281	23.42	0.07	0.013	(0.117)	0.010	0.004
282	23.50	0.07	0.013	(0.117)	0.010	0.004
283	23.58	0.07	0.013	(0.117)	0.010	0.004
284	23.67	0.07	0.013	(0.117)	0.010	0.004
285	23.75	0.07	0.013	(0.116)	0.010	0.004
286	23.83	0.07	0.013	(0.116)	0.010	0.004
287	23.92	0.07	0.013	(0.116)	0.010	0.004
288	24.00	0.07	0.013	(0.116)	0.010	0.004

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.4

Flood volume = Effective rainfall 0.45(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)

Total soil loss = 1.21(In)

Total soil loss = 0.978(Ac.Ft)

Total rainfall = 1.66(In)

Flood volume = 15761.7 Cubic Feet
Total soil loss = 42615.1 Cubic Feet

Peak flow rate of this hydrograph = 0.595(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	0.0001	0.02	Q				
0+10	0.0004	0.03	Q				
0+15	0.0006	0.04	Q				
0+20	0.0009	0.04	Q				
0+25	0.0013	0.05	Q				
0+30	0.0016	0.05	Q				
0+35	0.0020	0.05	Q				
0+40	0.0023	0.05	Q				
0+45	0.0027	0.05	Q				
0+50	0.0031	0.06	Q				
0+55	0.0036	0.07	Q				
1+ 0	0.0041	0.07	Q				
1+ 5	0.0045	0.06	Q				
1+10	0.0049	0.05	Q				
1+15	0.0052	0.05	Q				
1+20	0.0056	0.05	Q				
1+25	0.0060	0.05	Q				
1+30	0.0063	0.05	Q				
1+35	0.0067	0.05	Q				
1+40	0.0071	0.05	Q				
1+45	0.0074	0.05	Q				
1+50	0.0078	0.06	Q				
1+55	0.0083	0.07	Q				
2+ 0	0.0088	0.07	Q				
2+ 5	0.0093	0.07	QV				
2+10	0.0098	0.07	QV				
2+15	0.0102	0.07	QV				
2+20	0.0107	0.07	QV				
2+25	0.0112	0.07	QV				
2+30	0.0117	0.07	QV				
2+35	0.0122	0.08	QV				
2+40	0.0128	0.09	QV				
2+45	0.0134	0.09	QV				
2+50	0.0140	0.09	QV				
2+55	0.0147	0.09	QV				
3+ 0	0.0153	0.09	QV				
3+ 5	0.0159	0.09	QV				
3+10	0.0165	0.09	QV				
3+15	0.0171	0.09	QV				
3+20	0.0177	0.09	QV				
3+25	0.0183	0.09	Q V				
3+30	0.0189	0.09	Q V				
3+35	0.0195	0.09	Q V				

3+40	0.0201	0.09	Q V	|	|	|	|
3+45	0.0207	0.09	Q V	|	|	|	|
3+50	0.0214	0.10	Q V	|	|	|	|
3+55	0.0221	0.10	Q V	|	|	|	|
4+ 0	0.0228	0.11	Q V	|	|	|	|
4+ 5	0.0235	0.11	Q V	|	|	|	|
4+10	0.0242	0.11	Q V	|	|	|	|
4+15	0.0250	0.11	Q V	|	|	|	|
4+20	0.0258	0.11	Q V	|	|	|	|
4+25	0.0266	0.12	Q V	|	|	|	|
4+30	0.0274	0.12	Q V	|	|	|	|
4+35	0.0283	0.12	Q V	|	|	|	|
4+40	0.0291	0.12	Q V	|	|	|	|
4+45	0.0300	0.12	Q V	|	|	|	|
4+50	0.0309	0.13	Q V	|	|	|	|
4+55	0.0318	0.14	Q V	|	|	|	|
5+ 0	0.0328	0.14	Q V	|	|	|	|
5+ 5	0.0336	0.12	Q V	|	|	|	|
5+10	0.0344	0.11	Q V	|	|	|	|
5+15	0.0351	0.11	Q V	|	|	|	|
5+20	0.0359	0.11	Q V	|	|	|	|
5+25	0.0367	0.12	Q V	|	|	|	|
5+30	0.0376	0.12	Q V	|	|	|	|
5+35	0.0385	0.13	Q V	|	|	|	|
5+40	0.0394	0.14	Q V	|	|	|	|
5+45	0.0404	0.14	Q V	|	|	|	|
5+50	0.0414	0.14	Q V	|	|	|	|
5+55	0.0423	0.14	Q V	|	|	|	|
6+ 0	0.0433	0.14	Q V	|	|	|	|
6+ 5	0.0443	0.15	Q V	|	|	|	|
6+10	0.0454	0.16	Q V	|	|	|	|
6+15	0.0465	0.16	Q V	|	|	|	|
6+20	0.0476	0.16	Q V	|	|	|	|
6+25	0.0487	0.16	Q V	|	|	|	|
6+30	0.0497	0.16	Q V	|	|	|	|
6+35	0.0509	0.17	Q V	|	|	|	|
6+40	0.0521	0.17	Q V	|	|	|	|
6+45	0.0533	0.18	Q V	|	|	|	|
6+50	0.0545	0.18	Q V	|	|	|	|
6+55	0.0557	0.18	Q V	|	|	|	|
7+ 0	0.0569	0.18	Q V	|	|	|	|
7+ 5	0.0581	0.18	Q V	|	|	|	|
7+10	0.0593	0.18	Q V	|	|	|	|
7+15	0.0605	0.18	Q V	|	|	|	|
7+20	0.0618	0.18	Q V	|	|	|	|
7+25	0.0631	0.19	Q V	|	|	|	|
7+30	0.0645	0.19	Q V	|	|	|	|
7+35	0.0659	0.20	Q V	|	|	|	|
7+40	0.0673	0.21	Q V	|	|	|	|
7+45	0.0687	0.21	Q V	|	|	|	|
7+50	0.0703	0.22	Q V	|	|	|	|
7+55	0.0718	0.23	Q V	|	|	|	|
8+ 0	0.0734	0.23	Q V	|	|	|	|
8+ 5	0.0751	0.25	Q V	|	|	|	|
8+10	0.0769	0.26	|Q V	|	|	|	|
8+15	0.0787	0.26	|Q V	|	|	|	|
8+20	0.0805	0.26	|Q V	|	|	|	|

8+25	0.0823	0.26	|Q	V|	|	|	|
8+30	0.0841	0.26	|Q	V|	|	|	|
8+35	0.0860	0.27	|Q	V|	|	|	|
8+40	0.0879	0.28	|Q	V|	|	|	|
8+45	0.0898	0.28	|Q	V|	|	|	|
8+50	0.0918	0.29	|Q	V	|	|	|
8+55	0.0939	0.30	|Q	V	|	|	|
9+ 0	0.0959	0.30	|Q	V	|	|	|
9+ 5	0.0981	0.32	|Q	V	|	|	|
9+10	0.1004	0.33	|Q	|V	|	|	|
9+15	0.1027	0.33	|Q	|V	|	|	|
9+20	0.1050	0.34	|Q	|V	|	|	|
9+25	0.1074	0.35	|Q	|V	|	|	|
9+30	0.1099	0.35	|Q	| V	|	|	|
9+35	0.1123	0.36	|Q	| V	|	|	|
9+40	0.1149	0.37	|Q	| V	|	|	|
9+45	0.1174	0.37	|Q	| V	|	|	|
9+50	0.1200	0.38	|Q	| V	|	|	|
9+55	0.1226	0.38	|Q	| V	|	|	|
10+ 0	0.1253	0.39	|Q	| V	|	|	|
10+ 5	0.1275	0.32	|Q	| V	|	|	|
10+10	0.1293	0.27	|Q	| V	|	|	|
10+15	0.1312	0.26	|Q	| V	|	|	|
10+20	0.1330	0.26	|Q	| V	|	|	|
10+25	0.1348	0.26	|Q	| V	|	|	|
10+30	0.1366	0.26	|Q	| V	|	|	|
10+35	0.1387	0.31	|Q	| V	|	|	|
10+40	0.1411	0.34	|Q	| V	|	|	|
10+45	0.1435	0.35	|Q	| V	|	|	|
10+50	0.1459	0.35	|Q	| V	|	|	|
10+55	0.1483	0.35	|Q	| V	|	|	|
11+ 0	0.1507	0.35	|Q	| V	|	|	|
11+ 5	0.1531	0.34	|Q	| V	|	|	|
11+10	0.1554	0.33	|Q	| V	|	|	|
11+15	0.1577	0.33	|Q	| V	|	|	|
11+20	0.1600	0.33	|Q	| V	|	|	|
11+25	0.1623	0.33	|Q	| V	|	|	|
11+30	0.1646	0.33	|Q	| V	|	|	|
11+35	0.1667	0.31	|Q	| V	|	|	|
11+40	0.1688	0.30	|Q	| V	|	|	|
11+45	0.1708	0.30	|Q	| V	|	|	|
11+50	0.1730	0.31	|Q	| V|	|	|	|
11+55	0.1751	0.31	|Q	| V|	|	|	|
12+ 0	0.1773	0.32	|Q	| V|	|	|	|
12+ 5	0.1799	0.38	|Q	| V|	|	|	|
12+10	0.1829	0.43	|Q	| V	|	|	|
12+15	0.1859	0.44	|Q	| V	|	|	|
12+20	0.1890	0.45	|Q	| V	|	|	|
12+25	0.1921	0.45	|Q	| |V	|	|	|
12+30	0.1953	0.46	|Q	| |V	|	|	|
12+35	0.1985	0.47	|Q	| |V	|	|	|
12+40	0.2019	0.49	|Q	| | V	|	|	|
12+45	0.2053	0.49	|Q	| | V	|	|	|
12+50	0.2087	0.50	| Q	| | V	|	|	|
12+55	0.2122	0.51	| Q	| | V	|	|	|
13+ 0	0.2157	0.51	| Q	| | V	|	|	|
13+ 5	0.2195	0.56	| Q	| | V	|	|	|

13+10	0.2236	0.59	| Q	|	|	V |	|
13+15	0.2277	0.60	| Q	|	|	V |	|
13+20	0.2318	0.60	| Q	|	|	V |	|
13+25	0.2359	0.60	| Q	|	|	V |	|
13+30	0.2400	0.60	| Q	|	|	V |	|
13+35	0.2434	0.49	|Q	|	|	V |	|
13+40	0.2462	0.42	|Q	|	|	V |	|
13+45	0.2490	0.40	|Q	|	|	V |	|
13+50	0.2518	0.40	|Q	|	|	V |	|
13+55	0.2545	0.40	|Q	|	|	V |	|
14+ 0	0.2573	0.40	|Q	|	|	V |	|
14+ 5	0.2604	0.44	|Q	|	|	V |	|
14+10	0.2636	0.47	|Q	|	|	V|	|
14+15	0.2668	0.47	|Q	|	|	V|	|
14+20	0.2700	0.46	|Q	|	|	V|	|
14+25	0.2732	0.46	|Q	|	|	V	|
14+30	0.2763	0.46	|Q	|	|	V	|
14+35	0.2794	0.46	|Q	|	|	V	|
14+40	0.2826	0.46	|Q	|	|	|V	|
14+45	0.2857	0.46	|Q	|	|	|V	|
14+50	0.2888	0.45	|Q	|	|	|V	|
14+55	0.2918	0.44	|Q	|	|	| V	|
15+ 0	0.2948	0.44	|Q	|	|	| V	|
15+ 5	0.2978	0.43	|Q	|	|	| V	|
15+10	0.3007	0.42	|Q	|	|	| V	|
15+15	0.3036	0.42	|Q	|	|	| V	|
15+20	0.3064	0.41	|Q	|	|	| V	|
15+25	0.3092	0.40	|Q	|	|	| V	|
15+30	0.3119	0.40	|Q	|	|	| V	|
15+35	0.3145	0.36	|Q	|	|	| V	|
15+40	0.3168	0.34	|Q	|	|	| V	|
15+45	0.3191	0.33	|Q	|	|	| V	|
15+50	0.3214	0.33	|Q	|	|	| V	|
15+55	0.3237	0.33	|Q	|	|	| V	|
16+ 0	0.3259	0.33	|Q	|	|	| V	|
16+ 5	0.3272	0.19	Q	|	|	| V	|
16+10	0.3278	0.09	Q	|	|	| V	|
16+15	0.3283	0.07	Q	|	|	| V	|
16+20	0.3288	0.07	Q	|	|	| V	|
16+25	0.3293	0.07	Q	|	|	| V	|
16+30	0.3298	0.07	Q	|	|	| V	|
16+35	0.3302	0.06	Q	|	|	| V	|
16+40	0.3305	0.05	Q	|	|	| V	|
16+45	0.3309	0.05	Q	|	|	| V	|
16+50	0.3313	0.05	Q	|	|	| V	|
16+55	0.3316	0.05	Q	|	|	| V	|
17+ 0	0.3320	0.05	Q	|	|	| V	|
17+ 5	0.3325	0.07	Q	|	|	| V	|
17+10	0.3331	0.09	Q	|	|	| V	|
17+15	0.3337	0.09	Q	|	|	| V	|
17+20	0.3343	0.09	Q	|	|	| V	|
17+25	0.3349	0.09	Q	|	|	| V	|
17+30	0.3355	0.09	Q	|	|	| V	|
17+35	0.3361	0.09	Q	|	|	| V	|
17+40	0.3367	0.09	Q	|	|	| V	|
17+45	0.3373	0.09	Q	|	|	| V	|
17+50	0.3378	0.08	Q	|	|	| V	|

17+55	0.3383	0.07	Q	|	|	|	V |
18+ 0	0.3388	0.07	Q	|	|	|	V |
18+ 5	0.3393	0.07	Q	|	|	|	V |
18+10	0.3398	0.07	Q	|	|	|	V |
18+15	0.3402	0.07	Q	|	|	|	V |
18+20	0.3407	0.07	Q	|	|	|	V |
18+25	0.3412	0.07	Q	|	|	|	V |
18+30	0.3417	0.07	Q	|	|	|	V |
18+35	0.3421	0.06	Q	|	|	|	V |
18+40	0.3425	0.05	Q	|	|	|	V |
18+45	0.3428	0.05	Q	|	|	|	V |
18+50	0.3431	0.04	Q	|	|	|	V |
18+55	0.3434	0.04	Q	|	|	|	V |
19+ 0	0.3436	0.04	Q	|	|	|	V |
19+ 5	0.3439	0.04	Q	|	|	|	V |
19+10	0.3443	0.05	Q	|	|	|	V |
19+15	0.3447	0.05	Q	|	|	|	V |
19+20	0.3451	0.06	Q	|	|	|	V |
19+25	0.3456	0.07	Q	|	|	|	V |
19+30	0.3460	0.07	Q	|	|	|	V |
19+35	0.3465	0.06	Q	|	|	|	V |
19+40	0.3468	0.05	Q	|	|	|	V |
19+45	0.3472	0.05	Q	|	|	|	V |
19+50	0.3475	0.04	Q	|	|	|	V |
19+55	0.3477	0.04	Q	|	|	|	V |
20+ 0	0.3480	0.04	Q	|	|	|	V |
20+ 5	0.3483	0.04	Q	|	|	|	V |
20+10	0.3486	0.05	Q	|	|	|	V |
20+15	0.3490	0.05	Q	|	|	|	V |
20+20	0.3494	0.05	Q	|	|	|	V |
20+25	0.3497	0.05	Q	|	|	|	V |
20+30	0.3501	0.05	Q	|	|	|	V |
20+35	0.3504	0.05	Q	|	|	|	V |
20+40	0.3508	0.05	Q	|	|	|	V |
20+45	0.3512	0.05	Q	|	|	|	V |
20+50	0.3515	0.04	Q	|	|	|	V |
20+55	0.3517	0.04	Q	|	|	|	V |
21+ 0	0.3519	0.04	Q	|	|	|	V |
21+ 5	0.3523	0.04	Q	|	|	|	V |
21+10	0.3526	0.05	Q	|	|	|	V |
21+15	0.3530	0.05	Q	|	|	|	V|
21+20	0.3533	0.04	Q	|	|	|	V|
21+25	0.3535	0.04	Q	|	|	|	V|
21+30	0.3538	0.04	Q	|	|	|	V|
21+35	0.3541	0.04	Q	|	|	|	V|
21+40	0.3544	0.05	Q	|	|	|	V|
21+45	0.3548	0.05	Q	|	|	|	V|
21+50	0.3551	0.04	Q	|	|	|	V|
21+55	0.3553	0.04	Q	|	|	|	V|
22+ 0	0.3556	0.04	Q	|	|	|	V|
22+ 5	0.3559	0.04	Q	|	|	|	V|
22+10	0.3562	0.05	Q	|	|	|	V|
22+15	0.3566	0.05	Q	|	|	|	V|
22+20	0.3569	0.04	Q	|	|	|	V|
22+25	0.3571	0.04	Q	|	|	|	V|
22+30	0.3574	0.04	Q	|	|	|	V|
22+35	0.3576	0.04	Q	|	|	|	V|

22+40	0.3579	0.04	Q	|	|	|	V|
22+45	0.3581	0.04	Q	|	|	|	V|
22+50	0.3583	0.04	Q	|	|	|	V|
22+55	0.3586	0.04	Q	|	|	|	V|
23+ 0	0.3588	0.04	Q	|	|	|	V|
23+ 5	0.3591	0.04	Q	|	|	|	V|
23+10	0.3593	0.04	Q	|	|	|	V|
23+15	0.3595	0.04	Q	|	|	|	V|
23+20	0.3598	0.04	Q	|	|	|	V|
23+25	0.3600	0.04	Q	|	|	|	V|
23+30	0.3603	0.04	Q	|	|	|	V|
23+35	0.3605	0.04	Q	|	|	|	V|
23+40	0.3608	0.04	Q	|	|	|	V|
23+45	0.3610	0.04	Q	|	|	|	V|
23+50	0.3612	0.04	Q	|	|	|	V|
23+55	0.3615	0.04	Q	|	|	|	V|
24+ 0	0.3617	0.04	Q	|	|	|	V|
24+ 5	0.3618	0.02	Q	|	|	|	V|
24+10	0.3618	0.00	Q	|	|	|	V

Existing Condition

5-year return – 1-, 3-, 6-, 24-hour duration

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 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	0.42	2.47

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        5.90             1.22                 7.19

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.607(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.607(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     5.897           89.00          0.000
 Total Area Entered =      5.90(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
89.0  89.0      0.141     0.000        0.141        1.000      0.141
                                                    Sum (F) =   0.141
Area averaged mean soil loss (F) (In/Hr) =  0.141
Minimum soil loss rate ((In/Hr)) =  0.071
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        292.313         55.877             3.321
    2   0.167        584.626         37.556             2.232
    3   0.250        876.940          6.567             0.390
                              Sum = 100.000   Sum=       5.943
------------------------------------------------------------------------

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     3.30      0.240          0.141    (  0.216)        0.099
  2   0.17     4.20      0.306          0.141    (  0.275)        0.164
  3   0.25     4.40      0.320          0.141    (  0.288)        0.179
  4   0.33     4.80      0.349          0.141    (  0.314)        0.208
  5   0.42     5.20      0.379          0.141    (  0.341)        0.237
  6   0.50     6.20      0.451          0.141    (  0.406)        0.310
  7   0.58     6.80      0.495          0.141    (  0.445)        0.354
  8   0.67     8.80      0.641          0.141    (  0.576)        0.499
```

```
 9   0.75    13.90      1.012          0.141    (  0.911)        0.870
10   0.83    31.40      2.286          0.141    (  2.057)        2.144
11   0.92     7.20      0.524          0.141    (  0.472)        0.383
12   1.00     3.80      0.277          0.141    (  0.249)        0.135
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     5.6
    Flood volume = Effective rainfall      0.47(In)
     times area       5.9(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.14(In)
    Total soil loss =     0.069(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =        9957.7 Cubic Feet
    Total soil loss =        3026.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      9.263(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0023      0.33  VQ        |         |         |         |
   0+10       0.0075      0.77  |V Q      |         |         |         |
   0+15       0.0144      1.00  | VQ      |         |         |         |
   0+20       0.0224      1.15  |  VQ     |         |         |         |
   0+25       0.0315      1.32  |   Q     |         |         |         |
   0+30       0.0428      1.64  |    QV   |         |         |         |
   0+35       0.0563      1.96  |     Q V |         |         |         |
   0+40       0.0740      2.57  |       Q V         |         |         |
   0+45       0.1025      4.14  |         |    QV   |         |         |
   0+50       0.1663      9.26  |         |         |        V|      Q  |
   0+55       0.2104      6.40  |         |         |   Q     |     V   |
   1+ 0       0.2251      2.14  |       Q |         |         |        V|
   1+ 5       0.2282      0.45  |Q        |         |         |        V|
   1+10       0.2286      0.05  Q         |         |         |         V
---------------------------------------------------------------------------
```

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

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	0.42	0.62

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        1.48             1.22                 1.81

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.607(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.607(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     1.484           89.00          0.040
 Total Area Entered =      1.48(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
89.0  89.0      0.141     0.040        0.136        1.000      0.136
                                                    Sum (F) =   0.136
Area averaged mean soil loss (F) (In/Hr) =  0.136
Minimum soil loss rate ((In/Hr)) =  0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.860
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        366.114         62.598             0.936
    2   0.167        732.229         33.736             0.505
    3   0.250       1098.343          3.666             0.055
                              Sum = 100.000   Sum=       1.496
------------------------------------------------------------------------

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     3.30      0.240          0.136    (  0.207)        0.104
  2   0.17     4.20      0.306          0.136    (  0.263)        0.169
  3   0.25     4.40      0.320          0.136    (  0.275)        0.184
  4   0.33     4.80      0.349          0.136    (  0.300)        0.213
  5   0.42     5.20      0.379          0.136    (  0.326)        0.242
  6   0.50     6.20      0.451          0.136    (  0.388)        0.315
  7   0.58     6.80      0.495          0.136    (  0.426)        0.359
  8   0.67     8.80      0.641          0.136    (  0.551)        0.504
```

```
 9   0.75    13.90      1.012          0.136    (  0.870)        0.876
10   0.83    31.40      2.286          0.136    (  1.966)        2.149
11   0.92     7.20      0.524          0.136    (  0.451)        0.388
12   1.00     3.80      0.277          0.136    (  0.238)        0.140
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     5.6
    Flood volume = Effective rainfall      0.47(In)
     times area       1.5(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.14(In)
    Total soil loss =     0.017(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =        2533.4 Cubic Feet
    Total soil loss =         734.3 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      2.483(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0007      0.10  Q         |         |         |         |
   0+10       0.0021      0.21  QV        |         |         |         |
   0+15       0.0039      0.26  |QV       |         |         |         |
   0+20       0.0060      0.30  |Q  V     |         |         |         |
   0+25       0.0084      0.34  |Q   V    |         |         |         |
   0+30       0.0113      0.43  |Q     V  |         |         |         |
   0+35       0.0148      0.51  | Q       V         |         |         |
   0+40       0.0195      0.67  | Q       |  V      |         |         |
   0+45       0.0270      1.09  |   Q     |       V |         |         |
   0+50       0.0441      2.48  |        Q|         |         V         |
   0+55       0.0544      1.50  |   Q     |         |         |      V  |
   1+ 0       0.0575      0.45  |Q        |         |         |        V|
   1+ 5       0.0581      0.09  Q         |         |         |        V|
   1+10       0.0582      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 06/03/26 File: 19267e005GH15.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	0.42	0.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	1.22	1.84

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.607(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.607(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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	3.30	0.240	(0.082)	0.060	0.180
2	0.17	4.20	0.306	(0.082)	0.076	0.229
3	0.25	4.40	0.320	(0.082)	0.080	0.240
4	0.33	4.80	0.349	0.082	(0.087)	0.267
5	0.42	5.20	0.379	0.082	(0.095)	0.296
6	0.50	6.20	0.451	0.082	(0.113)	0.369
7	0.58	6.80	0.495	0.082	(0.124)	0.413
8	0.67	8.80	0.641	0.082	(0.160)	0.558

```
 9   0.75    13.90      1.012          0.082    (  0.253)        0.930
10   0.83    31.40      2.286          0.082    (  0.571)        2.204
11   0.92     7.20      0.524          0.082    (  0.131)        0.442
12   1.00     3.80      0.277       (  0.082)       0.069        0.207
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     6.3
    Flood volume = Effective rainfall      0.53(In)
     times area       1.5(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.08(In)
    Total soil loss =     0.010(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =        2898.3 Cubic Feet
    Total soil loss =         431.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      2.589(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                  R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
               Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0012      0.17  Q         |         |         |         |
   0+10       0.0033      0.31  |Q        |         |         |         |
   0+15       0.0058      0.36  |Q V      |         |         |         |
   0+20       0.0084      0.39  |Q   V    |         |         |         |
   0+25       0.0114      0.43  |Q    V   |         |         |         |
   0+30       0.0150      0.52  | Q      V|         |         |         |
   0+35       0.0191      0.60  | Q       |V        |         |         |
   0+40       0.0244      0.76  |  Q      |   V     |         |         |
   0+45       0.0326      1.19  |   Q     |        V|         |         |
   0+50       0.0504      2.59  |         Q         |         V         |
   0+55       0.0616      1.63  |     Q   |         |         |      V  |
   1+ 0       0.0655      0.56  | Q       |         |         |        V|
   1+ 5       0.0664      0.14  Q         |         |         |        V|
   1+10       0.0665      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 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	0.42	0.33

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        0.00             1.22                 0.00

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    0.708(In)

Point rain (area averaged) =    0.487(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.487(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     0.795           75.00          0.970
 Total Area Entered =      0.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.970        0.038        1.000      0.038
                                                    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) =   0.120
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        713.013         78.934             0.632
    2   0.167       1426.025         21.066             0.169
                               Sum = 100.000   Sum=       0.801
------------------------------------------------------------------------
```

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	3.30	0.193	(0.038)		0.023	0.170
2	0.17	4.20	0.245	(0.038)		0.029	0.216
3	0.25	4.40	0.257	(0.038)		0.031	0.226
4	0.33	4.80	0.280	(0.038)		0.034	0.247
5	0.42	5.20	0.304	(0.038)		0.036	0.267
6	0.50	6.20	0.362	0.038	(	0.043)	0.324
7	0.58	6.80	0.397	0.038	(	0.048)	0.359
8	0.67	8.80	0.514	0.038	(	0.062)	0.475
9	0.75	13.90	0.812	0.038	(	0.097)	0.773

```
 10   0.83    31.40      1.834          0.038    (  0.220)        1.795
 11   0.92     7.20      0.420          0.038    (  0.050)        0.382
 12   1.00     3.80      0.222       (  0.038)       0.027        0.195
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     5.4
    Flood volume = Effective rainfall      0.45(In)
     times area       0.8(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.03(In)
    Total soil loss =     0.002(Ac.Ft)
    Total rainfall =      0.49(In)
    Flood volume =        1305.7 Cubic Feet
    Total soil loss =          98.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.267(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0007      0.11  Q          |         |         |         |
   0+10       0.0019      0.17  Q V        |         |         |         |
   0+15       0.0031      0.18  Q   V      |         |         |         |
   0+20       0.0045      0.19  Q    V     |         |         |         |
   0+25       0.0059      0.21  Q      V   |         |         |         |
   0+30       0.0076      0.25  Q         V|         |         |         |
   0+35       0.0096      0.28  |Q        | V       |         |         |
   0+40       0.0121      0.36  |Q        |     V   |         |         |
   0+45       0.0160      0.57  | Q       |         |V        |         |
   0+50       0.0247      1.27  |   Q     |         |         | V       |
   0+55       0.0285      0.54  | Q       |         |         |      V  |
   1+ 0       0.0297      0.19  Q         |         |         |        V|
   1+ 5       0.0300      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 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	0.42	4.06

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	1.22	11.82

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.607(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.607(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.210	0.115	1.000	0.115
					Sum (F) =	0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
		Sum = 100.000	Sum=	9.764

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	3.30	0.240	0.115	(0.175)	0.126
2	0.17	4.20	0.306	0.115	(0.223)	0.191
3	0.25	4.40	0.320	0.115	(0.234)	0.206
4	0.33	4.80	0.349	0.115	(0.255)	0.235
5	0.42	5.20	0.378	0.115	(0.276)	0.264
6	0.50	6.20	0.451	0.115	(0.329)	0.337
7	0.58	6.80	0.495	0.115	(0.361)	0.380
8	0.67	8.80	0.641	0.115	(0.468)	0.526

```
 9   0.75    13.90      1.012          0.115    (  0.739)        0.897
10   0.83    31.40      2.286          0.115    (  1.668)        2.171
11   0.92     7.20      0.524          0.115    (  0.383)        0.409
12   1.00     3.80      0.277          0.115    (  0.202)        0.162
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     5.9
    Flood volume = Effective rainfall      0.49(In)
     times area       9.7(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
    Total soil loss =      0.11(In)
    Total soil loss =     0.093(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =       17298.3 Cubic Feet
    Total soil loss =        4032.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     15.478(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       0.0047      0.69  VQ        |         |         |         |
   0+10       0.0151      1.50  |V Q      |         |         |         |
   0+15       0.0282      1.90  | VQ      |         |         |         |
   0+20       0.0430      2.16  |   Q     |         |         |         |
   0+25       0.0598      2.43  |   Q V   |         |         |         |
   0+30       0.0802      2.96  |    Q  V |         |         |         |
   0+35       0.1041      3.48  |     Q   V         |         |         |
   0+40       0.1350      4.48  |       Q |  V      |         |         |
   0+45       0.1837      7.07  |         |   Q   V |         |         |
   0+50       0.2903     15.48  |         |         |        VQ         |
   0+55       0.3645     10.77  |         |         |Q        |     V   |
   1+ 0       0.3905      3.78  |      Q  |         |         |        V|
   1+ 5       0.3964      0.86  |Q        |         |         |        V|
   1+10       0.3971      0.10  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 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	0.71	4.18

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	1.75	10.32

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.000	0.141	1.000	0.141
					Sum (F) =	0.141

Area averaged mean soil loss (F) (In/Hr) = 0.141
Minimum soil loss rate ((In/Hr)) = 0.071
(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 (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
		Sum = 100.000	Sum=	5.943

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	0.149	(0.141)	0.134	0.015
2	0.17	1.30	0.149	(0.141)	0.134	0.015
3	0.25	1.10	0.126	(0.141)	0.113	0.013
4	0.33	1.50	0.171	0.141	(0.154)	0.030
5	0.42	1.50	0.171	0.141	(0.154)	0.030
6	0.50	1.80	0.206	0.141	(0.185)	0.064
7	0.58	1.50	0.171	0.141	(0.154)	0.030
8	0.67	1.80	0.206	0.141	(0.185)	0.064
9	0.75	1.80	0.206	0.141	(0.185)	0.064
10	0.83	1.50	0.171	0.141	(0.154)	0.030

11	0.92	1.60	0.183	0.141	(0.165)	0.041
12	1.00	1.80	0.206	0.141	(0.185)	0.064
13	1.08	2.20	0.251	0.141	(0.226)	0.110
14	1.17	2.20	0.251	0.141	(0.226)	0.110
15	1.25	2.20	0.251	0.141	(0.226)	0.110
16	1.33	2.00	0.228	0.141	(0.206)	0.087
17	1.42	2.60	0.297	0.141	(0.267)	0.156
18	1.50	2.70	0.308	0.141	(0.278)	0.167
19	1.58	2.40	0.274	0.141	(0.247)	0.133
20	1.67	2.70	0.308	0.141	(0.278)	0.167
21	1.75	3.30	0.377	0.141	(0.339)	0.236
22	1.83	3.10	0.354	0.141	(0.319)	0.213
23	1.92	2.90	0.331	0.141	(0.298)	0.190
24	2.00	3.00	0.343	0.141	(0.308)	0.201
25	2.08	3.10	0.354	0.141	(0.319)	0.213
26	2.17	4.20	0.480	0.141	(0.432)	0.338
27	2.25	5.00	0.571	0.141	(0.514)	0.430
28	2.33	3.50	0.400	0.141	(0.360)	0.258
29	2.42	6.80	0.777	0.141	(0.699)	0.635
30	2.50	7.30	0.834	0.141	(0.751)	0.693
31	2.58	8.20	0.937	0.141	(0.843)	0.795
32	2.67	5.90	0.674	0.141	(0.607)	0.533
33	2.75	2.00	0.228	0.141	(0.206)	0.087
34	2.83	1.80	0.206	0.141	(0.185)	0.064
35	2.92	1.80	0.206	0.141	(0.185)	0.064
36	3.00	0.60	0.069	(0.141)	0.062	0.007

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.5

Flood volume = Effective rainfall 0.54(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.41(In)
Total soil loss = 0.203(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 11519.2 Cubic Feet
Total soil loss = 8860.2 Cubic Feet

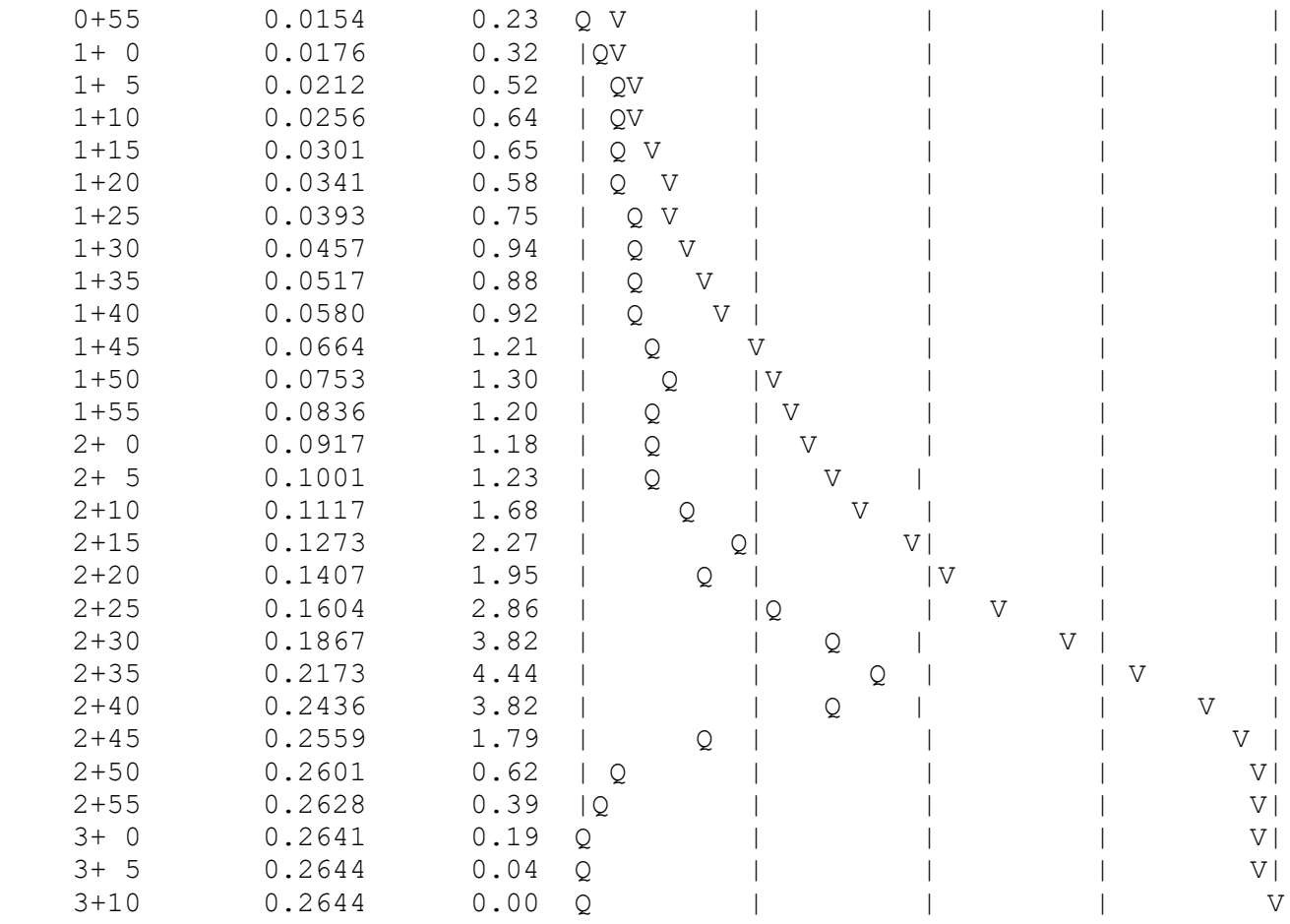
Peak flow rate of this hydrograph = 4.438(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q	|	|	|	|
0+10	0.0009	0.08	Q	|	|	|	|
0+15	0.0015	0.08	Q	|	|	|	|
0+20	0.0024	0.13	Q	|	|	|	|
0+25	0.0036	0.17	Q	|	|	|	|
0+30	0.0056	0.29	VQ	|	|	|	|
0+35	0.0073	0.25	|Q	|	|	|	|
0+40	0.0094	0.31	|Q	|	|	|	|
0+45	0.0120	0.37	|Q	|	|	|	|
0+50	0.0138	0.27	|QV	|	|	|	|


0+55 0.0154 0.23
1+ 0 0.0176 0.32
1+ 5 0.0212 0.52
1+10 0.0256 0.64
1+15 0.0301 0.65
1+20 0.0341 0.58
1+25 0.0393 0.75
1+30 0.0457 0.94
1+35 0.0517 0.88
1+40 0.0580 0.92
1+45 0.0664 1.21
1+50 0.0753 1.30
1+55 0.0836 1.20
2+ 0 0.0917 1.18
2+ 5 0.1001 1.23
2+10 0.1117 1.68
2+15 0.1273 2.27
2+20 0.1407 1.95
2+25 0.1604 2.86
2+30 0.1867 3.82
2+35 0.2173 4.44
2+40 0.2436 3.82
2+45 0.2559 1.79
2+50 0.2601 0.62
2+55 0.2628 0.39
3+ 0 0.2641 0.19
3+ 5 0.2644 0.04
3+10 0.2644 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 06/03/26 File: 19267e005B35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 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]
1.48	0.71	1.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	1.75	2.60

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.484	89.00	0.040

Total Area Entered = 1.48(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.040	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	366.114	62.598	0.936
2	0.167	732.229	33.736	0.505
3	0.250	1098.343	3.666	0.055
		Sum = 100.000	Sum=	1.496

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	0.149	(0.136)	0.128	0.021
2	0.17	1.30	0.149	(0.136)	0.128	0.021
3	0.25	1.10	0.126	(0.136)	0.108	0.018
4	0.33	1.50	0.171	0.136	(0.147)	0.035
5	0.42	1.50	0.171	0.136	(0.147)	0.035
6	0.50	1.80	0.206	0.136	(0.177)	0.069
7	0.58	1.50	0.171	0.136	(0.147)	0.035
8	0.67	1.80	0.206	0.136	(0.177)	0.069
9	0.75	1.80	0.206	0.136	(0.177)	0.069
10	0.83	1.50	0.171	0.136	(0.147)	0.035

11	0.92	1.60	0.183	0.136	(0.157)	0.046
12	1.00	1.80	0.206	0.136	(0.177)	0.069
13	1.08	2.20	0.251	0.136	(0.216)	0.115
14	1.17	2.20	0.251	0.136	(0.216)	0.115
15	1.25	2.20	0.251	0.136	(0.216)	0.115
16	1.33	2.00	0.228	0.136	(0.197)	0.092
17	1.42	2.60	0.297	0.136	(0.255)	0.161
18	1.50	2.70	0.308	0.136	(0.265)	0.172
19	1.58	2.40	0.274	0.136	(0.236)	0.138
20	1.67	2.70	0.308	0.136	(0.265)	0.172
21	1.75	3.30	0.377	0.136	(0.324)	0.241
22	1.83	3.10	0.354	0.136	(0.305)	0.218
23	1.92	2.90	0.331	0.136	(0.285)	0.195
24	2.00	3.00	0.343	0.136	(0.295)	0.206
25	2.08	3.10	0.354	0.136	(0.305)	0.218
26	2.17	4.20	0.480	0.136	(0.413)	0.344
27	2.25	5.00	0.571	0.136	(0.491)	0.435
28	2.33	3.50	0.400	0.136	(0.344)	0.264
29	2.42	6.80	0.777	0.136	(0.668)	0.641
30	2.50	7.30	0.834	0.136	(0.717)	0.698
31	2.58	8.20	0.937	0.136	(0.806)	0.801
32	2.67	5.90	0.674	0.136	(0.580)	0.538
33	2.75	2.00	0.228	0.136	(0.197)	0.092
34	2.83	1.80	0.206	0.136	(0.177)	0.069
35	2.92	1.80	0.206	0.136	(0.177)	0.069
36	3.00	0.60	0.069	(0.136)	0.059	0.010

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.6

Flood volume = Effective rainfall 0.55(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.40(In)
Total soil loss = 0.049(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 2980.9 Cubic Feet
Total soil loss = 2147.8 Cubic Feet

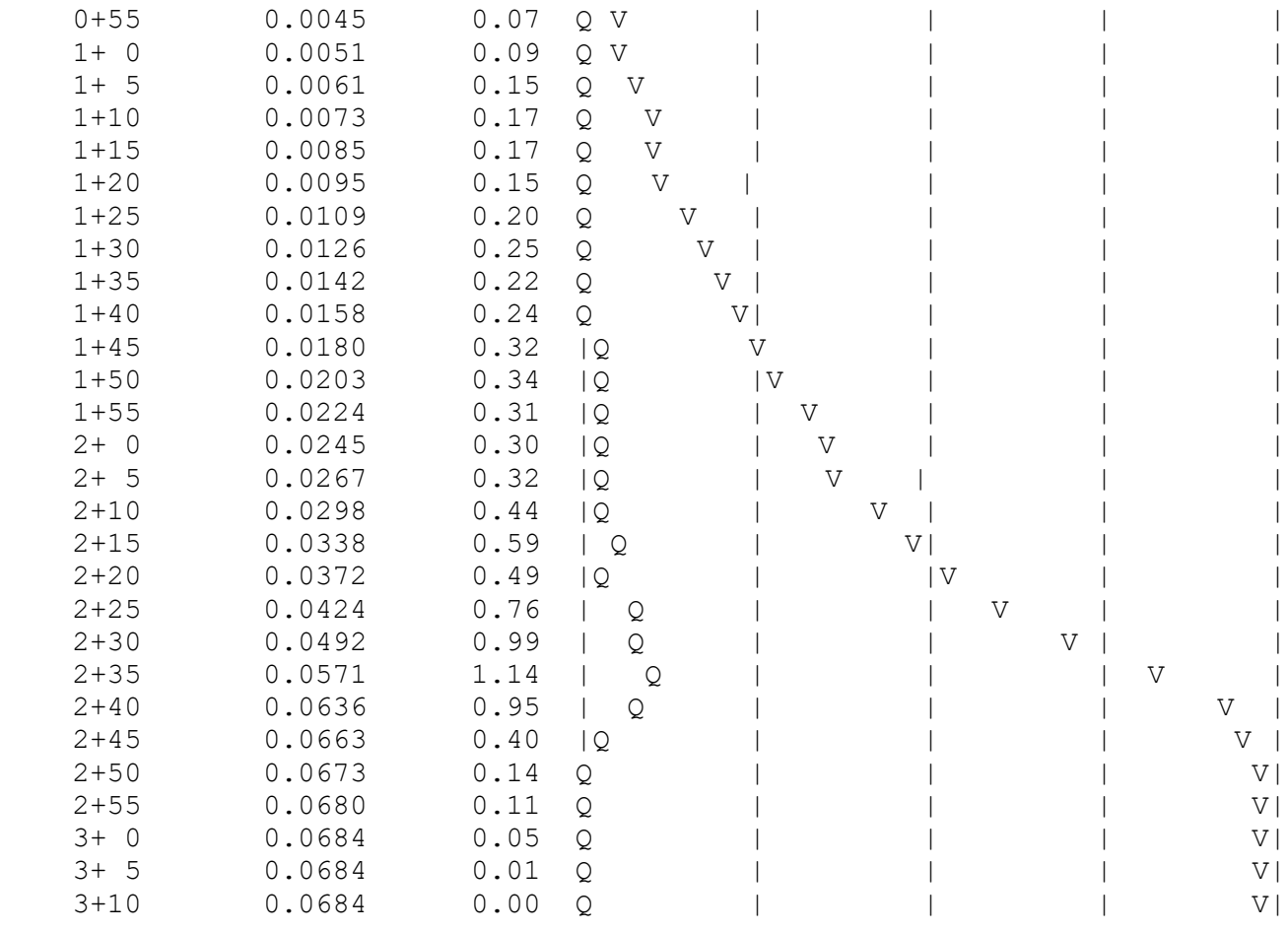
Peak flow rate of this hydrograph = 1.137(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0003	0.03	Q	|	|	|	|
0+15	0.0005	0.03	Q	|	|	|	|
0+20	0.0008	0.04	Q	|	|	|	|
0+25	0.0012	0.05	Q	|	|	|	|
0+30	0.0018	0.08	QV	|	|	|	|
0+35	0.0022	0.07	QV	|	|	|	|
0+40	0.0028	0.09	QV	|	|	|	|
0+45	0.0035	0.10	Q V	|	|	|	|
0+50	0.0040	0.07	Q V	|	|	|	|


0+55 0.0045 0.07
1+ 0 0.0051 0.09
1+ 5 0.0061 0.15
1+10 0.0073 0.17
1+15 0.0085 0.17
1+20 0.0095 0.15
1+25 0.0109 0.20
1+30 0.0126 0.25
1+35 0.0142 0.22
1+40 0.0158 0.24
1+45 0.0180 0.32
1+50 0.0203 0.34
1+55 0.0224 0.31
2+ 0 0.0245 0.30
2+ 5 0.0267 0.32
2+10 0.0298 0.44
2+15 0.0338 0.59
2+20 0.0372 0.49
2+25 0.0424 0.76
2+30 0.0492 0.99
2+35 0.0571 1.14
2+40 0.0636 0.95
2+45 0.0663 0.40
2+50 0.0673 0.14
2+55 0.0680 0.11
3+ 0 0.0684 0.05
3+ 5 0.0684 0.01
3+10 0.0684 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 06/03/26 File: 19267e005GH35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	0.71	1.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	1.75	2.65

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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	0.149	(0.082)	0.037	0.111
2	0.17	1.30	0.149	(0.082)	0.037	0.111
3	0.25	1.10	0.126	(0.082)	0.031	0.094
4	0.33	1.50	0.171	(0.082)	0.043	0.129
5	0.42	1.50	0.171	(0.082)	0.043	0.129
6	0.50	1.80	0.206	(0.082)	0.051	0.154
7	0.58	1.50	0.171	(0.082)	0.043	0.129
8	0.67	1.80	0.206	(0.082)	0.051	0.154
9	0.75	1.80	0.206	(0.082)	0.051	0.154
10	0.83	1.50	0.171	(0.082)	0.043	0.129

11	0.92	1.60	0.183	(0.082)	0.046	0.137
12	1.00	1.80	0.206	(0.082)	0.051	0.154
13	1.08	2.20	0.251	(0.082)	0.063	0.189
14	1.17	2.20	0.251	(0.082)	0.063	0.189
15	1.25	2.20	0.251	(0.082)	0.063	0.189
16	1.33	2.00	0.228	(0.082)	0.057	0.171
17	1.42	2.60	0.297	(0.082)	0.074	0.223
18	1.50	2.70	0.308	(0.082)	0.077	0.231
19	1.58	2.40	0.274	(0.082)	0.069	0.206
20	1.67	2.70	0.308	(0.082)	0.077	0.231
21	1.75	3.30	0.377	0.082 (0.094)		0.295
22	1.83	3.10	0.354	0.082 (0.089)		0.272
23	1.92	2.90	0.331	0.082 (0.083)		0.249
24	2.00	3.00	0.343	0.082 (0.086)		0.261
25	2.08	3.10	0.354	0.082 (0.089)		0.272
26	2.17	4.20	0.480	0.082 (0.120)		0.398
27	2.25	5.00	0.571	0.082 (0.143)		0.489
28	2.33	3.50	0.400	0.082 (0.100)		0.318
29	2.42	6.80	0.777	0.082 (0.194)		0.695
30	2.50	7.30	0.834	0.082 (0.209)		0.752
31	2.58	8.20	0.937	0.082 (0.234)		0.855
32	2.67	5.90	0.674	0.082 (0.169)		0.592
33	2.75	2.00	0.228	(0.082)	0.057	0.171
34	2.83	1.80	0.206	(0.082)	0.051	0.154
35	2.92	1.80	0.206	(0.082)	0.051	0.154
36	3.00	0.60	0.069	(0.082)	0.017	0.051

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.2

Flood volume = Effective rainfall 0.77(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.19(In)
Total soil loss = 0.023(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 4203.9 Cubic Feet
Total soil loss = 1021.6 Cubic Feet

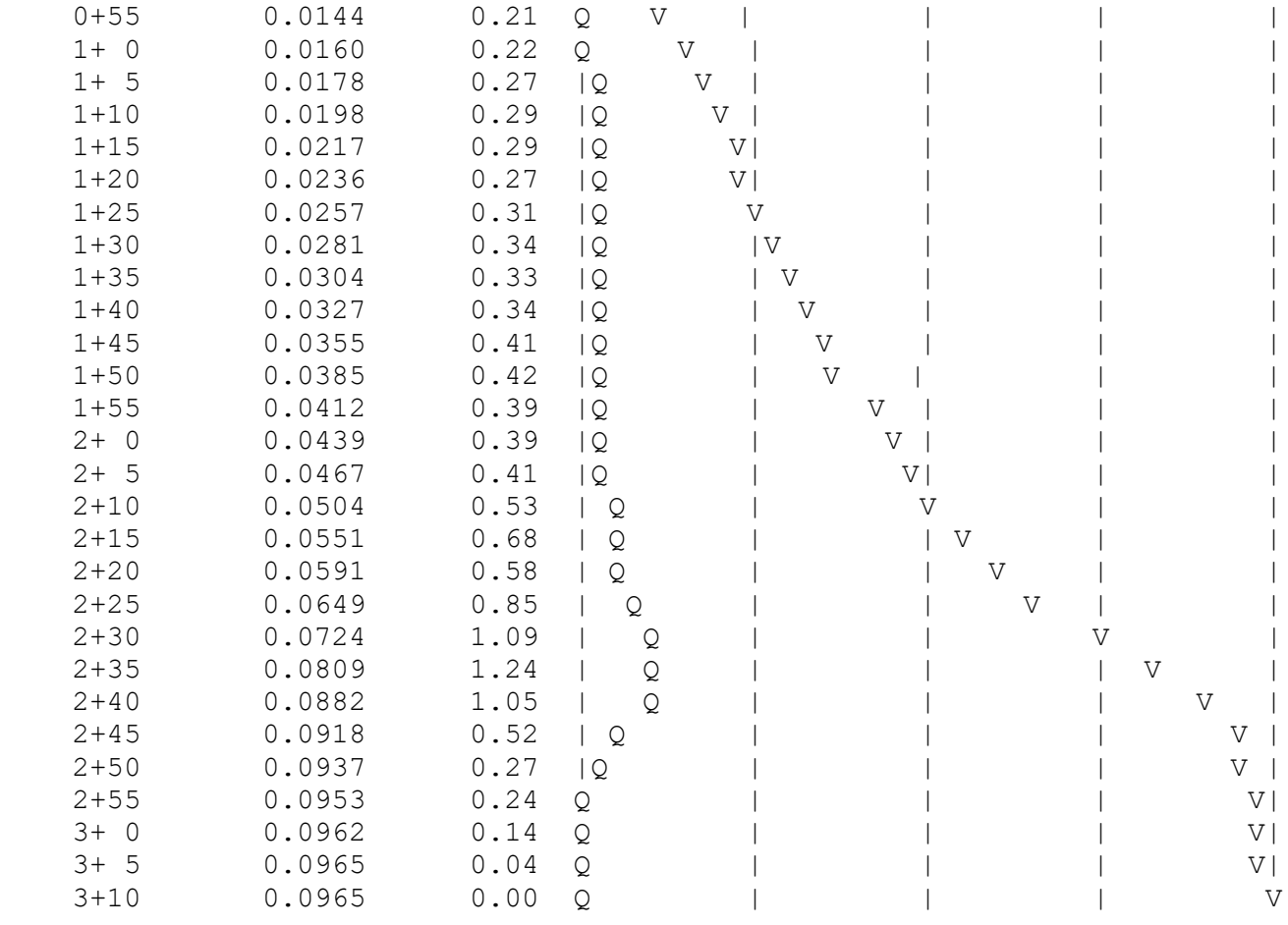
Peak flow rate of this hydrograph = 1.239(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0007	0.10	Q				
0+10	0.0018	0.16	Q				
0+15	0.0029	0.15	QV				
0+20	0.0041	0.18	QV				
0+25	0.0055	0.19	Q V				
0+30	0.0070	0.22	Q V				
0+35	0.0084	0.21	Q V				
0+40	0.0099	0.22	Q V				
0+45	0.0115	0.23	Q V				
0+50	0.0130	0.21	Q V				


0+55 0.0144 0.21
1+ 0 0.0160 0.22
1+ 5 0.0178 0.27
1+10 0.0198 0.29
1+15 0.0217 0.29
1+20 0.0236 0.27
1+25 0.0257 0.31
1+30 0.0281 0.34
1+35 0.0304 0.33
1+40 0.0327 0.34
1+45 0.0355 0.41
1+50 0.0385 0.42
1+55 0.0412 0.39
2+ 0 0.0439 0.39
2+ 5 0.0467 0.41
2+10 0.0504 0.53
2+15 0.0551 0.68
2+20 0.0591 0.58
2+25 0.0649 0.85
2+30 0.0724 1.09
2+35 0.0809 1.24
2+40 0.0882 1.05
2+45 0.0918 0.52
2+50 0.0937 0.27
2+55 0.0953 0.24
3+ 0 0.0962 0.14
3+ 5 0.0965 0.04
3+10 0.0965 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 06/03/26 File: 19267e005I35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	0.71	0.56

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.80	1.75	1.39

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.795	75.00	0.970

Total Area Entered = 0.80(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.970	0.038	1.000	0.038
					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) = 0.120

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	713.013	78.934	0.632
2	0.167	1426.025	21.066	0.169
		Sum = 100.000	Sum=	0.801

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	0.149	(0.038)	0.018	0.131
2	0.17	1.30	0.149	(0.038)	0.018	0.131
3	0.25	1.10	0.126	(0.038)	0.015	0.111
4	0.33	1.50	0.171	(0.038)	0.021	0.151
5	0.42	1.50	0.171	(0.038)	0.021	0.151
6	0.50	1.80	0.206	(0.038)	0.025	0.181
7	0.58	1.50	0.171	(0.038)	0.021	0.151
8	0.67	1.80	0.206	(0.038)	0.025	0.181
9	0.75	1.80	0.206	(0.038)	0.025	0.181
10	0.83	1.50	0.171	(0.038)	0.021	0.151
11	0.92	1.60	0.183	(0.038)	0.022	0.161

12	1.00	1.80	0.206	(0.038)	0.025	0.181
13	1.08	2.20	0.251	(0.038)	0.030	0.221
14	1.17	2.20	0.251	(0.038)	0.030	0.221
15	1.25	2.20	0.251	(0.038)	0.030	0.221
16	1.33	2.00	0.228	(0.038)	0.027	0.201
17	1.42	2.60	0.297	(0.038)	0.036	0.261
18	1.50	2.70	0.308	(0.038)	0.037	0.271
19	1.58	2.40	0.274	(0.038)	0.033	0.241
20	1.67	2.70	0.308	(0.038)	0.037	0.271
21	1.75	3.30	0.377	0.038	(0.045)	0.339
22	1.83	3.10	0.354	0.038	(0.042)	0.316
23	1.92	2.90	0.331	0.038	(0.040)	0.293
24	2.00	3.00	0.343	0.038	(0.041)	0.304
25	2.08	3.10	0.354	0.038	(0.042)	0.316
26	2.17	4.20	0.480	0.038	(0.058)	0.441
27	2.25	5.00	0.571	0.038	(0.069)	0.533
28	2.33	3.50	0.400	0.038	(0.048)	0.361
29	2.42	6.80	0.777	0.038	(0.093)	0.738
30	2.50	7.30	0.834	0.038	(0.100)	0.796
31	2.58	8.20	0.937	0.038	(0.112)	0.898
32	2.67	5.90	0.674	0.038	(0.081)	0.636
33	2.75	2.00	0.228	(0.038)	0.027	0.201
34	2.83	1.80	0.206	(0.038)	0.025	0.181
35	2.92	1.80	0.206	(0.038)	0.025	0.181
36	3.00	0.60	0.069	(0.038)	0.008	0.060

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.4

Flood volume = Effective rainfall 0.86(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.006(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 2492.4 Cubic Feet
Total soil loss = 255.1 Cubic Feet

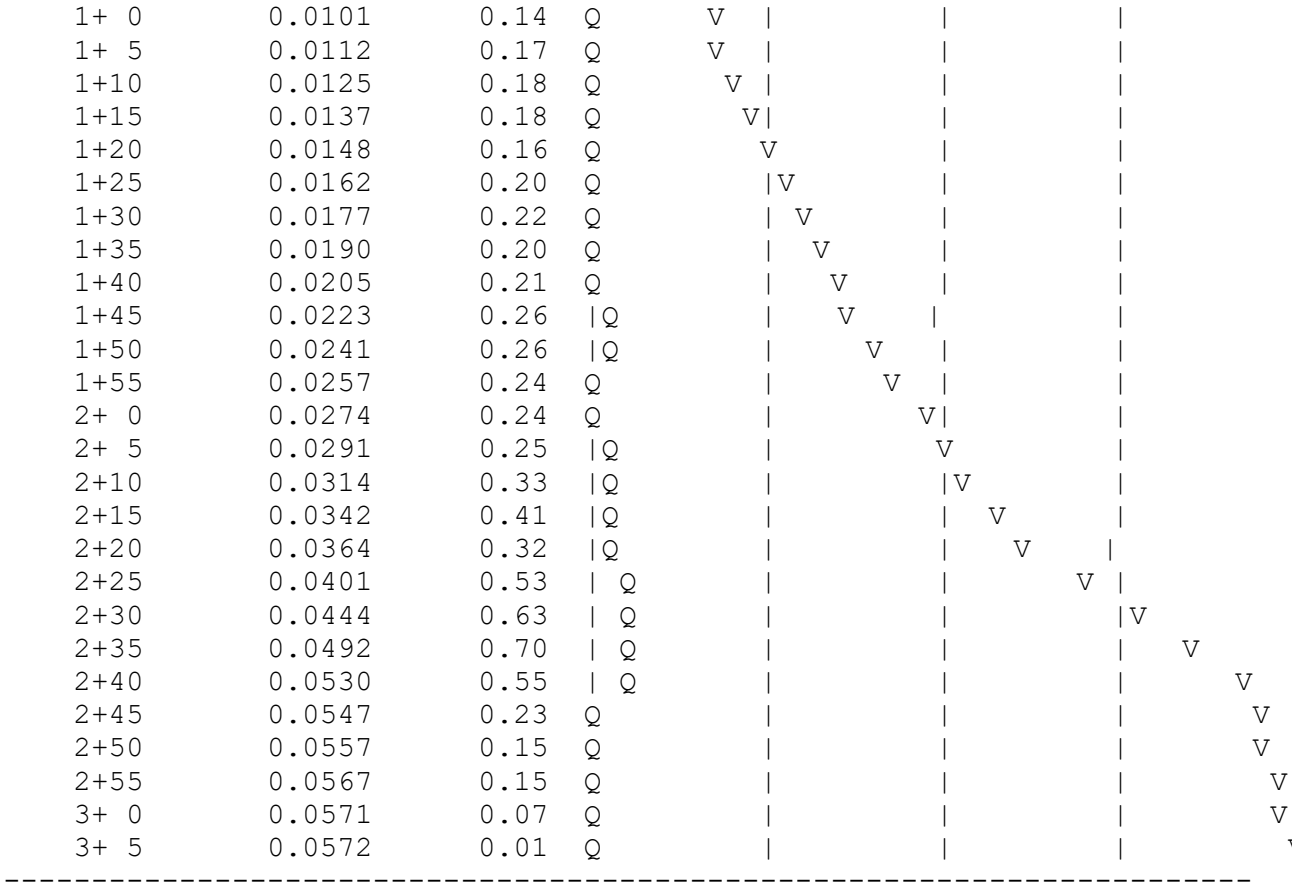
Peak flow rate of this hydrograph = 0.703(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0006	0.08	Q				
0+10	0.0013	0.10	Q				
0+15	0.0019	0.09	QV				
0+20	0.0027	0.11	QV				
0+25	0.0035	0.12	Q V				
0+30	0.0045	0.14	Q V				
0+35	0.0054	0.13	Q V				
0+40	0.0063	0.14	Q V				
0+45	0.0073	0.15	Q V				
0+50	0.0082	0.13	Q V				
0+55	0.0091	0.13	Q V				


1+ 0 0.0101 0.14 Q V
1+ 5 0.0112 0.17 Q V
1+10 0.0125 0.18 Q V
1+15 0.0137 0.18 Q V
1+20 0.0148 0.16 Q V
1+25 0.0162 0.20 Q V
1+30 0.0177 0.22 Q V
1+35 0.0190 0.20 Q V
1+40 0.0205 0.21 Q V
1+45 0.0223 0.26 Q V
1+50 0.0241 0.26 Q V
1+55 0.0257 0.24 Q V
2+ 0 0.0274 0.24 Q V
2+ 5 0.0291 0.25 Q V
2+10 0.0314 0.33 Q V
2+15 0.0342 0.41 Q V
2+20 0.0364 0.32 Q V
2+25 0.0401 0.53 Q V
2+30 0.0444 0.63 Q V
2+35 0.0492 0.70 Q V
2+40 0.0530 0.55 Q V
2+45 0.0547 0.23 Q V
2+50 0.0557 0.15 Q V
2+55 0.0567 0.15 Q V
3+ 0 0.0571 0.07 Q V
3+ 5 0.0572 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 06/03/26 File: 19267e005site35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	0.71	6.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	1.75	16.95

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.210	0.115	1.000	0.115
					Sum (F) =	0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
			Sum = 100.000	Sum= 9.764

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	0.149	(0.115)		0.108	0.040
2	0.17	1.30	0.149	(0.115)		0.108	0.040
3	0.25	1.10	0.126	(0.115)		0.092	0.034
4	0.33	1.50	0.171	0.115	(	0.125)	0.057
5	0.42	1.50	0.171	0.115	(	0.125)	0.057
6	0.50	1.80	0.206	0.115	(	0.150)	0.091
7	0.58	1.50	0.171	0.115	(	0.125)	0.057
8	0.67	1.80	0.206	0.115	(	0.150)	0.091
9	0.75	1.80	0.206	0.115	(	0.150)	0.091
10	0.83	1.50	0.171	0.115	(	0.125)	0.057

11	0.92	1.60	0.183	0.115	(0.133)	0.068
12	1.00	1.80	0.206	0.115	(0.150)	0.091
13	1.08	2.20	0.251	0.115	(0.183)	0.137
14	1.17	2.20	0.251	0.115	(0.183)	0.137
15	1.25	2.20	0.251	0.115	(0.183)	0.137
16	1.33	2.00	0.228	0.115	(0.167)	0.114
17	1.42	2.60	0.297	0.115	(0.217)	0.182
18	1.50	2.70	0.308	0.115	(0.225)	0.194
19	1.58	2.40	0.274	0.115	(0.200)	0.160
20	1.67	2.70	0.308	0.115	(0.225)	0.194
21	1.75	3.30	0.377	0.115	(0.275)	0.262
22	1.83	3.10	0.354	0.115	(0.259)	0.239
23	1.92	2.90	0.331	0.115	(0.242)	0.217
24	2.00	3.00	0.343	0.115	(0.250)	0.228
25	2.08	3.10	0.354	0.115	(0.259)	0.239
26	2.17	4.20	0.480	0.115	(0.350)	0.365
27	2.25	5.00	0.571	0.115	(0.417)	0.457
28	2.33	3.50	0.400	0.115	(0.292)	0.285
29	2.42	6.80	0.777	0.115	(0.567)	0.662
30	2.50	7.30	0.834	0.115	(0.609)	0.719
31	2.58	8.20	0.937	0.115	(0.684)	0.822
32	2.67	5.90	0.674	0.115	(0.492)	0.559
33	2.75	2.00	0.228	0.115	(0.167)	0.114
34	2.83	1.80	0.206	0.115	(0.150)	0.091
35	2.92	1.80	0.206	0.115	(0.150)	0.091
36	3.00	0.60	0.069	(0.115)	0.050	0.019

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.4

Flood volume = Effective rainfall 0.62(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.34(In)
Total soil loss = 0.271(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 21675.0 Cubic Feet
Total soil loss = 11805.2 Cubic Feet

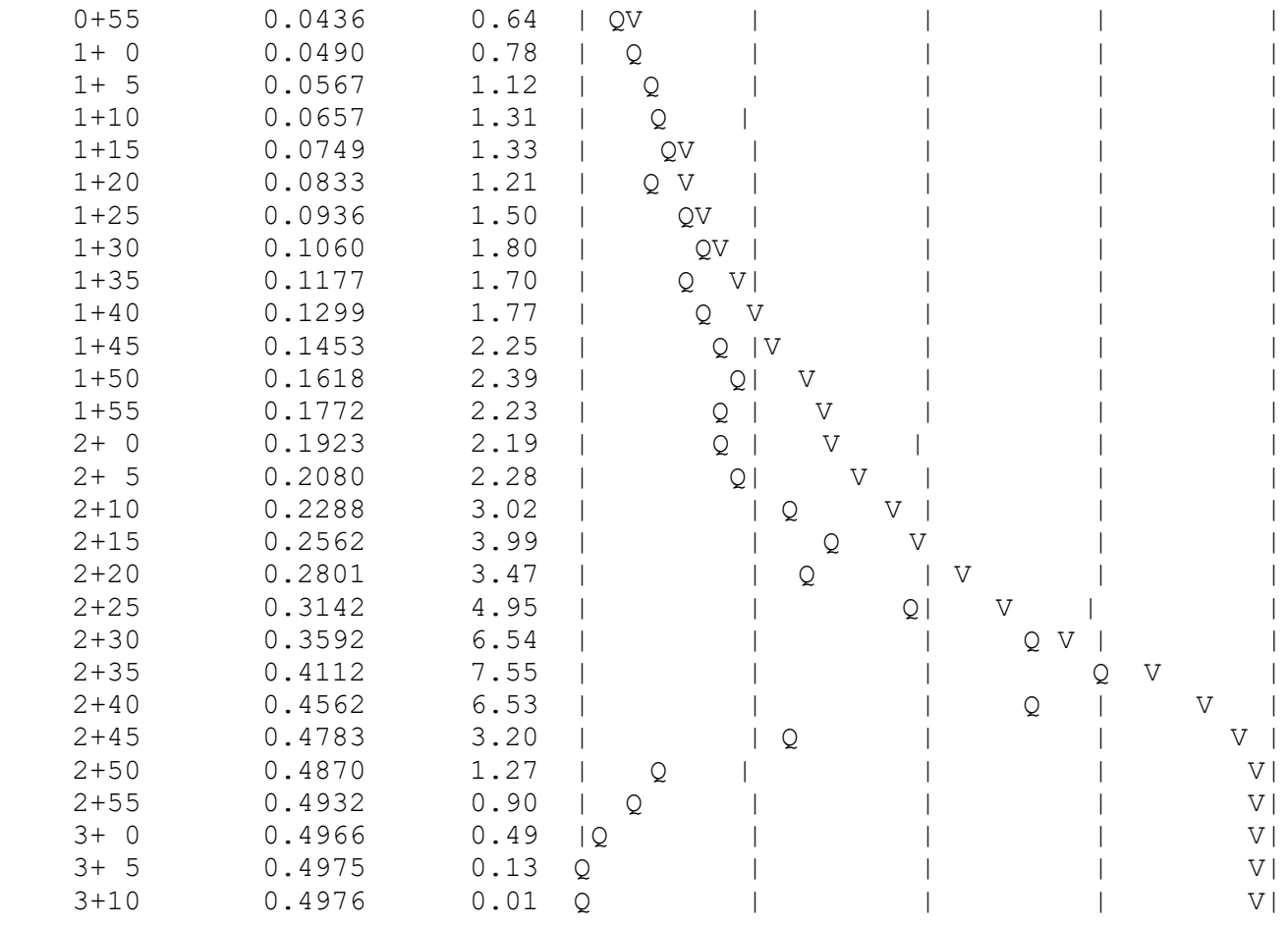
Peak flow rate of this hydrograph = 7.551(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0015	0.22	Q	|	|	|	|
0+10	0.0040	0.37	VQ	|	|	|	|
0+15	0.0065	0.36	VQ	|	|	|	|
0+20	0.0097	0.46	VQ	|	|	|	|
0+25	0.0134	0.54	|VQ	|	|	|	|
0+30	0.0185	0.74	|VQ	|	|	|	|
0+35	0.0232	0.68	|VQ	|	|	|	|
0+40	0.0284	0.76	| VQ	|	|	|	|
0+45	0.0344	0.87	| VQ	|	|	|	|
0+50	0.0392	0.70	| QV	|	|	|	|


0+55 0.0436 0.64
1+ 0 0.0490 0.78
1+ 5 0.0567 1.12
1+10 0.0657 1.31
1+15 0.0749 1.33
1+20 0.0833 1.21
1+25 0.0936 1.50
1+30 0.1060 1.80
1+35 0.1177 1.70
1+40 0.1299 1.77
1+45 0.1453 2.25
1+50 0.1618 2.39
1+55 0.1772 2.23
2+ 0 0.1923 2.19
2+ 5 0.2080 2.28
2+10 0.2288 3.02
2+15 0.2562 3.99
2+20 0.2801 3.47
2+25 0.3142 4.95
2+30 0.3592 6.54
2+35 0.4112 7.55
2+40 0.4562 6.53
2+45 0.4783 3.20
2+50 0.4870 1.27
2+55 0.4932 0.90
3+ 0 0.4966 0.49
3+ 5 0.4975 0.13
3+10 0.4976 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 06/03/26 File: 19267e005A65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	0.95	5.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	2.26	13.33

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.000	0.141	1.000	0.141
					Sum (F) =	0.141

Area averaged mean soil loss (F) (In/Hr) = 0.141
Minimum soil loss rate ((In/Hr)) = 0.071
(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 (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
		Sum = 100.000	Sum=	5.943

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	0.076	(0.141)	0.068	0.008
2	0.17	0.60	0.091	(0.141)	0.082	0.009
3	0.25	0.60	0.091	(0.141)	0.082	0.009
4	0.33	0.60	0.091	(0.141)	0.082	0.009
5	0.42	0.60	0.091	(0.141)	0.082	0.009
6	0.50	0.70	0.106	(0.141)	0.095	0.011
7	0.58	0.70	0.106	(0.141)	0.095	0.011
8	0.67	0.70	0.106	(0.141)	0.095	0.011
9	0.75	0.70	0.106	(0.141)	0.095	0.011
10	0.83	0.70	0.106	(0.141)	0.095	0.011

11	0.92	0.70	0.106	(0.141)	0.095	0.011
12	1.00	0.80	0.121	(0.141)	0.109	0.012
13	1.08	0.80	0.121	(0.141)	0.109	0.012
14	1.17	0.80	0.121	(0.141)	0.109	0.012
15	1.25	0.80	0.121	(0.141)	0.109	0.012
16	1.33	0.80	0.121	(0.141)	0.109	0.012
17	1.42	0.80	0.121	(0.141)	0.109	0.012
18	1.50	0.80	0.121	(0.141)	0.109	0.012
19	1.58	0.80	0.121	(0.141)	0.109	0.012
20	1.67	0.80	0.121	(0.141)	0.109	0.012
21	1.75	0.80	0.121	(0.141)	0.109	0.012
22	1.83	0.80	0.121	(0.141)	0.109	0.012
23	1.92	0.80	0.121	(0.141)	0.109	0.012
24	2.00	0.90	0.136	(0.141)	0.122	0.014
25	2.08	0.80	0.121	(0.141)	0.109	0.012
26	2.17	0.90	0.136	(0.141)	0.122	0.014
27	2.25	0.90	0.136	(0.141)	0.122	0.014
28	2.33	0.90	0.136	(0.141)	0.122	0.014
29	2.42	0.90	0.136	(0.141)	0.122	0.014
30	2.50	0.90	0.136	(0.141)	0.122	0.014
31	2.58	0.90	0.136	(0.141)	0.122	0.014
32	2.67	0.90	0.136	(0.141)	0.122	0.014
33	2.75	1.00	0.151	(0.141)	0.136	0.015
34	2.83	1.00	0.151	(0.141)	0.136	0.015
35	2.92	1.00	0.151	(0.141)	0.136	0.015
36	3.00	1.00	0.151	(0.141)	0.136	0.015
37	3.08	1.00	0.151	(0.141)	0.136	0.015
38	3.17	1.10	0.166	0.141	(0.150)	0.025
39	3.25	1.10	0.166	0.141	(0.150)	0.025
40	3.33	1.10	0.166	0.141	(0.150)	0.025
41	3.42	1.20	0.181	0.141	(0.163)	0.040
42	3.50	1.30	0.197	0.141	(0.177)	0.055
43	3.58	1.40	0.212	0.141	(0.190)	0.070
44	3.67	1.40	0.212	0.141	(0.190)	0.070
45	3.75	1.50	0.227	0.141	(0.204)	0.085
46	3.83	1.50	0.227	0.141	(0.204)	0.085
47	3.92	1.60	0.242	0.141	(0.218)	0.100
48	4.00	1.60	0.242	0.141	(0.218)	0.100
49	4.08	1.70	0.257	0.141	(0.231)	0.116
50	4.17	1.80	0.272	0.141	(0.245)	0.131
51	4.25	1.90	0.287	0.141	(0.259)	0.146
52	4.33	2.00	0.302	0.141	(0.272)	0.161
53	4.42	2.10	0.317	0.141	(0.286)	0.176
54	4.50	2.10	0.317	0.141	(0.286)	0.176
55	4.58	2.20	0.333	0.141	(0.299)	0.191
56	4.67	2.30	0.348	0.141	(0.313)	0.206
57	4.75	2.40	0.363	0.141	(0.327)	0.221
58	4.83	2.40	0.363	0.141	(0.327)	0.221
59	4.92	2.50	0.378	0.141	(0.340)	0.237
60	5.00	2.60	0.393	0.141	(0.354)	0.252
61	5.08	3.10	0.469	0.141	(0.422)	0.327
62	5.17	3.60	0.544	0.141	(0.490)	0.403
63	5.25	3.90	0.590	0.141	(0.531)	0.448
64	5.33	4.20	0.635	0.141	(0.571)	0.494
65	5.42	4.70	0.711	0.141	(0.640)	0.569
66	5.50	5.60	0.847	0.141	(0.762)	0.705
67	5.58	1.90	0.287	0.141	(0.259)	0.146

68	5.67	0.90	0.136	(0.141)	0.122	0.014
69	5.75	0.60	0.091	(0.141)	0.082	0.009
70	5.83	0.50	0.076	(0.141)	0.068	0.008
71	5.92	0.30	0.045	(0.141)	0.041	0.005
72	6.00	0.20	0.030	(0.141)	0.027	0.003

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.5

Flood volume = Effective rainfall 0.54(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.72(In)
Total soil loss = 0.353(Ac.Ft)
Total rainfall = 1.26(In)
Flood volume = 11586.3 Cubic Feet
Total soil loss = 15382.7 Cubic Feet

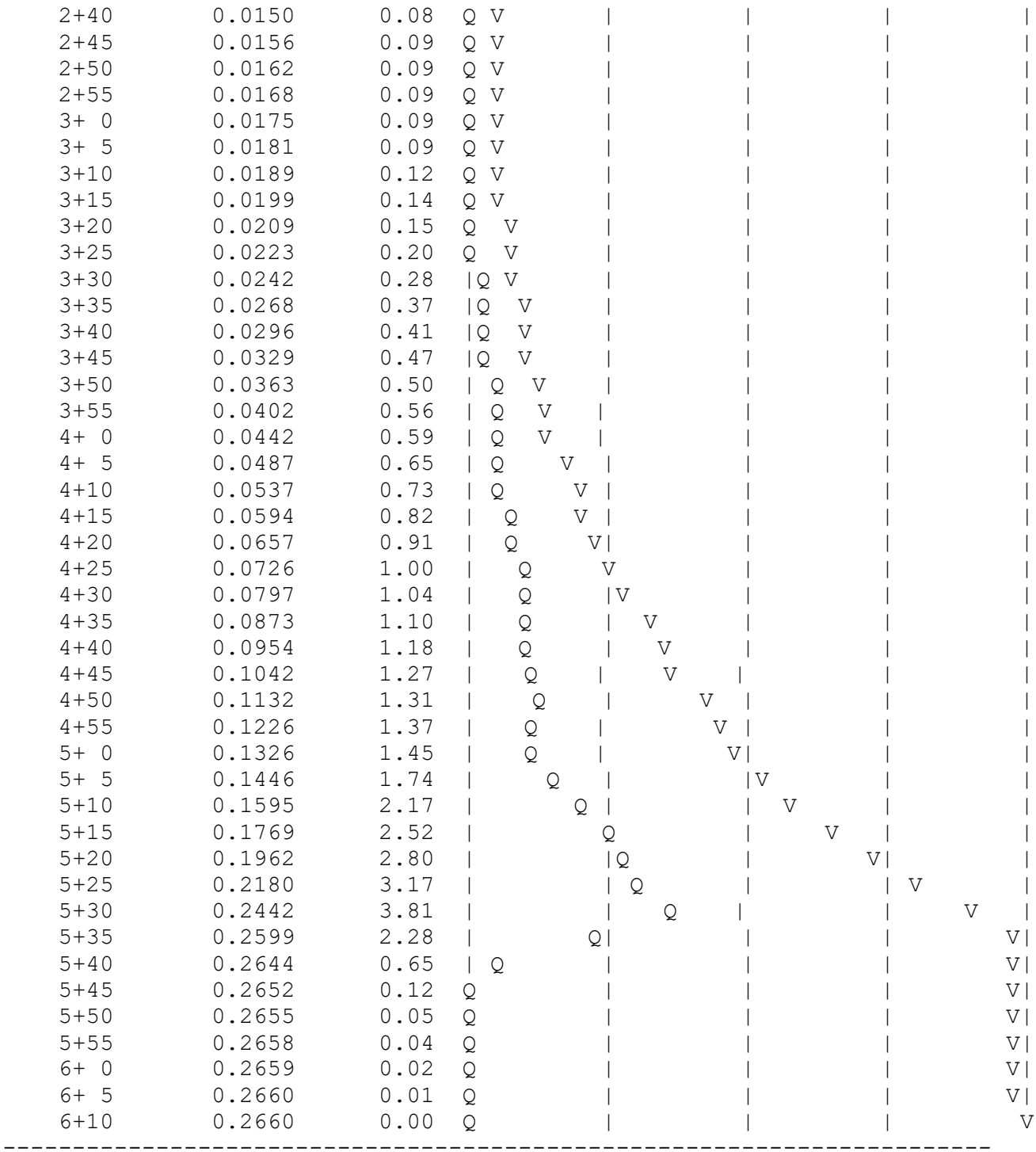
Peak flow rate of this hydrograph = 3.807(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.05	Q				
0+15	0.0009	0.05	Q				
0+20	0.0012	0.05	Q				
0+25	0.0016	0.05	Q				
0+30	0.0020	0.06	Q				
0+35	0.0024	0.06	Q				
0+40	0.0029	0.06	Q				
0+45	0.0033	0.06	Q				
0+50	0.0037	0.06	Q				
0+55	0.0042	0.06	Q				
1+ 0	0.0046	0.07	Q				
1+ 5	0.0051	0.07	Q				
1+10	0.0056	0.07	Q				
1+15	0.0061	0.07	Q				
1+20	0.0066	0.07	Q				
1+25	0.0071	0.07	QV				
1+30	0.0076	0.07	QV				
1+35	0.0081	0.07	QV				
1+40	0.0086	0.07	QV				
1+45	0.0091	0.07	QV				
1+50	0.0096	0.07	QV				
1+55	0.0101	0.07	QV				
2+ 0	0.0106	0.08	QV				
2+ 5	0.0111	0.08	QV				
2+10	0.0117	0.08	QV				
2+15	0.0122	0.08	QV				
2+20	0.0128	0.08	QV				
2+25	0.0133	0.08	Q V				
2+30	0.0139	0.08	Q V				
2+35	0.0145	0.08	Q V				



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

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Study date 06/03/26 File: 19267e005B65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 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]
1.48	0.95	1.42

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	2.26	3.35

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.484	89.00	0.040

Total Area Entered = 1.48(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.040	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	366.114	62.598	0.936
2	0.167	732.229	33.736	0.505
3	0.250	1098.343	3.666	0.055
		Sum = 100.000	Sum=	1.496

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	0.076	(0.136)	0.065	0.011
2	0.17	0.60	0.091	(0.136)	0.078	0.013
3	0.25	0.60	0.091	(0.136)	0.078	0.013
4	0.33	0.60	0.091	(0.136)	0.078	0.013
5	0.42	0.60	0.091	(0.136)	0.078	0.013
6	0.50	0.70	0.106	(0.136)	0.091	0.015
7	0.58	0.70	0.106	(0.136)	0.091	0.015
8	0.67	0.70	0.106	(0.136)	0.091	0.015
9	0.75	0.70	0.106	(0.136)	0.091	0.015
10	0.83	0.70	0.106	(0.136)	0.091	0.015

11	0.92	0.70	0.106	(0.136)	0.091	0.015
12	1.00	0.80	0.121	(0.136)	0.104	0.017
13	1.08	0.80	0.121	(0.136)	0.104	0.017
14	1.17	0.80	0.121	(0.136)	0.104	0.017
15	1.25	0.80	0.121	(0.136)	0.104	0.017
16	1.33	0.80	0.121	(0.136)	0.104	0.017
17	1.42	0.80	0.121	(0.136)	0.104	0.017
18	1.50	0.80	0.121	(0.136)	0.104	0.017
19	1.58	0.80	0.121	(0.136)	0.104	0.017
20	1.67	0.80	0.121	(0.136)	0.104	0.017
21	1.75	0.80	0.121	(0.136)	0.104	0.017
22	1.83	0.80	0.121	(0.136)	0.104	0.017
23	1.92	0.80	0.121	(0.136)	0.104	0.017
24	2.00	0.90	0.136	(0.136)	0.117	0.019
25	2.08	0.80	0.121	(0.136)	0.104	0.017
26	2.17	0.90	0.136	(0.136)	0.117	0.019
27	2.25	0.90	0.136	(0.136)	0.117	0.019
28	2.33	0.90	0.136	(0.136)	0.117	0.019
29	2.42	0.90	0.136	(0.136)	0.117	0.019
30	2.50	0.90	0.136	(0.136)	0.117	0.019
31	2.58	0.90	0.136	(0.136)	0.117	0.019
32	2.67	0.90	0.136	(0.136)	0.117	0.019
33	2.75	1.00	0.151	(0.136)	0.130	0.021
34	2.83	1.00	0.151	(0.136)	0.130	0.021
35	2.92	1.00	0.151	(0.136)	0.130	0.021
36	3.00	1.00	0.151	(0.136)	0.130	0.021
37	3.08	1.00	0.151	(0.136)	0.130	0.021
38	3.17	1.10	0.166	0.136	(0.143)	0.030
39	3.25	1.10	0.166	0.136	(0.143)	0.030
40	3.33	1.10	0.166	0.136	(0.143)	0.030
41	3.42	1.20	0.181	0.136	(0.156)	0.045
42	3.50	1.30	0.197	0.136	(0.169)	0.060
43	3.58	1.40	0.212	0.136	(0.182)	0.075
44	3.67	1.40	0.212	0.136	(0.182)	0.075
45	3.75	1.50	0.227	0.136	(0.195)	0.090
46	3.83	1.50	0.227	0.136	(0.195)	0.090
47	3.92	1.60	0.242	0.136	(0.208)	0.106
48	4.00	1.60	0.242	0.136	(0.208)	0.106
49	4.08	1.70	0.257	0.136	(0.221)	0.121
50	4.17	1.80	0.272	0.136	(0.234)	0.136
51	4.25	1.90	0.287	0.136	(0.247)	0.151
52	4.33	2.00	0.302	0.136	(0.260)	0.166
53	4.42	2.10	0.317	0.136	(0.273)	0.181
54	4.50	2.10	0.317	0.136	(0.273)	0.181
55	4.58	2.20	0.333	0.136	(0.286)	0.196
56	4.67	2.30	0.348	0.136	(0.299)	0.211
57	4.75	2.40	0.363	0.136	(0.312)	0.227
58	4.83	2.40	0.363	0.136	(0.312)	0.227
59	4.92	2.50	0.378	0.136	(0.325)	0.242
60	5.00	2.60	0.393	0.136	(0.338)	0.257
61	5.08	3.10	0.469	0.136	(0.403)	0.332
62	5.17	3.60	0.544	0.136	(0.468)	0.408
63	5.25	3.90	0.590	0.136	(0.507)	0.453
64	5.33	4.20	0.635	0.136	(0.546)	0.499
65	5.42	4.70	0.711	0.136	(0.611)	0.574
66	5.50	5.60	0.847	0.136	(0.728)	0.710
67	5.58	1.90	0.287	0.136	(0.247)	0.151

68	5.67	0.90	0.136	(0.136)	0.117	0.019
69	5.75	0.60	0.091	(0.136)	0.078	0.013
70	5.83	0.50	0.076	(0.136)	0.065	0.011
71	5.92	0.30	0.045	(0.136)	0.039	0.006
72	6.00	0.20	0.030	(0.136)	0.026	0.004

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.8

Flood volume = Effective rainfall 0.57(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.69(In)
Total soil loss = 0.085(Ac.Ft)
Total rainfall = 1.26(In)
Flood volume = 3071.8 Cubic Feet
Total soil loss = 3715.2 Cubic Feet

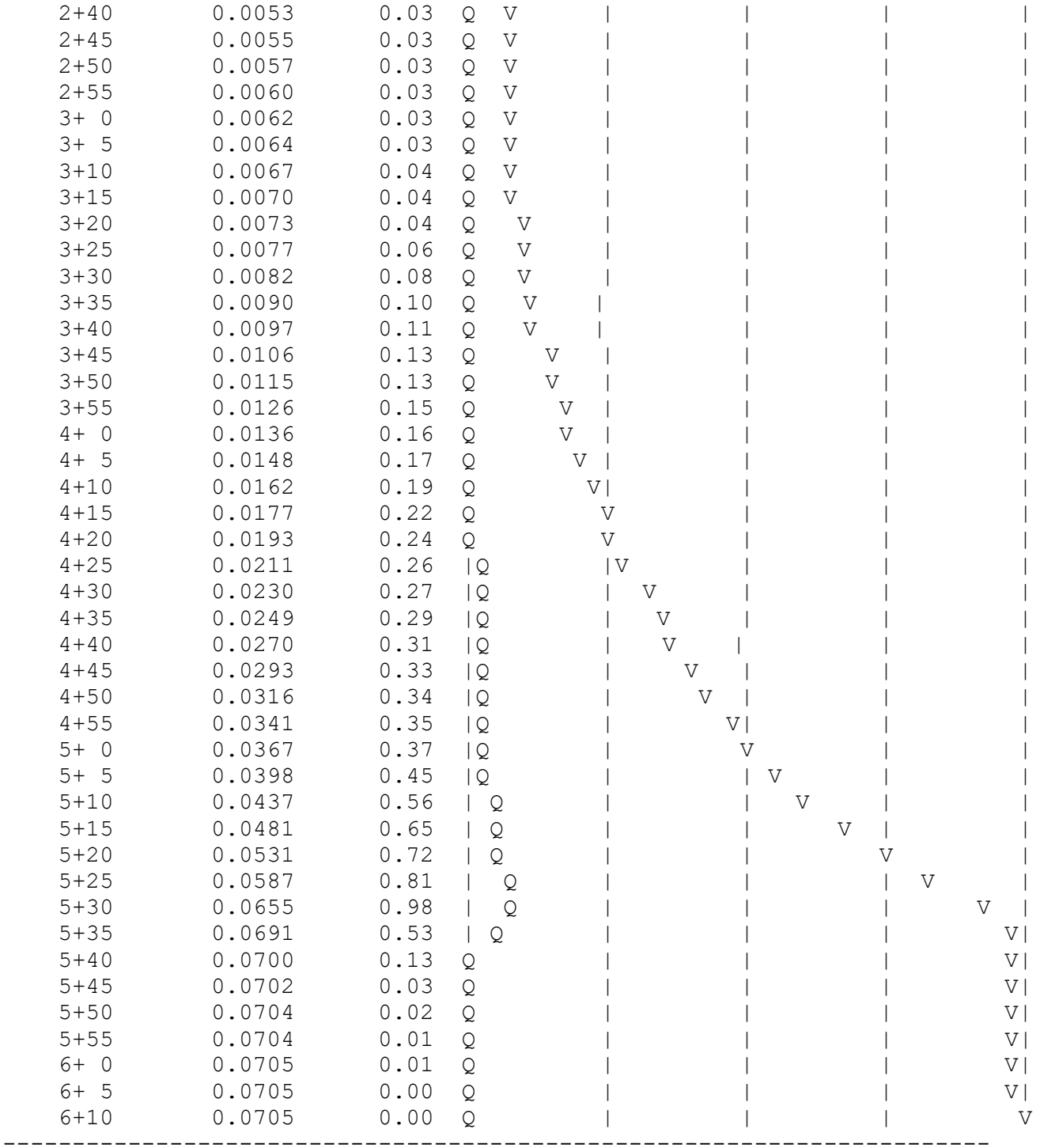
Peak flow rate of this hydrograph = 0.983(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0002	0.02	Q				
0+15	0.0003	0.02	Q				
0+20	0.0004	0.02	Q				
0+25	0.0006	0.02	Q				
0+30	0.0007	0.02	Q				
0+35	0.0009	0.02	Q				
0+40	0.0010	0.02	Q				
0+45	0.0012	0.02	Q				
0+50	0.0013	0.02	Q				
0+55	0.0015	0.02	Q				
1+ 0	0.0017	0.02	Q				
1+ 5	0.0018	0.03	QV				
1+10	0.0020	0.03	QV				
1+15	0.0022	0.03	QV				
1+20	0.0023	0.03	QV				
1+25	0.0025	0.03	QV				
1+30	0.0027	0.03	QV				
1+35	0.0029	0.03	QV				
1+40	0.0030	0.03	QV				
1+45	0.0032	0.03	QV				
1+50	0.0034	0.03	QV				
1+55	0.0036	0.03	Q V				
2+ 0	0.0038	0.03	Q V				
2+ 5	0.0039	0.03	Q V				
2+10	0.0041	0.03	Q V				
2+15	0.0043	0.03	Q V				
2+20	0.0045	0.03	Q V				
2+25	0.0047	0.03	Q V				
2+30	0.0049	0.03	Q V				
2+35	0.0051	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 06/03/26 File: 19267e005GH65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	0.95	1.44

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	2.26	3.42

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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	0.076	(0.082)	0.019	0.057
2	0.17	0.60	0.091	(0.082)	0.023	0.068
3	0.25	0.60	0.091	(0.082)	0.023	0.068
4	0.33	0.60	0.091	(0.082)	0.023	0.068
5	0.42	0.60	0.091	(0.082)	0.023	0.068
6	0.50	0.70	0.106	(0.082)	0.026	0.079
7	0.58	0.70	0.106	(0.082)	0.026	0.079
8	0.67	0.70	0.106	(0.082)	0.026	0.079
9	0.75	0.70	0.106	(0.082)	0.026	0.079
10	0.83	0.70	0.106	(0.082)	0.026	0.079

11	0.92	0.70	0.106	(0.082)	0.026	0.079
12	1.00	0.80	0.121	(0.082)	0.030	0.091
13	1.08	0.80	0.121	(0.082)	0.030	0.091
14	1.17	0.80	0.121	(0.082)	0.030	0.091
15	1.25	0.80	0.121	(0.082)	0.030	0.091
16	1.33	0.80	0.121	(0.082)	0.030	0.091
17	1.42	0.80	0.121	(0.082)	0.030	0.091
18	1.50	0.80	0.121	(0.082)	0.030	0.091
19	1.58	0.80	0.121	(0.082)	0.030	0.091
20	1.67	0.80	0.121	(0.082)	0.030	0.091
21	1.75	0.80	0.121	(0.082)	0.030	0.091
22	1.83	0.80	0.121	(0.082)	0.030	0.091
23	1.92	0.80	0.121	(0.082)	0.030	0.091
24	2.00	0.90	0.136	(0.082)	0.034	0.102
25	2.08	0.80	0.121	(0.082)	0.030	0.091
26	2.17	0.90	0.136	(0.082)	0.034	0.102
27	2.25	0.90	0.136	(0.082)	0.034	0.102
28	2.33	0.90	0.136	(0.082)	0.034	0.102
29	2.42	0.90	0.136	(0.082)	0.034	0.102
30	2.50	0.90	0.136	(0.082)	0.034	0.102
31	2.58	0.90	0.136	(0.082)	0.034	0.102
32	2.67	0.90	0.136	(0.082)	0.034	0.102
33	2.75	1.00	0.151	(0.082)	0.038	0.113
34	2.83	1.00	0.151	(0.082)	0.038	0.113
35	2.92	1.00	0.151	(0.082)	0.038	0.113
36	3.00	1.00	0.151	(0.082)	0.038	0.113
37	3.08	1.00	0.151	(0.082)	0.038	0.113
38	3.17	1.10	0.166	(0.082)	0.042	0.125
39	3.25	1.10	0.166	(0.082)	0.042	0.125
40	3.33	1.10	0.166	(0.082)	0.042	0.125
41	3.42	1.20	0.181	(0.082)	0.045	0.136
42	3.50	1.30	0.197	(0.082)	0.049	0.147
43	3.58	1.40	0.212	(0.082)	0.053	0.159
44	3.67	1.40	0.212	(0.082)	0.053	0.159
45	3.75	1.50	0.227	(0.082)	0.057	0.170
46	3.83	1.50	0.227	(0.082)	0.057	0.170
47	3.92	1.60	0.242	(0.082)	0.060	0.181
48	4.00	1.60	0.242	(0.082)	0.060	0.181
49	4.08	1.70	0.257	(0.082)	0.064	0.193
50	4.17	1.80	0.272	(0.082)	0.068	0.204
51	4.25	1.90	0.287	(0.082)	0.072	0.215
52	4.33	2.00	0.302	(0.082)	0.076	0.227
53	4.42	2.10	0.317	(0.082)	0.079	0.238
54	4.50	2.10	0.317	(0.082)	0.079	0.238
55	4.58	2.20	0.333	0.082	(0.083)	0.250
56	4.67	2.30	0.348	0.082	(0.087)	0.266
57	4.75	2.40	0.363	0.082	(0.091)	0.281
58	4.83	2.40	0.363	0.082	(0.091)	0.281
59	4.92	2.50	0.378	0.082	(0.094)	0.296
60	5.00	2.60	0.393	0.082	(0.098)	0.311
61	5.08	3.10	0.469	0.082	(0.117)	0.387
62	5.17	3.60	0.544	0.082	(0.136)	0.462
63	5.25	3.90	0.590	0.082	(0.147)	0.508
64	5.33	4.20	0.635	0.082	(0.159)	0.553
65	5.42	4.70	0.711	0.082	(0.178)	0.628
66	5.50	5.60	0.847	0.082	(0.212)	0.765
67	5.58	1.90	0.287	(0.082)	0.072	0.215

68	5.67	0.90	0.136	(0.082)	0.034	0.102
69	5.75	0.60	0.091	(0.082)	0.023	0.068
70	5.83	0.50	0.076	(0.082)	0.019	0.057
71	5.92	0.30	0.045	(0.082)	0.011	0.034
72	6.00	0.20	0.030	(0.082)	0.008	0.023

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.8

Flood volume = Effective rainfall 0.99(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.034(Ac.Ft)
Total rainfall = 1.26(In)
Flood volume = 5418.4 Cubic Feet
Total soil loss = 1496.6 Cubic Feet

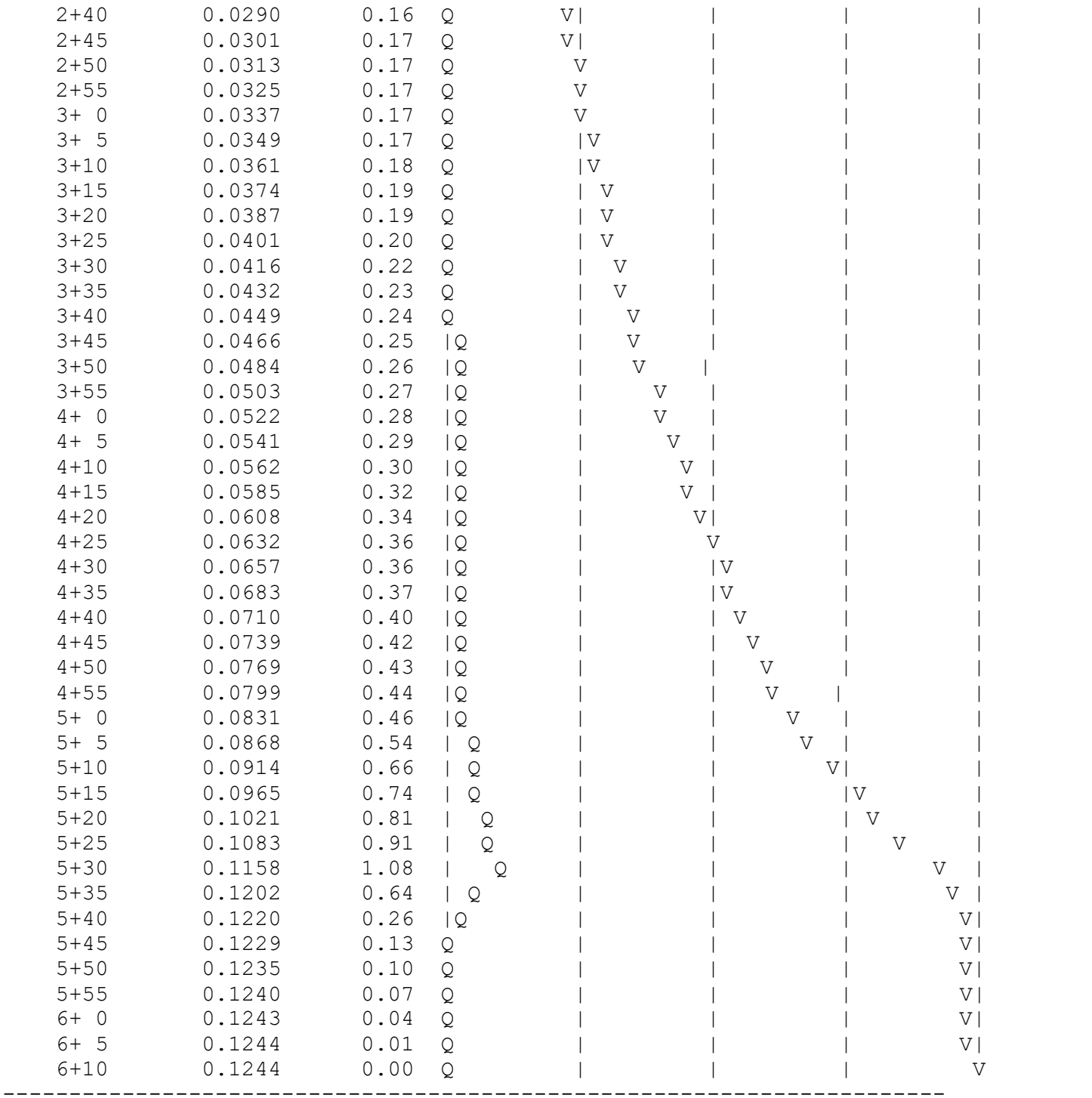
Peak flow rate of this hydrograph = 1.081(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.05	Q				
0+10	0.0010	0.09	Q				
0+15	0.0017	0.10	Q				
0+20	0.0024	0.10	Q				
0+25	0.0031	0.10	QV				
0+30	0.0039	0.11	QV				
0+35	0.0048	0.12	QV				
0+40	0.0056	0.12	QV				
0+45	0.0064	0.12	Q V				
0+50	0.0073	0.12	Q V				
0+55	0.0081	0.12	Q V				
1+ 0	0.0090	0.13	Q V				
1+ 5	0.0100	0.14	Q V				
1+10	0.0109	0.14	Q V				
1+15	0.0119	0.14	Q V				
1+20	0.0128	0.14	Q V				
1+25	0.0138	0.14	Q V				
1+30	0.0147	0.14	Q V				
1+35	0.0157	0.14	Q V				
1+40	0.0166	0.14	Q V				
1+45	0.0176	0.14	Q V				
1+50	0.0185	0.14	Q V				
1+55	0.0195	0.14	Q V				
2+ 0	0.0205	0.15	Q V				
2+ 5	0.0215	0.14	Q V				
2+10	0.0225	0.15	Q V				
2+15	0.0236	0.15	Q V				
2+20	0.0247	0.16	Q V				
2+25	0.0257	0.16	Q V				
2+30	0.0268	0.16	Q V				
2+35	0.0279	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 06/03/26 File: 19267e005I65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	0.95	0.76

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.80	2.26	1.80

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.795	75.00	0.970

Total Area Entered = 0.80(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.970	0.038	1.000	0.038
					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) = 0.120

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	713.013	78.934	0.632
2	0.167	1426.025	21.066	0.169
			Sum = 100.000 Sum=	0.801

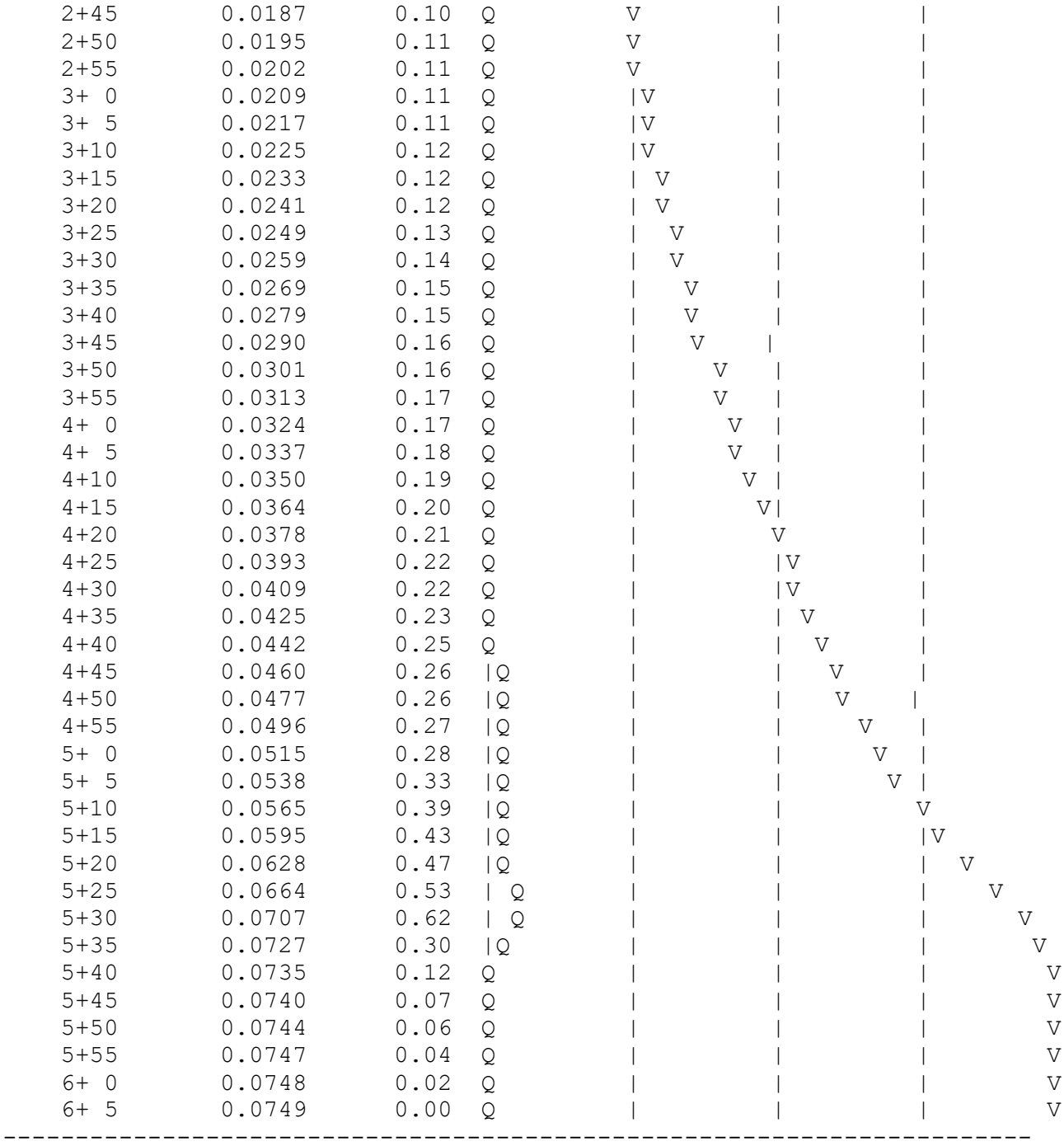
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.076	(0.038)	0.009	0.067
2	0.17	0.60	0.091	(0.038)	0.011	0.080
3	0.25	0.60	0.091	(0.038)	0.011	0.080
4	0.33	0.60	0.091	(0.038)	0.011	0.080
5	0.42	0.60	0.091	(0.038)	0.011	0.080
6	0.50	0.70	0.106	(0.038)	0.013	0.093
7	0.58	0.70	0.106	(0.038)	0.013	0.093
8	0.67	0.70	0.106	(0.038)	0.013	0.093
9	0.75	0.70	0.106	(0.038)	0.013	0.093
10	0.83	0.70	0.106	(0.038)	0.013	0.093
11	0.92	0.70	0.106	(0.038)	0.013	0.093

12	1.00	0.80	0.121	(0.038)	0.015	0.106
13	1.08	0.80	0.121	(0.038)	0.015	0.106
14	1.17	0.80	0.121	(0.038)	0.015	0.106
15	1.25	0.80	0.121	(0.038)	0.015	0.106
16	1.33	0.80	0.121	(0.038)	0.015	0.106
17	1.42	0.80	0.121	(0.038)	0.015	0.106
18	1.50	0.80	0.121	(0.038)	0.015	0.106
19	1.58	0.80	0.121	(0.038)	0.015	0.106
20	1.67	0.80	0.121	(0.038)	0.015	0.106
21	1.75	0.80	0.121	(0.038)	0.015	0.106
22	1.83	0.80	0.121	(0.038)	0.015	0.106
23	1.92	0.80	0.121	(0.038)	0.015	0.106
24	2.00	0.90	0.136	(0.038)	0.016	0.120
25	2.08	0.80	0.121	(0.038)	0.015	0.106
26	2.17	0.90	0.136	(0.038)	0.016	0.120
27	2.25	0.90	0.136	(0.038)	0.016	0.120
28	2.33	0.90	0.136	(0.038)	0.016	0.120
29	2.42	0.90	0.136	(0.038)	0.016	0.120
30	2.50	0.90	0.136	(0.038)	0.016	0.120
31	2.58	0.90	0.136	(0.038)	0.016	0.120
32	2.67	0.90	0.136	(0.038)	0.016	0.120
33	2.75	1.00	0.151	(0.038)	0.018	0.133
34	2.83	1.00	0.151	(0.038)	0.018	0.133
35	2.92	1.00	0.151	(0.038)	0.018	0.133
36	3.00	1.00	0.151	(0.038)	0.018	0.133
37	3.08	1.00	0.151	(0.038)	0.018	0.133
38	3.17	1.10	0.166	(0.038)	0.020	0.146
39	3.25	1.10	0.166	(0.038)	0.020	0.146
40	3.33	1.10	0.166	(0.038)	0.020	0.146
41	3.42	1.20	0.181	(0.038)	0.022	0.160
42	3.50	1.30	0.197	(0.038)	0.024	0.173
43	3.58	1.40	0.212	(0.038)	0.025	0.186
44	3.67	1.40	0.212	(0.038)	0.025	0.186
45	3.75	1.50	0.227	(0.038)	0.027	0.200
46	3.83	1.50	0.227	(0.038)	0.027	0.200
47	3.92	1.60	0.242	(0.038)	0.029	0.213
48	4.00	1.60	0.242	(0.038)	0.029	0.213
49	4.08	1.70	0.257	(0.038)	0.031	0.226
50	4.17	1.80	0.272	(0.038)	0.033	0.239
51	4.25	1.90	0.287	(0.038)	0.034	0.253
52	4.33	2.00	0.302	(0.038)	0.036	0.266
53	4.42	2.10	0.317	(0.038)	0.038	0.279
54	4.50	2.10	0.317	(0.038)	0.038	0.279
55	4.58	2.20	0.333	0.038	(0.040)	0.294
56	4.67	2.30	0.348	0.038	(0.042)	0.309
57	4.75	2.40	0.363	0.038	(0.044)	0.324
58	4.83	2.40	0.363	0.038	(0.044)	0.324
59	4.92	2.50	0.378	0.038	(0.045)	0.339
60	5.00	2.60	0.393	0.038	(0.047)	0.355
61	5.08	3.10	0.469	0.038	(0.056)	0.430
62	5.17	3.60	0.544	0.038	(0.065)	0.506
63	5.25	3.90	0.590	0.038	(0.071)	0.551
64	5.33	4.20	0.635	0.038	(0.076)	0.597
65	5.42	4.70	0.711	0.038	(0.085)	0.672
66	5.50	5.60	0.847	0.038	(0.102)	0.808
67	5.58	1.90	0.287	(0.038)	0.034	0.253
68	5.67	0.90	0.136	(0.038)	0.016	0.120

```
69   5.75     0.60      0.091       (  0.038)       0.011        0.080
70   5.83     0.50      0.076       (  0.038)       0.009        0.067
71   5.92     0.30      0.045       (  0.038)       0.005        0.040
72   6.00     0.20      0.030       (  0.038)       0.004        0.027
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    13.6
    Flood volume = Effective rainfall      1.13(In)
     times area       0.8(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.13(In)
    Total soil loss =     0.009(Ac.Ft)
    Total rainfall =      1.26(In)
    Flood volume =        3260.8 Cubic Feet
    Total soil loss =         375.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.625(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       0.0003      0.04  Q         |         |         |         |
  0+10       0.0007      0.06  Q         |         |         |         |
  0+15       0.0012      0.06  Q         |         |         |         |
  0+20       0.0016      0.06  Q         |         |         |         |
  0+25       0.0020      0.06  QV        |         |         |         |
  0+30       0.0025      0.07  QV        |         |         |         |
  0+35       0.0031      0.07  QV        |         |         |         |
  0+40       0.0036      0.07  QV        |         |         |         |
  0+45       0.0041      0.07  Q V       |         |         |         |
  0+50       0.0046      0.07  Q V       |         |         |         |
  0+55       0.0051      0.07  Q V       |         |         |         |
  1+ 0       0.0057      0.08  Q  V      |         |         |         |
  1+ 5       0.0063      0.09  Q  V      |         |         |         |
  1+10       0.0069      0.09  Q  V      |         |         |         |
  1+15       0.0074      0.09  Q  V      |         |         |         |
  1+20       0.0080      0.09  Q   V     |         |         |         |
  1+25       0.0086      0.09  Q   V     |         |         |         |
  1+30       0.0092      0.09  Q   V     |         |         |         |
  1+35       0.0098      0.09  Q    V    |         |         |         |
  1+40       0.0104      0.09  Q    V    |         |         |         |
  1+45       0.0110      0.09  Q    V    |         |         |         |
  1+50       0.0116      0.09  Q     V   |         |         |         |
  1+55       0.0121      0.09  Q     V   |         |         |         |
  2+ 0       0.0128      0.09  Q     V   |         |         |         |
  2+ 5       0.0134      0.09  Q      V  |         |         |         |
  2+10       0.0140      0.09  Q      V  |         |         |         |
  2+15       0.0147      0.10  Q      V  |         |         |         |
  2+20       0.0154      0.10  Q       V |         |         |         |
  2+25       0.0160      0.10  Q       V |         |         |         |
  2+30       0.0167      0.10  Q       V |         |         |         |
  2+35       0.0173      0.10  Q        V|         |         |         |
  2+40       0.0180      0.10  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 06/03/26 File: 19267e005site65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	0.95	9.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	2.26	21.89

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.210	0.115	1.000	0.115
					Sum (F) =	0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
			Sum = 100.000	Sum= 9.764

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	0.076	(0.115)	0.055	0.020
2	0.17	0.60	0.091	(0.115)	0.066	0.024
3	0.25	0.60	0.091	(0.115)	0.066	0.024
4	0.33	0.60	0.091	(0.115)	0.066	0.024
5	0.42	0.60	0.091	(0.115)	0.066	0.024
6	0.50	0.70	0.106	(0.115)	0.077	0.029
7	0.58	0.70	0.106	(0.115)	0.077	0.029
8	0.67	0.70	0.106	(0.115)	0.077	0.029
9	0.75	0.70	0.106	(0.115)	0.077	0.029
10	0.83	0.70	0.106	(0.115)	0.077	0.029

11	0.92	0.70	0.106	(0.115)	0.077	0.029
12	1.00	0.80	0.121	(0.115)	0.088	0.033
13	1.08	0.80	0.121	(0.115)	0.088	0.033
14	1.17	0.80	0.121	(0.115)	0.088	0.033
15	1.25	0.80	0.121	(0.115)	0.088	0.033
16	1.33	0.80	0.121	(0.115)	0.088	0.033
17	1.42	0.80	0.121	(0.115)	0.088	0.033
18	1.50	0.80	0.121	(0.115)	0.088	0.033
19	1.58	0.80	0.121	(0.115)	0.088	0.033
20	1.67	0.80	0.121	(0.115)	0.088	0.033
21	1.75	0.80	0.121	(0.115)	0.088	0.033
22	1.83	0.80	0.121	(0.115)	0.088	0.033
23	1.92	0.80	0.121	(0.115)	0.088	0.033
24	2.00	0.90	0.136	(0.115)	0.099	0.037
25	2.08	0.80	0.121	(0.115)	0.088	0.033
26	2.17	0.90	0.136	(0.115)	0.099	0.037
27	2.25	0.90	0.136	(0.115)	0.099	0.037
28	2.33	0.90	0.136	(0.115)	0.099	0.037
29	2.42	0.90	0.136	(0.115)	0.099	0.037
30	2.50	0.90	0.136	(0.115)	0.099	0.037
31	2.58	0.90	0.136	(0.115)	0.099	0.037
32	2.67	0.90	0.136	(0.115)	0.099	0.037
33	2.75	1.00	0.151	(0.115)	0.110	0.041
34	2.83	1.00	0.151	(0.115)	0.110	0.041
35	2.92	1.00	0.151	(0.115)	0.110	0.041
36	3.00	1.00	0.151	(0.115)	0.110	0.041
37	3.08	1.00	0.151	(0.115)	0.110	0.041
38	3.17	1.10	0.166	0.115	(0.121)	0.052
39	3.25	1.10	0.166	0.115	(0.121)	0.052
40	3.33	1.10	0.166	0.115	(0.121)	0.052
41	3.42	1.20	0.181	0.115	(0.132)	0.067
42	3.50	1.30	0.197	0.115	(0.143)	0.082
43	3.58	1.40	0.212	0.115	(0.155)	0.097
44	3.67	1.40	0.212	0.115	(0.155)	0.097
45	3.75	1.50	0.227	0.115	(0.166)	0.112
46	3.83	1.50	0.227	0.115	(0.166)	0.112
47	3.92	1.60	0.242	0.115	(0.177)	0.127
48	4.00	1.60	0.242	0.115	(0.177)	0.127
49	4.08	1.70	0.257	0.115	(0.188)	0.142
50	4.17	1.80	0.272	0.115	(0.199)	0.157
51	4.25	1.90	0.287	0.115	(0.210)	0.173
52	4.33	2.00	0.302	0.115	(0.221)	0.188
53	4.42	2.10	0.317	0.115	(0.232)	0.203
54	4.50	2.10	0.317	0.115	(0.232)	0.203
55	4.58	2.20	0.333	0.115	(0.243)	0.218
56	4.67	2.30	0.348	0.115	(0.254)	0.233
57	4.75	2.40	0.363	0.115	(0.265)	0.248
58	4.83	2.40	0.363	0.115	(0.265)	0.248
59	4.92	2.50	0.378	0.115	(0.276)	0.263
60	5.00	2.60	0.393	0.115	(0.287)	0.278
61	5.08	3.10	0.469	0.115	(0.342)	0.354
62	5.17	3.60	0.544	0.115	(0.397)	0.430
63	5.25	3.90	0.590	0.115	(0.430)	0.475
64	5.33	4.20	0.635	0.115	(0.464)	0.520
65	5.42	4.70	0.711	0.115	(0.519)	0.596
66	5.50	5.60	0.847	0.115	(0.618)	0.732
67	5.58	1.90	0.287	0.115	(0.210)	0.173

68	5.67	0.90	0.136	(0.115)	0.099	0.037
69	5.75	0.60	0.091	(0.115)	0.066	0.024
70	5.83	0.50	0.076	(0.115)	0.055	0.020
71	5.92	0.30	0.045	(0.115)	0.033	0.012
72	6.00	0.20	0.030	(0.115)	0.022	0.008

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.1

Flood volume = Effective rainfall 0.68(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.58(In)
Total soil loss = 0.471(Ac.Ft)
Total rainfall = 1.26(In)
Flood volume = 23809.2 Cubic Feet
Total soil loss = 20496.6 Cubic Feet

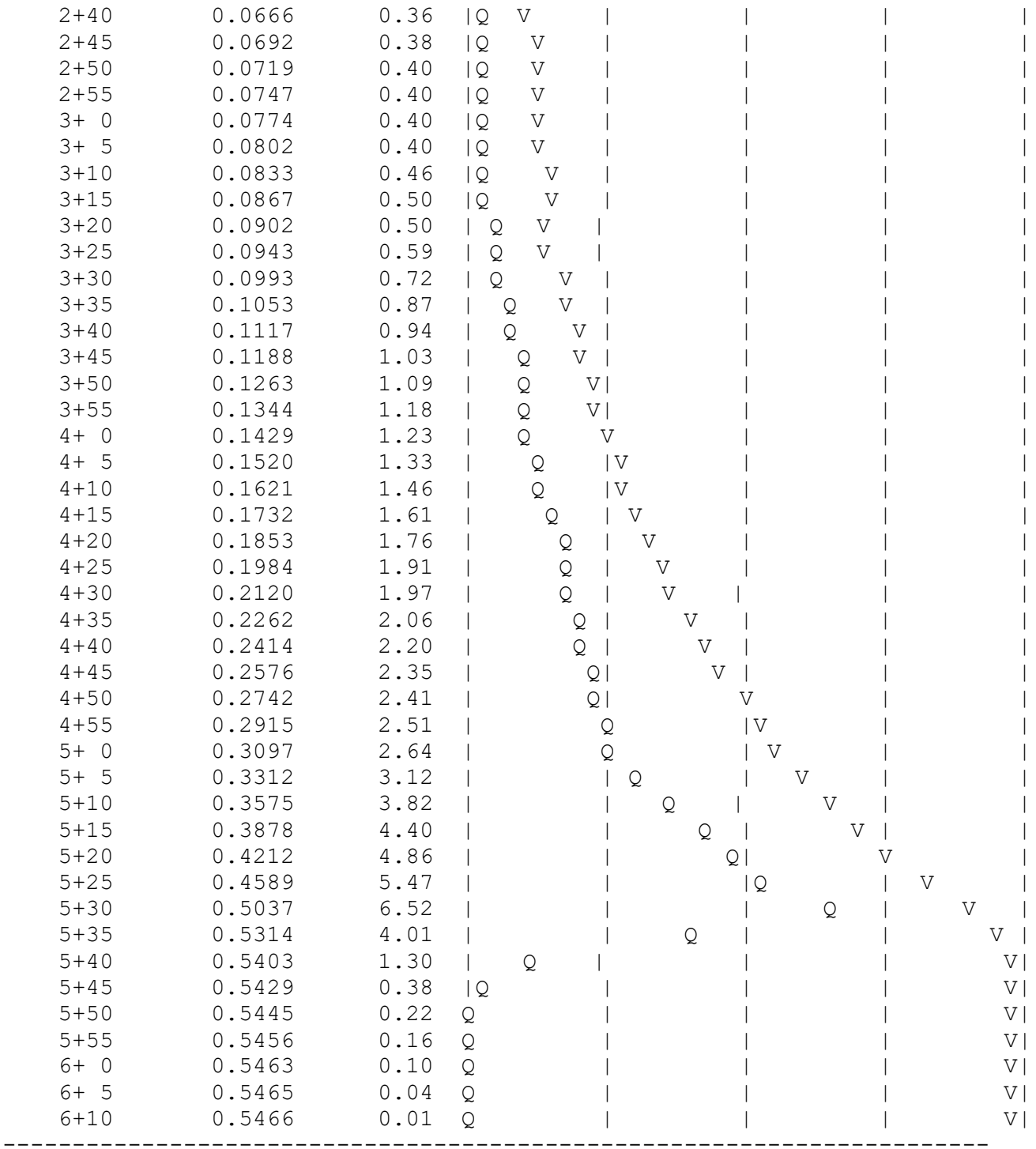
Peak flow rate of this hydrograph = 6.515(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0008	0.11	Q				
0+10	0.0022	0.21	Q				
0+15	0.0038	0.24	Q				
0+20	0.0055	0.24	Q				
0+25	0.0071	0.24	Q				
0+30	0.0089	0.26	VQ				
0+35	0.0108	0.28	VQ				
0+40	0.0128	0.28	VQ				
0+45	0.0147	0.28	|Q				
0+50	0.0166	0.28	|Q				
0+55	0.0185	0.28	|Q				
1+ 0	0.0206	0.30	|Q				
1+ 5	0.0228	0.32	|Q				
1+10	0.0250	0.32	|Q				
1+15	0.0272	0.32	|Q				
1+20	0.0294	0.32	|QV				
1+25	0.0316	0.32	|QV				
1+30	0.0338	0.32	|QV				
1+35	0.0360	0.32	|QV				
1+40	0.0382	0.32	|QV				
1+45	0.0404	0.32	|QV				
1+50	0.0426	0.32	|Q V				
1+55	0.0447	0.32	|Q V				
2+ 0	0.0471	0.34	|Q V				
2+ 5	0.0494	0.33	|Q V				
2+10	0.0518	0.34	|Q V				
2+15	0.0542	0.36	|Q V				
2+20	0.0567	0.36	|Q V				
2+25	0.0592	0.36	|Q V				
2+30	0.0616	0.36	|Q V				
2+35	0.0641	0.36	|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 06/03/26 File: 19267e005A245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	1.66	9.79

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	4.10	24.18

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.231(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.000	0.141	1.000	0.141
					Sum (F) =	0.141

Area averaged mean soil loss (F) (In/Hr) = 0.141
Minimum soil loss rate ((In/Hr)) = 0.071
(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 (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
		Sum = 100.000	Sum=	5.943

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.251)	0.016	0.002
2	0.17	0.07	0.018	(0.250)	0.016	0.002
3	0.25	0.07	0.018	(0.249)	0.016	0.002
4	0.33	0.10	0.027	(0.248)	0.024	0.003
5	0.42	0.10	0.027	(0.247)	0.024	0.003
6	0.50	0.10	0.027	(0.246)	0.024	0.003
7	0.58	0.10	0.027	(0.245)	0.024	0.003
8	0.67	0.10	0.027	(0.244)	0.024	0.003
9	0.75	0.10	0.027	(0.243)	0.024	0.003
10	0.83	0.13	0.036	(0.242)	0.032	0.004

11	0.92	0.13	0.036	(0.241)	0.032	0.004
12	1.00	0.13	0.036	(0.240)	0.032	0.004
13	1.08	0.10	0.027	(0.239)	0.024	0.003
14	1.17	0.10	0.027	(0.238)	0.024	0.003
15	1.25	0.10	0.027	(0.237)	0.024	0.003
16	1.33	0.10	0.027	(0.236)	0.024	0.003
17	1.42	0.10	0.027	(0.235)	0.024	0.003
18	1.50	0.10	0.027	(0.234)	0.024	0.003
19	1.58	0.10	0.027	(0.234)	0.024	0.003
20	1.67	0.10	0.027	(0.233)	0.024	0.003
21	1.75	0.10	0.027	(0.232)	0.024	0.003
22	1.83	0.13	0.036	(0.231)	0.032	0.004
23	1.92	0.13	0.036	(0.230)	0.032	0.004
24	2.00	0.13	0.036	(0.229)	0.032	0.004
25	2.08	0.13	0.036	(0.228)	0.032	0.004
26	2.17	0.13	0.036	(0.227)	0.032	0.004
27	2.25	0.13	0.036	(0.226)	0.032	0.004
28	2.33	0.13	0.036	(0.225)	0.032	0.004
29	2.42	0.13	0.036	(0.224)	0.032	0.004
30	2.50	0.13	0.036	(0.223)	0.032	0.004
31	2.58	0.17	0.045	(0.222)	0.040	0.004
32	2.67	0.17	0.045	(0.221)	0.040	0.004
33	2.75	0.17	0.045	(0.221)	0.040	0.004
34	2.83	0.17	0.045	(0.220)	0.040	0.004
35	2.92	0.17	0.045	(0.219)	0.040	0.004
36	3.00	0.17	0.045	(0.218)	0.040	0.004
37	3.08	0.17	0.045	(0.217)	0.040	0.004
38	3.17	0.17	0.045	(0.216)	0.040	0.004
39	3.25	0.17	0.045	(0.215)	0.040	0.004
40	3.33	0.17	0.045	(0.214)	0.040	0.004
41	3.42	0.17	0.045	(0.213)	0.040	0.004
42	3.50	0.17	0.045	(0.212)	0.040	0.004
43	3.58	0.17	0.045	(0.212)	0.040	0.004
44	3.67	0.17	0.045	(0.211)	0.040	0.004
45	3.75	0.17	0.045	(0.210)	0.040	0.004
46	3.83	0.20	0.054	(0.209)	0.048	0.005
47	3.92	0.20	0.054	(0.208)	0.048	0.005
48	4.00	0.20	0.054	(0.207)	0.048	0.005
49	4.08	0.20	0.054	(0.206)	0.048	0.005
50	4.17	0.20	0.054	(0.205)	0.048	0.005
51	4.25	0.20	0.054	(0.205)	0.048	0.005
52	4.33	0.23	0.062	(0.204)	0.056	0.006
53	4.42	0.23	0.062	(0.203)	0.056	0.006
54	4.50	0.23	0.062	(0.202)	0.056	0.006
55	4.58	0.23	0.062	(0.201)	0.056	0.006
56	4.67	0.23	0.062	(0.200)	0.056	0.006
57	4.75	0.23	0.062	(0.199)	0.056	0.006
58	4.83	0.27	0.071	(0.198)	0.064	0.007
59	4.92	0.27	0.071	(0.198)	0.064	0.007
60	5.00	0.27	0.071	(0.197)	0.064	0.007
61	5.08	0.20	0.054	(0.196)	0.048	0.005
62	5.17	0.20	0.054	(0.195)	0.048	0.005
63	5.25	0.20	0.054	(0.194)	0.048	0.005
64	5.33	0.23	0.062	(0.193)	0.056	0.006
65	5.42	0.23	0.062	(0.193)	0.056	0.006
66	5.50	0.23	0.062	(0.192)	0.056	0.006
67	5.58	0.27	0.071	(0.191)	0.064	0.007

68	5.67	0.27	0.071	(0.190)	0.064	0.007
69	5.75	0.27	0.071	(0.189)	0.064	0.007
70	5.83	0.27	0.071	(0.188)	0.064	0.007
71	5.92	0.27	0.071	(0.187)	0.064	0.007
72	6.00	0.27	0.071	(0.187)	0.064	0.007
73	6.08	0.30	0.080	(0.186)	0.072	0.008
74	6.17	0.30	0.080	(0.185)	0.072	0.008
75	6.25	0.30	0.080	(0.184)	0.072	0.008
76	6.33	0.30	0.080	(0.183)	0.072	0.008
77	6.42	0.30	0.080	(0.183)	0.072	0.008
78	6.50	0.30	0.080	(0.182)	0.072	0.008
79	6.58	0.33	0.089	(0.181)	0.080	0.009
80	6.67	0.33	0.089	(0.180)	0.080	0.009
81	6.75	0.33	0.089	(0.179)	0.080	0.009
82	6.83	0.33	0.089	(0.178)	0.080	0.009
83	6.92	0.33	0.089	(0.178)	0.080	0.009
84	7.00	0.33	0.089	(0.177)	0.080	0.009
85	7.08	0.33	0.089	(0.176)	0.080	0.009
86	7.17	0.33	0.089	(0.175)	0.080	0.009
87	7.25	0.33	0.089	(0.174)	0.080	0.009
88	7.33	0.37	0.098	(0.174)	0.088	0.010
89	7.42	0.37	0.098	(0.173)	0.088	0.010
90	7.50	0.37	0.098	(0.172)	0.088	0.010
91	7.58	0.40	0.107	(0.171)	0.096	0.011
92	7.67	0.40	0.107	(0.170)	0.096	0.011
93	7.75	0.40	0.107	(0.170)	0.096	0.011
94	7.83	0.43	0.116	(0.169)	0.104	0.012
95	7.92	0.43	0.116	(0.168)	0.104	0.012
96	8.00	0.43	0.116	(0.167)	0.104	0.012
97	8.08	0.50	0.134	(0.167)	0.121	0.013
98	8.17	0.50	0.134	(0.166)	0.121	0.013
99	8.25	0.50	0.134	(0.165)	0.121	0.013
100	8.33	0.50	0.134	(0.164)	0.121	0.013
101	8.42	0.50	0.134	(0.163)	0.121	0.013
102	8.50	0.50	0.134	(0.163)	0.121	0.013
103	8.58	0.53	0.143	(0.162)	0.129	0.014
104	8.67	0.53	0.143	(0.161)	0.129	0.014
105	8.75	0.53	0.143	(0.160)	0.129	0.014
106	8.83	0.57	0.152	(0.160)	0.137	0.015
107	8.92	0.57	0.152	(0.159)	0.137	0.015
108	9.00	0.57	0.152	(0.158)	0.137	0.015
109	9.08	0.63	0.170	(0.157)	0.153	0.017
110	9.17	0.63	0.170	(0.157)	0.153	0.017
111	9.25	0.63	0.170	(0.156)	0.153	0.017
112	9.33	0.67	0.179	0.155	(0.161)	0.023
113	9.42	0.67	0.179	0.154	(0.161)	0.024
114	9.50	0.67	0.179	0.154	(0.161)	0.025
115	9.58	0.70	0.187	0.153	(0.169)	0.034
116	9.67	0.70	0.187	0.152	(0.169)	0.035
117	9.75	0.70	0.187	0.151	(0.169)	0.036
118	9.83	0.73	0.196	0.151	(0.177)	0.046
119	9.92	0.73	0.196	0.150	(0.177)	0.046
120	10.00	0.73	0.196	0.149	(0.177)	0.047
121	10.08	0.50	0.134	(0.149)	0.121	0.013
122	10.17	0.50	0.134	(0.148)	0.121	0.013
123	10.25	0.50	0.134	(0.147)	0.121	0.013
124	10.33	0.50	0.134	(0.146)	0.121	0.013

125	10.42	0.50	0.134	(	0.146)		0.121	0.013
126	10.50	0.50	0.134	(	0.145)		0.121	0.013
127	10.58	0.67	0.179		0.144	(	0.161)	0.034
128	10.67	0.67	0.179		0.144	(	0.161)	0.035
129	10.75	0.67	0.179		0.143	(	0.161)	0.036
130	10.83	0.67	0.179		0.142	(	0.161)	0.036
131	10.92	0.67	0.179		0.142	(	0.161)	0.037
132	11.00	0.67	0.179		0.141	(	0.161)	0.038
133	11.08	0.63	0.170		0.140	(	0.153)	0.029
134	11.17	0.63	0.170		0.139	(	0.153)	0.030
135	11.25	0.63	0.170		0.139	(	0.153)	0.031
136	11.33	0.63	0.170		0.138	(	0.153)	0.032
137	11.42	0.63	0.170		0.137	(	0.153)	0.032
138	11.50	0.63	0.170		0.137	(	0.153)	0.033
139	11.58	0.57	0.152		0.136	(	0.137)	0.016
140	11.67	0.57	0.152		0.135	(	0.137)	0.016
141	11.75	0.57	0.152		0.135	(	0.137)	0.017
142	11.83	0.60	0.161		0.134	(	0.145)	0.027
143	11.92	0.60	0.161		0.133	(	0.145)	0.027
144	12.00	0.60	0.161		0.133	(	0.145)	0.028
145	12.08	0.83	0.223		0.132	(	0.201)	0.091
146	12.17	0.83	0.223		0.131	(	0.201)	0.092
147	12.25	0.83	0.223		0.131	(	0.201)	0.092
148	12.33	0.87	0.232		0.130	(	0.209)	0.102
149	12.42	0.87	0.232		0.129	(	0.209)	0.103
150	12.50	0.87	0.232		0.129	(	0.209)	0.103
151	12.58	0.93	0.250		0.128	(	0.225)	0.122
152	12.67	0.93	0.250		0.127	(	0.225)	0.123
153	12.75	0.93	0.250		0.127	(	0.225)	0.123
154	12.83	0.97	0.259		0.126	(	0.233)	0.133
155	12.92	0.97	0.259		0.126	(	0.233)	0.133
156	13.00	0.97	0.259		0.125	(	0.233)	0.134
157	13.08	1.13	0.303		0.124	(	0.273)	0.179
158	13.17	1.13	0.303		0.124	(	0.273)	0.180
159	13.25	1.13	0.303		0.123	(	0.273)	0.181
160	13.33	1.13	0.303		0.122	(	0.273)	0.181
161	13.42	1.13	0.303		0.122	(	0.273)	0.182
162	13.50	1.13	0.303		0.121	(	0.273)	0.182
163	13.58	0.77	0.205		0.120	(	0.185)	0.085
164	13.67	0.77	0.205		0.120	(	0.185)	0.085
165	13.75	0.77	0.205		0.119	(	0.185)	0.086
166	13.83	0.77	0.205		0.119	(	0.185)	0.087
167	13.92	0.77	0.205		0.118	(	0.185)	0.087
168	14.00	0.77	0.205		0.117	(	0.185)	0.088
169	14.08	0.90	0.241		0.117	(	0.217)	0.124
170	14.17	0.90	0.241		0.116	(	0.217)	0.125
171	14.25	0.90	0.241		0.116	(	0.217)	0.125
172	14.33	0.87	0.232		0.115	(	0.209)	0.117
173	14.42	0.87	0.232		0.114	(	0.209)	0.118
174	14.50	0.87	0.232		0.114	(	0.209)	0.118
175	14.58	0.87	0.232		0.113	(	0.209)	0.119
176	14.67	0.87	0.232		0.113	(	0.209)	0.119
177	14.75	0.87	0.232		0.112	(	0.209)	0.120
178	14.83	0.83	0.223		0.112	(	0.201)	0.112
179	14.92	0.83	0.223		0.111	(	0.201)	0.112
180	15.00	0.83	0.223		0.110	(	0.201)	0.113
181	15.08	0.80	0.214		0.110	(	0.193)	0.104

182	15.17	0.80	0.214	0.109	(0.193)	0.105
183	15.25	0.80	0.214	0.109	(0.193)	0.105
184	15.33	0.77	0.205	0.108	(0.185)	0.097
185	15.42	0.77	0.205	0.108	(0.185)	0.098
186	15.50	0.77	0.205	0.107	(0.185)	0.098
187	15.58	0.63	0.170	0.107	(0.153)	0.063
188	15.67	0.63	0.170	0.106	(0.153)	0.064
189	15.75	0.63	0.170	0.105	(0.153)	0.064
190	15.83	0.63	0.170	0.105	(0.153)	0.065
191	15.92	0.63	0.170	0.104	(0.153)	0.065
192	16.00	0.63	0.170	0.104	(0.153)	0.066
193	16.08	0.13	0.036	(0.103)	0.032	0.004
194	16.17	0.13	0.036	(0.103)	0.032	0.004
195	16.25	0.13	0.036	(0.102)	0.032	0.004
196	16.33	0.13	0.036	(0.102)	0.032	0.004
197	16.42	0.13	0.036	(0.101)	0.032	0.004
198	16.50	0.13	0.036	(0.101)	0.032	0.004
199	16.58	0.10	0.027	(0.100)	0.024	0.003
200	16.67	0.10	0.027	(0.100)	0.024	0.003
201	16.75	0.10	0.027	(0.099)	0.024	0.003
202	16.83	0.10	0.027	(0.099)	0.024	0.003
203	16.92	0.10	0.027	(0.098)	0.024	0.003
204	17.00	0.10	0.027	(0.098)	0.024	0.003
205	17.08	0.17	0.045	(0.097)	0.040	0.004
206	17.17	0.17	0.045	(0.097)	0.040	0.004
207	17.25	0.17	0.045	(0.096)	0.040	0.004
208	17.33	0.17	0.045	(0.096)	0.040	0.004
209	17.42	0.17	0.045	(0.095)	0.040	0.004
210	17.50	0.17	0.045	(0.095)	0.040	0.004
211	17.58	0.17	0.045	(0.094)	0.040	0.004
212	17.67	0.17	0.045	(0.094)	0.040	0.004
213	17.75	0.17	0.045	(0.093)	0.040	0.004
214	17.83	0.13	0.036	(0.093)	0.032	0.004
215	17.92	0.13	0.036	(0.092)	0.032	0.004
216	18.00	0.13	0.036	(0.092)	0.032	0.004
217	18.08	0.13	0.036	(0.092)	0.032	0.004
218	18.17	0.13	0.036	(0.091)	0.032	0.004
219	18.25	0.13	0.036	(0.091)	0.032	0.004
220	18.33	0.13	0.036	(0.090)	0.032	0.004
221	18.42	0.13	0.036	(0.090)	0.032	0.004
222	18.50	0.13	0.036	(0.089)	0.032	0.004
223	18.58	0.10	0.027	(0.089)	0.024	0.003
224	18.67	0.10	0.027	(0.088)	0.024	0.003
225	18.75	0.10	0.027	(0.088)	0.024	0.003
226	18.83	0.07	0.018	(0.088)	0.016	0.002
227	18.92	0.07	0.018	(0.087)	0.016	0.002
228	19.00	0.07	0.018	(0.087)	0.016	0.002
229	19.08	0.10	0.027	(0.086)	0.024	0.003
230	19.17	0.10	0.027	(0.086)	0.024	0.003
231	19.25	0.10	0.027	(0.086)	0.024	0.003
232	19.33	0.13	0.036	(0.085)	0.032	0.004
233	19.42	0.13	0.036	(0.085)	0.032	0.004
234	19.50	0.13	0.036	(0.084)	0.032	0.004
235	19.58	0.10	0.027	(0.084)	0.024	0.003
236	19.67	0.10	0.027	(0.084)	0.024	0.003
237	19.75	0.10	0.027	(0.083)	0.024	0.003
238	19.83	0.07	0.018	(0.083)	0.016	0.002

239	19.92	0.07	0.018	(0.082)	0.016	0.002
240	20.00	0.07	0.018	(0.082)	0.016	0.002
241	20.08	0.10	0.027	(0.082)	0.024	0.003
242	20.17	0.10	0.027	(0.081)	0.024	0.003
243	20.25	0.10	0.027	(0.081)	0.024	0.003
244	20.33	0.10	0.027	(0.081)	0.024	0.003
245	20.42	0.10	0.027	(0.080)	0.024	0.003
246	20.50	0.10	0.027	(0.080)	0.024	0.003
247	20.58	0.10	0.027	(0.080)	0.024	0.003
248	20.67	0.10	0.027	(0.079)	0.024	0.003
249	20.75	0.10	0.027	(0.079)	0.024	0.003
250	20.83	0.07	0.018	(0.079)	0.016	0.002
251	20.92	0.07	0.018	(0.078)	0.016	0.002
252	21.00	0.07	0.018	(0.078)	0.016	0.002
253	21.08	0.10	0.027	(0.078)	0.024	0.003
254	21.17	0.10	0.027	(0.077)	0.024	0.003
255	21.25	0.10	0.027	(0.077)	0.024	0.003
256	21.33	0.07	0.018	(0.077)	0.016	0.002
257	21.42	0.07	0.018	(0.077)	0.016	0.002
258	21.50	0.07	0.018	(0.076)	0.016	0.002
259	21.58	0.10	0.027	(0.076)	0.024	0.003
260	21.67	0.10	0.027	(0.076)	0.024	0.003
261	21.75	0.10	0.027	(0.075)	0.024	0.003
262	21.83	0.07	0.018	(0.075)	0.016	0.002
263	21.92	0.07	0.018	(0.075)	0.016	0.002
264	22.00	0.07	0.018	(0.075)	0.016	0.002
265	22.08	0.10	0.027	(0.074)	0.024	0.003
266	22.17	0.10	0.027	(0.074)	0.024	0.003
267	22.25	0.10	0.027	(0.074)	0.024	0.003
268	22.33	0.07	0.018	(0.074)	0.016	0.002
269	22.42	0.07	0.018	(0.073)	0.016	0.002
270	22.50	0.07	0.018	(0.073)	0.016	0.002
271	22.58	0.07	0.018	(0.073)	0.016	0.002
272	22.67	0.07	0.018	(0.073)	0.016	0.002
273	22.75	0.07	0.018	(0.073)	0.016	0.002
274	22.83	0.07	0.018	(0.072)	0.016	0.002
275	22.92	0.07	0.018	(0.072)	0.016	0.002
276	23.00	0.07	0.018	(0.072)	0.016	0.002
277	23.08	0.07	0.018	(0.072)	0.016	0.002
278	23.17	0.07	0.018	(0.072)	0.016	0.002
279	23.25	0.07	0.018	(0.072)	0.016	0.002
280	23.33	0.07	0.018	(0.071)	0.016	0.002
281	23.42	0.07	0.018	(0.071)	0.016	0.002
282	23.50	0.07	0.018	(0.071)	0.016	0.002
283	23.58	0.07	0.018	(0.071)	0.016	0.002
284	23.67	0.07	0.018	(0.071)	0.016	0.002
285	23.75	0.07	0.018	(0.071)	0.016	0.002
286	23.83	0.07	0.018	(0.071)	0.016	0.002
287	23.92	0.07	0.018	(0.071)	0.016	0.002
288	24.00	0.07	0.018	(0.071)	0.016	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.3

Flood volume = Effective rainfall 0.61(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 1.62(In)
Total soil loss = 0.797(Ac.Ft)
Total rainfall = 2.23(In)

Flood volume = 13069.3 Cubic Feet
Total soil loss = 34698.0 Cubic Feet

Peak flow rate of this hydrograph = 1.083(CFS)

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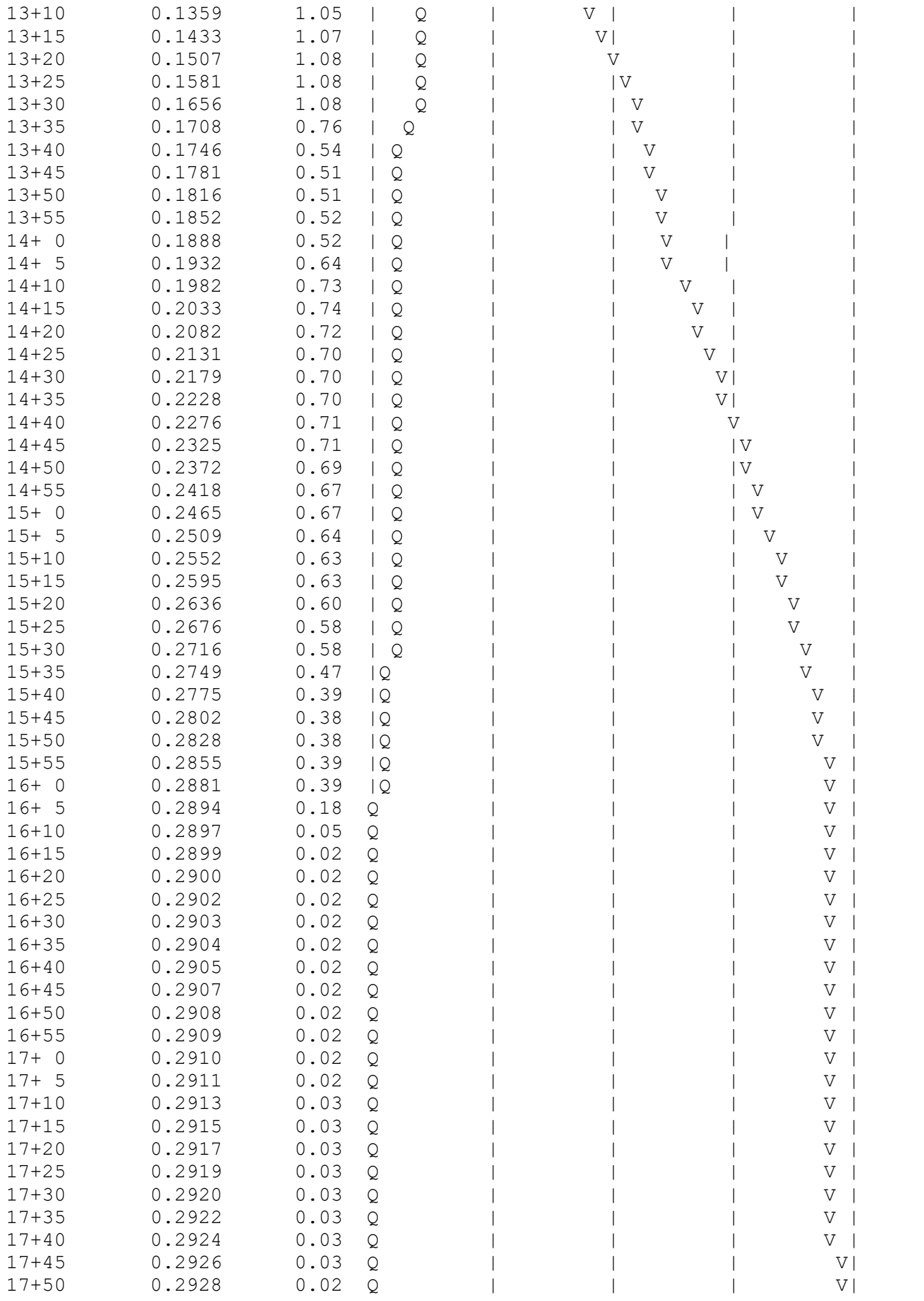
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0003	0.01	Q				
0+25	0.0004	0.02	Q				
0+30	0.0005	0.02	Q				
0+35	0.0006	0.02	Q				
0+40	0.0007	0.02	Q				
0+45	0.0008	0.02	Q				
0+50	0.0010	0.02	Q				
0+55	0.0011	0.02	Q				
1+ 0	0.0012	0.02	Q				
1+ 5	0.0014	0.02	Q				
1+10	0.0015	0.02	Q				
1+15	0.0016	0.02	Q				
1+20	0.0017	0.02	Q				
1+25	0.0018	0.02	Q				
1+30	0.0019	0.02	Q				
1+35	0.0020	0.02	Q				
1+40	0.0021	0.02	Q				
1+45	0.0022	0.02	Q				
1+50	0.0024	0.02	Q				
1+55	0.0025	0.02	Q				
2+ 0	0.0027	0.02	Q				
2+ 5	0.0028	0.02	Q				
2+10	0.0030	0.02	Q				
2+15	0.0031	0.02	Q				
2+20	0.0033	0.02	Q				
2+25	0.0034	0.02	Q				
2+30	0.0035	0.02	Q				
2+35	0.0037	0.02	Q				
2+40	0.0039	0.03	Q				
2+45	0.0041	0.03	Q				
2+50	0.0043	0.03	Q				
2+55	0.0044	0.03	Q				
3+ 0	0.0046	0.03	Q				
3+ 5	0.0048	0.03	Q				
3+10	0.0050	0.03	Q				
3+15	0.0052	0.03	Q				
3+20	0.0054	0.03	Q				
3+25	0.0055	0.03	Q				
3+30	0.0057	0.03	Q				
3+35	0.0059	0.03	Q				

3+40	0.0061	0.03	Q				
3+45	0.0063	0.03	Q				
3+50	0.0065	0.03	Q				
3+55	0.0067	0.03	Q				
4+ 0	0.0069	0.03	Q				
4+ 5	0.0071	0.03	Q				
4+10	0.0073	0.03	Q				
4+15	0.0076	0.03	QV				
4+20	0.0078	0.03	QV				
4+25	0.0081	0.04	QV				
4+30	0.0083	0.04	QV				
4+35	0.0086	0.04	QV				
4+40	0.0088	0.04	QV				
4+45	0.0091	0.04	QV				
4+50	0.0094	0.04	QV				
4+55	0.0096	0.04	QV				
5+ 0	0.0099	0.04	QV				
5+ 5	0.0102	0.04	QV				
5+10	0.0104	0.03	QV				
5+15	0.0106	0.03	QV				
5+20	0.0109	0.03	QV				
5+25	0.0111	0.04	QV				
5+30	0.0114	0.04	QV				
5+35	0.0117	0.04	QV				
5+40	0.0120	0.04	QV				
5+45	0.0122	0.04	QV				
5+50	0.0125	0.04	QV				
5+55	0.0128	0.04	QV				
6+ 0	0.0131	0.04	QV				
6+ 5	0.0134	0.05	QV				
6+10	0.0138	0.05	QV				
6+15	0.0141	0.05	QV				
6+20	0.0144	0.05	QV				
6+25	0.0147	0.05	QV				
6+30	0.0151	0.05	Q V				
6+35	0.0154	0.05	Q V				
6+40	0.0158	0.05	Q V				
6+45	0.0162	0.05	Q V				
6+50	0.0165	0.05	Q V				
6+55	0.0169	0.05	Q V				
7+ 0	0.0173	0.05	Q V				
7+ 5	0.0176	0.05	Q V				
7+10	0.0180	0.05	Q V				
7+15	0.0183	0.05	Q V				
7+20	0.0187	0.06	Q V				
7+25	0.0191	0.06	Q V				
7+30	0.0195	0.06	Q V				
7+35	0.0200	0.06	Q V				
7+40	0.0204	0.06	Q V				
7+45	0.0208	0.06	Q V				
7+50	0.0213	0.07	Q V				
7+55	0.0218	0.07	Q V				
8+ 0	0.0222	0.07	Q V				
8+ 5	0.0228	0.07	Q V				
8+10	0.0233	0.08	Q V				
8+15	0.0238	0.08	Q V				
8+20	0.0244	0.08	Q V				

8+25	0.0249	0.08	Q V	|	|	|	|
8+30	0.0255	0.08	Q V	|	|	|	|
8+35	0.0261	0.08	Q V	|	|	|	|
8+40	0.0266	0.08	Q V	|	|	|	|
8+45	0.0272	0.08	Q V	|	|	|	|
8+50	0.0278	0.09	Q V	|	|	|	|
8+55	0.0285	0.09	Q V	|	|	|	|
9+ 0	0.0291	0.09	Q V	|	|	|	|
9+ 5	0.0297	0.10	Q V	|	|	|	|
9+10	0.0304	0.10	Q V	|	|	|	|
9+15	0.0311	0.10	Q V	|	|	|	|
9+20	0.0320	0.12	Q V	|	|	|	|
9+25	0.0329	0.14	Q V	|	|	|	|
9+30	0.0339	0.15	Q V	|	|	|	|
9+35	0.0352	0.18	Q V	|	|	|	|
9+40	0.0366	0.20	Q V	|	|	|	|
9+45	0.0380	0.21	Q V	|	|	|	|
9+50	0.0397	0.25	Q V	|	|	|	|
9+55	0.0416	0.27	|Q V	|	|	|	|
10+ 0	0.0435	0.28	|Q V	|	|	|	|
10+ 5	0.0446	0.17	Q V	|	|	|	|
10+10	0.0453	0.09	Q V	|	|	|	|
10+15	0.0458	0.08	Q V	|	|	|	|
10+20	0.0464	0.08	Q V	|	|	|	|
10+25	0.0469	0.08	Q V	|	|	|	|
10+30	0.0475	0.08	Q V	|	|	|	|
10+35	0.0485	0.15	Q V	|	|	|	|
10+40	0.0498	0.20	Q V	|	|	|	|
10+45	0.0513	0.21	Q V	|	|	|	|
10+50	0.0528	0.21	Q V	|	|	|	|
10+55	0.0543	0.22	Q V	|	|	|	|
11+ 0	0.0558	0.22	Q V	|	|	|	|
11+ 5	0.0571	0.20	Q V	|	|	|	|
11+10	0.0584	0.18	Q V	|	|	|	|
11+15	0.0596	0.18	Q V	|	|	|	|
11+20	0.0609	0.19	Q V	|	|	|	|
11+25	0.0622	0.19	Q V	|	|	|	|
11+30	0.0636	0.19	Q V	|	|	|	|
11+35	0.0645	0.14	Q V	|	|	|	|
11+40	0.0652	0.10	Q V	|	|	|	|
11+45	0.0659	0.10	Q V	|	|	|	|
11+50	0.0668	0.13	Q V	|	|	|	|
11+55	0.0679	0.16	Q V	|	|	|	|
12+ 0	0.0690	0.16	Q V	|	|	|	|
12+ 5	0.0716	0.38	|Q V	|	|	|	|
12+10	0.0752	0.52	| Q V	|	|	|	|
12+15	0.0790	0.55	| Q V	|	|	|	|
12+20	0.0830	0.58	| Q V	|	|	|	|
12+25	0.0871	0.61	| Q V	|	|	|	|
12+30	0.0914	0.61	| Q V	|	|	|	|
12+35	0.0960	0.68	| Q V	|	|	|	|
12+40	0.1010	0.72	| Q V	|	|	|	|
12+45	0.1060	0.73	| Q V	|	|	|	|
12+50	0.1113	0.76	| Q V	|	|	|	|
12+55	0.1167	0.79	| Q V	|	|	|	|
13+ 0	0.1222	0.79	| Q V	|	|	|	|
13+ 5	0.1287	0.95	| Q V	|	|	|	|


13+10 0.1359 1.05
13+15 0.1433 1.07
13+20 0.1507 1.08
13+25 0.1581 1.08
13+30 0.1656 1.08
13+35 0.1708 0.76
13+40 0.1746 0.54
13+45 0.1781 0.51
13+50 0.1816 0.51
13+55 0.1852 0.52
14+ 0 0.1888 0.52
14+ 5 0.1932 0.64
14+10 0.1982 0.73
14+15 0.2033 0.74
14+20 0.2082 0.72
14+25 0.2131 0.70
14+30 0.2179 0.70
14+35 0.2228 0.70
14+40 0.2276 0.71
14+45 0.2325 0.71
14+50 0.2372 0.69
14+55 0.2418 0.67
15+ 0 0.2465 0.67
15+ 5 0.2509 0.64
15+10 0.2552 0.63
15+15 0.2595 0.63
15+20 0.2636 0.60
15+25 0.2676 0.58
15+30 0.2716 0.58
15+35 0.2749 0.47
15+40 0.2775 0.39
15+45 0.2802 0.38
15+50 0.2828 0.38
15+55 0.2855 0.39
16+ 0 0.2881 0.39
16+ 5 0.2894 0.18
16+10 0.2897 0.05
16+15 0.2899 0.02
16+20 0.2900 0.02
16+25 0.2902 0.02
16+30 0.2903 0.02
16+35 0.2904 0.02
16+40 0.2905 0.02
16+45 0.2907 0.02
16+50 0.2908 0.02
16+55 0.2909 0.02
17+ 0 0.2910 0.02
17+ 5 0.2911 0.02
17+10 0.2913 0.03
17+15 0.2915 0.03
17+20 0.2917 0.03
17+25 0.2919 0.03
17+30 0.2920 0.03
17+35 0.2922 0.03
17+40 0.2924 0.03
17+45 0.2926 0.03
17+50 0.2928 0.02

17+55	0.2929	0.02	Q	|	|	|	V|
18+ 0	0.2930	0.02	Q	|	|	|	V|
18+ 5	0.2932	0.02	Q	|	|	|	V|
18+10	0.2933	0.02	Q	|	|	|	V|
18+15	0.2935	0.02	Q	|	|	|	V|
18+20	0.2936	0.02	Q	|	|	|	V|
18+25	0.2938	0.02	Q	|	|	|	V|
18+30	0.2939	0.02	Q	|	|	|	V|
18+35	0.2941	0.02	Q	|	|	|	V|
18+40	0.2942	0.02	Q	|	|	|	V|
18+45	0.2943	0.02	Q	|	|	|	V|
18+50	0.2944	0.01	Q	|	|	|	V|
18+55	0.2944	0.01	Q	|	|	|	V|
19+ 0	0.2945	0.01	Q	|	|	|	V|
19+ 5	0.2946	0.01	Q	|	|	|	V|
19+10	0.2947	0.02	Q	|	|	|	V|
19+15	0.2948	0.02	Q	|	|	|	V|
19+20	0.2950	0.02	Q	|	|	|	V|
19+25	0.2951	0.02	Q	|	|	|	V|
19+30	0.2952	0.02	Q	|	|	|	V|
19+35	0.2954	0.02	Q	|	|	|	V|
19+40	0.2955	0.02	Q	|	|	|	V|
19+45	0.2956	0.02	Q	|	|	|	V|
19+50	0.2957	0.01	Q	|	|	|	V|
19+55	0.2958	0.01	Q	|	|	|	V|
20+ 0	0.2958	0.01	Q	|	|	|	V|
20+ 5	0.2959	0.01	Q	|	|	|	V|
20+10	0.2960	0.02	Q	|	|	|	V|
20+15	0.2961	0.02	Q	|	|	|	V|
20+20	0.2962	0.02	Q	|	|	|	V|
20+25	0.2964	0.02	Q	|	|	|	V|
20+30	0.2965	0.02	Q	|	|	|	V|
20+35	0.2966	0.02	Q	|	|	|	V|
20+40	0.2967	0.02	Q	|	|	|	V|
20+45	0.2968	0.02	Q	|	|	|	V|
20+50	0.2969	0.01	Q	|	|	|	V|
20+55	0.2970	0.01	Q	|	|	|	V|
21+ 0	0.2970	0.01	Q	|	|	|	V|
21+ 5	0.2971	0.01	Q	|	|	|	V|
21+10	0.2972	0.02	Q	|	|	|	V|
21+15	0.2973	0.02	Q	|	|	|	V|
21+20	0.2974	0.01	Q	|	|	|	V|
21+25	0.2975	0.01	Q	|	|	|	V|
21+30	0.2976	0.01	Q	|	|	|	V|
21+35	0.2977	0.01	Q	|	|	|	V|
21+40	0.2978	0.02	Q	|	|	|	V|
21+45	0.2979	0.02	Q	|	|	|	V|
21+50	0.2980	0.01	Q	|	|	|	V|
21+55	0.2981	0.01	Q	|	|	|	V|
22+ 0	0.2981	0.01	Q	|	|	|	V|
22+ 5	0.2982	0.01	Q	|	|	|	V|
22+10	0.2983	0.02	Q	|	|	|	V|
22+15	0.2984	0.02	Q	|	|	|	V|
22+20	0.2985	0.01	Q	|	|	|	V|
22+25	0.2986	0.01	Q	|	|	|	V|
22+30	0.2987	0.01	Q	|	|	|	V|
22+35	0.2988	0.01	Q	|	|	|	V|

22+40	0.2988	0.01	Q	|	|	|	V|
22+45	0.2989	0.01	Q	|	|	|	V|
22+50	0.2990	0.01	Q	|	|	|	V|
22+55	0.2990	0.01	Q	|	|	|	V|
23+ 0	0.2991	0.01	Q	|	|	|	V|
23+ 5	0.2992	0.01	Q	|	|	|	V|
23+10	0.2993	0.01	Q	|	|	|	V|
23+15	0.2993	0.01	Q	|	|	|	V|
23+20	0.2994	0.01	Q	|	|	|	V|
23+25	0.2995	0.01	Q	|	|	|	V|
23+30	0.2996	0.01	Q	|	|	|	V|
23+35	0.2996	0.01	Q	|	|	|	V|
23+40	0.2997	0.01	Q	|	|	|	V|
23+45	0.2998	0.01	Q	|	|	|	V|
23+50	0.2998	0.01	Q	|	|	|	V|
23+55	0.2999	0.01	Q	|	|	|	V|
24+ 0	0.3000	0.01	Q	|	|	|	V|
24+ 5	0.3000	0.00	Q	|	|	|	V|
24+10	0.3000	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 06/03/26 File: 19267e005B245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	1.66	2.46

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	4.10	6.08

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.484	89.00	0.040

Total Area Entered = 1.48(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.040	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	366.114	62.598	0.936
2	0.167	732.229	33.736	0.505
3	0.250	1098.343	3.666	0.055
		Sum = 100.000	Sum=	1.496

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.242)	0.015	0.002
2	0.17	0.07	0.018	(0.241)	0.015	0.002
3	0.25	0.07	0.018	(0.240)	0.015	0.002
4	0.33	0.10	0.027	(0.239)	0.023	0.004
5	0.42	0.10	0.027	(0.238)	0.023	0.004
6	0.50	0.10	0.027	(0.237)	0.023	0.004
7	0.58	0.10	0.027	(0.236)	0.023	0.004
8	0.67	0.10	0.027	(0.235)	0.023	0.004
9	0.75	0.10	0.027	(0.234)	0.023	0.004
10	0.83	0.13	0.036	(0.233)	0.031	0.005

11	0.92	0.13	0.036	(0.232)	0.031	0.005
12	1.00	0.13	0.036	(0.231)	0.031	0.005
13	1.08	0.10	0.027	(0.231)	0.023	0.004
14	1.17	0.10	0.027	(0.230)	0.023	0.004
15	1.25	0.10	0.027	(0.229)	0.023	0.004
16	1.33	0.10	0.027	(0.228)	0.023	0.004
17	1.42	0.10	0.027	(0.227)	0.023	0.004
18	1.50	0.10	0.027	(0.226)	0.023	0.004
19	1.58	0.10	0.027	(0.225)	0.023	0.004
20	1.67	0.10	0.027	(0.224)	0.023	0.004
21	1.75	0.10	0.027	(0.223)	0.023	0.004
22	1.83	0.13	0.036	(0.222)	0.031	0.005
23	1.92	0.13	0.036	(0.222)	0.031	0.005
24	2.00	0.13	0.036	(0.221)	0.031	0.005
25	2.08	0.13	0.036	(0.220)	0.031	0.005
26	2.17	0.13	0.036	(0.219)	0.031	0.005
27	2.25	0.13	0.036	(0.218)	0.031	0.005
28	2.33	0.13	0.036	(0.217)	0.031	0.005
29	2.42	0.13	0.036	(0.216)	0.031	0.005
30	2.50	0.13	0.036	(0.215)	0.031	0.005
31	2.58	0.17	0.045	(0.214)	0.038	0.006
32	2.67	0.17	0.045	(0.214)	0.038	0.006
33	2.75	0.17	0.045	(0.213)	0.038	0.006
34	2.83	0.17	0.045	(0.212)	0.038	0.006
35	2.92	0.17	0.045	(0.211)	0.038	0.006
36	3.00	0.17	0.045	(0.210)	0.038	0.006
37	3.08	0.17	0.045	(0.209)	0.038	0.006
38	3.17	0.17	0.045	(0.208)	0.038	0.006
39	3.25	0.17	0.045	(0.207)	0.038	0.006
40	3.33	0.17	0.045	(0.207)	0.038	0.006
41	3.42	0.17	0.045	(0.206)	0.038	0.006
42	3.50	0.17	0.045	(0.205)	0.038	0.006
43	3.58	0.17	0.045	(0.204)	0.038	0.006
44	3.67	0.17	0.045	(0.203)	0.038	0.006
45	3.75	0.17	0.045	(0.202)	0.038	0.006
46	3.83	0.20	0.054	(0.201)	0.046	0.007
47	3.92	0.20	0.054	(0.201)	0.046	0.007
48	4.00	0.20	0.054	(0.200)	0.046	0.007
49	4.08	0.20	0.054	(0.199)	0.046	0.007
50	4.17	0.20	0.054	(0.198)	0.046	0.007
51	4.25	0.20	0.054	(0.197)	0.046	0.007
52	4.33	0.23	0.062	(0.196)	0.054	0.009
53	4.42	0.23	0.062	(0.195)	0.054	0.009
54	4.50	0.23	0.062	(0.195)	0.054	0.009
55	4.58	0.23	0.062	(0.194)	0.054	0.009
56	4.67	0.23	0.062	(0.193)	0.054	0.009
57	4.75	0.23	0.062	(0.192)	0.054	0.009
58	4.83	0.27	0.071	(0.191)	0.061	0.010
59	4.92	0.27	0.071	(0.190)	0.061	0.010
60	5.00	0.27	0.071	(0.190)	0.061	0.010
61	5.08	0.20	0.054	(0.189)	0.046	0.007
62	5.17	0.20	0.054	(0.188)	0.046	0.007
63	5.25	0.20	0.054	(0.187)	0.046	0.007
64	5.33	0.23	0.062	(0.186)	0.054	0.009
65	5.42	0.23	0.062	(0.186)	0.054	0.009
66	5.50	0.23	0.062	(0.185)	0.054	0.009
67	5.58	0.27	0.071	(0.184)	0.061	0.010

68	5.67	0.27	0.071	(0.183)	0.061	0.010
69	5.75	0.27	0.071	(0.182)	0.061	0.010
70	5.83	0.27	0.071	(0.182)	0.061	0.010
71	5.92	0.27	0.071	(0.181)	0.061	0.010
72	6.00	0.27	0.071	(0.180)	0.061	0.010
73	6.08	0.30	0.080	(0.179)	0.069	0.011
74	6.17	0.30	0.080	(0.178)	0.069	0.011
75	6.25	0.30	0.080	(0.178)	0.069	0.011
76	6.33	0.30	0.080	(0.177)	0.069	0.011
77	6.42	0.30	0.080	(0.176)	0.069	0.011
78	6.50	0.30	0.080	(0.175)	0.069	0.011
79	6.58	0.33	0.089	(0.174)	0.077	0.012
80	6.67	0.33	0.089	(0.174)	0.077	0.012
81	6.75	0.33	0.089	(0.173)	0.077	0.012
82	6.83	0.33	0.089	(0.172)	0.077	0.012
83	6.92	0.33	0.089	(0.171)	0.077	0.012
84	7.00	0.33	0.089	(0.170)	0.077	0.012
85	7.08	0.33	0.089	(0.170)	0.077	0.012
86	7.17	0.33	0.089	(0.169)	0.077	0.012
87	7.25	0.33	0.089	(0.168)	0.077	0.012
88	7.33	0.37	0.098	(0.167)	0.084	0.014
89	7.42	0.37	0.098	(0.167)	0.084	0.014
90	7.50	0.37	0.098	(0.166)	0.084	0.014
91	7.58	0.40	0.107	(0.165)	0.092	0.015
92	7.67	0.40	0.107	(0.164)	0.092	0.015
93	7.75	0.40	0.107	(0.164)	0.092	0.015
94	7.83	0.43	0.116	(0.163)	0.100	0.016
95	7.92	0.43	0.116	(0.162)	0.100	0.016
96	8.00	0.43	0.116	(0.161)	0.100	0.016
97	8.08	0.50	0.134	(0.161)	0.115	0.019
98	8.17	0.50	0.134	(0.160)	0.115	0.019
99	8.25	0.50	0.134	(0.159)	0.115	0.019
100	8.33	0.50	0.134	(0.158)	0.115	0.019
101	8.42	0.50	0.134	(0.158)	0.115	0.019
102	8.50	0.50	0.134	(0.157)	0.115	0.019
103	8.58	0.53	0.143	(0.156)	0.123	0.020
104	8.67	0.53	0.143	(0.155)	0.123	0.020
105	8.75	0.53	0.143	(0.155)	0.123	0.020
106	8.83	0.57	0.152	(0.154)	0.130	0.021
107	8.92	0.57	0.152	(0.153)	0.130	0.021
108	9.00	0.57	0.152	(0.152)	0.130	0.021
109	9.08	0.63	0.170	(0.152)	0.146	0.024
110	9.17	0.63	0.170	(0.151)	0.146	0.024
111	9.25	0.63	0.170	(0.150)	0.146	0.024
112	9.33	0.67	0.179	0.150	(0.154)	0.029
113	9.42	0.67	0.179	0.149	(0.154)	0.030
114	9.50	0.67	0.179	0.148	(0.154)	0.030
115	9.58	0.70	0.187	0.147	(0.161)	0.040
116	9.67	0.70	0.187	0.147	(0.161)	0.041
117	9.75	0.70	0.187	0.146	(0.161)	0.041
118	9.83	0.73	0.196	0.145	(0.169)	0.051
119	9.92	0.73	0.196	0.145	(0.169)	0.052
120	10.00	0.73	0.196	0.144	(0.169)	0.052
121	10.08	0.50	0.134	(0.143)	0.115	0.019
122	10.17	0.50	0.134	(0.143)	0.115	0.019
123	10.25	0.50	0.134	(0.142)	0.115	0.019
124	10.33	0.50	0.134	(0.141)	0.115	0.019

125	10.42	0.50	0.134	(	0.140)	0.115	0.019
126	10.50	0.50	0.134	(	0.140)	0.115	0.019
127	10.58	0.67	0.179		0.139	(0.154)	0.039
128	10.67	0.67	0.179		0.138	(0.154)	0.040
129	10.75	0.67	0.179		0.138	(0.154)	0.041
130	10.83	0.67	0.179		0.137	(0.154)	0.041
131	10.92	0.67	0.179		0.136	(0.154)	0.042
132	11.00	0.67	0.179		0.136	(0.154)	0.043
133	11.08	0.63	0.170		0.135	(0.146)	0.035
134	11.17	0.63	0.170		0.134	(0.146)	0.035
135	11.25	0.63	0.170		0.134	(0.146)	0.036
136	11.33	0.63	0.170		0.133	(0.146)	0.037
137	11.42	0.63	0.170		0.132	(0.146)	0.037
138	11.50	0.63	0.170		0.132	(0.146)	0.038
139	11.58	0.57	0.152	(	0.131)	0.130	0.021
140	11.67	0.57	0.152		0.130	(0.130)	0.021
141	11.75	0.57	0.152		0.130	(0.130)	0.022
142	11.83	0.60	0.161		0.129	(0.138)	0.032
143	11.92	0.60	0.161		0.129	(0.138)	0.032
144	12.00	0.60	0.161		0.128	(0.138)	0.033
145	12.08	0.83	0.223		0.127	(0.192)	0.096
146	12.17	0.83	0.223		0.127	(0.192)	0.097
147	12.25	0.83	0.223		0.126	(0.192)	0.097
148	12.33	0.87	0.232		0.125	(0.200)	0.107
149	12.42	0.87	0.232		0.125	(0.200)	0.107
150	12.50	0.87	0.232		0.124	(0.200)	0.108
151	12.58	0.93	0.250		0.123	(0.215)	0.126
152	12.67	0.93	0.250		0.123	(0.215)	0.127
153	12.75	0.93	0.250		0.122	(0.215)	0.128
154	12.83	0.97	0.259		0.122	(0.223)	0.137
155	12.92	0.97	0.259		0.121	(0.223)	0.138
156	13.00	0.97	0.259		0.120	(0.223)	0.138
157	13.08	1.13	0.303		0.120	(0.261)	0.184
158	13.17	1.13	0.303		0.119	(0.261)	0.184
159	13.25	1.13	0.303		0.119	(0.261)	0.185
160	13.33	1.13	0.303		0.118	(0.261)	0.186
161	13.42	1.13	0.303		0.117	(0.261)	0.186
162	13.50	1.13	0.303		0.117	(0.261)	0.187
163	13.58	0.77	0.205		0.116	(0.177)	0.089
164	13.67	0.77	0.205		0.116	(0.177)	0.090
165	13.75	0.77	0.205		0.115	(0.177)	0.090
166	13.83	0.77	0.205		0.114	(0.177)	0.091
167	13.92	0.77	0.205		0.114	(0.177)	0.091
168	14.00	0.77	0.205		0.113	(0.177)	0.092
169	14.08	0.90	0.241		0.113	(0.207)	0.128
170	14.17	0.90	0.241		0.112	(0.207)	0.129
171	14.25	0.90	0.241		0.111	(0.207)	0.130
172	14.33	0.87	0.232		0.111	(0.200)	0.121
173	14.42	0.87	0.232		0.110	(0.200)	0.122
174	14.50	0.87	0.232		0.110	(0.200)	0.122
175	14.58	0.87	0.232		0.109	(0.200)	0.123
176	14.67	0.87	0.232		0.109	(0.200)	0.123
177	14.75	0.87	0.232		0.108	(0.200)	0.124
178	14.83	0.83	0.223		0.108	(0.192)	0.116
179	14.92	0.83	0.223		0.107	(0.192)	0.116
180	15.00	0.83	0.223		0.106	(0.192)	0.117
181	15.08	0.80	0.214		0.106	(0.184)	0.108

182	15.17	0.80	0.214		0.105	(	0.184)	0.109
183	15.25	0.80	0.214		0.105	(	0.184)	0.109
184	15.33	0.77	0.205		0.104	(	0.177)	0.101
185	15.42	0.77	0.205		0.104	(	0.177)	0.102
186	15.50	0.77	0.205		0.103	(	0.177)	0.102
187	15.58	0.63	0.170		0.103	(	0.146)	0.067
188	15.67	0.63	0.170		0.102	(	0.146)	0.067
189	15.75	0.63	0.170		0.102	(	0.146)	0.068
190	15.83	0.63	0.170		0.101	(	0.146)	0.068
191	15.92	0.63	0.170		0.101	(	0.146)	0.069
192	16.00	0.63	0.170		0.100	(	0.146)	0.069
193	16.08	0.13	0.036	(	0.100)		0.031	0.005
194	16.17	0.13	0.036	(	0.099)		0.031	0.005
195	16.25	0.13	0.036	(	0.099)		0.031	0.005
196	16.33	0.13	0.036	(	0.098)		0.031	0.005
197	16.42	0.13	0.036	(	0.098)		0.031	0.005
198	16.50	0.13	0.036	(	0.097)		0.031	0.005
199	16.58	0.10	0.027	(	0.097)		0.023	0.004
200	16.67	0.10	0.027	(	0.096)		0.023	0.004
201	16.75	0.10	0.027	(	0.096)		0.023	0.004
202	16.83	0.10	0.027	(	0.095)		0.023	0.004
203	16.92	0.10	0.027	(	0.095)		0.023	0.004
204	17.00	0.10	0.027	(	0.094)		0.023	0.004
205	17.08	0.17	0.045	(	0.094)		0.038	0.006
206	17.17	0.17	0.045	(	0.093)		0.038	0.006
207	17.25	0.17	0.045	(	0.093)		0.038	0.006
208	17.33	0.17	0.045	(	0.092)		0.038	0.006
209	17.42	0.17	0.045	(	0.092)		0.038	0.006
210	17.50	0.17	0.045	(	0.091)		0.038	0.006
211	17.58	0.17	0.045	(	0.091)		0.038	0.006
212	17.67	0.17	0.045	(	0.090)		0.038	0.006
213	17.75	0.17	0.045	(	0.090)		0.038	0.006
214	17.83	0.13	0.036	(	0.090)		0.031	0.005
215	17.92	0.13	0.036	(	0.089)		0.031	0.005
216	18.00	0.13	0.036	(	0.089)		0.031	0.005
217	18.08	0.13	0.036	(	0.088)		0.031	0.005
218	18.17	0.13	0.036	(	0.088)		0.031	0.005
219	18.25	0.13	0.036	(	0.087)		0.031	0.005
220	18.33	0.13	0.036	(	0.087)		0.031	0.005
221	18.42	0.13	0.036	(	0.087)		0.031	0.005
222	18.50	0.13	0.036	(	0.086)		0.031	0.005
223	18.58	0.10	0.027	(	0.086)		0.023	0.004
224	18.67	0.10	0.027	(	0.085)		0.023	0.004
225	18.75	0.10	0.027	(	0.085)		0.023	0.004
226	18.83	0.07	0.018	(	0.084)		0.015	0.002
227	18.92	0.07	0.018	(	0.084)		0.015	0.002
228	19.00	0.07	0.018	(	0.084)		0.015	0.002
229	19.08	0.10	0.027	(	0.083)		0.023	0.004
230	19.17	0.10	0.027	(	0.083)		0.023	0.004
231	19.25	0.10	0.027	(	0.082)		0.023	0.004
232	19.33	0.13	0.036	(	0.082)		0.031	0.005
233	19.42	0.13	0.036	(	0.082)		0.031	0.005
234	19.50	0.13	0.036	(	0.081)		0.031	0.005
235	19.58	0.10	0.027	(	0.081)		0.023	0.004
236	19.67	0.10	0.027	(	0.081)		0.023	0.004
237	19.75	0.10	0.027	(	0.080)		0.023	0.004
238	19.83	0.07	0.018	(	0.080)		0.015	0.002

239	19.92	0.07	0.018	(0.080)	0.015	0.002
240	20.00	0.07	0.018	(0.079)	0.015	0.002
241	20.08	0.10	0.027	(0.079)	0.023	0.004
242	20.17	0.10	0.027	(0.078)	0.023	0.004
243	20.25	0.10	0.027	(0.078)	0.023	0.004
244	20.33	0.10	0.027	(0.078)	0.023	0.004
245	20.42	0.10	0.027	(0.077)	0.023	0.004
246	20.50	0.10	0.027	(0.077)	0.023	0.004
247	20.58	0.10	0.027	(0.077)	0.023	0.004
248	20.67	0.10	0.027	(0.076)	0.023	0.004
249	20.75	0.10	0.027	(0.076)	0.023	0.004
250	20.83	0.07	0.018	(0.076)	0.015	0.002
251	20.92	0.07	0.018	(0.076)	0.015	0.002
252	21.00	0.07	0.018	(0.075)	0.015	0.002
253	21.08	0.10	0.027	(0.075)	0.023	0.004
254	21.17	0.10	0.027	(0.075)	0.023	0.004
255	21.25	0.10	0.027	(0.074)	0.023	0.004
256	21.33	0.07	0.018	(0.074)	0.015	0.002
257	21.42	0.07	0.018	(0.074)	0.015	0.002
258	21.50	0.07	0.018	(0.074)	0.015	0.002
259	21.58	0.10	0.027	(0.073)	0.023	0.004
260	21.67	0.10	0.027	(0.073)	0.023	0.004
261	21.75	0.10	0.027	(0.073)	0.023	0.004
262	21.83	0.07	0.018	(0.072)	0.015	0.002
263	21.92	0.07	0.018	(0.072)	0.015	0.002
264	22.00	0.07	0.018	(0.072)	0.015	0.002
265	22.08	0.10	0.027	(0.072)	0.023	0.004
266	22.17	0.10	0.027	(0.071)	0.023	0.004
267	22.25	0.10	0.027	(0.071)	0.023	0.004
268	22.33	0.07	0.018	(0.071)	0.015	0.002
269	22.42	0.07	0.018	(0.071)	0.015	0.002
270	22.50	0.07	0.018	(0.071)	0.015	0.002
271	22.58	0.07	0.018	(0.070)	0.015	0.002
272	22.67	0.07	0.018	(0.070)	0.015	0.002
273	22.75	0.07	0.018	(0.070)	0.015	0.002
274	22.83	0.07	0.018	(0.070)	0.015	0.002
275	22.92	0.07	0.018	(0.070)	0.015	0.002
276	23.00	0.07	0.018	(0.069)	0.015	0.002
277	23.08	0.07	0.018	(0.069)	0.015	0.002
278	23.17	0.07	0.018	(0.069)	0.015	0.002
279	23.25	0.07	0.018	(0.069)	0.015	0.002
280	23.33	0.07	0.018	(0.069)	0.015	0.002
281	23.42	0.07	0.018	(0.069)	0.015	0.002
282	23.50	0.07	0.018	(0.069)	0.015	0.002
283	23.58	0.07	0.018	(0.069)	0.015	0.002
284	23.67	0.07	0.018	(0.068)	0.015	0.002
285	23.75	0.07	0.018	(0.068)	0.015	0.002
286	23.83	0.07	0.018	(0.068)	0.015	0.002
287	23.92	0.07	0.018	(0.068)	0.015	0.002
288	24.00	0.07	0.018	(0.068)	0.015	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.1

Flood volume = Effective rainfall 0.68(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.56(In)
Total soil loss = 0.192(Ac.Ft)
Total rainfall = 2.23(In)

Flood volume = 3641.4 Cubic Feet
Total soil loss = 8379.5 Cubic Feet

Peak flow rate of this hydrograph = 0.279(CFS)

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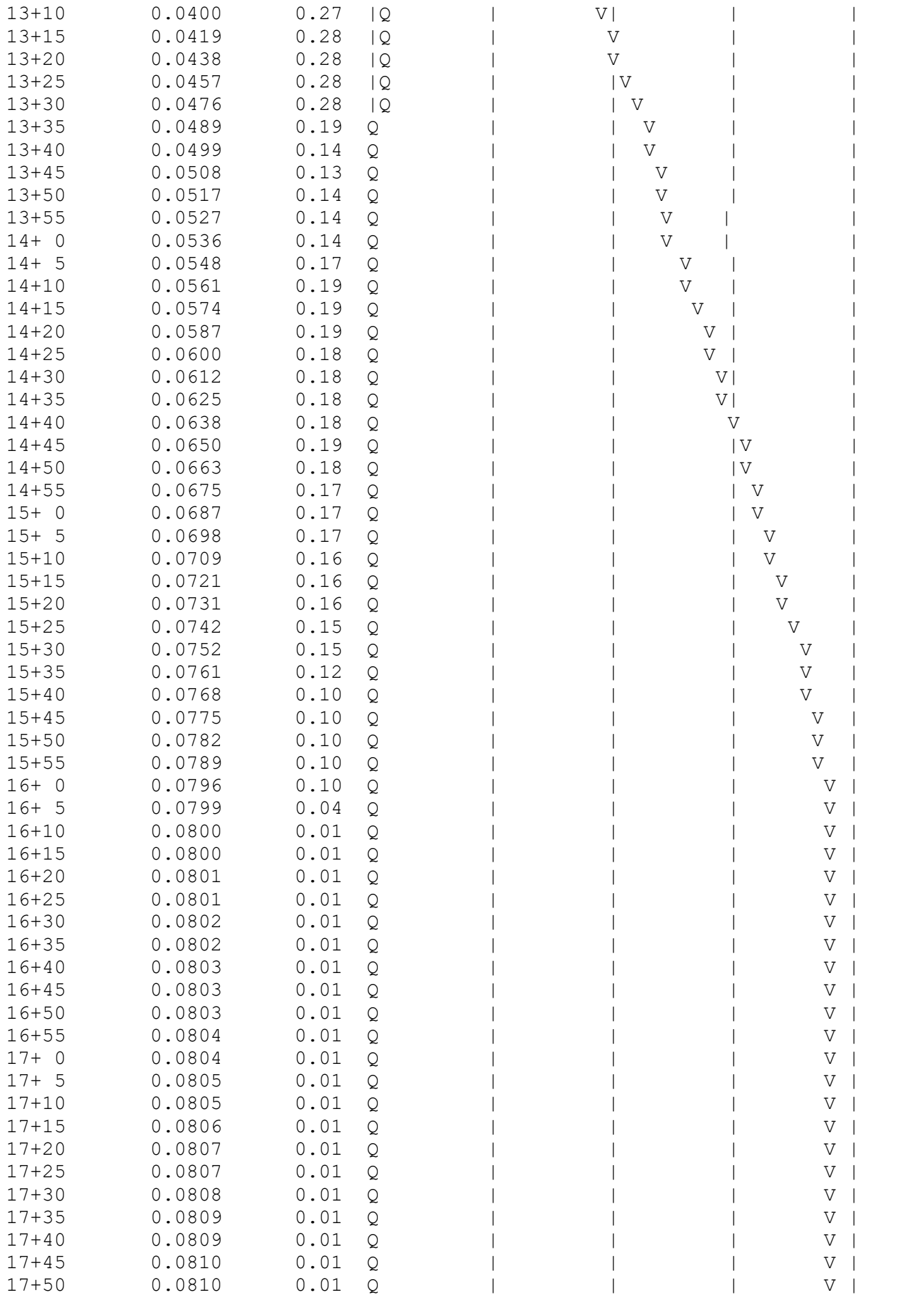
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0002	0.01	Q				
0+40	0.0003	0.01	Q				
0+45	0.0003	0.01	Q				
0+50	0.0003	0.01	Q				
0+55	0.0004	0.01	Q				
1+ 0	0.0004	0.01	Q				
1+ 5	0.0005	0.01	Q				
1+10	0.0005	0.01	Q				
1+15	0.0006	0.01	Q				
1+20	0.0006	0.01	Q				
1+25	0.0006	0.01	Q				
1+30	0.0007	0.01	Q				
1+35	0.0007	0.01	Q				
1+40	0.0008	0.01	Q				
1+45	0.0008	0.01	Q				
1+50	0.0008	0.01	Q				
1+55	0.0009	0.01	Q				
2+ 0	0.0009	0.01	Q				
2+ 5	0.0010	0.01	Q				
2+10	0.0010	0.01	Q				
2+15	0.0011	0.01	Q				
2+20	0.0012	0.01	Q				
2+25	0.0012	0.01	Q				
2+30	0.0013	0.01	Q				
2+35	0.0013	0.01	Q				
2+40	0.0014	0.01	Q				
2+45	0.0014	0.01	Q				
2+50	0.0015	0.01	Q				
2+55	0.0016	0.01	Q				
3+ 0	0.0016	0.01	Q				
3+ 5	0.0017	0.01	Q				
3+10	0.0018	0.01	Q				
3+15	0.0018	0.01	Q				
3+20	0.0019	0.01	Q				
3+25	0.0020	0.01	Q				
3+30	0.0020	0.01	Q				
3+35	0.0021	0.01	Q				

3+40	0.0021	0.01	QV				
3+45	0.0022	0.01	QV				
3+50	0.0023	0.01	QV				
3+55	0.0024	0.01	QV				
4+ 0	0.0024	0.01	QV				
4+ 5	0.0025	0.01	QV				
4+10	0.0026	0.01	QV				
4+15	0.0027	0.01	QV				
4+20	0.0028	0.01	QV				
4+25	0.0028	0.01	QV				
4+30	0.0029	0.01	QV				
4+35	0.0030	0.01	QV				
4+40	0.0031	0.01	QV				
4+45	0.0032	0.01	QV				
4+50	0.0033	0.01	QV				
4+55	0.0034	0.01	QV				
5+ 0	0.0035	0.01	QV				
5+ 5	0.0036	0.01	QV				
5+10	0.0037	0.01	QV				
5+15	0.0038	0.01	QV				
5+20	0.0038	0.01	QV				
5+25	0.0039	0.01	QV				
5+30	0.0040	0.01	QV				
5+35	0.0041	0.01	QV				
5+40	0.0042	0.01	Q V				
5+45	0.0043	0.01	Q V				
5+50	0.0044	0.01	Q V				
5+55	0.0045	0.01	Q V				
6+ 0	0.0046	0.01	Q V				
6+ 5	0.0047	0.02	Q V				
6+10	0.0049	0.02	Q V				
6+15	0.0050	0.02	Q V				
6+20	0.0051	0.02	Q V				
6+25	0.0052	0.02	Q V				
6+30	0.0053	0.02	Q V				
6+35	0.0054	0.02	Q V				
6+40	0.0056	0.02	Q V				
6+45	0.0057	0.02	Q V				
6+50	0.0058	0.02	Q V				
6+55	0.0060	0.02	Q V				
7+ 0	0.0061	0.02	Q V				
7+ 5	0.0062	0.02	Q V				
7+10	0.0063	0.02	Q V				
7+15	0.0065	0.02	Q V				
7+20	0.0066	0.02	Q V				
7+25	0.0068	0.02	Q V				
7+30	0.0069	0.02	Q V				
7+35	0.0070	0.02	Q V				
7+40	0.0072	0.02	Q V				
7+45	0.0074	0.02	Q V				
7+50	0.0075	0.02	Q V				
7+55	0.0077	0.02	Q V				
8+ 0	0.0079	0.02	Q V				
8+ 5	0.0080	0.03	Q V				
8+10	0.0082	0.03	Q V				
8+15	0.0084	0.03	Q V				
8+20	0.0086	0.03	Q V				

8+25	0.0088	0.03	Q	V	|	|	|	|
8+30	0.0090	0.03	Q	V	|	|	|	|
8+35	0.0092	0.03	Q	V	|	|	|	|
8+40	0.0094	0.03	Q	V	|	|	|	|
8+45	0.0096	0.03	Q	V	|	|	|	|
8+50	0.0098	0.03	Q	V	|	|	|	|
8+55	0.0100	0.03	Q	V	|	|	|	|
9+ 0	0.0103	0.03	Q	V	|	|	|	|
9+ 5	0.0105	0.03	Q	V	|	|	|	|
9+10	0.0107	0.04	Q	V	|	|	|	|
9+15	0.0110	0.04	Q	V	|	|	|	|
9+20	0.0113	0.04	Q	V	|	|	|	|
9+25	0.0116	0.04	Q	V	|	|	|	|
9+30	0.0119	0.04	Q	V	|	|	|	|
9+35	0.0123	0.05	Q	V	|	|	|	|
9+40	0.0127	0.06	Q	V	|	|	|	|
9+45	0.0131	0.06	Q	V	|	|	|	|
9+50	0.0136	0.07	Q	V	|	|	|	|
9+55	0.0141	0.08	Q	V	|	|	|	|
10+ 0	0.0146	0.08	Q	V	|	|	|	|
10+ 5	0.0150	0.05	Q	V	|	|	|	|
10+10	0.0152	0.03	Q	V	|	|	|	|
10+15	0.0154	0.03	Q	V	|	|	|	|
10+20	0.0156	0.03	Q	V	|	|	|	|
10+25	0.0157	0.03	Q	V	|	|	|	|
10+30	0.0159	0.03	Q	V	|	|	|	|
10+35	0.0163	0.05	Q	V	|	|	|	|
10+40	0.0167	0.06	Q	V	|	|	|	|
10+45	0.0171	0.06	Q	V	|	|	|	|
10+50	0.0175	0.06	Q	V	|	|	|	|
10+55	0.0179	0.06	Q	V	|	|	|	|
11+ 0	0.0184	0.06	Q	V	|	|	|	|
11+ 5	0.0188	0.06	Q	V	|	|	|	|
11+10	0.0191	0.05	Q	V	|	|	|	|
11+15	0.0195	0.05	Q	V	|	|	|	|
11+20	0.0199	0.05	Q	V	|	|	|	|
11+25	0.0203	0.06	Q	V	|	|	|	|
11+30	0.0206	0.06	Q	V	|	|	|	|
11+35	0.0209	0.04	Q	V	|	|	|	|
11+40	0.0211	0.03	Q	V	|	|	|	|
11+45	0.0214	0.03	Q	V	|	|	|	|
11+50	0.0217	0.04	Q	V	|	|	|	|
11+55	0.0220	0.05	Q	V	|	|	|	|
12+ 0	0.0223	0.05	Q	V	|	|	|	|
12+ 5	0.0231	0.11	Q	V	|	|	|	|
12+10	0.0240	0.14	Q	V	|	|	|	|
12+15	0.0250	0.15	Q	V	|	|	|	|
12+20	0.0261	0.15	Q	V	|	|	|	|
12+25	0.0272	0.16	Q	V	|	|	|	|
12+30	0.0283	0.16	Q	V	|	|	|	|
12+35	0.0295	0.18	Q	V	|	|	|	|
12+40	0.0308	0.19	Q	V	|	|	|	|
12+45	0.0322	0.19	Q	V	|	|	|	|
12+50	0.0335	0.20	Q	V	|	|	|	|
12+55	0.0349	0.21	Q	V	|	|	|	|
13+ 0	0.0364	0.21	Q	V	|	|	|	|
13+ 5	0.0381	0.25	Q	V	|	|	|	|



17+55	0.0811	0.01	Q	|	|	|	V |
18+ 0	0.0811	0.01	Q	|	|	|	V |
18+ 5	0.0812	0.01	Q	|	|	|	V |
18+10	0.0812	0.01	Q	|	|	|	V |
18+15	0.0813	0.01	Q	|	|	|	V |
18+20	0.0813	0.01	Q	|	|	|	V |
18+25	0.0814	0.01	Q	|	|	|	V |
18+30	0.0814	0.01	Q	|	|	|	V |
18+35	0.0815	0.01	Q	|	|	|	V |
18+40	0.0815	0.01	Q	|	|	|	V|
18+45	0.0816	0.01	Q	|	|	|	V|
18+50	0.0816	0.00	Q	|	|	|	V|
18+55	0.0816	0.00	Q	|	|	|	V|
19+ 0	0.0817	0.00	Q	|	|	|	V|
19+ 5	0.0817	0.00	Q	|	|	|	V|
19+10	0.0817	0.01	Q	|	|	|	V|
19+15	0.0818	0.01	Q	|	|	|	V|
19+20	0.0818	0.01	Q	|	|	|	V|
19+25	0.0819	0.01	Q	|	|	|	V|
19+30	0.0819	0.01	Q	|	|	|	V|
19+35	0.0820	0.01	Q	|	|	|	V|
19+40	0.0820	0.01	Q	|	|	|	V|
19+45	0.0820	0.01	Q	|	|	|	V|
19+50	0.0821	0.00	Q	|	|	|	V|
19+55	0.0821	0.00	Q	|	|	|	V|
20+ 0	0.0821	0.00	Q	|	|	|	V|
20+ 5	0.0821	0.00	Q	|	|	|	V|
20+10	0.0822	0.01	Q	|	|	|	V|
20+15	0.0822	0.01	Q	|	|	|	V|
20+20	0.0823	0.01	Q	|	|	|	V|
20+25	0.0823	0.01	Q	|	|	|	V|
20+30	0.0823	0.01	Q	|	|	|	V|
20+35	0.0824	0.01	Q	|	|	|	V|
20+40	0.0824	0.01	Q	|	|	|	V|
20+45	0.0825	0.01	Q	|	|	|	V|
20+50	0.0825	0.00	Q	|	|	|	V|
20+55	0.0825	0.00	Q	|	|	|	V|
21+ 0	0.0825	0.00	Q	|	|	|	V|
21+ 5	0.0826	0.00	Q	|	|	|	V|
21+10	0.0826	0.01	Q	|	|	|	V|
21+15	0.0827	0.01	Q	|	|	|	V|
21+20	0.0827	0.00	Q	|	|	|	V|
21+25	0.0827	0.00	Q	|	|	|	V|
21+30	0.0827	0.00	Q	|	|	|	V|
21+35	0.0828	0.00	Q	|	|	|	V|
21+40	0.0828	0.01	Q	|	|	|	V|
21+45	0.0828	0.01	Q	|	|	|	V|
21+50	0.0829	0.00	Q	|	|	|	V|
21+55	0.0829	0.00	Q	|	|	|	V|
22+ 0	0.0829	0.00	Q	|	|	|	V|
22+ 5	0.0830	0.00	Q	|	|	|	V|
22+10	0.0830	0.01	Q	|	|	|	V|
22+15	0.0830	0.01	Q	|	|	|	V|
22+20	0.0831	0.00	Q	|	|	|	V|
22+25	0.0831	0.00	Q	|	|	|	V|
22+30	0.0831	0.00	Q	|	|	|	V|
22+35	0.0831	0.00	Q	|	|	|	V|

22+40	0.0832	0.00	Q	|	|	|	V|
22+45	0.0832	0.00	Q	|	|	|	V|
22+50	0.0832	0.00	Q	|	|	|	V|
22+55	0.0832	0.00	Q	|	|	|	V|
23+ 0	0.0833	0.00	Q	|	|	|	V|
23+ 5	0.0833	0.00	Q	|	|	|	V|
23+10	0.0833	0.00	Q	|	|	|	V|
23+15	0.0834	0.00	Q	|	|	|	V|
23+20	0.0834	0.00	Q	|	|	|	V|
23+25	0.0834	0.00	Q	|	|	|	V|
23+30	0.0834	0.00	Q	|	|	|	V|
23+35	0.0835	0.00	Q	|	|	|	V|
23+40	0.0835	0.00	Q	|	|	|	V|
23+45	0.0835	0.00	Q	|	|	|	V|
23+50	0.0835	0.00	Q	|	|	|	V|
23+55	0.0836	0.00	Q	|	|	|	V|
24+ 0	0.0836	0.00	Q	|	|	|	V|
24+ 5	0.0836	0.00	Q	|	|	|	V|
24+10	0.0836	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 06/03/26 File: 19267e005GH245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	1.66	2.51

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	4.10	6.20

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.146)	0.004	0.013
2	0.17	0.07	0.018	(0.145)	0.004	0.013
3	0.25	0.07	0.018	(0.144)	0.004	0.013
4	0.33	0.10	0.027	(0.144)	0.007	0.020
5	0.42	0.10	0.027	(0.143)	0.007	0.020
6	0.50	0.10	0.027	(0.143)	0.007	0.020
7	0.58	0.10	0.027	(0.142)	0.007	0.020
8	0.67	0.10	0.027	(0.142)	0.007	0.020
9	0.75	0.10	0.027	(0.141)	0.007	0.020
10	0.83	0.13	0.036	(0.141)	0.009	0.027

11	0.92	0.13	0.036	(0.140)	0.009	0.027
12	1.00	0.13	0.036	(0.139)	0.009	0.027
13	1.08	0.10	0.027	(0.139)	0.007	0.020
14	1.17	0.10	0.027	(0.138)	0.007	0.020
15	1.25	0.10	0.027	(0.138)	0.007	0.020
16	1.33	0.10	0.027	(0.137)	0.007	0.020
17	1.42	0.10	0.027	(0.137)	0.007	0.020
18	1.50	0.10	0.027	(0.136)	0.007	0.020
19	1.58	0.10	0.027	(0.136)	0.007	0.020
20	1.67	0.10	0.027	(0.135)	0.007	0.020
21	1.75	0.10	0.027	(0.135)	0.007	0.020
22	1.83	0.13	0.036	(0.134)	0.009	0.027
23	1.92	0.13	0.036	(0.133)	0.009	0.027
24	2.00	0.13	0.036	(0.133)	0.009	0.027
25	2.08	0.13	0.036	(0.132)	0.009	0.027
26	2.17	0.13	0.036	(0.132)	0.009	0.027
27	2.25	0.13	0.036	(0.131)	0.009	0.027
28	2.33	0.13	0.036	(0.131)	0.009	0.027
29	2.42	0.13	0.036	(0.130)	0.009	0.027
30	2.50	0.13	0.036	(0.130)	0.009	0.027
31	2.58	0.17	0.045	(0.129)	0.011	0.033
32	2.67	0.17	0.045	(0.129)	0.011	0.033
33	2.75	0.17	0.045	(0.128)	0.011	0.033
34	2.83	0.17	0.045	(0.128)	0.011	0.033
35	2.92	0.17	0.045	(0.127)	0.011	0.033
36	3.00	0.17	0.045	(0.127)	0.011	0.033
37	3.08	0.17	0.045	(0.126)	0.011	0.033
38	3.17	0.17	0.045	(0.125)	0.011	0.033
39	3.25	0.17	0.045	(0.125)	0.011	0.033
40	3.33	0.17	0.045	(0.124)	0.011	0.033
41	3.42	0.17	0.045	(0.124)	0.011	0.033
42	3.50	0.17	0.045	(0.123)	0.011	0.033
43	3.58	0.17	0.045	(0.123)	0.011	0.033
44	3.67	0.17	0.045	(0.122)	0.011	0.033
45	3.75	0.17	0.045	(0.122)	0.011	0.033
46	3.83	0.20	0.054	(0.121)	0.013	0.040
47	3.92	0.20	0.054	(0.121)	0.013	0.040
48	4.00	0.20	0.054	(0.120)	0.013	0.040
49	4.08	0.20	0.054	(0.120)	0.013	0.040
50	4.17	0.20	0.054	(0.119)	0.013	0.040
51	4.25	0.20	0.054	(0.119)	0.013	0.040
52	4.33	0.23	0.062	(0.118)	0.016	0.047
53	4.42	0.23	0.062	(0.118)	0.016	0.047
54	4.50	0.23	0.062	(0.117)	0.016	0.047
55	4.58	0.23	0.062	(0.117)	0.016	0.047
56	4.67	0.23	0.062	(0.116)	0.016	0.047
57	4.75	0.23	0.062	(0.116)	0.016	0.047
58	4.83	0.27	0.071	(0.115)	0.018	0.054
59	4.92	0.27	0.071	(0.115)	0.018	0.054
60	5.00	0.27	0.071	(0.114)	0.018	0.054
61	5.08	0.20	0.054	(0.114)	0.013	0.040
62	5.17	0.20	0.054	(0.113)	0.013	0.040
63	5.25	0.20	0.054	(0.113)	0.013	0.040
64	5.33	0.23	0.062	(0.112)	0.016	0.047
65	5.42	0.23	0.062	(0.112)	0.016	0.047
66	5.50	0.23	0.062	(0.111)	0.016	0.047
67	5.58	0.27	0.071	(0.111)	0.018	0.054

68	5.67	0.27	0.071	(0.110)	0.018	0.054
69	5.75	0.27	0.071	(0.110)	0.018	0.054
70	5.83	0.27	0.071	(0.109)	0.018	0.054
71	5.92	0.27	0.071	(0.109)	0.018	0.054
72	6.00	0.27	0.071	(0.108)	0.018	0.054
73	6.08	0.30	0.080	(0.108)	0.020	0.060
74	6.17	0.30	0.080	(0.107)	0.020	0.060
75	6.25	0.30	0.080	(0.107)	0.020	0.060
76	6.33	0.30	0.080	(0.106)	0.020	0.060
77	6.42	0.30	0.080	(0.106)	0.020	0.060
78	6.50	0.30	0.080	(0.106)	0.020	0.060
79	6.58	0.33	0.089	(0.105)	0.022	0.067
80	6.67	0.33	0.089	(0.105)	0.022	0.067
81	6.75	0.33	0.089	(0.104)	0.022	0.067
82	6.83	0.33	0.089	(0.104)	0.022	0.067
83	6.92	0.33	0.089	(0.103)	0.022	0.067
84	7.00	0.33	0.089	(0.103)	0.022	0.067
85	7.08	0.33	0.089	(0.102)	0.022	0.067
86	7.17	0.33	0.089	(0.102)	0.022	0.067
87	7.25	0.33	0.089	(0.101)	0.022	0.067
88	7.33	0.37	0.098	(0.101)	0.025	0.074
89	7.42	0.37	0.098	(0.100)	0.025	0.074
90	7.50	0.37	0.098	(0.100)	0.025	0.074
91	7.58	0.40	0.107	(0.099)	0.027	0.080
92	7.67	0.40	0.107	(0.099)	0.027	0.080
93	7.75	0.40	0.107	(0.099)	0.027	0.080
94	7.83	0.43	0.116	(0.098)	0.029	0.087
95	7.92	0.43	0.116	(0.098)	0.029	0.087
96	8.00	0.43	0.116	(0.097)	0.029	0.087
97	8.08	0.50	0.134	(0.097)	0.033	0.100
98	8.17	0.50	0.134	(0.096)	0.033	0.100
99	8.25	0.50	0.134	(0.096)	0.033	0.100
100	8.33	0.50	0.134	(0.095)	0.033	0.100
101	8.42	0.50	0.134	(0.095)	0.033	0.100
102	8.50	0.50	0.134	(0.094)	0.033	0.100
103	8.58	0.53	0.143	(0.094)	0.036	0.107
104	8.67	0.53	0.143	(0.094)	0.036	0.107
105	8.75	0.53	0.143	(0.093)	0.036	0.107
106	8.83	0.57	0.152	(0.093)	0.038	0.114
107	8.92	0.57	0.152	(0.092)	0.038	0.114
108	9.00	0.57	0.152	(0.092)	0.038	0.114
109	9.08	0.63	0.170	(0.091)	0.042	0.127
110	9.17	0.63	0.170	(0.091)	0.042	0.127
111	9.25	0.63	0.170	(0.091)	0.042	0.127
112	9.33	0.67	0.179	(0.090)	0.045	0.134
113	9.42	0.67	0.179	(0.090)	0.045	0.134
114	9.50	0.67	0.179	(0.089)	0.045	0.134
115	9.58	0.70	0.187	(0.089)	0.047	0.141
116	9.67	0.70	0.187	(0.088)	0.047	0.141
117	9.75	0.70	0.187	(0.088)	0.047	0.141
118	9.83	0.73	0.196	(0.088)	0.049	0.147
119	9.92	0.73	0.196	(0.087)	0.049	0.147
120	10.00	0.73	0.196	(0.087)	0.049	0.147
121	10.08	0.50	0.134	(0.086)	0.033	0.100
122	10.17	0.50	0.134	(0.086)	0.033	0.100
123	10.25	0.50	0.134	(0.085)	0.033	0.100
124	10.33	0.50	0.134	(0.085)	0.033	0.100

125	10.42	0.50	0.134	(0.085)	0.033	0.100
126	10.50	0.50	0.134	(0.084)	0.033	0.100
127	10.58	0.67	0.179	(0.084)	0.045	0.134
128	10.67	0.67	0.179	(0.083)	0.045	0.134
129	10.75	0.67	0.179	(0.083)	0.045	0.134
130	10.83	0.67	0.179	(0.083)	0.045	0.134
131	10.92	0.67	0.179	(0.082)	0.045	0.134
132	11.00	0.67	0.179	(0.082)	0.045	0.134
133	11.08	0.63	0.170	(0.081)	0.042	0.127
134	11.17	0.63	0.170	(0.081)	0.042	0.127
135	11.25	0.63	0.170	(0.081)	0.042	0.127
136	11.33	0.63	0.170	(0.080)	0.042	0.127
137	11.42	0.63	0.170	(0.080)	0.042	0.127
138	11.50	0.63	0.170	(0.079)	0.042	0.127
139	11.58	0.57	0.152	(0.079)	0.038	0.114
140	11.67	0.57	0.152	(0.079)	0.038	0.114
141	11.75	0.57	0.152	(0.078)	0.038	0.114
142	11.83	0.60	0.161	(0.078)	0.040	0.121
143	11.92	0.60	0.161	(0.077)	0.040	0.121
144	12.00	0.60	0.161	(0.077)	0.040	0.121
145	12.08	0.83	0.223	(0.077)	0.056	0.167
146	12.17	0.83	0.223	(0.076)	0.056	0.167
147	12.25	0.83	0.223	(0.076)	0.056	0.167
148	12.33	0.87	0.232	(0.076)	0.058	0.174
149	12.42	0.87	0.232	(0.075)	0.058	0.174
150	12.50	0.87	0.232	(0.075)	0.058	0.174
151	12.58	0.93	0.250	(0.074)	0.062	0.187
152	12.67	0.93	0.250	(0.074)	0.062	0.187
153	12.75	0.93	0.250	(0.074)	0.062	0.187
154	12.83	0.97	0.259	(0.073)	0.065	0.194
155	12.92	0.97	0.259	(0.073)	0.065	0.194
156	13.00	0.97	0.259	(0.073)	0.065	0.194
157	13.08	1.13	0.303	0.072	(0.076)	0.231
158	13.17	1.13	0.303	0.072	(0.076)	0.232
159	13.25	1.13	0.303	0.071	(0.076)	0.232
160	13.33	1.13	0.303	0.071	(0.076)	0.232
161	13.42	1.13	0.303	0.071	(0.076)	0.233
162	13.50	1.13	0.303	0.070	(0.076)	0.233
163	13.58	0.77	0.205	(0.070)	0.051	0.154
164	13.67	0.77	0.205	(0.070)	0.051	0.154
165	13.75	0.77	0.205	(0.069)	0.051	0.154
166	13.83	0.77	0.205	(0.069)	0.051	0.154
167	13.92	0.77	0.205	(0.069)	0.051	0.154
168	14.00	0.77	0.205	(0.068)	0.051	0.154
169	14.08	0.90	0.241	(0.068)	0.060	0.181
170	14.17	0.90	0.241	(0.068)	0.060	0.181
171	14.25	0.90	0.241	(0.067)	0.060	0.181
172	14.33	0.87	0.232	(0.067)	0.058	0.174
173	14.42	0.87	0.232	(0.066)	0.058	0.174
174	14.50	0.87	0.232	(0.066)	0.058	0.174
175	14.58	0.87	0.232	(0.066)	0.058	0.174
176	14.67	0.87	0.232	(0.065)	0.058	0.174
177	14.75	0.87	0.232	(0.065)	0.058	0.174
178	14.83	0.83	0.223	(0.065)	0.056	0.167
179	14.92	0.83	0.223	(0.064)	0.056	0.167
180	15.00	0.83	0.223	(0.064)	0.056	0.167
181	15.08	0.80	0.214	(0.064)	0.054	0.161

182	15.17	0.80	0.214	(0.063)	0.054	0.161
183	15.25	0.80	0.214	(0.063)	0.054	0.161
184	15.33	0.77	0.205	(0.063)	0.051	0.154
185	15.42	0.77	0.205	(0.063)	0.051	0.154
186	15.50	0.77	0.205	(0.062)	0.051	0.154
187	15.58	0.63	0.170	(0.062)	0.042	0.127
188	15.67	0.63	0.170	(0.062)	0.042	0.127
189	15.75	0.63	0.170	(0.061)	0.042	0.127
190	15.83	0.63	0.170	(0.061)	0.042	0.127
191	15.92	0.63	0.170	(0.061)	0.042	0.127
192	16.00	0.63	0.170	(0.060)	0.042	0.127
193	16.08	0.13	0.036	(0.060)	0.009	0.027
194	16.17	0.13	0.036	(0.060)	0.009	0.027
195	16.25	0.13	0.036	(0.059)	0.009	0.027
196	16.33	0.13	0.036	(0.059)	0.009	0.027
197	16.42	0.13	0.036	(0.059)	0.009	0.027
198	16.50	0.13	0.036	(0.058)	0.009	0.027
199	16.58	0.10	0.027	(0.058)	0.007	0.020
200	16.67	0.10	0.027	(0.058)	0.007	0.020
201	16.75	0.10	0.027	(0.058)	0.007	0.020
202	16.83	0.10	0.027	(0.057)	0.007	0.020
203	16.92	0.10	0.027	(0.057)	0.007	0.020
204	17.00	0.10	0.027	(0.057)	0.007	0.020
205	17.08	0.17	0.045	(0.056)	0.011	0.033
206	17.17	0.17	0.045	(0.056)	0.011	0.033
207	17.25	0.17	0.045	(0.056)	0.011	0.033
208	17.33	0.17	0.045	(0.056)	0.011	0.033
209	17.42	0.17	0.045	(0.055)	0.011	0.033
210	17.50	0.17	0.045	(0.055)	0.011	0.033
211	17.58	0.17	0.045	(0.055)	0.011	0.033
212	17.67	0.17	0.045	(0.054)	0.011	0.033
213	17.75	0.17	0.045	(0.054)	0.011	0.033
214	17.83	0.13	0.036	(0.054)	0.009	0.027
215	17.92	0.13	0.036	(0.054)	0.009	0.027
216	18.00	0.13	0.036	(0.053)	0.009	0.027
217	18.08	0.13	0.036	(0.053)	0.009	0.027
218	18.17	0.13	0.036	(0.053)	0.009	0.027
219	18.25	0.13	0.036	(0.053)	0.009	0.027
220	18.33	0.13	0.036	(0.052)	0.009	0.027
221	18.42	0.13	0.036	(0.052)	0.009	0.027
222	18.50	0.13	0.036	(0.052)	0.009	0.027
223	18.58	0.10	0.027	(0.052)	0.007	0.020
224	18.67	0.10	0.027	(0.051)	0.007	0.020
225	18.75	0.10	0.027	(0.051)	0.007	0.020
226	18.83	0.07	0.018	(0.051)	0.004	0.013
227	18.92	0.07	0.018	(0.051)	0.004	0.013
228	19.00	0.07	0.018	(0.050)	0.004	0.013
229	19.08	0.10	0.027	(0.050)	0.007	0.020
230	19.17	0.10	0.027	(0.050)	0.007	0.020
231	19.25	0.10	0.027	(0.050)	0.007	0.020
232	19.33	0.13	0.036	(0.049)	0.009	0.027
233	19.42	0.13	0.036	(0.049)	0.009	0.027
234	19.50	0.13	0.036	(0.049)	0.009	0.027
235	19.58	0.10	0.027	(0.049)	0.007	0.020
236	19.67	0.10	0.027	(0.049)	0.007	0.020
237	19.75	0.10	0.027	(0.048)	0.007	0.020
238	19.83	0.07	0.018	(0.048)	0.004	0.013

239	19.92	0.07	0.018	(0.048)	0.004	0.013
240	20.00	0.07	0.018	(0.048)	0.004	0.013
241	20.08	0.10	0.027	(0.047)	0.007	0.020
242	20.17	0.10	0.027	(0.047)	0.007	0.020
243	20.25	0.10	0.027	(0.047)	0.007	0.020
244	20.33	0.10	0.027	(0.047)	0.007	0.020
245	20.42	0.10	0.027	(0.047)	0.007	0.020
246	20.50	0.10	0.027	(0.046)	0.007	0.020
247	20.58	0.10	0.027	(0.046)	0.007	0.020
248	20.67	0.10	0.027	(0.046)	0.007	0.020
249	20.75	0.10	0.027	(0.046)	0.007	0.020
250	20.83	0.07	0.018	(0.046)	0.004	0.013
251	20.92	0.07	0.018	(0.046)	0.004	0.013
252	21.00	0.07	0.018	(0.045)	0.004	0.013
253	21.08	0.10	0.027	(0.045)	0.007	0.020
254	21.17	0.10	0.027	(0.045)	0.007	0.020
255	21.25	0.10	0.027	(0.045)	0.007	0.020
256	21.33	0.07	0.018	(0.045)	0.004	0.013
257	21.42	0.07	0.018	(0.044)	0.004	0.013
258	21.50	0.07	0.018	(0.044)	0.004	0.013
259	21.58	0.10	0.027	(0.044)	0.007	0.020
260	21.67	0.10	0.027	(0.044)	0.007	0.020
261	21.75	0.10	0.027	(0.044)	0.007	0.020
262	21.83	0.07	0.018	(0.044)	0.004	0.013
263	21.92	0.07	0.018	(0.044)	0.004	0.013
264	22.00	0.07	0.018	(0.043)	0.004	0.013
265	22.08	0.10	0.027	(0.043)	0.007	0.020
266	22.17	0.10	0.027	(0.043)	0.007	0.020
267	22.25	0.10	0.027	(0.043)	0.007	0.020
268	22.33	0.07	0.018	(0.043)	0.004	0.013
269	22.42	0.07	0.018	(0.043)	0.004	0.013
270	22.50	0.07	0.018	(0.043)	0.004	0.013
271	22.58	0.07	0.018	(0.042)	0.004	0.013
272	22.67	0.07	0.018	(0.042)	0.004	0.013
273	22.75	0.07	0.018	(0.042)	0.004	0.013
274	22.83	0.07	0.018	(0.042)	0.004	0.013
275	22.92	0.07	0.018	(0.042)	0.004	0.013
276	23.00	0.07	0.018	(0.042)	0.004	0.013
277	23.08	0.07	0.018	(0.042)	0.004	0.013
278	23.17	0.07	0.018	(0.042)	0.004	0.013
279	23.25	0.07	0.018	(0.042)	0.004	0.013
280	23.33	0.07	0.018	(0.042)	0.004	0.013
281	23.42	0.07	0.018	(0.041)	0.004	0.013
282	23.50	0.07	0.018	(0.041)	0.004	0.013
283	23.58	0.07	0.018	(0.041)	0.004	0.013
284	23.67	0.07	0.018	(0.041)	0.004	0.013
285	23.75	0.07	0.018	(0.041)	0.004	0.013
286	23.83	0.07	0.018	(0.041)	0.004	0.013
287	23.92	0.07	0.018	(0.041)	0.004	0.013
288	24.00	0.07	0.018	(0.041)	0.004	0.013

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.1

Flood volume = Effective rainfall 1.68(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.56(In)
Total soil loss = 0.070(Ac.Ft)
Total rainfall = 2.23(In)

Flood volume = 9198.5 Cubic Feet
Total soil loss = 3049.2 Cubic Feet

Peak flow rate of this hydrograph = 0.355(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	0.0001	0.01	Q				
0+10	0.0002	0.02	Q				
0+15	0.0004	0.02	Q				
0+20	0.0005	0.03	Q				
0+25	0.0008	0.03	Q				
0+30	0.0010	0.03	Q				
0+35	0.0012	0.03	Q				
0+40	0.0014	0.03	Q				
0+45	0.0016	0.03	Q				
0+50	0.0019	0.04	Q				
0+55	0.0021	0.04	Q				
1+ 0	0.0024	0.04	Q				
1+ 5	0.0026	0.03	Q				
1+10	0.0029	0.03	Q				
1+15	0.0031	0.03	Q				
1+20	0.0033	0.03	Q				
1+25	0.0035	0.03	Q				
1+30	0.0037	0.03	Q				
1+35	0.0039	0.03	Q				
1+40	0.0041	0.03	Q				
1+45	0.0043	0.03	Q				
1+50	0.0046	0.04	Q				
1+55	0.0049	0.04	Q				
2+ 0	0.0052	0.04	Q				
2+ 5	0.0054	0.04	QV				
2+10	0.0057	0.04	QV				
2+15	0.0060	0.04	QV				
2+20	0.0063	0.04	QV				
2+25	0.0066	0.04	QV				
2+30	0.0068	0.04	QV				
2+35	0.0072	0.05	QV				
2+40	0.0075	0.05	QV				
2+45	0.0079	0.05	QV				
2+50	0.0082	0.05	QV				
2+55	0.0086	0.05	QV				
3+ 0	0.0089	0.05	QV				
3+ 5	0.0093	0.05	QV				
3+10	0.0096	0.05	QV				
3+15	0.0100	0.05	QV				
3+20	0.0103	0.05	QV				
3+25	0.0107	0.05	Q V				
3+30	0.0110	0.05	Q V				
3+35	0.0114	0.05	Q V				

3+40	0.0117	0.05	Q V	|	|	|	|
3+45	0.0121	0.05	Q V	|	|	|	|
3+50	0.0125	0.06	Q V	|	|	|	|
3+55	0.0129	0.06	Q V	|	|	|	|
4+ 0	0.0133	0.06	Q V	|	|	|	|
4+ 5	0.0137	0.06	Q V	|	|	|	|
4+10	0.0142	0.06	Q V	|	|	|	|
4+15	0.0146	0.06	Q V	|	|	|	|
4+20	0.0150	0.07	Q V	|	|	|	|
4+25	0.0155	0.07	Q V	|	|	|	|
4+30	0.0160	0.07	Q V	|	|	|	|
4+35	0.0165	0.07	Q V	|	|	|	|
4+40	0.0170	0.07	Q V	|	|	|	|
4+45	0.0175	0.07	Q V	|	|	|	|
4+50	0.0180	0.08	Q V	|	|	|	|
4+55	0.0186	0.08	Q V	|	|	|	|
5+ 0	0.0192	0.08	Q V	|	|	|	|
5+ 5	0.0196	0.07	Q V	|	|	|	|
5+10	0.0201	0.06	Q V	|	|	|	|
5+15	0.0205	0.06	Q V	|	|	|	|
5+20	0.0210	0.07	Q V	|	|	|	|
5+25	0.0214	0.07	Q V	|	|	|	|
5+30	0.0219	0.07	Q V	|	|	|	|
5+35	0.0225	0.08	Q V	|	|	|	|
5+40	0.0230	0.08	Q V	|	|	|	|
5+45	0.0236	0.08	Q V	|	|	|	|
5+50	0.0242	0.08	Q V	|	|	|	|
5+55	0.0247	0.08	Q V	|	|	|	|
6+ 0	0.0253	0.08	Q V	|	|	|	|
6+ 5	0.0259	0.09	Q V	|	|	|	|
6+10	0.0265	0.09	Q V	|	|	|	|
6+15	0.0271	0.09	Q V	|	|	|	|
6+20	0.0278	0.09	Q V	|	|	|	|
6+25	0.0284	0.09	Q V	|	|	|	|
6+30	0.0290	0.09	Q V	|	|	|	|
6+35	0.0297	0.10	Q V	|	|	|	|
6+40	0.0304	0.10	Q V	|	|	|	|
6+45	0.0311	0.10	Q V	|	|	|	|
6+50	0.0318	0.10	Q V	|	|	|	|
6+55	0.0325	0.10	Q V	|	|	|	|
7+ 0	0.0332	0.10	Q V	|	|	|	|
7+ 5	0.0339	0.10	Q V	|	|	|	|
7+10	0.0346	0.10	Q V	|	|	|	|
7+15	0.0353	0.10	Q V	|	|	|	|
7+20	0.0361	0.11	Q V	|	|	|	|
7+25	0.0369	0.11	Q V	|	|	|	|
7+30	0.0376	0.11	Q V	|	|	|	|
7+35	0.0384	0.12	Q V	|	|	|	|
7+40	0.0393	0.12	Q V	|	|	|	|
7+45	0.0401	0.12	Q V	|	|	|	|
7+50	0.0410	0.13	Q V	|	|	|	|
7+55	0.0419	0.13	Q V	|	|	|	|
8+ 0	0.0428	0.13	Q V	|	|	|	|
8+ 5	0.0438	0.15	Q V	|	|	|	|
8+10	0.0449	0.15	Q V	|	|	|	|
8+15	0.0459	0.15	Q V	|	|	|	|
8+20	0.0470	0.15	Q V	|	|	|	|

8+25	0.0481	0.15	Q	V|	|	|	|
8+30	0.0491	0.15	Q	V|	|	|	|
8+35	0.0502	0.16	Q	V|	|	|	|
8+40	0.0513	0.16	Q	V|	|	|	|
8+45	0.0525	0.16	Q	V|	|	|	|
8+50	0.0536	0.17	Q	V	|	|	|
8+55	0.0548	0.17	Q	V	|	|	|
9+ 0	0.0560	0.17	Q	V	|	|	|
9+ 5	0.0573	0.19	Q	V	|	|	|
9+10	0.0586	0.19	Q	|V	|	|	|
9+15	0.0600	0.19	Q	|V	|	|	|
9+20	0.0613	0.20	Q	|V	|	|	|
9+25	0.0627	0.20	Q	|V	|	|	|
9+30	0.0641	0.20	Q	| V	|	|	|
9+35	0.0656	0.21	Q	| V	|	|	|
9+40	0.0671	0.21	Q	| V	|	|	|
9+45	0.0685	0.21	Q	| V	|	|	|
9+50	0.0701	0.22	Q	| V	|	|	|
9+55	0.0716	0.22	Q	| V	|	|	|
10+ 0	0.0731	0.22	Q	| V	|	|	|
10+ 5	0.0744	0.18	Q	| V	|	|	|
10+10	0.0755	0.16	Q	| V	|	|	|
10+15	0.0765	0.15	Q	| V	|	|	|
10+20	0.0776	0.15	Q	| V	|	|	|
10+25	0.0786	0.15	Q	| V	|	|	|
10+30	0.0797	0.15	Q	| V	|	|	|
10+35	0.0810	0.18	Q	| V	|	|	|
10+40	0.0823	0.20	Q	| V	|	|	|
10+45	0.0838	0.20	Q	| V	|	|	|
10+50	0.0852	0.20	Q	| V	|	|	|
10+55	0.0866	0.20	Q	| V	|	|	|
11+ 0	0.0880	0.20	Q	| V	|	|	|
11+ 5	0.0893	0.20	Q	| V	|	|	|
11+10	0.0907	0.19	Q	| V	|	|	|
11+15	0.0920	0.19	Q	| V	|	|	|
11+20	0.0933	0.19	Q	| V	|	|	|
11+25	0.0947	0.19	Q	| V	|	|	|
11+30	0.0960	0.19	Q	| V	|	|	|
11+35	0.0973	0.18	Q	| V	|	|	|
11+40	0.0985	0.17	Q	| V	|	|	|
11+45	0.0997	0.17	Q	| V	|	|	|
11+50	0.1009	0.18	Q	| V	|	|	|
11+55	0.1022	0.18	Q	| V	|	|	|
12+ 0	0.1034	0.18	Q	| V	|	|	|
12+ 5	0.1050	0.23	Q	| V	|	|	|
12+10	0.1067	0.25	|Q	| V	|	|	|
12+15	0.1085	0.26	|Q	| V	|	|	|
12+20	0.1103	0.26	|Q	| V	|	|	|
12+25	0.1121	0.26	|Q	| V	|	|	|
12+30	0.1139	0.27	|Q	| V	|	|	|
12+35	0.1159	0.28	|Q	| V	|	|	|
12+40	0.1178	0.28	|Q	| V	|	|	|
12+45	0.1198	0.29	|Q	| V	|	|	|
12+50	0.1218	0.29	|Q	| V	|	|	|
12+55	0.1238	0.30	|Q	| V	|	|	|
13+ 0	0.1259	0.30	|Q	| V	|	|	|
13+ 5	0.1281	0.33	|Q	| V	|	|	|

13+10	0.1306	0.35	|Q	|	| V |	|	|
13+15	0.1330	0.35	|Q	|	| V |	|	|
13+20	0.1354	0.35	|Q	|	| V |	|	|
13+25	0.1379	0.35	|Q	|	| V |	|	|
13+30	0.1403	0.36	|Q	|	| V |	|	|
13+35	0.1423	0.28	|Q	|	| V |	|	|
13+40	0.1439	0.24	Q	|	| V |	|	|
13+45	0.1455	0.23	Q	|	| V |	|	|
13+50	0.1471	0.23	Q	|	| V |	|	|
13+55	0.1488	0.23	Q	|	| V |	|	|
14+ 0	0.1504	0.23	Q	|	| V |	|	|
14+ 5	0.1522	0.26	|Q	|	| V |	|	|
14+10	0.1541	0.27	|Q	|	| V|	|	|
14+15	0.1560	0.28	|Q	|	| V|	|	|
14+20	0.1578	0.27	|Q	|	| V|	|	|
14+25	0.1596	0.27	|Q	|	| V	|	|
14+30	0.1615	0.27	|Q	|	| V	|	|
14+35	0.1633	0.27	|Q	|	| V	|	|
14+40	0.1651	0.27	|Q	|	|V	|	|
14+45	0.1669	0.27	|Q	|	|V	|	|
14+50	0.1687	0.26	|Q	|	|V	|	|
14+55	0.1705	0.26	|Q	|	| V	|	|
15+ 0	0.1723	0.26	|Q	|	| V	|	|
15+ 5	0.1740	0.25	Q	|	| V	|	|
15+10	0.1757	0.25	Q	|	| V	|	|
15+15	0.1773	0.24	Q	|	| V	|	|
15+20	0.1790	0.24	Q	|	| V	|	|
15+25	0.1806	0.24	Q	|	| V	|	|
15+30	0.1822	0.23	Q	|	| V	|	|
15+35	0.1837	0.21	Q	|	| V	|	|
15+40	0.1850	0.20	Q	|	| V	|	|
15+45	0.1863	0.19	Q	|	| V	|	|
15+50	0.1877	0.19	Q	|	| V	|	|
15+55	0.1890	0.19	Q	|	| V	|	|
16+ 0	0.1904	0.19	Q	|	| V	|	|
16+ 5	0.1910	0.10	Q	|	| V	|	|
16+10	0.1914	0.05	Q	|	| V	|	|
16+15	0.1916	0.04	Q	|	| V	|	|
16+20	0.1919	0.04	Q	|	| V	|	|
16+25	0.1922	0.04	Q	|	| V	|	|
16+30	0.1925	0.04	Q	|	| V	|	|
16+35	0.1927	0.03	Q	|	| V	|	|
16+40	0.1929	0.03	Q	|	| V	|	|
16+45	0.1932	0.03	Q	|	| V	|	|
16+50	0.1934	0.03	Q	|	| V	|	|
16+55	0.1936	0.03	Q	|	| V	|	|
17+ 0	0.1938	0.03	Q	|	| V	|	|
17+ 5	0.1941	0.04	Q	|	| V	|	|
17+10	0.1944	0.05	Q	|	| V	|	|
17+15	0.1948	0.05	Q	|	| V	|	|
17+20	0.1951	0.05	Q	|	| V	|	|
17+25	0.1955	0.05	Q	|	| V	|	|
17+30	0.1958	0.05	Q	|	| V	|	|
17+35	0.1962	0.05	Q	|	| V	|	|
17+40	0.1965	0.05	Q	|	| V	|	|
17+45	0.1969	0.05	Q	|	| V	|	|
17+50	0.1972	0.04	Q	|	| V	|	|

17+55	0.1975	0.04	Q	|	|	|	V |
18+ 0	0.1978	0.04	Q	|	|	|	V |
18+ 5	0.1980	0.04	Q	|	|	|	V |
18+10	0.1983	0.04	Q	|	|	|	V |
18+15	0.1986	0.04	Q	|	|	|	V |
18+20	0.1989	0.04	Q	|	|	|	V |
18+25	0.1992	0.04	Q	|	|	|	V |
18+30	0.1995	0.04	Q	|	|	|	V |
18+35	0.1997	0.03	Q	|	|	|	V |
18+40	0.1999	0.03	Q	|	|	|	V |
18+45	0.2001	0.03	Q	|	|	|	V |
18+50	0.2003	0.02	Q	|	|	|	V |
18+55	0.2004	0.02	Q	|	|	|	V |
19+ 0	0.2006	0.02	Q	|	|	|	V |
19+ 5	0.2007	0.03	Q	|	|	|	V |
19+10	0.2010	0.03	Q	|	|	|	V |
19+15	0.2012	0.03	Q	|	|	|	V |
19+20	0.2014	0.04	Q	|	|	|	V |
19+25	0.2017	0.04	Q	|	|	|	V |
19+30	0.2020	0.04	Q	|	|	|	V |
19+35	0.2022	0.03	Q	|	|	|	V |
19+40	0.2024	0.03	Q	|	|	|	V |
19+45	0.2026	0.03	Q	|	|	|	V |
19+50	0.2028	0.02	Q	|	|	|	V |
19+55	0.2030	0.02	Q	|	|	|	V |
20+ 0	0.2031	0.02	Q	|	|	|	V |
20+ 5	0.2033	0.03	Q	|	|	|	V |
20+10	0.2035	0.03	Q	|	|	|	V |
20+15	0.2037	0.03	Q	|	|	|	V |
20+20	0.2039	0.03	Q	|	|	|	V |
20+25	0.2041	0.03	Q	|	|	|	V |
20+30	0.2043	0.03	Q	|	|	|	V |
20+35	0.2045	0.03	Q	|	|	|	V |
20+40	0.2048	0.03	Q	|	|	|	V |
20+45	0.2050	0.03	Q	|	|	|	V |
20+50	0.2051	0.02	Q	|	|	|	V |
20+55	0.2053	0.02	Q	|	|	|	V |
21+ 0	0.2054	0.02	Q	|	|	|	V |
21+ 5	0.2056	0.03	Q	|	|	|	V |
21+10	0.2058	0.03	Q	|	|	|	V |
21+15	0.2060	0.03	Q	|	|	|	V|
21+20	0.2062	0.02	Q	|	|	|	V|
21+25	0.2063	0.02	Q	|	|	|	V|
21+30	0.2065	0.02	Q	|	|	|	V|
21+35	0.2067	0.03	Q	|	|	|	V|
21+40	0.2069	0.03	Q	|	|	|	V|
21+45	0.2071	0.03	Q	|	|	|	V|
21+50	0.2072	0.02	Q	|	|	|	V|
21+55	0.2074	0.02	Q	|	|	|	V|
22+ 0	0.2075	0.02	Q	|	|	|	V|
22+ 5	0.2077	0.03	Q	|	|	|	V|
22+10	0.2079	0.03	Q	|	|	|	V|
22+15	0.2081	0.03	Q	|	|	|	V|
22+20	0.2083	0.02	Q	|	|	|	V|
22+25	0.2084	0.02	Q	|	|	|	V|
22+30	0.2086	0.02	Q	|	|	|	V|
22+35	0.2087	0.02	Q	|	|	|	V|

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  22+40       0.2089      0.02  Q          |          |          |         V|
  22+45       0.2090      0.02  Q          |          |          |         V|
  22+50       0.2091      0.02  Q          |          |          |         V|
  22+55       0.2093      0.02  Q          |          |          |         V|
  23+ 0       0.2094      0.02  Q          |          |          |         V|
  23+ 5       0.2096      0.02  Q          |          |          |         V|
  23+10       0.2097      0.02  Q          |          |          |         V|
  23+15       0.2098      0.02  Q          |          |          |         V|
  23+20       0.2100      0.02  Q          |          |          |         V|
  23+25       0.2101      0.02  Q          |          |          |         V|
  23+30       0.2103      0.02  Q          |          |          |         V|
  23+35       0.2104      0.02  Q          |          |          |         V|
  23+40       0.2105      0.02  Q          |          |          |         V|
  23+45       0.2107      0.02  Q          |          |          |         V|
  23+50       0.2108      0.02  Q          |          |          |         V|
  23+55       0.2110      0.02  Q          |          |          |         V|
  24+ 0       0.2111      0.02  Q          |          |          |         V|
  24+ 5       0.2112      0.01  Q          |          |          |         V|
  24+10       0.2112      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 06/03/26 File: 19267e005I245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	1.66	1.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.80	4.10	3.26

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.795	75.00	0.970

Total Area Entered = 0.80(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.970	0.038	1.000	0.038
					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) = 0.120

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	713.013	78.934	0.632
2	0.167	1426.025	21.066	0.169
		Sum = 100.000	Sum=	0.801

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.068)	0.002	0.016
2	0.17	0.07	0.018	(0.068)	0.002	0.016
3	0.25	0.07	0.018	(0.068)	0.002	0.016
4	0.33	0.10	0.027	(0.067)	0.003	0.024
5	0.42	0.10	0.027	(0.067)	0.003	0.024
6	0.50	0.10	0.027	(0.067)	0.003	0.024
7	0.58	0.10	0.027	(0.067)	0.003	0.024
8	0.67	0.10	0.027	(0.066)	0.003	0.024
9	0.75	0.10	0.027	(0.066)	0.003	0.024
10	0.83	0.13	0.036	(0.066)	0.004	0.031
11	0.92	0.13	0.036	(0.066)	0.004	0.031

12	1.00	0.13	0.036	(0.065)	0.004	0.031
13	1.08	0.10	0.027	(0.065)	0.003	0.024
14	1.17	0.10	0.027	(0.065)	0.003	0.024
15	1.25	0.10	0.027	(0.065)	0.003	0.024
16	1.33	0.10	0.027	(0.064)	0.003	0.024
17	1.42	0.10	0.027	(0.064)	0.003	0.024
18	1.50	0.10	0.027	(0.064)	0.003	0.024
19	1.58	0.10	0.027	(0.064)	0.003	0.024
20	1.67	0.10	0.027	(0.063)	0.003	0.024
21	1.75	0.10	0.027	(0.063)	0.003	0.024
22	1.83	0.13	0.036	(0.063)	0.004	0.031
23	1.92	0.13	0.036	(0.063)	0.004	0.031
24	2.00	0.13	0.036	(0.062)	0.004	0.031
25	2.08	0.13	0.036	(0.062)	0.004	0.031
26	2.17	0.13	0.036	(0.062)	0.004	0.031
27	2.25	0.13	0.036	(0.062)	0.004	0.031
28	2.33	0.13	0.036	(0.061)	0.004	0.031
29	2.42	0.13	0.036	(0.061)	0.004	0.031
30	2.50	0.13	0.036	(0.061)	0.004	0.031
31	2.58	0.17	0.045	(0.061)	0.005	0.039
32	2.67	0.17	0.045	(0.060)	0.005	0.039
33	2.75	0.17	0.045	(0.060)	0.005	0.039
34	2.83	0.17	0.045	(0.060)	0.005	0.039
35	2.92	0.17	0.045	(0.060)	0.005	0.039
36	3.00	0.17	0.045	(0.059)	0.005	0.039
37	3.08	0.17	0.045	(0.059)	0.005	0.039
38	3.17	0.17	0.045	(0.059)	0.005	0.039
39	3.25	0.17	0.045	(0.059)	0.005	0.039
40	3.33	0.17	0.045	(0.058)	0.005	0.039
41	3.42	0.17	0.045	(0.058)	0.005	0.039
42	3.50	0.17	0.045	(0.058)	0.005	0.039
43	3.58	0.17	0.045	(0.058)	0.005	0.039
44	3.67	0.17	0.045	(0.057)	0.005	0.039
45	3.75	0.17	0.045	(0.057)	0.005	0.039
46	3.83	0.20	0.054	(0.057)	0.006	0.047
47	3.92	0.20	0.054	(0.057)	0.006	0.047
48	4.00	0.20	0.054	(0.056)	0.006	0.047
49	4.08	0.20	0.054	(0.056)	0.006	0.047
50	4.17	0.20	0.054	(0.056)	0.006	0.047
51	4.25	0.20	0.054	(0.056)	0.006	0.047
52	4.33	0.23	0.062	(0.055)	0.007	0.055
53	4.42	0.23	0.062	(0.055)	0.007	0.055
54	4.50	0.23	0.062	(0.055)	0.007	0.055
55	4.58	0.23	0.062	(0.055)	0.007	0.055
56	4.67	0.23	0.062	(0.054)	0.007	0.055
57	4.75	0.23	0.062	(0.054)	0.007	0.055
58	4.83	0.27	0.071	(0.054)	0.009	0.063
59	4.92	0.27	0.071	(0.054)	0.009	0.063
60	5.00	0.27	0.071	(0.054)	0.009	0.063
61	5.08	0.20	0.054	(0.053)	0.006	0.047
62	5.17	0.20	0.054	(0.053)	0.006	0.047
63	5.25	0.20	0.054	(0.053)	0.006	0.047
64	5.33	0.23	0.062	(0.053)	0.007	0.055
65	5.42	0.23	0.062	(0.052)	0.007	0.055
66	5.50	0.23	0.062	(0.052)	0.007	0.055
67	5.58	0.27	0.071	(0.052)	0.009	0.063
68	5.67	0.27	0.071	(0.052)	0.009	0.063

69	5.75	0.27	0.071	(0.051)	0.009	0.063
70	5.83	0.27	0.071	(0.051)	0.009	0.063
71	5.92	0.27	0.071	(0.051)	0.009	0.063
72	6.00	0.27	0.071	(0.051)	0.009	0.063
73	6.08	0.30	0.080	(0.051)	0.010	0.071
74	6.17	0.30	0.080	(0.050)	0.010	0.071
75	6.25	0.30	0.080	(0.050)	0.010	0.071
76	6.33	0.30	0.080	(0.050)	0.010	0.071
77	6.42	0.30	0.080	(0.050)	0.010	0.071
78	6.50	0.30	0.080	(0.049)	0.010	0.071
79	6.58	0.33	0.089	(0.049)	0.011	0.079
80	6.67	0.33	0.089	(0.049)	0.011	0.079
81	6.75	0.33	0.089	(0.049)	0.011	0.079
82	6.83	0.33	0.089	(0.049)	0.011	0.079
83	6.92	0.33	0.089	(0.048)	0.011	0.079
84	7.00	0.33	0.089	(0.048)	0.011	0.079
85	7.08	0.33	0.089	(0.048)	0.011	0.079
86	7.17	0.33	0.089	(0.048)	0.011	0.079
87	7.25	0.33	0.089	(0.047)	0.011	0.079
88	7.33	0.37	0.098	(0.047)	0.012	0.086
89	7.42	0.37	0.098	(0.047)	0.012	0.086
90	7.50	0.37	0.098	(0.047)	0.012	0.086
91	7.58	0.40	0.107	(0.047)	0.013	0.094
92	7.67	0.40	0.107	(0.046)	0.013	0.094
93	7.75	0.40	0.107	(0.046)	0.013	0.094
94	7.83	0.43	0.116	(0.046)	0.014	0.102
95	7.92	0.43	0.116	(0.046)	0.014	0.102
96	8.00	0.43	0.116	(0.046)	0.014	0.102
97	8.08	0.50	0.134	(0.045)	0.016	0.118
98	8.17	0.50	0.134	(0.045)	0.016	0.118
99	8.25	0.50	0.134	(0.045)	0.016	0.118
100	8.33	0.50	0.134	(0.045)	0.016	0.118
101	8.42	0.50	0.134	(0.044)	0.016	0.118
102	8.50	0.50	0.134	(0.044)	0.016	0.118
103	8.58	0.53	0.143	(0.044)	0.017	0.126
104	8.67	0.53	0.143	(0.044)	0.017	0.126
105	8.75	0.53	0.143	(0.044)	0.017	0.126
106	8.83	0.57	0.152	(0.043)	0.018	0.134
107	8.92	0.57	0.152	(0.043)	0.018	0.134
108	9.00	0.57	0.152	(0.043)	0.018	0.134
109	9.08	0.63	0.170	(0.043)	0.020	0.149
110	9.17	0.63	0.170	(0.043)	0.020	0.149
111	9.25	0.63	0.170	(0.042)	0.020	0.149
112	9.33	0.67	0.179	(0.042)	0.021	0.157
113	9.42	0.67	0.179	(0.042)	0.021	0.157
114	9.50	0.67	0.179	(0.042)	0.021	0.157
115	9.58	0.70	0.187	(0.042)	0.022	0.165
116	9.67	0.70	0.187	(0.041)	0.022	0.165
117	9.75	0.70	0.187	(0.041)	0.022	0.165
118	9.83	0.73	0.196	(0.041)	0.024	0.173
119	9.92	0.73	0.196	(0.041)	0.024	0.173
120	10.00	0.73	0.196	(0.041)	0.024	0.173
121	10.08	0.50	0.134	(0.040)	0.016	0.118
122	10.17	0.50	0.134	(0.040)	0.016	0.118
123	10.25	0.50	0.134	(0.040)	0.016	0.118
124	10.33	0.50	0.134	(0.040)	0.016	0.118
125	10.42	0.50	0.134	(0.040)	0.016	0.118

126	10.50	0.50	0.134	(0.039)	0.016	0.118
127	10.58	0.67	0.179	(0.039)	0.021	0.157
128	10.67	0.67	0.179	(0.039)	0.021	0.157
129	10.75	0.67	0.179	(0.039)	0.021	0.157
130	10.83	0.67	0.179	(0.039)	0.021	0.157
131	10.92	0.67	0.179	(0.039)	0.021	0.157
132	11.00	0.67	0.179	(0.038)	0.021	0.157
133	11.08	0.63	0.170	(0.038)	0.020	0.149
134	11.17	0.63	0.170	(0.038)	0.020	0.149
135	11.25	0.63	0.170	(0.038)	0.020	0.149
136	11.33	0.63	0.170	(0.038)	0.020	0.149
137	11.42	0.63	0.170	(0.037)	0.020	0.149
138	11.50	0.63	0.170	(0.037)	0.020	0.149
139	11.58	0.57	0.152	(0.037)	0.018	0.134
140	11.67	0.57	0.152	(0.037)	0.018	0.134
141	11.75	0.57	0.152	(0.037)	0.018	0.134
142	11.83	0.60	0.161	(0.036)	0.019	0.141
143	11.92	0.60	0.161	(0.036)	0.019	0.141
144	12.00	0.60	0.161	(0.036)	0.019	0.141
145	12.08	0.83	0.223	(0.036)	0.027	0.196
146	12.17	0.83	0.223	(0.036)	0.027	0.196
147	12.25	0.83	0.223	(0.036)	0.027	0.196
148	12.33	0.87	0.232	(0.035)	0.028	0.204
149	12.42	0.87	0.232	(0.035)	0.028	0.204
150	12.50	0.87	0.232	(0.035)	0.028	0.204
151	12.58	0.93	0.250	(0.035)	0.030	0.220
152	12.67	0.93	0.250	(0.035)	0.030	0.220
153	12.75	0.93	0.250	(0.035)	0.030	0.220
154	12.83	0.97	0.259	(0.034)	0.031	0.228
155	12.92	0.97	0.259	(0.034)	0.031	0.228
156	13.00	0.97	0.259	(0.034)	0.031	0.228
157	13.08	1.13	0.303	0.034	(0.036)	0.270
158	13.17	1.13	0.303	0.034	(0.036)	0.270
159	13.25	1.13	0.303	0.033	(0.036)	0.270
160	13.33	1.13	0.303	0.033	(0.036)	0.270
161	13.42	1.13	0.303	0.033	(0.036)	0.270
162	13.50	1.13	0.303	0.033	(0.036)	0.271
163	13.58	0.77	0.205	(0.033)	0.025	0.181
164	13.67	0.77	0.205	(0.033)	0.025	0.181
165	13.75	0.77	0.205	(0.032)	0.025	0.181
166	13.83	0.77	0.205	(0.032)	0.025	0.181
167	13.92	0.77	0.205	(0.032)	0.025	0.181
168	14.00	0.77	0.205	(0.032)	0.025	0.181
169	14.08	0.90	0.241	(0.032)	0.029	0.212
170	14.17	0.90	0.241	(0.032)	0.029	0.212
171	14.25	0.90	0.241	(0.031)	0.029	0.212
172	14.33	0.87	0.232	(0.031)	0.028	0.204
173	14.42	0.87	0.232	(0.031)	0.028	0.204
174	14.50	0.87	0.232	(0.031)	0.028	0.204
175	14.58	0.87	0.232	(0.031)	0.028	0.204
176	14.67	0.87	0.232	(0.031)	0.028	0.204
177	14.75	0.87	0.232	(0.031)	0.028	0.204
178	14.83	0.83	0.223	(0.030)	0.027	0.196
179	14.92	0.83	0.223	(0.030)	0.027	0.196
180	15.00	0.83	0.223	(0.030)	0.027	0.196
181	15.08	0.80	0.214	(0.030)	0.026	0.189
182	15.17	0.80	0.214	(0.030)	0.026	0.189

183	15.25	0.80	0.214	(0.030)	0.026	0.189
184	15.33	0.77	0.205	(0.029)	0.025	0.181
185	15.42	0.77	0.205	(0.029)	0.025	0.181
186	15.50	0.77	0.205	(0.029)	0.025	0.181
187	15.58	0.63	0.170	(0.029)	0.020	0.149
188	15.67	0.63	0.170	(0.029)	0.020	0.149
189	15.75	0.63	0.170	(0.029)	0.020	0.149
190	15.83	0.63	0.170	(0.029)	0.020	0.149
191	15.92	0.63	0.170	(0.028)	0.020	0.149
192	16.00	0.63	0.170	(0.028)	0.020	0.149
193	16.08	0.13	0.036	(0.028)	0.004	0.031
194	16.17	0.13	0.036	(0.028)	0.004	0.031
195	16.25	0.13	0.036	(0.028)	0.004	0.031
196	16.33	0.13	0.036	(0.028)	0.004	0.031
197	16.42	0.13	0.036	(0.028)	0.004	0.031
198	16.50	0.13	0.036	(0.027)	0.004	0.031
199	16.58	0.10	0.027	(0.027)	0.003	0.024
200	16.67	0.10	0.027	(0.027)	0.003	0.024
201	16.75	0.10	0.027	(0.027)	0.003	0.024
202	16.83	0.10	0.027	(0.027)	0.003	0.024
203	16.92	0.10	0.027	(0.027)	0.003	0.024
204	17.00	0.10	0.027	(0.027)	0.003	0.024
205	17.08	0.17	0.045	(0.026)	0.005	0.039
206	17.17	0.17	0.045	(0.026)	0.005	0.039
207	17.25	0.17	0.045	(0.026)	0.005	0.039
208	17.33	0.17	0.045	(0.026)	0.005	0.039
209	17.42	0.17	0.045	(0.026)	0.005	0.039
210	17.50	0.17	0.045	(0.026)	0.005	0.039
211	17.58	0.17	0.045	(0.026)	0.005	0.039
212	17.67	0.17	0.045	(0.026)	0.005	0.039
213	17.75	0.17	0.045	(0.025)	0.005	0.039
214	17.83	0.13	0.036	(0.025)	0.004	0.031
215	17.92	0.13	0.036	(0.025)	0.004	0.031
216	18.00	0.13	0.036	(0.025)	0.004	0.031
217	18.08	0.13	0.036	(0.025)	0.004	0.031
218	18.17	0.13	0.036	(0.025)	0.004	0.031
219	18.25	0.13	0.036	(0.025)	0.004	0.031
220	18.33	0.13	0.036	(0.025)	0.004	0.031
221	18.42	0.13	0.036	(0.024)	0.004	0.031
222	18.50	0.13	0.036	(0.024)	0.004	0.031
223	18.58	0.10	0.027	(0.024)	0.003	0.024
224	18.67	0.10	0.027	(0.024)	0.003	0.024
225	18.75	0.10	0.027	(0.024)	0.003	0.024
226	18.83	0.07	0.018	(0.024)	0.002	0.016
227	18.92	0.07	0.018	(0.024)	0.002	0.016
228	19.00	0.07	0.018	(0.024)	0.002	0.016
229	19.08	0.10	0.027	(0.024)	0.003	0.024
230	19.17	0.10	0.027	(0.023)	0.003	0.024
231	19.25	0.10	0.027	(0.023)	0.003	0.024
232	19.33	0.13	0.036	(0.023)	0.004	0.031
233	19.42	0.13	0.036	(0.023)	0.004	0.031
234	19.50	0.13	0.036	(0.023)	0.004	0.031
235	19.58	0.10	0.027	(0.023)	0.003	0.024
236	19.67	0.10	0.027	(0.023)	0.003	0.024
237	19.75	0.10	0.027	(0.023)	0.003	0.024
238	19.83	0.07	0.018	(0.023)	0.002	0.016
239	19.92	0.07	0.018	(0.022)	0.002	0.016

240	20.00	0.07	0.018	(0.022)	0.002	0.016
241	20.08	0.10	0.027	(0.022)	0.003	0.024
242	20.17	0.10	0.027	(0.022)	0.003	0.024
243	20.25	0.10	0.027	(0.022)	0.003	0.024
244	20.33	0.10	0.027	(0.022)	0.003	0.024
245	20.42	0.10	0.027	(0.022)	0.003	0.024
246	20.50	0.10	0.027	(0.022)	0.003	0.024
247	20.58	0.10	0.027	(0.022)	0.003	0.024
248	20.67	0.10	0.027	(0.022)	0.003	0.024
249	20.75	0.10	0.027	(0.021)	0.003	0.024
250	20.83	0.07	0.018	(0.021)	0.002	0.016
251	20.92	0.07	0.018	(0.021)	0.002	0.016
252	21.00	0.07	0.018	(0.021)	0.002	0.016
253	21.08	0.10	0.027	(0.021)	0.003	0.024
254	21.17	0.10	0.027	(0.021)	0.003	0.024
255	21.25	0.10	0.027	(0.021)	0.003	0.024
256	21.33	0.07	0.018	(0.021)	0.002	0.016
257	21.42	0.07	0.018	(0.021)	0.002	0.016
258	21.50	0.07	0.018	(0.021)	0.002	0.016
259	21.58	0.10	0.027	(0.021)	0.003	0.024
260	21.67	0.10	0.027	(0.021)	0.003	0.024
261	21.75	0.10	0.027	(0.021)	0.003	0.024
262	21.83	0.07	0.018	(0.020)	0.002	0.016
263	21.92	0.07	0.018	(0.020)	0.002	0.016
264	22.00	0.07	0.018	(0.020)	0.002	0.016
265	22.08	0.10	0.027	(0.020)	0.003	0.024
266	22.17	0.10	0.027	(0.020)	0.003	0.024
267	22.25	0.10	0.027	(0.020)	0.003	0.024
268	22.33	0.07	0.018	(0.020)	0.002	0.016
269	22.42	0.07	0.018	(0.020)	0.002	0.016
270	22.50	0.07	0.018	(0.020)	0.002	0.016
271	22.58	0.07	0.018	(0.020)	0.002	0.016
272	22.67	0.07	0.018	(0.020)	0.002	0.016
273	22.75	0.07	0.018	(0.020)	0.002	0.016
274	22.83	0.07	0.018	(0.020)	0.002	0.016
275	22.92	0.07	0.018	(0.020)	0.002	0.016
276	23.00	0.07	0.018	(0.020)	0.002	0.016
277	23.08	0.07	0.018	(0.020)	0.002	0.016
278	23.17	0.07	0.018	(0.020)	0.002	0.016
279	23.25	0.07	0.018	(0.019)	0.002	0.016
280	23.33	0.07	0.018	(0.019)	0.002	0.016
281	23.42	0.07	0.018	(0.019)	0.002	0.016
282	23.50	0.07	0.018	(0.019)	0.002	0.016
283	23.58	0.07	0.018	(0.019)	0.002	0.016
284	23.67	0.07	0.018	(0.019)	0.002	0.016
285	23.75	0.07	0.018	(0.019)	0.002	0.016
286	23.83	0.07	0.018	(0.019)	0.002	0.016
287	23.92	0.07	0.018	(0.019)	0.002	0.016
288	24.00	0.07	0.018	(0.019)	0.002	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.6

Flood volume = Effective rainfall 1.97(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.018(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 5671.4 Cubic Feet

Total soil loss = 768.4 Cubic Feet

Peak flow rate of this hydrograph = 0.217(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	0.0001	0.01	Q				
0+10	0.0002	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0004	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0006	0.02	Q				
0+35	0.0008	0.02	Q				
0+40	0.0009	0.02	Q				
0+45	0.0010	0.02	Q				
0+50	0.0012	0.02	Q				
0+55	0.0014	0.03	Q				
1+ 0	0.0015	0.03	Q				
1+ 5	0.0017	0.02	Q				
1+10	0.0018	0.02	Q				
1+15	0.0019	0.02	Q				
1+20	0.0021	0.02	Q				
1+25	0.0022	0.02	Q				
1+30	0.0023	0.02	Q				
1+35	0.0024	0.02	Q				
1+40	0.0026	0.02	Q				
1+45	0.0027	0.02	Q				
1+50	0.0029	0.02	Q				
1+55	0.0030	0.03	Q				
2+ 0	0.0032	0.03	Q				
2+ 5	0.0034	0.03	QV				
2+10	0.0036	0.03	QV				
2+15	0.0037	0.03	QV				
2+20	0.0039	0.03	QV				
2+25	0.0041	0.03	QV				
2+30	0.0043	0.03	QV				
2+35	0.0045	0.03	QV				
2+40	0.0047	0.03	QV				
2+45	0.0049	0.03	QV				
2+50	0.0051	0.03	QV				
2+55	0.0053	0.03	QV				
3+ 0	0.0055	0.03	QV				
3+ 5	0.0058	0.03	QV				
3+10	0.0060	0.03	QV				
3+15	0.0062	0.03	QV				
3+20	0.0064	0.03	QV				
3+25	0.0066	0.03	Q V				
3+30	0.0068	0.03	Q V				
3+35	0.0071	0.03	Q V				
3+40	0.0073	0.03	Q V				

3+45	0.0075	0.03	Q V	|	|	|	|
3+50	0.0078	0.04	Q V	|	|	|	|
3+55	0.0080	0.04	Q V	|	|	|	|
4+ 0	0.0083	0.04	Q V	|	|	|	|
4+ 5	0.0085	0.04	Q V	|	|	|	|
4+10	0.0088	0.04	Q V	|	|	|	|
4+15	0.0091	0.04	Q V	|	|	|	|
4+20	0.0093	0.04	Q V	|	|	|	|
4+25	0.0096	0.04	Q V	|	|	|	|
4+30	0.0100	0.04	Q V	|	|	|	|
4+35	0.0103	0.04	Q V	|	|	|	|
4+40	0.0106	0.04	Q V	|	|	|	|
4+45	0.0109	0.04	Q V	|	|	|	|
4+50	0.0112	0.05	Q V	|	|	|	|
4+55	0.0115	0.05	Q V	|	|	|	|
5+ 0	0.0119	0.05	Q V	|	|	|	|
5+ 5	0.0122	0.04	Q V	|	|	|	|
5+10	0.0124	0.04	Q V	|	|	|	|
5+15	0.0127	0.04	Q V	|	|	|	|
5+20	0.0130	0.04	Q V	|	|	|	|
5+25	0.0133	0.04	Q V	|	|	|	|
5+30	0.0136	0.04	Q V	|	|	|	|
5+35	0.0139	0.05	Q V	|	|	|	|
5+40	0.0143	0.05	Q V	|	|	|	|
5+45	0.0146	0.05	Q V	|	|	|	|
5+50	0.0150	0.05	Q V	|	|	|	|
5+55	0.0153	0.05	Q V	|	|	|	|
6+ 0	0.0157	0.05	Q V	|	|	|	|
6+ 5	0.0160	0.06	Q V	|	|	|	|
6+10	0.0164	0.06	Q V	|	|	|	|
6+15	0.0168	0.06	Q V	|	|	|	|
6+20	0.0172	0.06	Q V	|	|	|	|
6+25	0.0176	0.06	Q V	|	|	|	|
6+30	0.0180	0.06	Q V	|	|	|	|
6+35	0.0184	0.06	Q V	|	|	|	|
6+40	0.0189	0.06	Q V	|	|	|	|
6+45	0.0193	0.06	Q V	|	|	|	|
6+50	0.0197	0.06	Q V	|	|	|	|
6+55	0.0202	0.06	Q V	|	|	|	|
7+ 0	0.0206	0.06	Q V	|	|	|	|
7+ 5	0.0210	0.06	Q V	|	|	|	|
7+10	0.0215	0.06	Q V	|	|	|	|
7+15	0.0219	0.06	Q V	|	|	|	|
7+20	0.0224	0.07	Q V	|	|	|	|
7+25	0.0228	0.07	Q V	|	|	|	|
7+30	0.0233	0.07	Q V	|	|	|	|
7+35	0.0238	0.07	Q V	|	|	|	|
7+40	0.0243	0.08	Q V	|	|	|	|
7+45	0.0249	0.08	Q V	|	|	|	|
7+50	0.0254	0.08	Q V	|	|	|	|
7+55	0.0260	0.08	Q V	|	|	|	|
8+ 0	0.0266	0.08	Q V	|	|	|	|
8+ 5	0.0272	0.09	Q V	|	|	|	|
8+10	0.0278	0.09	Q V	|	|	|	|
8+15	0.0285	0.09	Q V	|	|	|	|
8+20	0.0291	0.09	Q V	|	|	|	|
8+25	0.0298	0.09	Q V	|	|	|	|

8+30	0.0304	0.09	Q	V|				
8+35	0.0311	0.10	Q	V|				
8+40	0.0318	0.10	Q	V|				
8+45	0.0325	0.10	Q	V|				
8+50	0.0332	0.11	Q	V				
8+55	0.0340	0.11	Q	V				
9+ 0	0.0347	0.11	Q	V				
9+ 5	0.0355	0.12	Q	V				
9+10	0.0363	0.12	Q	|V				
9+15	0.0372	0.12	Q	|V				
9+20	0.0380	0.12	Q	|V				
9+25	0.0389	0.13	Q	|V				
9+30	0.0398	0.13	Q	| V				
9+35	0.0407	0.13	Q	| V				
9+40	0.0416	0.13	Q	| V				
9+45	0.0425	0.13	Q	| V				
9+50	0.0434	0.14	Q	| V				
9+55	0.0444	0.14	Q	| V				
10+ 0	0.0453	0.14	Q	| V				
10+ 5	0.0460	0.10	Q	| V				
10+10	0.0467	0.09	Q	| V				
10+15	0.0473	0.09	Q	| V				
10+20	0.0480	0.09	Q	| V				
10+25	0.0486	0.09	Q	| V				
10+30	0.0493	0.09	Q	| V |				
10+35	0.0501	0.12	Q	| V |				
10+40	0.0510	0.13	Q	| V |				
10+45	0.0519	0.13	Q	| V |				
10+50	0.0527	0.13	Q	| V |				
10+55	0.0536	0.13	Q	| V |				
11+ 0	0.0545	0.13	Q	| V |				
11+ 5	0.0553	0.12	Q	| V |				
11+10	0.0561	0.12	Q	| V |				
11+15	0.0569	0.12	Q	| V |				
11+20	0.0578	0.12	Q	| V |				
11+25	0.0586	0.12	Q	| V |				
11+30	0.0594	0.12	Q	| V |				
11+35	0.0602	0.11	Q	| V |				
11+40	0.0609	0.11	Q	| V |				
11+45	0.0616	0.11	Q	| V |				
11+50	0.0624	0.11	Q	| V|				
11+55	0.0632	0.11	Q	| V|				
12+ 0	0.0640	0.11	Q	| V|				
12+ 5	0.0650	0.15	Q	| V|				
12+10	0.0661	0.16	Q	| V				
12+15	0.0672	0.16	Q	| V				
12+20	0.0683	0.16	Q	| V				
12+25	0.0694	0.16	Q	| |V				
12+30	0.0705	0.16	Q	| |V				
12+35	0.0717	0.17	Q	| | V				
12+40	0.0729	0.18	Q	| | V				
12+45	0.0742	0.18	Q	| | V				
12+50	0.0754	0.18	Q	| | V				
12+55	0.0767	0.18	Q	| | V				
13+ 0	0.0779	0.18	Q	| | V				
13+ 5	0.0794	0.21	Q	| | V				
13+10	0.0809	0.22	Q	| | V				

13+15	0.0823	0.22	Q	|	| V |		
13+20	0.0838	0.22	Q	|	| V |		
13+25	0.0853	0.22	Q	|	| V |		
13+30	0.0868	0.22	Q	|	| V |		
13+35	0.0879	0.16	Q	|	| V |		
13+40	0.0889	0.14	Q	|	| V |		
13+45	0.0899	0.14	Q	|	| V |		
13+50	0.0909	0.14	Q	|	| V |		
13+55	0.0919	0.14	Q	|	| V |		
14+ 0	0.0929	0.14	Q	|	| V |		
14+ 5	0.0940	0.16	Q	|	| V |		
14+10	0.0952	0.17	Q	|	| V|		
14+15	0.0964	0.17	Q	|	| V|		
14+20	0.0975	0.17	Q	|	| V|		
14+25	0.0986	0.16	Q	|	| V		
14+30	0.0998	0.16	Q	|	| V		
14+35	0.1009	0.16	Q	|	|V		
14+40	0.1020	0.16	Q	|	|V		
14+45	0.1032	0.16	Q	|	|V		
14+50	0.1043	0.16	Q	|	| V		
14+55	0.1053	0.16	Q	|	| V		
15+ 0	0.1064	0.16	Q	|	| V		
15+ 5	0.1075	0.15	Q	|	| V		
15+10	0.1085	0.15	Q	|	| V		
15+15	0.1096	0.15	Q	|	| V		
15+20	0.1106	0.15	Q	|	| V		
15+25	0.1116	0.14	Q	|	| V		
15+30	0.1126	0.14	Q	|	| V		
15+35	0.1134	0.12	Q	|	| V		
15+40	0.1142	0.12	Q	|	| V		
15+45	0.1151	0.12	Q	|	| V		
15+50	0.1159	0.12	Q	|	| V		
15+55	0.1167	0.12	Q	|	| V		
16+ 0	0.1175	0.12	Q	|	| V		
16+ 5	0.1178	0.05	Q	|	| V		
16+10	0.1180	0.03	Q	|	| V		
16+15	0.1182	0.03	Q	|	| V		
16+20	0.1184	0.03	Q	|	| V		
16+25	0.1185	0.03	Q	|	| V		
16+30	0.1187	0.03	Q	|	| V		
16+35	0.1189	0.02	Q	|	| V		
16+40	0.1190	0.02	Q	|	| V		
16+45	0.1191	0.02	Q	|	| V		
16+50	0.1192	0.02	Q	|	| V		
16+55	0.1194	0.02	Q	|	| V		
17+ 0	0.1195	0.02	Q	|	| V		
17+ 5	0.1197	0.03	Q	|	| V		
17+10	0.1199	0.03	Q	|	| V		
17+15	0.1201	0.03	Q	|	| V		
17+20	0.1204	0.03	Q	|	| V		
17+25	0.1206	0.03	Q	|	| V		
17+30	0.1208	0.03	Q	|	| V		
17+35	0.1210	0.03	Q	|	| V		
17+40	0.1212	0.03	Q	|	| V		
17+45	0.1214	0.03	Q	|	| V		
17+50	0.1216	0.03	Q	|	| V		
17+55	0.1218	0.03	Q	|	| V		

18+ 0	0.1220	0.03	Q	|	|	|	V |
18+ 5	0.1221	0.03	Q	|	|	|	V |
18+10	0.1223	0.03	Q	|	|	|	V |
18+15	0.1225	0.03	Q	|	|	|	V |
18+20	0.1227	0.03	Q	|	|	|	V |
18+25	0.1228	0.03	Q	|	|	|	V |
18+30	0.1230	0.03	Q	|	|	|	V |
18+35	0.1231	0.02	Q	|	|	|	V |
18+40	0.1233	0.02	Q	|	|	|	V |
18+45	0.1234	0.02	Q	|	|	|	V |
18+50	0.1235	0.01	Q	|	|	|	V |
18+55	0.1236	0.01	Q	|	|	|	V |
19+ 0	0.1237	0.01	Q	|	|	|	V |
19+ 5	0.1238	0.02	Q	|	|	|	V |
19+10	0.1239	0.02	Q	|	|	|	V |
19+15	0.1241	0.02	Q	|	|	|	V |
19+20	0.1242	0.02	Q	|	|	|	V |
19+25	0.1244	0.03	Q	|	|	|	V |
19+30	0.1246	0.03	Q	|	|	|	V |
19+35	0.1247	0.02	Q	|	|	|	V |
19+40	0.1248	0.02	Q	|	|	|	V |
19+45	0.1250	0.02	Q	|	|	|	V |
19+50	0.1251	0.01	Q	|	|	|	V |
19+55	0.1251	0.01	Q	|	|	|	V |
20+ 0	0.1252	0.01	Q	|	|	|	V |
20+ 5	0.1254	0.02	Q	|	|	|	V |
20+10	0.1255	0.02	Q	|	|	|	V |
20+15	0.1256	0.02	Q	|	|	|	V |
20+20	0.1257	0.02	Q	|	|	|	V |
20+25	0.1259	0.02	Q	|	|	|	V |
20+30	0.1260	0.02	Q	|	|	|	V |
20+35	0.1261	0.02	Q	|	|	|	V |
20+40	0.1263	0.02	Q	|	|	|	V |
20+45	0.1264	0.02	Q	|	|	|	V |
20+50	0.1265	0.01	Q	|	|	|	V |
20+55	0.1266	0.01	Q	|	|	|	V |
21+ 0	0.1267	0.01	Q	|	|	|	V |
21+ 5	0.1268	0.02	Q	|	|	|	V |
21+10	0.1269	0.02	Q	|	|	|	V |
21+15	0.1270	0.02	Q	|	|	|	V|
21+20	0.1271	0.01	Q	|	|	|	V|
21+25	0.1272	0.01	Q	|	|	|	V|
21+30	0.1273	0.01	Q	|	|	|	V|
21+35	0.1274	0.02	Q	|	|	|	V|
21+40	0.1276	0.02	Q	|	|	|	V|
21+45	0.1277	0.02	Q	|	|	|	V|
21+50	0.1278	0.01	Q	|	|	|	V|
21+55	0.1279	0.01	Q	|	|	|	V|
22+ 0	0.1280	0.01	Q	|	|	|	V|
22+ 5	0.1281	0.02	Q	|	|	|	V|
22+10	0.1282	0.02	Q	|	|	|	V|
22+15	0.1283	0.02	Q	|	|	|	V|
22+20	0.1284	0.01	Q	|	|	|	V|
22+25	0.1285	0.01	Q	|	|	|	V|
22+30	0.1286	0.01	Q	|	|	|	V|
22+35	0.1287	0.01	Q	|	|	|	V|
22+40	0.1288	0.01	Q	|	|	|	V|

22+45	0.1289	0.01	Q	|	|	|	V|
22+50	0.1290	0.01	Q	|	|	|	V|
22+55	0.1291	0.01	Q	|	|	|	V|
23+ 0	0.1291	0.01	Q	|	|	|	V|
23+ 5	0.1292	0.01	Q	|	|	|	V|
23+10	0.1293	0.01	Q	|	|	|	V|
23+15	0.1294	0.01	Q	|	|	|	V|
23+20	0.1295	0.01	Q	|	|	|	V|
23+25	0.1296	0.01	Q	|	|	|	V|
23+30	0.1297	0.01	Q	|	|	|	V|
23+35	0.1297	0.01	Q	|	|	|	V|
23+40	0.1298	0.01	Q	|	|	|	V|
23+45	0.1299	0.01	Q	|	|	|	V|
23+50	0.1300	0.01	Q	|	|	|	V|
23+55	0.1301	0.01	Q	|	|	|	V|
24+ 0	0.1302	0.01	Q	|	|	|	V|
24+ 5	0.1302	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 06/03/26 File: 19267e005site245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
5-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	1.66	16.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	4.10	39.72

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.231(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.210	0.115	1.000	0.115
					Sum (F) =	0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
		Sum = 100.000	Sum=	9.764

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.203)	0.013	0.005
2	0.17	0.07	0.018	(0.203)	0.013	0.005
3	0.25	0.07	0.018	(0.202)	0.013	0.005
4	0.33	0.10	0.027	(0.201)	0.020	0.007
5	0.42	0.10	0.027	(0.200)	0.020	0.007
6	0.50	0.10	0.027	(0.199)	0.020	0.007
7	0.58	0.10	0.027	(0.199)	0.020	0.007
8	0.67	0.10	0.027	(0.198)	0.020	0.007
9	0.75	0.10	0.027	(0.197)	0.020	0.007
10	0.83	0.13	0.036	(0.196)	0.026	0.010

11	0.92	0.13	0.036	(0.195)	0.026	0.010
12	1.00	0.13	0.036	(0.195)	0.026	0.010
13	1.08	0.10	0.027	(0.194)	0.020	0.007
14	1.17	0.10	0.027	(0.193)	0.020	0.007
15	1.25	0.10	0.027	(0.192)	0.020	0.007
16	1.33	0.10	0.027	(0.192)	0.020	0.007
17	1.42	0.10	0.027	(0.191)	0.020	0.007
18	1.50	0.10	0.027	(0.190)	0.020	0.007
19	1.58	0.10	0.027	(0.189)	0.020	0.007
20	1.67	0.10	0.027	(0.189)	0.020	0.007
21	1.75	0.10	0.027	(0.188)	0.020	0.007
22	1.83	0.13	0.036	(0.187)	0.026	0.010
23	1.92	0.13	0.036	(0.186)	0.026	0.010
24	2.00	0.13	0.036	(0.186)	0.026	0.010
25	2.08	0.13	0.036	(0.185)	0.026	0.010
26	2.17	0.13	0.036	(0.184)	0.026	0.010
27	2.25	0.13	0.036	(0.183)	0.026	0.010
28	2.33	0.13	0.036	(0.183)	0.026	0.010
29	2.42	0.13	0.036	(0.182)	0.026	0.010
30	2.50	0.13	0.036	(0.181)	0.026	0.010
31	2.58	0.17	0.045	(0.180)	0.033	0.012
32	2.67	0.17	0.045	(0.180)	0.033	0.012
33	2.75	0.17	0.045	(0.179)	0.033	0.012
34	2.83	0.17	0.045	(0.178)	0.033	0.012
35	2.92	0.17	0.045	(0.177)	0.033	0.012
36	3.00	0.17	0.045	(0.177)	0.033	0.012
37	3.08	0.17	0.045	(0.176)	0.033	0.012
38	3.17	0.17	0.045	(0.175)	0.033	0.012
39	3.25	0.17	0.045	(0.174)	0.033	0.012
40	3.33	0.17	0.045	(0.174)	0.033	0.012
41	3.42	0.17	0.045	(0.173)	0.033	0.012
42	3.50	0.17	0.045	(0.172)	0.033	0.012
43	3.58	0.17	0.045	(0.172)	0.033	0.012
44	3.67	0.17	0.045	(0.171)	0.033	0.012
45	3.75	0.17	0.045	(0.170)	0.033	0.012
46	3.83	0.20	0.054	(0.169)	0.039	0.014
47	3.92	0.20	0.054	(0.169)	0.039	0.014
48	4.00	0.20	0.054	(0.168)	0.039	0.014
49	4.08	0.20	0.054	(0.167)	0.039	0.014
50	4.17	0.20	0.054	(0.167)	0.039	0.014
51	4.25	0.20	0.054	(0.166)	0.039	0.014
52	4.33	0.23	0.062	(0.165)	0.046	0.017
53	4.42	0.23	0.062	(0.164)	0.046	0.017
54	4.50	0.23	0.062	(0.164)	0.046	0.017
55	4.58	0.23	0.062	(0.163)	0.046	0.017
56	4.67	0.23	0.062	(0.162)	0.046	0.017
57	4.75	0.23	0.062	(0.162)	0.046	0.017
58	4.83	0.27	0.071	(0.161)	0.052	0.019
59	4.92	0.27	0.071	(0.160)	0.052	0.019
60	5.00	0.27	0.071	(0.160)	0.052	0.019
61	5.08	0.20	0.054	(0.159)	0.039	0.014
62	5.17	0.20	0.054	(0.158)	0.039	0.014
63	5.25	0.20	0.054	(0.157)	0.039	0.014
64	5.33	0.23	0.062	(0.157)	0.046	0.017
65	5.42	0.23	0.062	(0.156)	0.046	0.017
66	5.50	0.23	0.062	(0.155)	0.046	0.017
67	5.58	0.27	0.071	(0.155)	0.052	0.019

68	5.67	0.27	0.071	(0.154)	0.052	0.019
69	5.75	0.27	0.071	(0.153)	0.052	0.019
70	5.83	0.27	0.071	(0.153)	0.052	0.019
71	5.92	0.27	0.071	(0.152)	0.052	0.019
72	6.00	0.27	0.071	(0.151)	0.052	0.019
73	6.08	0.30	0.080	(0.151)	0.059	0.022
74	6.17	0.30	0.080	(0.150)	0.059	0.022
75	6.25	0.30	0.080	(0.149)	0.059	0.022
76	6.33	0.30	0.080	(0.149)	0.059	0.022
77	6.42	0.30	0.080	(0.148)	0.059	0.022
78	6.50	0.30	0.080	(0.147)	0.059	0.022
79	6.58	0.33	0.089	(0.147)	0.065	0.024
80	6.67	0.33	0.089	(0.146)	0.065	0.024
81	6.75	0.33	0.089	(0.145)	0.065	0.024
82	6.83	0.33	0.089	(0.145)	0.065	0.024
83	6.92	0.33	0.089	(0.144)	0.065	0.024
84	7.00	0.33	0.089	(0.143)	0.065	0.024
85	7.08	0.33	0.089	(0.143)	0.065	0.024
86	7.17	0.33	0.089	(0.142)	0.065	0.024
87	7.25	0.33	0.089	(0.141)	0.065	0.024
88	7.33	0.37	0.098	(0.141)	0.072	0.027
89	7.42	0.37	0.098	(0.140)	0.072	0.027
90	7.50	0.37	0.098	(0.140)	0.072	0.027
91	7.58	0.40	0.107	(0.139)	0.078	0.029
92	7.67	0.40	0.107	(0.138)	0.078	0.029
93	7.75	0.40	0.107	(0.138)	0.078	0.029
94	7.83	0.43	0.116	(0.137)	0.085	0.031
95	7.92	0.43	0.116	(0.136)	0.085	0.031
96	8.00	0.43	0.116	(0.136)	0.085	0.031
97	8.08	0.50	0.134	(0.135)	0.098	0.036
98	8.17	0.50	0.134	(0.134)	0.098	0.036
99	8.25	0.50	0.134	(0.134)	0.098	0.036
100	8.33	0.50	0.134	(0.133)	0.098	0.036
101	8.42	0.50	0.134	(0.133)	0.098	0.036
102	8.50	0.50	0.134	(0.132)	0.098	0.036
103	8.58	0.53	0.143	(0.131)	0.104	0.039
104	8.67	0.53	0.143	(0.131)	0.104	0.039
105	8.75	0.53	0.143	(0.130)	0.104	0.039
106	8.83	0.57	0.152	(0.129)	0.111	0.041
107	8.92	0.57	0.152	(0.129)	0.111	0.041
108	9.00	0.57	0.152	(0.128)	0.111	0.041
109	9.08	0.63	0.170	(0.128)	0.124	0.046
110	9.17	0.63	0.170	(0.127)	0.124	0.046
111	9.25	0.63	0.170	(0.126)	0.124	0.046
112	9.33	0.67	0.179	0.126	(0.130)	0.053
113	9.42	0.67	0.179	0.125	(0.130)	0.053
114	9.50	0.67	0.179	0.125	(0.130)	0.054
115	9.58	0.70	0.187	0.124	(0.137)	0.063
116	9.67	0.70	0.187	0.123	(0.137)	0.064
117	9.75	0.70	0.187	0.123	(0.137)	0.065
118	9.83	0.73	0.196	0.122	(0.143)	0.074
119	9.92	0.73	0.196	0.122	(0.143)	0.075
120	10.00	0.73	0.196	0.121	(0.143)	0.075
121	10.08	0.50	0.134	(0.121)	0.098	0.036
122	10.17	0.50	0.134	(0.120)	0.098	0.036
123	10.25	0.50	0.134	(0.119)	0.098	0.036
124	10.33	0.50	0.134	(0.119)	0.098	0.036

125	10.42	0.50	0.134	(	0.118)	0.098		0.036
126	10.50	0.50	0.134	(	0.118)	0.098		0.036
127	10.58	0.67	0.179		0.117	(0.130)		0.061
128	10.67	0.67	0.179		0.116	(0.130)		0.062
129	10.75	0.67	0.179		0.116	(0.130)		0.063
130	10.83	0.67	0.179		0.115	(0.130)		0.063
131	10.92	0.67	0.179		0.115	(0.130)		0.064
132	11.00	0.67	0.179		0.114	(0.130)		0.064
133	11.08	0.63	0.170		0.114	(0.124)		0.056
134	11.17	0.63	0.170		0.113	(0.124)		0.057
135	11.25	0.63	0.170		0.113	(0.124)		0.057
136	11.33	0.63	0.170		0.112	(0.124)		0.058
137	11.42	0.63	0.170		0.111	(0.124)		0.058
138	11.50	0.63	0.170		0.111	(0.124)		0.059
139	11.58	0.57	0.152		0.110	(0.111)		0.041
140	11.67	0.57	0.152		0.110	(0.111)		0.042
141	11.75	0.57	0.152		0.109	(0.111)		0.043
142	11.83	0.60	0.161		0.109	(0.117)		0.052
143	11.92	0.60	0.161		0.108	(0.117)		0.053
144	12.00	0.60	0.161		0.108	(0.117)		0.053
145	12.08	0.83	0.223		0.107	(0.163)		0.116
146	12.17	0.83	0.223		0.107	(0.163)		0.117
147	12.25	0.83	0.223		0.106	(0.163)		0.117
148	12.33	0.87	0.232		0.105	(0.169)		0.127
149	12.42	0.87	0.232		0.105	(0.169)		0.127
150	12.50	0.87	0.232		0.104	(0.169)		0.128
151	12.58	0.93	0.250		0.104	(0.182)		0.146
152	12.67	0.93	0.250		0.103	(0.182)		0.147
153	12.75	0.93	0.250		0.103	(0.182)		0.147
154	12.83	0.97	0.259		0.102	(0.189)		0.157
155	12.92	0.97	0.259		0.102	(0.189)		0.157
156	13.00	0.97	0.259		0.101	(0.189)		0.158
157	13.08	1.13	0.303		0.101	(0.222)		0.203
158	13.17	1.13	0.303		0.100	(0.222)		0.203
159	13.25	1.13	0.303		0.100	(0.222)		0.204
160	13.33	1.13	0.303		0.099	(0.222)		0.204
161	13.42	1.13	0.303		0.099	(0.222)		0.205
162	13.50	1.13	0.303		0.098	(0.222)		0.205
163	13.58	0.77	0.205		0.098	(0.150)		0.108
164	13.67	0.77	0.205		0.097	(0.150)		0.108
165	13.75	0.77	0.205		0.097	(0.150)		0.109
166	13.83	0.77	0.205		0.096	(0.150)		0.109
167	13.92	0.77	0.205		0.096	(0.150)		0.110
168	14.00	0.77	0.205		0.095	(0.150)		0.110
169	14.08	0.90	0.241		0.095	(0.176)		0.146
170	14.17	0.90	0.241		0.094	(0.176)		0.147
171	14.25	0.90	0.241		0.094	(0.176)		0.147
172	14.33	0.87	0.232		0.093	(0.169)		0.139
173	14.42	0.87	0.232		0.093	(0.169)		0.139
174	14.50	0.87	0.232		0.092	(0.169)		0.140
175	14.58	0.87	0.232		0.092	(0.169)		0.140
176	14.67	0.87	0.232		0.091	(0.169)		0.141
177	14.75	0.87	0.232		0.091	(0.169)		0.141
178	14.83	0.83	0.223		0.090	(0.163)		0.133
179	14.92	0.83	0.223		0.090	(0.163)		0.133
180	15.00	0.83	0.223		0.090	(0.163)		0.134
181	15.08	0.80	0.214		0.089	(0.156)		0.125

182	15.17	0.80	0.214	0.089	(0.156)	0.126
183	15.25	0.80	0.214	0.088	(0.156)	0.126
184	15.33	0.77	0.205	0.088	(0.150)	0.118
185	15.42	0.77	0.205	0.087	(0.150)	0.118
186	15.50	0.77	0.205	0.087	(0.150)	0.118
187	15.58	0.63	0.170	0.086	(0.124)	0.083
188	15.67	0.63	0.170	0.086	(0.124)	0.084
189	15.75	0.63	0.170	0.086	(0.124)	0.084
190	15.83	0.63	0.170	0.085	(0.124)	0.085
191	15.92	0.63	0.170	0.085	(0.124)	0.085
192	16.00	0.63	0.170	0.084	(0.124)	0.085
193	16.08	0.13	0.036	(0.084)	0.026	0.010
194	16.17	0.13	0.036	(0.083)	0.026	0.010
195	16.25	0.13	0.036	(0.083)	0.026	0.010
196	16.33	0.13	0.036	(0.083)	0.026	0.010
197	16.42	0.13	0.036	(0.082)	0.026	0.010
198	16.50	0.13	0.036	(0.082)	0.026	0.010
199	16.58	0.10	0.027	(0.081)	0.020	0.007
200	16.67	0.10	0.027	(0.081)	0.020	0.007
201	16.75	0.10	0.027	(0.080)	0.020	0.007
202	16.83	0.10	0.027	(0.080)	0.020	0.007
203	16.92	0.10	0.027	(0.080)	0.020	0.007
204	17.00	0.10	0.027	(0.079)	0.020	0.007
205	17.08	0.17	0.045	(0.079)	0.033	0.012
206	17.17	0.17	0.045	(0.078)	0.033	0.012
207	17.25	0.17	0.045	(0.078)	0.033	0.012
208	17.33	0.17	0.045	(0.078)	0.033	0.012
209	17.42	0.17	0.045	(0.077)	0.033	0.012
210	17.50	0.17	0.045	(0.077)	0.033	0.012
211	17.58	0.17	0.045	(0.076)	0.033	0.012
212	17.67	0.17	0.045	(0.076)	0.033	0.012
213	17.75	0.17	0.045	(0.076)	0.033	0.012
214	17.83	0.13	0.036	(0.075)	0.026	0.010
215	17.92	0.13	0.036	(0.075)	0.026	0.010
216	18.00	0.13	0.036	(0.075)	0.026	0.010
217	18.08	0.13	0.036	(0.074)	0.026	0.010
218	18.17	0.13	0.036	(0.074)	0.026	0.010
219	18.25	0.13	0.036	(0.073)	0.026	0.010
220	18.33	0.13	0.036	(0.073)	0.026	0.010
221	18.42	0.13	0.036	(0.073)	0.026	0.010
222	18.50	0.13	0.036	(0.072)	0.026	0.010
223	18.58	0.10	0.027	(0.072)	0.020	0.007
224	18.67	0.10	0.027	(0.072)	0.020	0.007
225	18.75	0.10	0.027	(0.071)	0.020	0.007
226	18.83	0.07	0.018	(0.071)	0.013	0.005
227	18.92	0.07	0.018	(0.071)	0.013	0.005
228	19.00	0.07	0.018	(0.070)	0.013	0.005
229	19.08	0.10	0.027	(0.070)	0.020	0.007
230	19.17	0.10	0.027	(0.070)	0.020	0.007
231	19.25	0.10	0.027	(0.069)	0.020	0.007
232	19.33	0.13	0.036	(0.069)	0.026	0.010
233	19.42	0.13	0.036	(0.069)	0.026	0.010
234	19.50	0.13	0.036	(0.068)	0.026	0.010
235	19.58	0.10	0.027	(0.068)	0.020	0.007
236	19.67	0.10	0.027	(0.068)	0.020	0.007
237	19.75	0.10	0.027	(0.067)	0.020	0.007
238	19.83	0.07	0.018	(0.067)	0.013	0.005

239	19.92	0.07	0.018	(0.067)	0.013	0.005
240	20.00	0.07	0.018	(0.067)	0.013	0.005
241	20.08	0.10	0.027	(0.066)	0.020	0.007
242	20.17	0.10	0.027	(0.066)	0.020	0.007
243	20.25	0.10	0.027	(0.066)	0.020	0.007
244	20.33	0.10	0.027	(0.065)	0.020	0.007
245	20.42	0.10	0.027	(0.065)	0.020	0.007
246	20.50	0.10	0.027	(0.065)	0.020	0.007
247	20.58	0.10	0.027	(0.065)	0.020	0.007
248	20.67	0.10	0.027	(0.064)	0.020	0.007
249	20.75	0.10	0.027	(0.064)	0.020	0.007
250	20.83	0.07	0.018	(0.064)	0.013	0.005
251	20.92	0.07	0.018	(0.064)	0.013	0.005
252	21.00	0.07	0.018	(0.063)	0.013	0.005
253	21.08	0.10	0.027	(0.063)	0.020	0.007
254	21.17	0.10	0.027	(0.063)	0.020	0.007
255	21.25	0.10	0.027	(0.063)	0.020	0.007
256	21.33	0.07	0.018	(0.062)	0.013	0.005
257	21.42	0.07	0.018	(0.062)	0.013	0.005
258	21.50	0.07	0.018	(0.062)	0.013	0.005
259	21.58	0.10	0.027	(0.062)	0.020	0.007
260	21.67	0.10	0.027	(0.061)	0.020	0.007
261	21.75	0.10	0.027	(0.061)	0.020	0.007
262	21.83	0.07	0.018	(0.061)	0.013	0.005
263	21.92	0.07	0.018	(0.061)	0.013	0.005
264	22.00	0.07	0.018	(0.061)	0.013	0.005
265	22.08	0.10	0.027	(0.060)	0.020	0.007
266	22.17	0.10	0.027	(0.060)	0.020	0.007
267	22.25	0.10	0.027	(0.060)	0.020	0.007
268	22.33	0.07	0.018	(0.060)	0.013	0.005
269	22.42	0.07	0.018	(0.060)	0.013	0.005
270	22.50	0.07	0.018	(0.059)	0.013	0.005
271	22.58	0.07	0.018	(0.059)	0.013	0.005
272	22.67	0.07	0.018	(0.059)	0.013	0.005
273	22.75	0.07	0.018	(0.059)	0.013	0.005
274	22.83	0.07	0.018	(0.059)	0.013	0.005
275	22.92	0.07	0.018	(0.059)	0.013	0.005
276	23.00	0.07	0.018	(0.058)	0.013	0.005
277	23.08	0.07	0.018	(0.058)	0.013	0.005
278	23.17	0.07	0.018	(0.058)	0.013	0.005
279	23.25	0.07	0.018	(0.058)	0.013	0.005
280	23.33	0.07	0.018	(0.058)	0.013	0.005
281	23.42	0.07	0.018	(0.058)	0.013	0.005
282	23.50	0.07	0.018	(0.058)	0.013	0.005
283	23.58	0.07	0.018	(0.058)	0.013	0.005
284	23.67	0.07	0.018	(0.058)	0.013	0.005
285	23.75	0.07	0.018	(0.057)	0.013	0.005
286	23.83	0.07	0.018	(0.057)	0.013	0.005
287	23.92	0.07	0.018	(0.057)	0.013	0.005
288	24.00	0.07	0.018	(0.057)	0.013	0.005

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.0

Flood volume = Effective rainfall 0.92(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 1.31(In)
Total soil loss = 1.061(Ac.Ft)
Total rainfall = 2.23(In)

Flood volume = 32241.4 Cubic Feet
Total soil loss = 46233.5 Cubic Feet

Peak flow rate of this hydrograph = 2.003(CFS)

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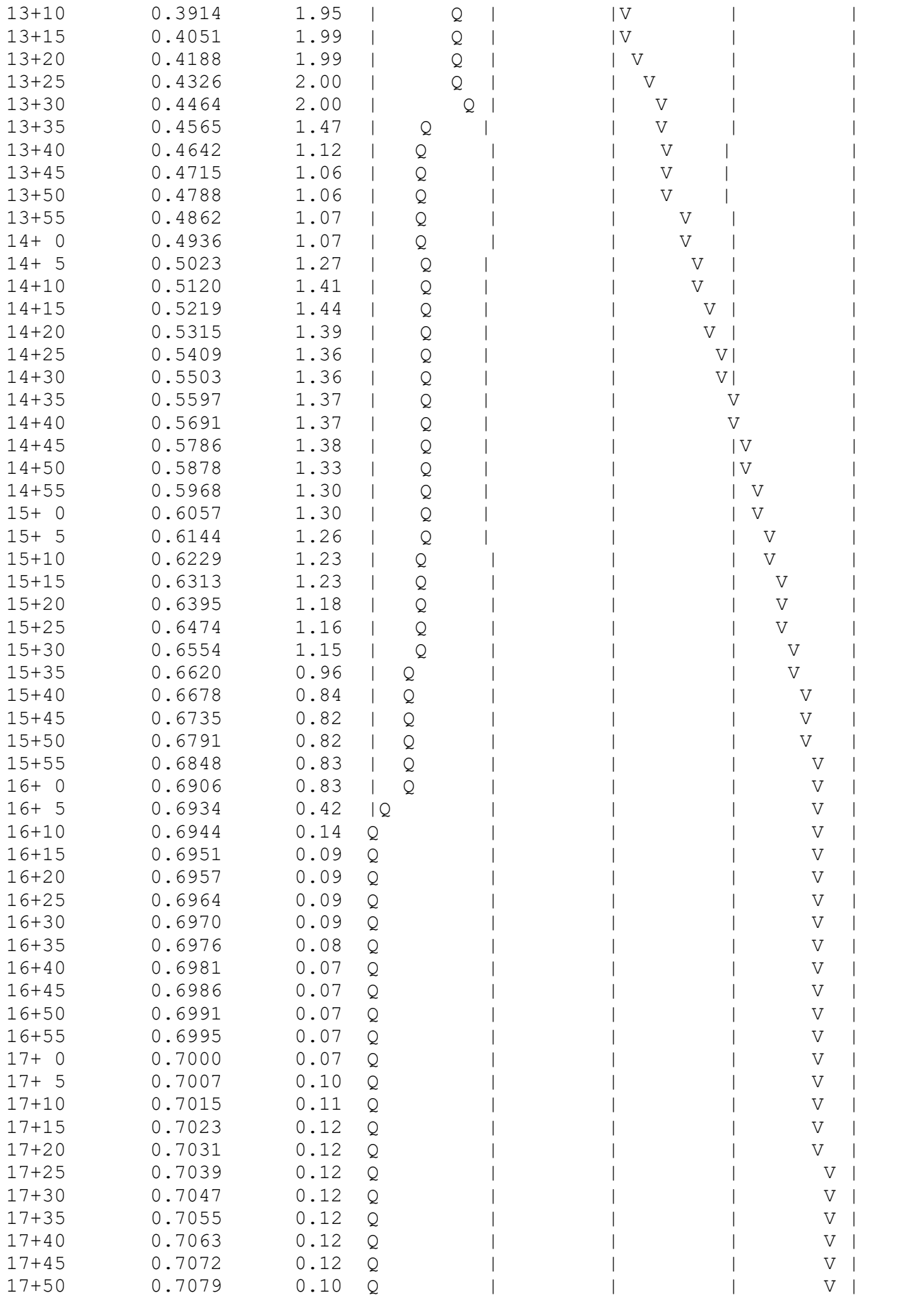
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.04	Q				
0+15	0.0008	0.05	Q				
0+20	0.0012	0.06	Q				
0+25	0.0017	0.07	Q				
0+30	0.0022	0.07	Q				
0+35	0.0027	0.07	Q				
0+40	0.0032	0.07	Q				
0+45	0.0036	0.07	Q				
0+50	0.0042	0.08	Q				
0+55	0.0049	0.09	Q				
1+ 0	0.0055	0.09	Q				
1+ 5	0.0061	0.08	Q				
1+10	0.0066	0.07	Q				
1+15	0.0070	0.07	Q				
1+20	0.0075	0.07	Q				
1+25	0.0080	0.07	Q				
1+30	0.0085	0.07	Q				
1+35	0.0090	0.07	Q				
1+40	0.0095	0.07	Q				
1+45	0.0100	0.07	Q				
1+50	0.0105	0.08	Q				
1+55	0.0112	0.09	Q				
2+ 0	0.0118	0.09	Q				
2+ 5	0.0125	0.09	Q				
2+10	0.0131	0.09	Q				
2+15	0.0138	0.09	Q				
2+20	0.0144	0.09	Q				
2+25	0.0151	0.09	Q				
2+30	0.0157	0.09	Q				
2+35	0.0165	0.11	Q				
2+40	0.0173	0.12	Q				
2+45	0.0181	0.12	Q				
2+50	0.0189	0.12	QV				
2+55	0.0197	0.12	QV				
3+ 0	0.0205	0.12	QV				
3+ 5	0.0213	0.12	QV				
3+10	0.0221	0.12	QV				
3+15	0.0229	0.12	QV				
3+20	0.0237	0.12	QV				
3+25	0.0246	0.12	QV				
3+30	0.0254	0.12	QV				
3+35	0.0262	0.12	QV				

3+40	0.0270	0.12	QV	|	|	|	|
3+45	0.0278	0.12	QV	|	|	|	|
3+50	0.0287	0.13	QV	|	|	|	|
3+55	0.0297	0.14	QV	|	|	|	|
4+ 0	0.0306	0.14	QV	|	|	|	|
4+ 5	0.0316	0.14	QV	|	|	|	|
4+10	0.0326	0.14	QV	|	|	|	|
4+15	0.0336	0.14	QV	|	|	|	|
4+20	0.0346	0.15	QV	|	|	|	|
4+25	0.0357	0.16	QV	|	|	|	|
4+30	0.0369	0.16	QV	|	|	|	|
4+35	0.0380	0.16	Q V	|	|	|	|
4+40	0.0391	0.16	Q V	|	|	|	|
4+45	0.0403	0.16	Q V	|	|	|	|
4+50	0.0415	0.18	Q V	|	|	|	|
4+55	0.0428	0.19	Q V	|	|	|	|
5+ 0	0.0441	0.19	Q V	|	|	|	|
5+ 5	0.0452	0.16	Q V	|	|	|	|
5+10	0.0462	0.14	Q V	|	|	|	|
5+15	0.0472	0.14	Q V	|	|	|	|
5+20	0.0482	0.15	Q V	|	|	|	|
5+25	0.0494	0.16	Q V	|	|	|	|
5+30	0.0505	0.16	Q V	|	|	|	|
5+35	0.0517	0.18	Q V	|	|	|	|
5+40	0.0530	0.19	Q V	|	|	|	|
5+45	0.0543	0.19	Q V	|	|	|	|
5+50	0.0556	0.19	Q V	|	|	|	|
5+55	0.0569	0.19	Q V	|	|	|	|
6+ 0	0.0582	0.19	Q V	|	|	|	|
6+ 5	0.0596	0.20	Q V	|	|	|	|
6+10	0.0610	0.21	Q V	|	|	|	|
6+15	0.0625	0.21	Q V	|	|	|	|
6+20	0.0640	0.21	Q V	|	|	|	|
6+25	0.0654	0.21	Q V	|	|	|	|
6+30	0.0669	0.21	Q V	|	|	|	|
6+35	0.0684	0.23	Q V	|	|	|	|
6+40	0.0700	0.23	Q V	|	|	|	|
6+45	0.0717	0.24	Q V	|	|	|	|
6+50	0.0733	0.24	Q V	|	|	|	|
6+55	0.0749	0.24	Q V	|	|	|	|
7+ 0	0.0765	0.24	Q V	|	|	|	|
7+ 5	0.0781	0.24	Q V	|	|	|	|
7+10	0.0798	0.24	Q V	|	|	|	|
7+15	0.0814	0.24	Q V	|	|	|	|
7+20	0.0831	0.25	Q V	|	|	|	|
7+25	0.0849	0.26	|Q V	|	|	|	|
7+30	0.0867	0.26	|Q V	|	|	|	|
7+35	0.0885	0.27	|Q V	|	|	|	|
7+40	0.0905	0.28	|Q V	|	|	|	|
7+45	0.0924	0.28	|Q V	|	|	|	|
7+50	0.0944	0.30	|Q V	|	|	|	|
7+55	0.0965	0.30	|Q V	|	|	|	|
8+ 0	0.0986	0.31	|Q V	|	|	|	|
8+ 5	0.1009	0.33	|Q V	|	|	|	|
8+10	0.1033	0.35	|Q V	|	|	|	|
8+15	0.1058	0.35	|Q V	|	|	|	|
8+20	0.1082	0.35	|Q V	|	|	|	|

8+25	0.1106	0.35	Q V				
8+30	0.1131	0.35	Q V				
8+35	0.1156	0.37	Q V				
8+40	0.1182	0.38	Q V				
8+45	0.1208	0.38	Q V				
8+50	0.1235	0.39	Q V				
8+55	0.1262	0.40	Q V				
9+ 0	0.1290	0.40	Q V				
9+ 5	0.1319	0.43	Q V				
9+10	0.1350	0.44	Q V				
9+15	0.1380	0.45	Q V				
9+20	0.1414	0.48	Q V				
9+25	0.1449	0.51	Q V				
9+30	0.1485	0.52	Q V				
9+35	0.1525	0.58	Q V				
9+40	0.1567	0.62	Q V				
9+45	0.1611	0.63	Q V				
9+50	0.1658	0.68	Q V				
9+55	0.1707	0.72	Q V				
10+ 0	0.1758	0.73	Q V				
10+ 5	0.1794	0.52	Q V				
10+10	0.1820	0.38	Q V				
10+15	0.1844	0.35	Q V				
10+20	0.1868	0.35	Q V				
10+25	0.1893	0.35	Q V				
10+30	0.1917	0.35	Q V				
10+35	0.1951	0.49	Q V				
10+40	0.1991	0.59	Q V				
10+45	0.2033	0.61	Q V				
10+50	0.2076	0.61	Q V				
10+55	0.2118	0.62	Q V				
11+ 0	0.2161	0.63	Q V				
11+ 5	0.2201	0.58	Q V				
11+10	0.2240	0.56	Q V				
11+15	0.2278	0.55	Q V				
11+20	0.2316	0.56	Q V				
11+25	0.2355	0.57	Q V				
11+30	0.2395	0.57	Q V				
11+35	0.2428	0.48	Q V				
11+40	0.2457	0.42	Q V				
11+45	0.2485	0.41	Q V				
11+50	0.2517	0.47	Q V				
11+55	0.2552	0.50	Q V				
12+ 0	0.2587	0.52	Q V				
12+ 5	0.2647	0.86	Q V				
12+10	0.2722	1.10	Q V				
12+15	0.2801	1.14	Q V				
12+20	0.2883	1.20	Q V				
12+25	0.2968	1.23	Q V				
12+30	0.3054	1.24	Q V				
12+35	0.3147	1.35	Q V				
12+40	0.3244	1.42	Q V				
12+45	0.3343	1.43	Q V				
12+50	0.3446	1.49	Q V				
12+55	0.3551	1.53	Q V				
13+ 0	0.3657	1.54	Q V				
13+ 5	0.3780	1.79	Q V				



17+55	0.7085	0.10	Q	|	|	|	V |
18+ 0	0.7092	0.09	Q	|	|	|	V |
18+ 5	0.7098	0.09	Q	|	|	|	V |
18+10	0.7105	0.09	Q	|	|	|	V |
18+15	0.7111	0.09	Q	|	|	|	V |
18+20	0.7118	0.09	Q	|	|	|	V |
18+25	0.7124	0.09	Q	|	|	|	V |
18+30	0.7131	0.09	Q	|	|	|	V |
18+35	0.7136	0.08	Q	|	|	|	V |
18+40	0.7141	0.07	Q	|	|	|	V |
18+45	0.7146	0.07	Q	|	|	|	V |
18+50	0.7150	0.06	Q	|	|	|	V |
18+55	0.7154	0.05	Q	|	|	|	V |
19+ 0	0.7157	0.05	Q	|	|	|	V |
19+ 5	0.7161	0.06	Q	|	|	|	V |
19+10	0.7166	0.07	Q	|	|	|	V |
19+15	0.7171	0.07	Q	|	|	|	V |
19+20	0.7176	0.08	Q	|	|	|	V |
19+25	0.7183	0.09	Q	|	|	|	V |
19+30	0.7189	0.09	Q	|	|	|	V |
19+35	0.7195	0.08	Q	|	|	|	V |
19+40	0.7200	0.07	Q	|	|	|	V |
19+45	0.7205	0.07	Q	|	|	|	V |
19+50	0.7209	0.06	Q	|	|	|	V |
19+55	0.7212	0.05	Q	|	|	|	V |
20+ 0	0.7215	0.05	Q	|	|	|	V |
20+ 5	0.7219	0.06	Q	|	|	|	V|
20+10	0.7224	0.07	Q	|	|	|	V|
20+15	0.7229	0.07	Q	|	|	|	V|
20+20	0.7234	0.07	Q	|	|	|	V|
20+25	0.7239	0.07	Q	|	|	|	V|
20+30	0.7243	0.07	Q	|	|	|	V|
20+35	0.7248	0.07	Q	|	|	|	V|
20+40	0.7253	0.07	Q	|	|	|	V|
20+45	0.7258	0.07	Q	|	|	|	V|
20+50	0.7262	0.06	Q	|	|	|	V|
20+55	0.7265	0.05	Q	|	|	|	V|
21+ 0	0.7269	0.05	Q	|	|	|	V|
21+ 5	0.7273	0.06	Q	|	|	|	V|
21+10	0.7278	0.07	Q	|	|	|	V|
21+15	0.7282	0.07	Q	|	|	|	V|
21+20	0.7286	0.06	Q	|	|	|	V|
21+25	0.7290	0.05	Q	|	|	|	V|
21+30	0.7293	0.05	Q	|	|	|	V|
21+35	0.7297	0.06	Q	|	|	|	V|
21+40	0.7302	0.07	Q	|	|	|	V|
21+45	0.7307	0.07	Q	|	|	|	V|
21+50	0.7311	0.06	Q	|	|	|	V|
21+55	0.7314	0.05	Q	|	|	|	V|
22+ 0	0.7317	0.05	Q	|	|	|	V|
22+ 5	0.7321	0.06	Q	|	|	|	V|
22+10	0.7326	0.07	Q	|	|	|	V|
22+15	0.7331	0.07	Q	|	|	|	V|
22+20	0.7335	0.06	Q	|	|	|	V|
22+25	0.7338	0.05	Q	|	|	|	V|
22+30	0.7342	0.05	Q	|	|	|	V|
22+35	0.7345	0.05	Q	|	|	|	V|

22+40	0.7348	0.05	Q	|	|	|	V|
22+45	0.7351	0.05	Q	|	|	|	V|
22+50	0.7355	0.05	Q	|	|	|	V|
22+55	0.7358	0.05	Q	|	|	|	V|
23+ 0	0.7361	0.05	Q	|	|	|	V|
23+ 5	0.7364	0.05	Q	|	|	|	V|
23+10	0.7368	0.05	Q	|	|	|	V|
23+15	0.7371	0.05	Q	|	|	|	V|
23+20	0.7374	0.05	Q	|	|	|	V|
23+25	0.7377	0.05	Q	|	|	|	V|
23+30	0.7381	0.05	Q	|	|	|	V|
23+35	0.7384	0.05	Q	|	|	|	V|
23+40	0.7387	0.05	Q	|	|	|	V|
23+45	0.7390	0.05	Q	|	|	|	V|
23+50	0.7393	0.05	Q	|	|	|	V|
23+55	0.7397	0.05	Q	|	|	|	V|
24+ 0	0.7400	0.05	Q	|	|	|	V|
24+ 5	0.7401	0.02	Q	|	|	|	V|
24+10	0.7402	0.00	Q	|	|	|	V|

Existing Condition

10-year return – 1-, 3-, 6-, 24-hour duration

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 06/03/26 File: 19267e010A110.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	0.42	2.47

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        5.90             1.22                 7.19

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.748(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     5.897           89.00          0.000
 Total Area Entered =      5.90(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
89.0  89.0      0.141     0.000        0.141        1.000      0.141
                                                    Sum (F) =   0.141
Area averaged mean soil loss (F) (In/Hr) =  0.141
Minimum soil loss rate ((In/Hr)) =  0.071
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        292.313         55.877             3.321
    2   0.167        584.626         37.556             2.232
    3   0.250        876.940          6.567             0.390
                              Sum = 100.000   Sum=       5.943
------------------------------------------------------------------------

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     3.30      0.296          0.141    (  0.267)        0.155
  2   0.17     4.20      0.377          0.141    (  0.340)        0.236
  3   0.25     4.40      0.395          0.141    (  0.356)        0.254
  4   0.33     4.80      0.431          0.141    (  0.388)        0.290
  5   0.42     5.20      0.467          0.141    (  0.420)        0.326
  6   0.50     6.20      0.557          0.141    (  0.501)        0.415
  7   0.58     6.80      0.611          0.141    (  0.550)        0.469
  8   0.67     8.80      0.790          0.141    (  0.711)        0.649
```

```
 9   0.75    13.90      1.248          0.141    (  1.124)        1.107
10   0.83    31.40      2.820          0.141    (  2.538)        2.679
11   0.92     7.20      0.647          0.141    (  0.582)        0.505
12   1.00     3.80      0.341          0.141    (  0.307)        0.200
          (Loss Rate Not Used)
   Sum =     100.0                                      Sum =     7.3
    Flood volume = Effective rainfall      0.61(In)
     times area       5.9(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.14(In)
    Total soil loss =     0.069(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =       12995.6 Cubic Feet
    Total soil loss =        3026.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     11.627(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       0.0035      0.52  VQ        |         |         |         |
   0+10       0.0113      1.13  |VQ       |         |         |         |
   0+15       0.0212      1.43  | Q       |         |         |         |
   0+20       0.0323      1.62  |  QV     |         |         |         |
   0+25       0.0449      1.83  |  Q  V   |         |         |         |
   0+30       0.0602      2.22  |   Q   V |         |         |         |
   0+35       0.0782      2.61  |   Q    V         |         |         |
   0+40       0.1014      3.37  |     Q   |  V      |         |         |
   0+45       0.1380      5.31  |         Q       V |         |         |
   0+50       0.2181     11.63  |         |         |  Q     V|         |
   0+55       0.2738      8.09  |         |     Q   |         |     V   |
   1+ 0       0.2934      2.84  |   Q     |         |         |        V|
   1+ 5       0.2978      0.64  |Q        |         |         |        V|
   1+10       0.2983      0.08  Q         |         |         |         V
-----------------------------------------------------------------------------
```

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

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	0.42	0.62

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        1.48             1.22                 1.81

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     1.484           89.00          0.040
 Total Area Entered =      1.48(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
89.0  89.0      0.141     0.040        0.136        1.000      0.136
                                                    Sum (F) =   0.136
Area averaged mean soil loss (F) (In/Hr) =  0.136
Minimum soil loss rate ((In/Hr)) =  0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.860
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        366.114         62.598             0.936
    2   0.167        732.229         33.736             0.505
    3   0.250       1098.343          3.666             0.055
                              Sum = 100.000   Sum=       1.496
------------------------------------------------------------------------

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     3.30      0.296          0.136    (  0.255)        0.160
  2   0.17     4.20      0.377          0.136    (  0.324)        0.241
  3   0.25     4.40      0.395          0.136    (  0.340)        0.259
  4   0.33     4.80      0.431          0.136    (  0.371)        0.295
  5   0.42     5.20      0.467          0.136    (  0.402)        0.331
  6   0.50     6.20      0.557          0.136    (  0.479)        0.421
  7   0.58     6.80      0.611          0.136    (  0.525)        0.474
  8   0.67     8.80      0.790          0.136    (  0.680)        0.654
```

```
 9   0.75    13.90      1.249          0.136    (  1.074)        1.112
10   0.83    31.40      2.820          0.136    (  2.426)        2.684
11   0.92     7.20      0.647          0.136    (  0.556)        0.510
12   1.00     3.80      0.341          0.136    (  0.294)        0.205
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     7.3
    Flood volume = Effective rainfall      0.61(In)
     times area       1.5(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.14(In)
    Total soil loss =     0.017(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =        3298.0 Cubic Feet
    Total soil loss =         734.3 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      3.112(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                  R u n o f f     H y d r o g r a p h
    ---------------------------------------------------------------------
               Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0010      0.15  Q         |         |         |         |
   0+10       0.0031      0.31  |Q        |         |         |         |
   0+15       0.0057      0.37  |Q V      |         |         |         |
   0+20       0.0086      0.42  |Q  V     |         |         |         |
   0+25       0.0119      0.47  |Q    V   |         |         |         |
   0+30       0.0158      0.58  | Q     V |         |         |         |
   0+35       0.0205      0.67  | Q       V         |         |         |
   0+40       0.0265      0.88  |  Q      |   V     |         |         |
   0+45       0.0361      1.40  |    Q    |         V|        |         |
   0+50       0.0576      3.11  |         | Q       |         V         |
   0+55       0.0706      1.89  |      Q  |         |         |      V  |
   1+ 0       0.0747      0.60  | Q       |         |         |        V|
   1+ 5       0.0756      0.13  Q         |         |         |        V|
   1+10       0.0757      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 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	0.42	0.63

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        1.51             1.22                 1.84

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     1.512           75.00          0.810
 Total Area Entered =      1.51(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.810        0.082        1.000      0.082
                                                    Sum (F) =   0.082
Area averaged mean soil loss (F) (In/Hr) =  0.082
Minimum soil loss rate ((In/Hr)) =  0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.250
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           U n i t  H y d r o g r a p h
                VALLEY S-Curve
------------------------------------------------------------------------
           Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        352.516         61.506             0.937
    2   0.167        705.031         34.399             0.524
    3   0.250       1057.547          4.095             0.062
                              Sum = 100.000   Sum=       1.524
------------------------------------------------------------------------

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     3.30      0.296       (  0.082)       0.074        0.222
  2   0.17     4.20      0.377          0.082    (  0.094)        0.295
  3   0.25     4.40      0.395          0.082    (  0.099)        0.313
  4   0.33     4.80      0.431          0.082    (  0.108)        0.349
  5   0.42     5.20      0.467          0.082    (  0.117)        0.385
  6   0.50     6.20      0.557          0.082    (  0.139)        0.475
  7   0.58     6.80      0.611          0.082    (  0.153)        0.529
  8   0.67     8.80      0.790          0.082    (  0.198)        0.708
```

```
 9   0.75    13.90      1.249          0.082    (  0.312)        1.166
10   0.83    31.40      2.820          0.082    (  0.705)        2.738
11   0.92     7.20      0.647          0.082    (  0.162)        0.565
12   1.00     3.80      0.341          0.082    (  0.085)        0.259
          (Loss Rate Not Used)
   Sum =     100.0                                      Sum =     8.0
    Flood volume = Effective rainfall      0.67(In)
     times area       1.5(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.08(In)
    Total soil loss =     0.010(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =        3661.3 Cubic Feet
    Total soil loss =         447.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      3.224(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                  R u n o f f     H y d r o g r a p h
    ---------------------------------------------------------------------
              Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0014      0.21  Q         |         |         |         |
   0+10       0.0041      0.39  |Q        |         |         |         |
   0+15       0.0073      0.46  |Q V      |         |         |         |
   0+20       0.0108      0.51  | Q  V    |         |         |         |
   0+25       0.0147      0.56  | Q    V  |         |         |         |
   0+30       0.0193      0.67  | Q      V|         |         |         |
   0+35       0.0246      0.77  |  Q      |V        |         |         |
   0+40       0.0313      0.97  |  Q      |   V     |         |         |
   0+45       0.0416      1.50  |    Q    |         V|        |         |
   0+50       0.0638      3.22  |         | Q       |        V         |
   0+55       0.0779      2.04  |       Q |         |         |      V  |
   1+ 0       0.0828      0.71  | Q       |         |         |        V|
   1+ 5       0.0839      0.17  Q         |         |         |        V|
   1+10       0.0841      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 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	0.42	0.33

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        0.80             1.22                 0.97

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     0.795           75.00          0.970
 Total Area Entered =      0.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.970        0.038        1.000      0.038
                                                    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) =   0.120
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        713.013         78.934             0.632
    2   0.167       1426.025         21.066             0.169
                               Sum = 100.000   Sum=       0.801
------------------------------------------------------------------------
```

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	3.30	0.296	(0.038)	0.036	0.261
2	0.17	4.20	0.377	0.038	(0.045)	0.339
3	0.25	4.40	0.395	0.038	(0.047)	0.357
4	0.33	4.80	0.431	0.038	(0.052)	0.393
5	0.42	5.20	0.467	0.038	(0.056)	0.429
6	0.50	6.20	0.557	0.038	(0.067)	0.518
7	0.58	6.80	0.611	0.038	(0.073)	0.572
8	0.67	8.80	0.790	0.038	(0.095)	0.752
9	0.75	13.90	1.249	0.038	(0.150)	1.210

```
 10   0.83    31.40      2.820          0.038    (  0.338)        2.782
 11   0.92     7.20      0.647          0.038    (  0.078)        0.608
 12   1.00     3.80      0.341          0.038    (  0.041)        0.303
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.5
    Flood volume = Effective rainfall      0.71(In)
     times area       0.8(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.04(In)
    Total soil loss =     0.003(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =        2049.8 Cubic Feet
    Total soil loss =         110.4 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.965(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0011      0.17  Q         |         |         |         |
   0+10       0.0029      0.26  |QV       |         |         |         |
   0+15       0.0049      0.28  |Q  V     |         |         |         |
   0+20       0.0070      0.31  |Q   V    |         |         |         |
   0+25       0.0093      0.34  |Q     V  |         |         |         |
   0+30       0.0121      0.40  |Q        V         |         |         |
   0+35       0.0152      0.45  |Q        | V       |         |         |
   0+40       0.0191      0.57  | Q       |     V   |         |         |
   0+45       0.0253      0.89  |  Q      |         |V        |         |
   0+50       0.0388      1.96  |      Q  |         |         | V       |
   0+55       0.0447      0.85  |  Q      |         |         |      V  |
   1+ 0       0.0467      0.29  |Q        |         |         |        V|
   1+ 5       0.0471      0.05  Q         |         |         |         V
------------------------------------------------------------------------
```

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

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	0.42	4.06

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.69             1.22                11.82

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.748(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     9.688           89.00          0.210
 Total Area Entered =      9.69(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
89.0  89.0      0.141     0.210        0.115        1.000      0.115
                                                    Sum (F) =   0.115
Area averaged mean soil loss (F) (In/Hr) =  0.115
Minimum soil loss rate ((In/Hr)) =  0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.730
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        292.313         55.877             5.456
    2   0.167        584.626         37.556             3.667
    3   0.250        876.940          6.567             0.641
                              Sum = 100.000   Sum=       9.764
------------------------------------------------------------------------

 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     3.30      0.296          0.115    (  0.216)        0.182
  2   0.17     4.20      0.377          0.115    (  0.275)        0.263
  3   0.25     4.40      0.395          0.115    (  0.288)        0.281
  4   0.33     4.80      0.431          0.115    (  0.315)        0.316
  5   0.42     5.20      0.467          0.115    (  0.341)        0.352
  6   0.50     6.20      0.557          0.115    (  0.407)        0.442
  7   0.58     6.80      0.611          0.115    (  0.446)        0.496
  8   0.67     8.80      0.790          0.115    (  0.577)        0.676
```

```
 9   0.75    13.90      1.248          0.115    (  0.911)        1.134
10   0.83    31.40      2.820          0.115    (  2.059)        2.706
11   0.92     7.20      0.647          0.115    (  0.472)        0.532
12   1.00     3.80      0.341          0.115    (  0.249)        0.227
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     7.6
    Flood volume = Effective rainfall      0.63(In)
     times area       9.7(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
    Total soil loss =      0.11(In)
    Total soil loss =     0.093(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =       22289.0 Cubic Feet
    Total soil loss =        4032.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     19.361(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       0.0068      0.99  VQ         |         |         |         |
   0+10       0.0213      2.10  |V  Q      |         |         |         |
   0+15       0.0393      2.61  |  V Q     |         |         |         |
   0+20       0.0594      2.92  |   VQ     |         |         |         |
   0+25       0.0819      3.26  |     Q    |         |         |         |
   0+30       0.1088      3.91  |      QV  |         |         |         |
   0+35       0.1402      4.56  |        QV          |         |         |
   0+40       0.1801      5.79  |          |Q  V      |         |         |
   0+45       0.2420      8.99  |          |      QV  |         |         |
   0+50       0.3753     19.36  |          |          |        V|       Q |
   0+55       0.4687     13.56  |          |          |      Q  |     V   |
   1+ 0       0.5026      4.92  |         Q|          |         |        V|
   1+ 5       0.5107      1.17  | Q        |          |         |        V|
   1+10       0.5117      0.15  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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	0.71	4.18

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	1.75	10.32

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.000	0.141	1.000	0.141
					Sum (F) =	0.141

Area averaged mean soil loss (F) (In/Hr) = 0.141
Minimum soil loss rate ((In/Hr)) = 0.071
(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 (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
			Sum = 100.000	Sum= 5.943

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	0.177		0.141 (0.160)	0.036
2	0.17	1.30	0.177		0.141 (0.160)	0.036
3	0.25	1.10	0.150	(	0.141) 0.135	0.015
4	0.33	1.50	0.205		0.141 (0.184)	0.063
5	0.42	1.50	0.205		0.141 (0.184)	0.063
6	0.50	1.80	0.246		0.141 (0.221)	0.104
7	0.58	1.50	0.205		0.141 (0.184)	0.063
8	0.67	1.80	0.246		0.141 (0.221)	0.104
9	0.75	1.80	0.246		0.141 (0.221)	0.104
10	0.83	1.50	0.205		0.141 (0.184)	0.063

11	0.92	1.60	0.218	0.141	(0.196)	0.077
12	1.00	1.80	0.246	0.141	(0.221)	0.104
13	1.08	2.20	0.300	0.141	(0.270)	0.159
14	1.17	2.20	0.300	0.141	(0.270)	0.159
15	1.25	2.20	0.300	0.141	(0.270)	0.159
16	1.33	2.00	0.273	0.141	(0.246)	0.131
17	1.42	2.60	0.355	0.141	(0.319)	0.213
18	1.50	2.70	0.368	0.141	(0.331)	0.227
19	1.58	2.40	0.327	0.141	(0.295)	0.186
20	1.67	2.70	0.368	0.141	(0.331)	0.227
21	1.75	3.30	0.450	0.141	(0.405)	0.309
22	1.83	3.10	0.423	0.141	(0.381)	0.281
23	1.92	2.90	0.396	0.141	(0.356)	0.254
24	2.00	3.00	0.409	0.141	(0.368)	0.268
25	2.08	3.10	0.423	0.141	(0.381)	0.281
26	2.17	4.20	0.573	0.141	(0.516)	0.431
27	2.25	5.00	0.682	0.141	(0.614)	0.541
28	2.33	3.50	0.477	0.141	(0.430)	0.336
29	2.42	6.80	0.928	0.141	(0.835)	0.786
30	2.50	7.30	0.996	0.141	(0.896)	0.854
31	2.58	8.20	1.118	0.141	(1.007)	0.977
32	2.67	5.90	0.805	0.141	(0.724)	0.663
33	2.75	2.00	0.273	0.141	(0.246)	0.131
34	2.83	1.80	0.246	0.141	(0.221)	0.104
35	2.92	1.80	0.246	0.141	(0.221)	0.104
36	3.00	0.60	0.082	(0.141)	0.074	0.008

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.6

Flood volume = Effective rainfall 0.72(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.42(In)
Total soil loss = 0.205(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 15383.2 Cubic Feet
Total soil loss = 8948.3 Cubic Feet

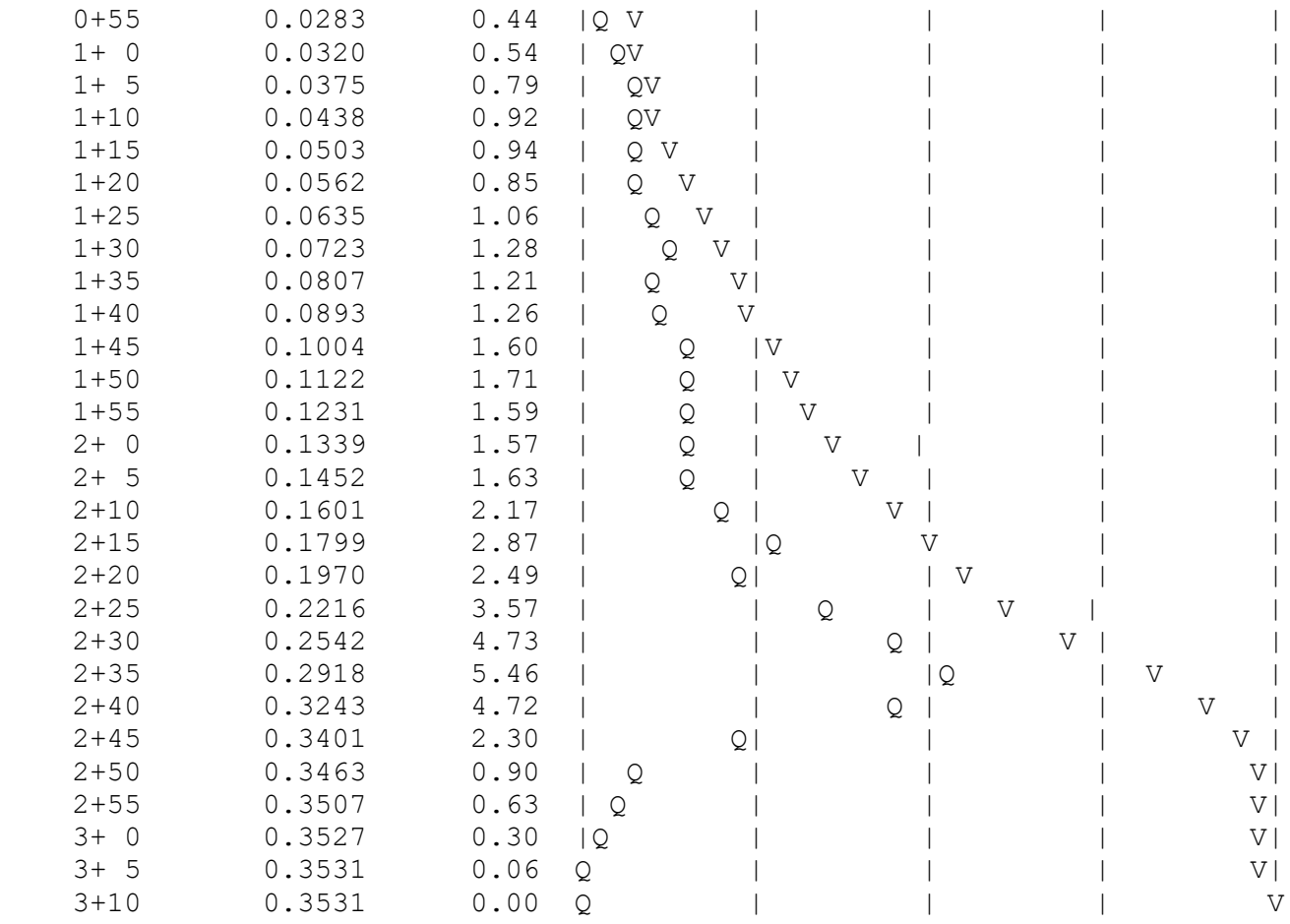
Peak flow rate of this hydrograph = 5.461(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0008	0.12	Q	|	|	|	|
0+10	0.0022	0.20	Q	|	|	|	|
0+15	0.0032	0.14	Q	|	|	|	|
0+20	0.0050	0.26	VQ	|	|	|	|
0+25	0.0074	0.36	VQ	|	|	|	|
0+30	0.0109	0.51	|VQ	|	|	|	|
0+35	0.0142	0.47	|Q	|	|	|	|
0+40	0.0178	0.53	| Q	|	|	|	|
0+45	0.0220	0.60	| Q	|	|	|	|
0+50	0.0253	0.48	|QV	|	|	|	|


0+55 0.0283 0.44
1+ 0 0.0320 0.54
1+ 5 0.0375 0.79
1+10 0.0438 0.92
1+15 0.0503 0.94
1+20 0.0562 0.85
1+25 0.0635 1.06
1+30 0.0723 1.28
1+35 0.0807 1.21
1+40 0.0893 1.26
1+45 0.1004 1.60
1+50 0.1122 1.71
1+55 0.1231 1.59
2+ 0 0.1339 1.57
2+ 5 0.1452 1.63
2+10 0.1601 2.17
2+15 0.1799 2.87
2+20 0.1970 2.49
2+25 0.2216 3.57
2+30 0.2542 4.73
2+35 0.2918 5.46
2+40 0.3243 4.72
2+45 0.3401 2.30
2+50 0.3463 0.90
2+55 0.3507 0.63
3+ 0 0.3527 0.30
3+ 5 0.3531 0.06
3+10 0.3531 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 06/03/26 File: 19267e010B310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 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]
1.48	0.71	1.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	1.75	2.60

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.484	89.00	0.040

Total Area Entered = 1.48(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.040	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	366.114	62.598	0.936
2	0.167	732.229	33.736	0.505
3	0.250	1098.343	3.666	0.055
		Sum = 100.000	Sum=	1.496

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	0.177	0.136	(0.152)	0.041
2	0.17	1.30	0.177	0.136	(0.152)	0.041
3	0.25	1.10	0.150	(0.136)	0.129	0.021
4	0.33	1.50	0.205	0.136	(0.176)	0.068
5	0.42	1.50	0.205	0.136	(0.176)	0.068
6	0.50	1.80	0.246	0.136	(0.211)	0.109
7	0.58	1.50	0.205	0.136	(0.176)	0.068
8	0.67	1.80	0.246	0.136	(0.211)	0.109
9	0.75	1.80	0.246	0.136	(0.211)	0.109
10	0.83	1.50	0.205	0.136	(0.176)	0.068

11	0.92	1.60	0.218	0.136	(0.188)	0.082	
12	1.00	1.80	0.246	0.136	(0.211)	0.109	
13	1.08	2.20	0.300	0.136	(0.258)	0.164	
14	1.17	2.20	0.300	0.136	(0.258)	0.164	
15	1.25	2.20	0.300	0.136	(0.258)	0.164	
16	1.33	2.00	0.273	0.136	(0.235)	0.136	
17	1.42	2.60	0.355	0.136	(0.305)	0.218	
18	1.50	2.70	0.368	0.136	(0.317)	0.232	
19	1.58	2.40	0.327	0.136	(0.282)	0.191	
20	1.67	2.70	0.368	0.136	(0.317)	0.232	
21	1.75	3.30	0.450	0.136	(0.387)	0.314	
22	1.83	3.10	0.423	0.136	(0.364)	0.287	
23	1.92	2.90	0.396	0.136	(0.340)	0.259	
24	2.00	3.00	0.409	0.136	(0.352)	0.273	
25	2.08	3.10	0.423	0.136	(0.364)	0.287	
26	2.17	4.20	0.573	0.136	(0.493)	0.437	
27	2.25	5.00	0.682	0.136	(0.587)	0.546	
28	2.33	3.50	0.477	0.136	(0.411)	0.341	
29	2.42	6.80	0.928	0.136	(0.798)	0.791	
30	2.50	7.30	0.996	0.136	(0.856)	0.859	
31	2.58	8.20	1.118	0.136	(0.962)	0.982	
32	2.67	5.90	0.805	0.136	(0.692)	0.668	
33	2.75	2.00	0.273	0.136	(0.235)	0.136	
34	2.83	1.80	0.246	0.136	(0.211)	0.109	
35	2.92	1.80	0.246	0.136	(0.211)	0.109	
36	3.00	0.60	0.082	(0.136)	0.070	0.011	

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.8

Flood volume = Effective rainfall 0.73(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.40(In)
Total soil loss = 0.050(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 3953.2 Cubic Feet
Total soil loss = 2170.0 Cubic Feet

Peak flow rate of this hydrograph = 1.397(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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q	|	|	|	|
0+10	0.0007	0.06	Q	|	|	|	|
0+15	0.0010	0.04	Q	|	|	|	|
0+20	0.0015	0.08	Q	|	|	|	|
0+25	0.0022	0.10	Q	|	|	|	|
0+30	0.0031	0.14	QV	|	|	|	|
0+35	0.0040	0.12	QV	|	|	|	|
0+40	0.0050	0.14	Q V	|	|	|	|
0+45	0.0061	0.16	Q V	|	|	|	|
0+50	0.0069	0.13	Q V	|	|	|	|

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    0+55       0.0078      0.12  Q  V      |          |          |          |
    1+ 0       0.0088      0.15  Q  V      |          |          |          |
    1+ 5       0.0102      0.21  Q   V     |          |          |          |
    1+10       0.0119      0.24  Q    V    |          |          |          |
    1+15       0.0136      0.25  Q    V    |          |          |          |
    1+20       0.0151      0.22  Q     V   |          |          |          |
    1+25       0.0171      0.28  |Q     V  |          |          |          |
    1+30       0.0194      0.33  |Q      V |          |          |          |
    1+35       0.0215      0.31  |Q       V|          |          |          |
    1+40       0.0237      0.33  |Q        V          |          |          |
    1+45       0.0266      0.42  |Q        |V         |          |          |
    1+50       0.0297      0.44  |Q        |  V       |          |          |
    1+55       0.0324      0.40  |Q        |   V      |          |          |
    2+ 0       0.0352      0.40  |Q        |    V     |          |          |
    2+ 5       0.0381      0.42  |Q        |     V    |          |          |
    2+10       0.0420      0.57  | Q       |       V  |          |          |
    2+15       0.0472      0.75  | Q       |         V          |          |
    2+20       0.0514      0.62  | Q       |          | V        |          |
    2+25       0.0579      0.94  |  Q      |          |    V     |          |
    2+30       0.0664      1.22  |   Q     |          |         V|          |
    2+35       0.0760      1.40  |    Q    |          |          |  V       |
    2+40       0.0840      1.17  |   Q     |          |          |       V  |
    2+45       0.0876      0.52  | Q       |          |          |        V |
    2+50       0.0890      0.21  Q         |          |          |         V|
    2+55       0.0902      0.16  Q         |          |          |         V|
    3+ 0       0.0907      0.07  Q         |          |          |         V|
    3+ 5       0.0907      0.01  Q         |          |          |         V|
    3+10       0.0908      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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	0.71	1.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	1.75	2.65

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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	0.177	(0.082)	0.044	0.133
2	0.17	1.30	0.177	(0.082)	0.044	0.133
3	0.25	1.10	0.150	(0.082)	0.038	0.113
4	0.33	1.50	0.205	(0.082)	0.051	0.153
5	0.42	1.50	0.205	(0.082)	0.051	0.153
6	0.50	1.80	0.246	(0.082)	0.061	0.184
7	0.58	1.50	0.205	(0.082)	0.051	0.153
8	0.67	1.80	0.246	(0.082)	0.061	0.184
9	0.75	1.80	0.246	(0.082)	0.061	0.184
10	0.83	1.50	0.205	(0.082)	0.051	0.153

11	0.92	1.60	0.218	(0.082)	0.055	0.164
12	1.00	1.80	0.246	(0.082)	0.061	0.184
13	1.08	2.20	0.300	(0.082)	0.075	0.225
14	1.17	2.20	0.300	(0.082)	0.075	0.225
15	1.25	2.20	0.300	(0.082)	0.075	0.225
16	1.33	2.00	0.273	(0.082)	0.068	0.205
17	1.42	2.60	0.355	0.082 (0.089)		0.273
18	1.50	2.70	0.368	0.082 (0.092)		0.286
19	1.58	2.40	0.327	(0.082)	0.082	0.246
20	1.67	2.70	0.368	0.082 (0.092)		0.286
21	1.75	3.30	0.450	0.082 (0.113)		0.368
22	1.83	3.10	0.423	0.082 (0.106)		0.341
23	1.92	2.90	0.396	0.082 (0.099)		0.313
24	2.00	3.00	0.409	0.082 (0.102)		0.327
25	2.08	3.10	0.423	0.082 (0.106)		0.341
26	2.17	4.20	0.573	0.082 (0.143)		0.491
27	2.25	5.00	0.682	0.082 (0.171)		0.600
28	2.33	3.50	0.477	0.082 (0.119)		0.395
29	2.42	6.80	0.928	0.082 (0.232)		0.845
30	2.50	7.30	0.996	0.082 (0.249)		0.914
31	2.58	8.20	1.118	0.082 (0.280)		1.036
32	2.67	5.90	0.805	0.082 (0.201)		0.723
33	2.75	2.00	0.273	(0.082)	0.068	0.205
34	2.83	1.80	0.246	(0.082)	0.061	0.184
35	2.92	1.80	0.246	(0.082)	0.061	0.184
36	3.00	0.60	0.082	(0.082)	0.020	0.061

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.2

Flood volume = Effective rainfall 0.93(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.20(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 5118.6 Cubic Feet
Total soil loss = 1120.2 Cubic Feet

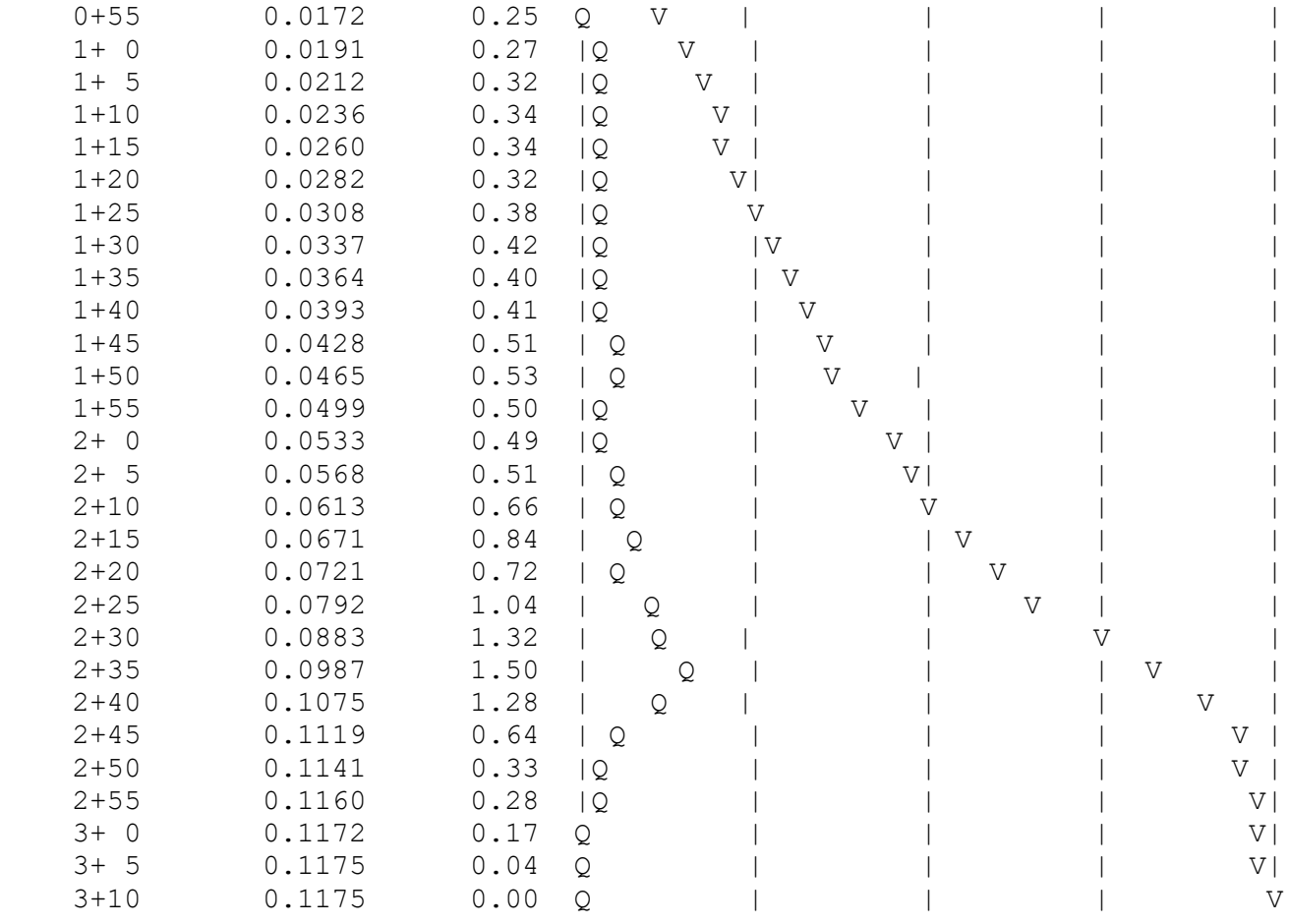
Peak flow rate of this hydrograph = 1.504(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0009	0.12	Q	|	|	|	|
0+10	0.0022	0.19	Q	|	|	|	|
0+15	0.0035	0.18	QV	|	|	|	|
0+20	0.0049	0.21	QV	|	|	|	|
0+25	0.0065	0.23	Q V	|	|	|	|
0+30	0.0083	0.26	|QV	|	|	|	|
0+35	0.0100	0.25	|Q V	|	|	|	|
0+40	0.0119	0.26	|Q V	|	|	|	|
0+45	0.0138	0.28	|Q V	|	|	|	|
0+50	0.0155	0.25	|Q V	|	|	|	|


0+55 0.0172 0.25
1+ 0 0.0191 0.27
1+ 5 0.0212 0.32
1+10 0.0236 0.34
1+15 0.0260 0.34
1+20 0.0282 0.32
1+25 0.0308 0.38
1+30 0.0337 0.42
1+35 0.0364 0.40
1+40 0.0393 0.41
1+45 0.0428 0.51
1+50 0.0465 0.53
1+55 0.0499 0.50
2+ 0 0.0533 0.49
2+ 5 0.0568 0.51
2+10 0.0613 0.66
2+15 0.0671 0.84
2+20 0.0721 0.72
2+25 0.0792 1.04
2+30 0.0883 1.32
2+35 0.0987 1.50
2+40 0.1075 1.28
2+45 0.1119 0.64
2+50 0.1141 0.33
2+55 0.1160 0.28
3+ 0 0.1172 0.17
3+ 5 0.1175 0.04
3+10 0.1175 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 06/03/26 File: 19267e010I310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	0.71	0.56

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.80	1.75	1.39

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.795	75.00	0.970

Total Area Entered = 0.80(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.970	0.038	1.000	0.038
					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) = 0.120

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	713.013	78.934	0.632
2	0.167	1426.025	21.066	0.169
			Sum = 100.000 Sum=	0.801

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	0.177	(0.038)	0.021	0.156
2	0.17	1.30	0.177	(0.038)	0.021	0.156
3	0.25	1.10	0.150	(0.038)	0.018	0.132
4	0.33	1.50	0.205	(0.038)	0.025	0.180
5	0.42	1.50	0.205	(0.038)	0.025	0.180
6	0.50	1.80	0.246	(0.038)	0.029	0.216
7	0.58	1.50	0.205	(0.038)	0.025	0.180
8	0.67	1.80	0.246	(0.038)	0.029	0.216
9	0.75	1.80	0.246	(0.038)	0.029	0.216
10	0.83	1.50	0.205	(0.038)	0.025	0.180
11	0.92	1.60	0.218	(0.038)	0.026	0.192

12	1.00	1.80	0.246	(	0.038)	0.029	0.216
13	1.08	2.20	0.300	(	0.038)	0.036	0.264
14	1.17	2.20	0.300	(	0.038)	0.036	0.264
15	1.25	2.20	0.300	(	0.038)	0.036	0.264
16	1.33	2.00	0.273	(	0.038)	0.033	0.240
17	1.42	2.60	0.355		0.038	(0.043)	0.316
18	1.50	2.70	0.368		0.038	(0.044)	0.330
19	1.58	2.40	0.327		0.038	(0.039)	0.289
20	1.67	2.70	0.368		0.038	(0.044)	0.330
21	1.75	3.30	0.450		0.038	(0.054)	0.412
22	1.83	3.10	0.423		0.038	(0.051)	0.384
23	1.92	2.90	0.396		0.038	(0.047)	0.357
24	2.00	3.00	0.409		0.038	(0.049)	0.371
25	2.08	3.10	0.423		0.038	(0.051)	0.384
26	2.17	4.20	0.573		0.038	(0.069)	0.534
27	2.25	5.00	0.682		0.038	(0.082)	0.644
28	2.33	3.50	0.477		0.038	(0.057)	0.439
29	2.42	6.80	0.928		0.038	(0.111)	0.889
30	2.50	7.30	0.996		0.038	(0.119)	0.957
31	2.58	8.20	1.118		0.038	(0.134)	1.080
32	2.67	5.90	0.805		0.038	(0.097)	0.766
33	2.75	2.00	0.273	(	0.038)	0.033	0.240
34	2.83	1.80	0.246	(	0.038)	0.029	0.216
35	2.92	1.80	0.246	(	0.038)	0.029	0.216
36	3.00	0.60	0.082	(	0.038)	0.010	0.072

(Loss Rate Not Used)

Sum = 100.0 Sum = 12.5

Flood volume = Effective rainfall 1.04(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.006(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 3001.1 Cubic Feet
Total soil loss = 279.1 Cubic Feet

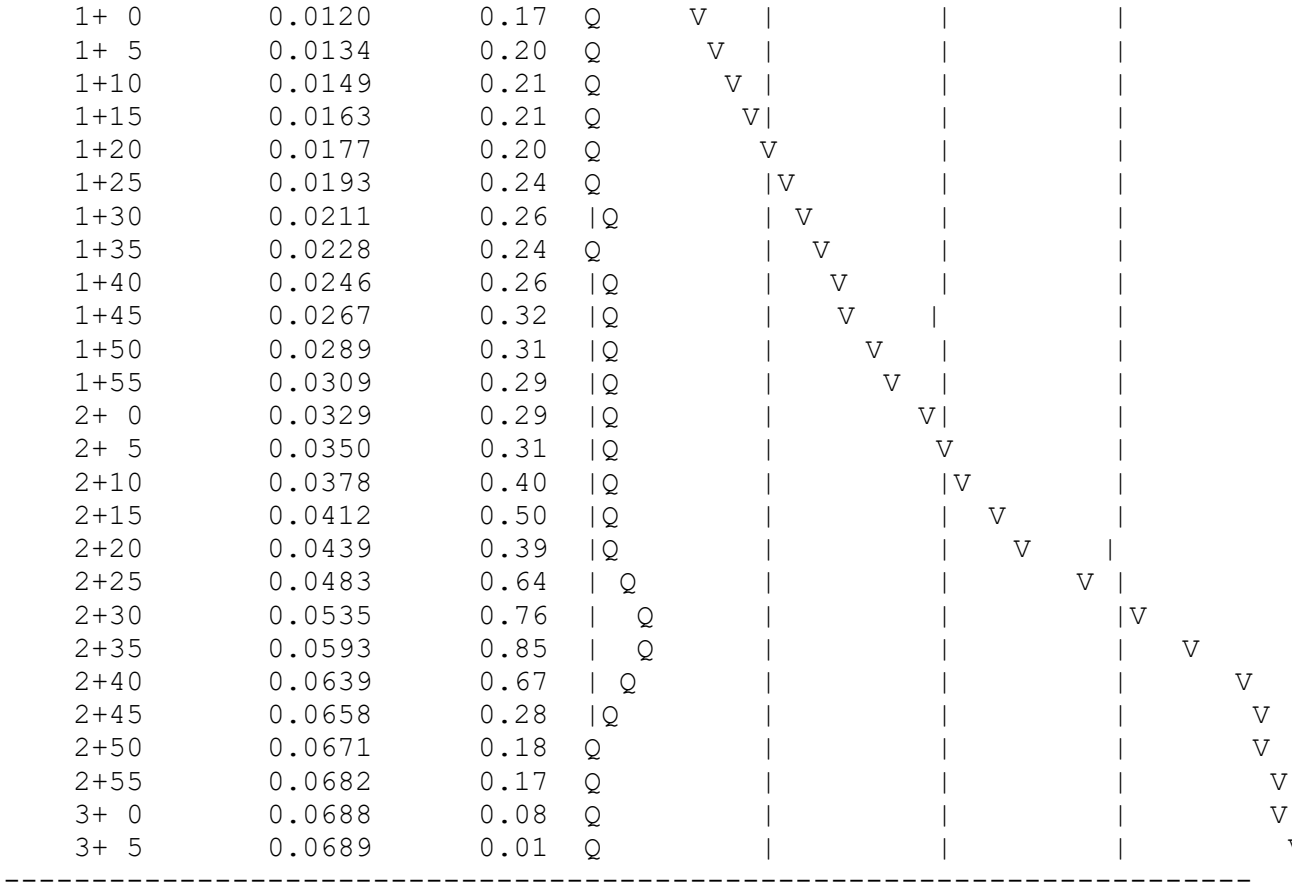
Peak flow rate of this hydrograph = 0.845(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0007	0.10	Q	|	|	|	|
0+10	0.0015	0.13	Q	|	|	|	|
0+15	0.0023	0.11	QV	|	|	|	|
0+20	0.0032	0.14	QV	|	|	|	|
0+25	0.0042	0.14	Q V	|	|	|	|
0+30	0.0054	0.17	Q V	|	|	|	|
0+35	0.0064	0.15	Q V	|	|	|	|
0+40	0.0076	0.17	Q V	|	|	|	|
0+45	0.0088	0.17	Q V	|	|	|	|
0+50	0.0098	0.15	Q V	|	|	|	|
0+55	0.0108	0.15	Q V	|	|	|	|


1+ 0 0.0120 0.17
1+ 5 0.0134 0.20
1+10 0.0149 0.21
1+15 0.0163 0.21
1+20 0.0177 0.20
1+25 0.0193 0.24
1+30 0.0211 0.26
1+35 0.0228 0.24
1+40 0.0246 0.26
1+45 0.0267 0.32
1+50 0.0289 0.31
1+55 0.0309 0.29
2+ 0 0.0329 0.29
2+ 5 0.0350 0.31
2+10 0.0378 0.40
2+15 0.0412 0.50
2+20 0.0439 0.39
2+25 0.0483 0.64
2+30 0.0535 0.76
2+35 0.0593 0.85
2+40 0.0639 0.67
2+45 0.0658 0.28
2+50 0.0671 0.18
2+55 0.0682 0.17
3+ 0 0.0688 0.08
3+ 5 0.0689 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 06/03/26 File: 19267e010site310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	0.71	6.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	1.75	16.95

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.210	0.115	1.000	0.115
					Sum (F) =	0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
			Sum = 100.000	Sum= 9.764

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	0.177	0.115	(0.129)	0.063
2	0.17	1.30	0.177	0.115	(0.129)	0.063
3	0.25	1.10	0.150	(0.115)	0.110	0.041
4	0.33	1.50	0.205	0.115	(0.149)	0.090
5	0.42	1.50	0.205	0.115	(0.149)	0.090
6	0.50	1.80	0.246	0.115	(0.179)	0.131
7	0.58	1.50	0.205	0.115	(0.149)	0.090
8	0.67	1.80	0.246	0.115	(0.179)	0.131
9	0.75	1.80	0.246	0.115	(0.179)	0.131
10	0.83	1.50	0.205	0.115	(0.149)	0.090

11	0.92	1.60	0.218	0.115	(0.159)	0.104
12	1.00	1.80	0.246	0.115	(0.179)	0.131
13	1.08	2.20	0.300	0.115	(0.219)	0.185
14	1.17	2.20	0.300	0.115	(0.219)	0.185
15	1.25	2.20	0.300	0.115	(0.219)	0.185
16	1.33	2.00	0.273	0.115	(0.199)	0.158
17	1.42	2.60	0.355	0.115	(0.259)	0.240
18	1.50	2.70	0.368	0.115	(0.269)	0.254
19	1.58	2.40	0.327	0.115	(0.239)	0.213
20	1.67	2.70	0.368	0.115	(0.269)	0.254
21	1.75	3.30	0.450	0.115	(0.329)	0.335
22	1.83	3.10	0.423	0.115	(0.309)	0.308
23	1.92	2.90	0.396	0.115	(0.289)	0.281
24	2.00	3.00	0.409	0.115	(0.299)	0.295
25	2.08	3.10	0.423	0.115	(0.309)	0.308
26	2.17	4.20	0.573	0.115	(0.418)	0.458
27	2.25	5.00	0.682	0.115	(0.498)	0.567
28	2.33	3.50	0.477	0.115	(0.348)	0.363
29	2.42	6.80	0.927	0.115	(0.677)	0.813
30	2.50	7.30	0.996	0.115	(0.727)	0.881
31	2.58	8.20	1.118	0.115	(0.816)	1.004
32	2.67	5.90	0.805	0.115	(0.587)	0.690
33	2.75	2.00	0.273	0.115	(0.199)	0.158
34	2.83	1.80	0.246	0.115	(0.179)	0.131
35	2.92	1.80	0.246	0.115	(0.179)	0.131
36	3.00	0.60	0.082	(0.115)	0.060	0.022

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.6

Flood volume = Effective rainfall 0.80(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.34(In)
Total soil loss = 0.274(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 28050.2 Cubic Feet
Total soil loss = 11922.4 Cubic Feet

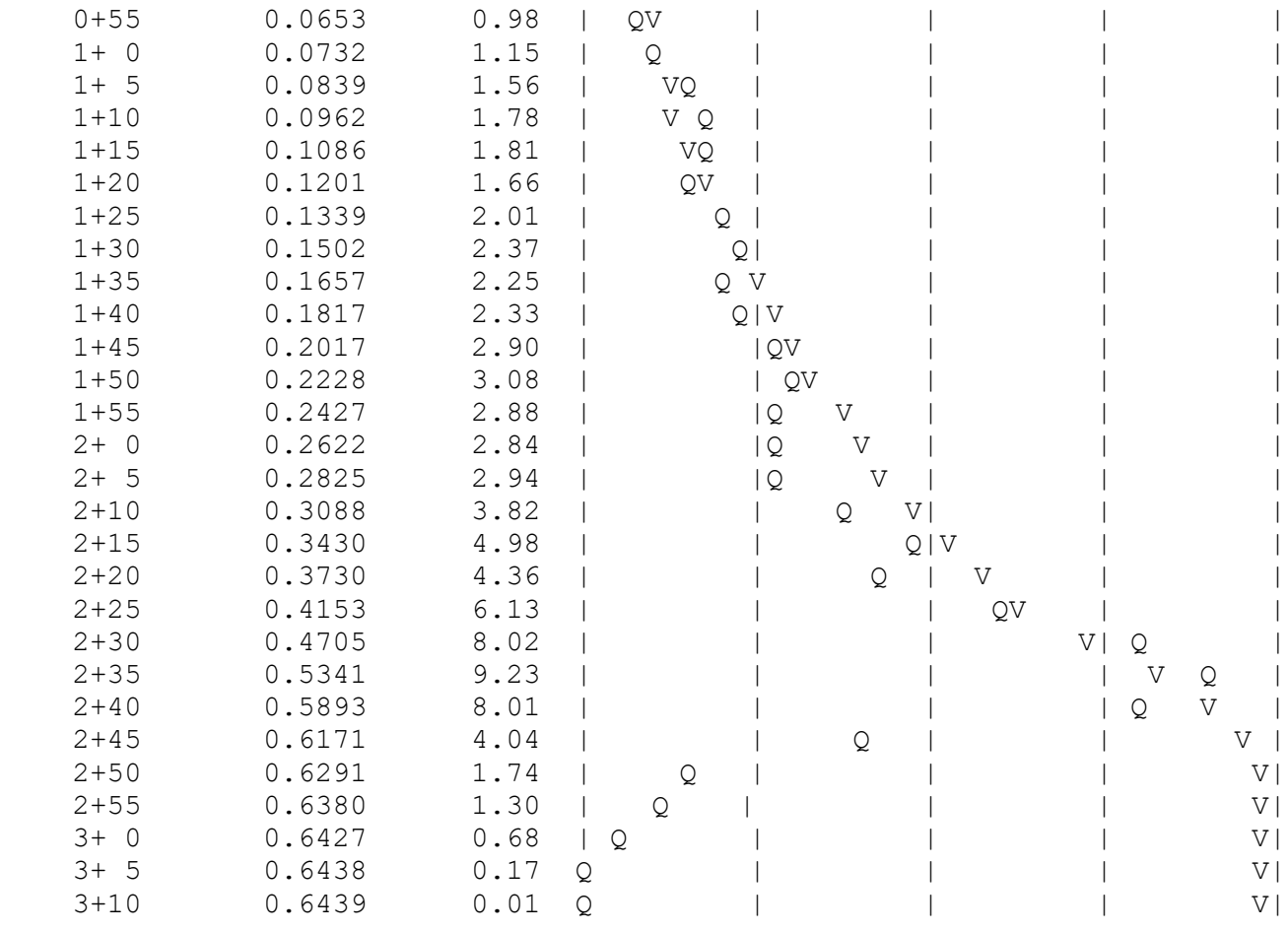
Peak flow rate of this hydrograph = 9.233(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0024	0.34	VQ				
0+10	0.0063	0.57	V Q				
0+15	0.0097	0.49	VQ				
0+20	0.0144	0.68	V Q				
0+25	0.0202	0.85	|V Q				
0+30	0.0278	1.10	|V Q				
0+35	0.0349	1.03	| V Q				
0+40	0.0426	1.13	| V Q				
0+45	0.0512	1.25	| V Q				
0+50	0.0585	1.05	| VQ				


0+55 0.0653 0.98
1+ 0 0.0732 1.15
1+ 5 0.0839 1.56
1+10 0.0962 1.78
1+15 0.1086 1.81
1+20 0.1201 1.66
1+25 0.1339 2.01
1+30 0.1502 2.37
1+35 0.1657 2.25
1+40 0.1817 2.33
1+45 0.2017 2.90
1+50 0.2228 3.08
1+55 0.2427 2.88
2+ 0 0.2622 2.84
2+ 5 0.2825 2.94
2+10 0.3088 3.82
2+15 0.3430 4.98
2+20 0.3730 4.36
2+25 0.4153 6.13
2+30 0.4705 8.02
2+35 0.5341 9.23
2+40 0.5893 8.01
2+45 0.6171 4.04
2+50 0.6291 1.74
2+55 0.6380 1.30
3+ 0 0.6427 0.68
3+ 5 0.6438 0.17
3+10 0.6439 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 06/03/26 File: 19267e010A610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	0.95	5.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	2.26	13.33

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.000	0.141	1.000	0.141
					Sum (F) =	0.141

Area averaged mean soil loss (F) (In/Hr) = 0.141
Minimum soil loss rate ((In/Hr)) = 0.071
(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 (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
		Sum = 100.000	Sum=	5.943

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	0.089	(0.141)	0.081	0.009
2	0.17	0.60	0.107	(0.141)	0.097	0.011
3	0.25	0.60	0.107	(0.141)	0.097	0.011
4	0.33	0.60	0.107	(0.141)	0.097	0.011
5	0.42	0.60	0.107	(0.141)	0.097	0.011
6	0.50	0.70	0.125	(0.141)	0.113	0.013
7	0.58	0.70	0.125	(0.141)	0.113	0.013
8	0.67	0.70	0.125	(0.141)	0.113	0.013
9	0.75	0.70	0.125	(0.141)	0.113	0.013
10	0.83	0.70	0.125	(0.141)	0.113	0.013

11	0.92	0.70	0.125	(0.141)	0.113	0.013
12	1.00	0.80	0.143	(0.141)	0.129	0.014
13	1.08	0.80	0.143	(0.141)	0.129	0.014
14	1.17	0.80	0.143	(0.141)	0.129	0.014
15	1.25	0.80	0.143	(0.141)	0.129	0.014
16	1.33	0.80	0.143	(0.141)	0.129	0.014
17	1.42	0.80	0.143	(0.141)	0.129	0.014
18	1.50	0.80	0.143	(0.141)	0.129	0.014
19	1.58	0.80	0.143	(0.141)	0.129	0.014
20	1.67	0.80	0.143	(0.141)	0.129	0.014
21	1.75	0.80	0.143	(0.141)	0.129	0.014
22	1.83	0.80	0.143	(0.141)	0.129	0.014
23	1.92	0.80	0.143	(0.141)	0.129	0.014
24	2.00	0.90	0.161	0.141	(0.145)	0.020
25	2.08	0.80	0.143	(0.141)	0.129	0.014
26	2.17	0.90	0.161	0.141	(0.145)	0.020
27	2.25	0.90	0.161	0.141	(0.145)	0.020
28	2.33	0.90	0.161	0.141	(0.145)	0.020
29	2.42	0.90	0.161	0.141	(0.145)	0.020
30	2.50	0.90	0.161	0.141	(0.145)	0.020
31	2.58	0.90	0.161	0.141	(0.145)	0.020
32	2.67	0.90	0.161	0.141	(0.145)	0.020
33	2.75	1.00	0.179	0.141	(0.161)	0.038
34	2.83	1.00	0.179	0.141	(0.161)	0.038
35	2.92	1.00	0.179	0.141	(0.161)	0.038
36	3.00	1.00	0.179	0.141	(0.161)	0.038
37	3.08	1.00	0.179	0.141	(0.161)	0.038
38	3.17	1.10	0.197	0.141	(0.177)	0.055
39	3.25	1.10	0.197	0.141	(0.177)	0.055
40	3.33	1.10	0.197	0.141	(0.177)	0.055
41	3.42	1.20	0.215	0.141	(0.193)	0.073
42	3.50	1.30	0.233	0.141	(0.209)	0.091
43	3.58	1.40	0.251	0.141	(0.225)	0.109
44	3.67	1.40	0.251	0.141	(0.225)	0.109
45	3.75	1.50	0.268	0.141	(0.242)	0.127
46	3.83	1.50	0.268	0.141	(0.242)	0.127
47	3.92	1.60	0.286	0.141	(0.258)	0.145
48	4.00	1.60	0.286	0.141	(0.258)	0.145
49	4.08	1.70	0.304	0.141	(0.274)	0.163
50	4.17	1.80	0.322	0.141	(0.290)	0.181
51	4.25	1.90	0.340	0.141	(0.306)	0.199
52	4.33	2.00	0.358	0.141	(0.322)	0.217
53	4.42	2.10	0.376	0.141	(0.338)	0.234
54	4.50	2.10	0.376	0.141	(0.338)	0.234
55	4.58	2.20	0.394	0.141	(0.354)	0.252
56	4.67	2.30	0.412	0.141	(0.370)	0.270
57	4.75	2.40	0.429	0.141	(0.387)	0.288
58	4.83	2.40	0.429	0.141	(0.387)	0.288
59	4.92	2.50	0.447	0.141	(0.403)	0.306
60	5.00	2.60	0.465	0.141	(0.419)	0.324
61	5.08	3.10	0.555	0.141	(0.499)	0.413
62	5.17	3.60	0.644	0.141	(0.580)	0.503
63	5.25	3.90	0.698	0.141	(0.628)	0.557
64	5.33	4.20	0.752	0.141	(0.676)	0.610
65	5.42	4.70	0.841	0.141	(0.757)	0.700
66	5.50	5.60	1.002	0.141	(0.902)	0.861
67	5.58	1.90	0.340	0.141	(0.306)	0.199

68	5.67	0.90	0.161	0.141	(0.145)	0.020
69	5.75	0.60	0.107	(0.141)	0.097	0.011
70	5.83	0.50	0.089	(0.141)	0.081	0.009
71	5.92	0.30	0.054	(0.141)	0.048	0.005
72	6.00	0.20	0.036	(0.141)	0.032	0.004

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.6

Flood volume = Effective rainfall 0.72(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.77(In)
Total soil loss = 0.381(Ac.Ft)
Total rainfall = 1.49(In)
Flood volume = 15336.5 Cubic Feet
Total soil loss = 16585.8 Cubic Feet

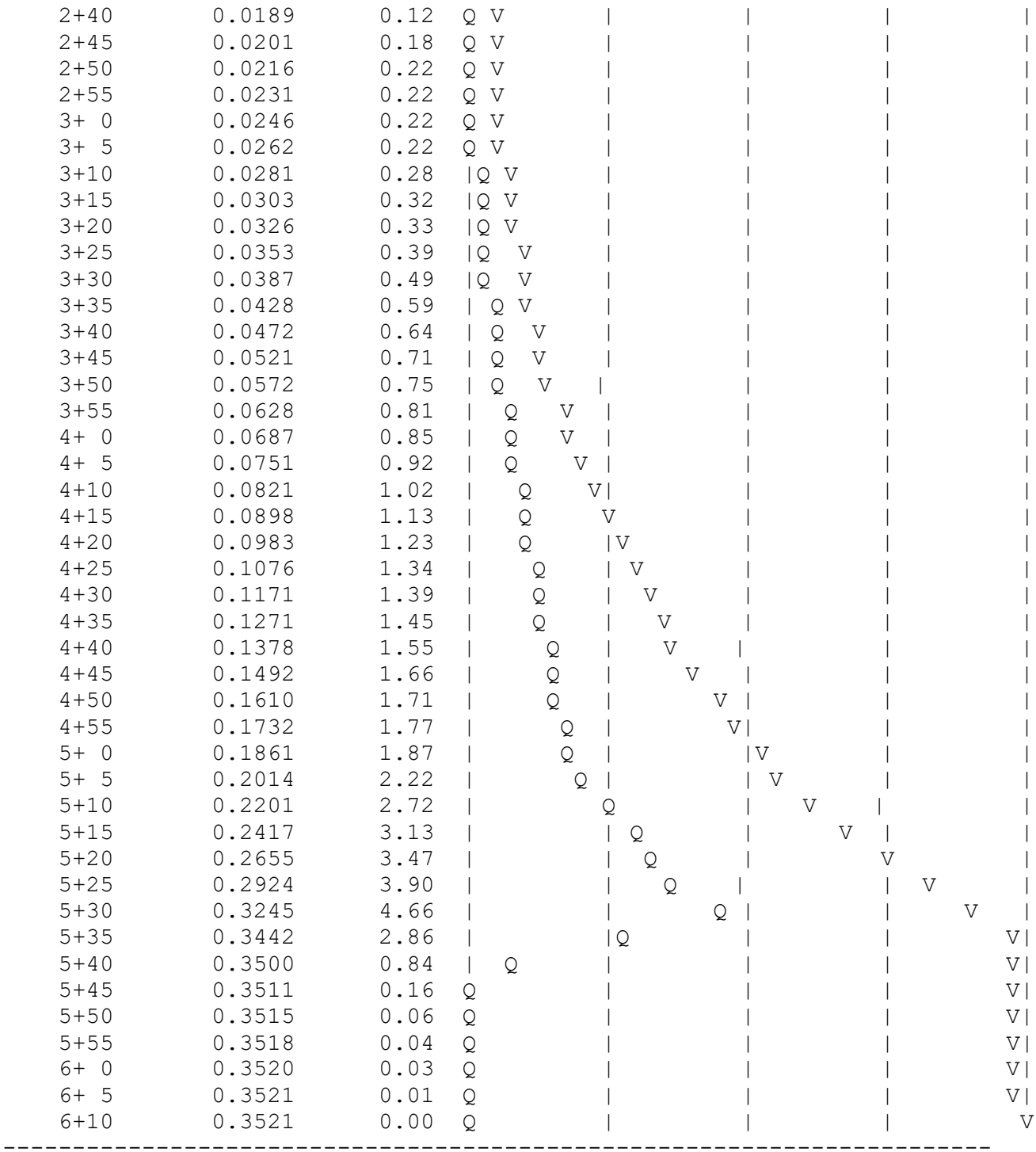
Peak flow rate of this hydrograph = 4.661(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0006	0.06	Q				
0+15	0.0010	0.06	Q				
0+20	0.0015	0.06	Q				
0+25	0.0019	0.06	Q				
0+30	0.0024	0.07	Q				
0+35	0.0029	0.07	Q				
0+40	0.0034	0.07	Q				
0+45	0.0039	0.07	Q				
0+50	0.0044	0.07	Q				
0+55	0.0049	0.07	Q				
1+ 0	0.0055	0.08	Q				
1+ 5	0.0061	0.08	Q				
1+10	0.0067	0.09	Q				
1+15	0.0073	0.09	Q				
1+20	0.0078	0.09	Q				
1+25	0.0084	0.09	Q				
1+30	0.0090	0.09	QV				
1+35	0.0096	0.09	QV				
1+40	0.0102	0.09	QV				
1+45	0.0108	0.09	QV				
1+50	0.0114	0.09	QV				
1+55	0.0119	0.09	QV				
2+ 0	0.0126	0.10	QV				
2+ 5	0.0133	0.10	QV				
2+10	0.0140	0.10	QV				
2+15	0.0148	0.11	QV				
2+20	0.0156	0.12	QV				
2+25	0.0164	0.12	QV				
2+30	0.0172	0.12	QV				
2+35	0.0181	0.12	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 06/03/26 File: 19267e010B610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 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]
1.48	0.95	1.42

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	2.26	3.35

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.484	89.00	0.040

Total Area Entered = 1.48(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.040	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	366.114	62.598	0.936
2	0.167	732.229	33.736	0.505
3	0.250	1098.343	3.666	0.055
		Sum = 100.000	Sum=	1.496

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.136)	0.077	0.013
2	0.17	0.60	0.107	(0.136)	0.092	0.015
3	0.25	0.60	0.107	(0.136)	0.092	0.015
4	0.33	0.60	0.107	(0.136)	0.092	0.015
5	0.42	0.60	0.107	(0.136)	0.092	0.015
6	0.50	0.70	0.125	(0.136)	0.108	0.018
7	0.58	0.70	0.125	(0.136)	0.108	0.018
8	0.67	0.70	0.125	(0.136)	0.108	0.018
9	0.75	0.70	0.125	(0.136)	0.108	0.018
10	0.83	0.70	0.125	(0.136)	0.108	0.018

11	0.92	0.70	0.125	(0.136)	0.108	0.018
12	1.00	0.80	0.143	(0.136)	0.123	0.020
13	1.08	0.80	0.143	(0.136)	0.123	0.020
14	1.17	0.80	0.143	(0.136)	0.123	0.020
15	1.25	0.80	0.143	(0.136)	0.123	0.020
16	1.33	0.80	0.143	(0.136)	0.123	0.020
17	1.42	0.80	0.143	(0.136)	0.123	0.020
18	1.50	0.80	0.143	(0.136)	0.123	0.020
19	1.58	0.80	0.143	(0.136)	0.123	0.020
20	1.67	0.80	0.143	(0.136)	0.123	0.020
21	1.75	0.80	0.143	(0.136)	0.123	0.020
22	1.83	0.80	0.143	(0.136)	0.123	0.020
23	1.92	0.80	0.143	(0.136)	0.123	0.020
24	2.00	0.90	0.161	0.136	(0.139)	0.025
25	2.08	0.80	0.143	(0.136)	0.123	0.020
26	2.17	0.90	0.161	0.136	(0.139)	0.025
27	2.25	0.90	0.161	0.136	(0.139)	0.025
28	2.33	0.90	0.161	0.136	(0.139)	0.025
29	2.42	0.90	0.161	0.136	(0.139)	0.025
30	2.50	0.90	0.161	0.136	(0.139)	0.025
31	2.58	0.90	0.161	0.136	(0.139)	0.025
32	2.67	0.90	0.161	0.136	(0.139)	0.025
33	2.75	1.00	0.179	0.136	(0.154)	0.043
34	2.83	1.00	0.179	0.136	(0.154)	0.043
35	2.92	1.00	0.179	0.136	(0.154)	0.043
36	3.00	1.00	0.179	0.136	(0.154)	0.043
37	3.08	1.00	0.179	0.136	(0.154)	0.043
38	3.17	1.10	0.197	0.136	(0.169)	0.061
39	3.25	1.10	0.197	0.136	(0.169)	0.061
40	3.33	1.10	0.197	0.136	(0.169)	0.061
41	3.42	1.20	0.215	0.136	(0.185)	0.078
42	3.50	1.30	0.233	0.136	(0.200)	0.096
43	3.58	1.40	0.251	0.136	(0.215)	0.114
44	3.67	1.40	0.251	0.136	(0.215)	0.114
45	3.75	1.50	0.268	0.136	(0.231)	0.132
46	3.83	1.50	0.268	0.136	(0.231)	0.132
47	3.92	1.60	0.286	0.136	(0.246)	0.150
48	4.00	1.60	0.286	0.136	(0.246)	0.150
49	4.08	1.70	0.304	0.136	(0.262)	0.168
50	4.17	1.80	0.322	0.136	(0.277)	0.186
51	4.25	1.90	0.340	0.136	(0.292)	0.204
52	4.33	2.00	0.358	0.136	(0.308)	0.222
53	4.42	2.10	0.376	0.136	(0.323)	0.239
54	4.50	2.10	0.376	0.136	(0.323)	0.239
55	4.58	2.20	0.394	0.136	(0.339)	0.257
56	4.67	2.30	0.412	0.136	(0.354)	0.275
57	4.75	2.40	0.429	0.136	(0.369)	0.293
58	4.83	2.40	0.429	0.136	(0.369)	0.293
59	4.92	2.50	0.447	0.136	(0.385)	0.311
60	5.00	2.60	0.465	0.136	(0.400)	0.329
61	5.08	3.10	0.555	0.136	(0.477)	0.418
62	5.17	3.60	0.644	0.136	(0.554)	0.508
63	5.25	3.90	0.698	0.136	(0.600)	0.562
64	5.33	4.20	0.752	0.136	(0.646)	0.615
65	5.42	4.70	0.841	0.136	(0.723)	0.705
66	5.50	5.60	1.002	0.136	(0.862)	0.866
67	5.58	1.90	0.340	0.136	(0.292)	0.204

68	5.67	0.90	0.161	0.136	(0.139)	0.025
69	5.75	0.60	0.107	(0.136)	0.092	0.015
70	5.83	0.50	0.089	(0.136)	0.077	0.013
71	5.92	0.30	0.054	(0.136)	0.046	0.008
72	6.00	0.20	0.036	(0.136)	0.031	0.005

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.0

Flood volume = Effective rainfall 0.75(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.74(In)
Total soil loss = 0.092(Ac.Ft)
Total rainfall = 1.49(In)
Flood volume = 4021.5 Cubic Feet
Total soil loss = 4012.0 Cubic Feet

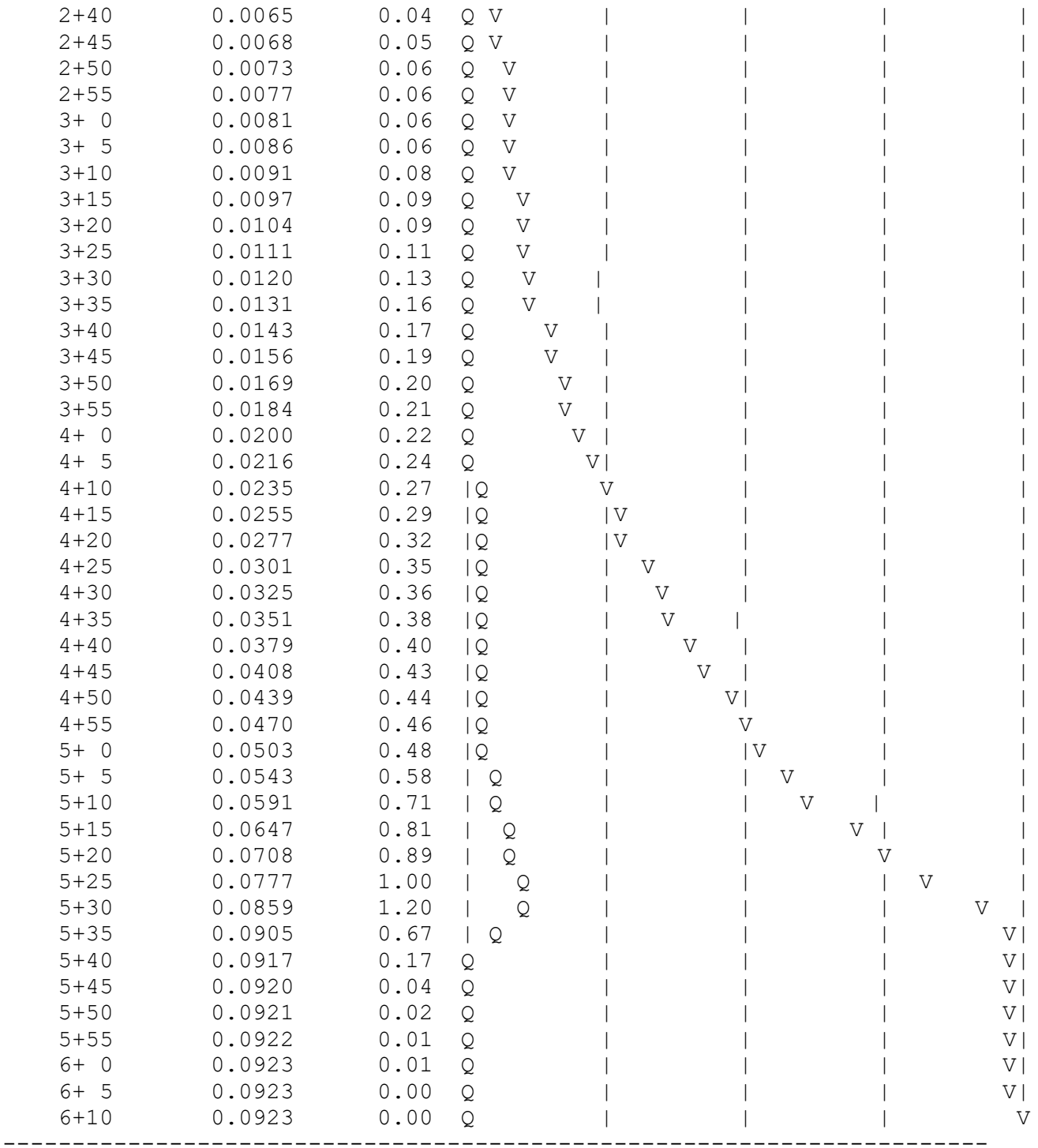
Peak flow rate of this hydrograph = 1.201(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0002	0.02	Q				
0+15	0.0004	0.02	Q				
0+20	0.0005	0.02	Q				
0+25	0.0007	0.02	Q				
0+30	0.0009	0.02	Q				
0+35	0.0010	0.03	Q				
0+40	0.0012	0.03	Q				
0+45	0.0014	0.03	Q				
0+50	0.0016	0.03	Q				
0+55	0.0018	0.03	Q				
1+ 0	0.0020	0.03	Q				
1+ 5	0.0022	0.03	Q				
1+10	0.0024	0.03	QV				
1+15	0.0026	0.03	QV				
1+20	0.0028	0.03	QV				
1+25	0.0030	0.03	QV				
1+30	0.0032	0.03	QV				
1+35	0.0034	0.03	QV				
1+40	0.0036	0.03	QV				
1+45	0.0038	0.03	QV				
1+50	0.0040	0.03	QV				
1+55	0.0042	0.03	QV				
2+ 0	0.0045	0.03	QV				
2+ 5	0.0047	0.03	Q V				
2+10	0.0049	0.03	Q V				
2+15	0.0052	0.04	Q V				
2+20	0.0054	0.04	Q V				
2+25	0.0057	0.04	Q V				
2+30	0.0059	0.04	Q V				
2+35	0.0062	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 06/03/26 File: 19267e010GH610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	0.95	1.44

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	2.26	3.42

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
		Sum = 100.000	Sum=	1.524

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.082)	0.022	0.067
2	0.17	0.60	0.107	(0.082)	0.027	0.081
3	0.25	0.60	0.107	(0.082)	0.027	0.081
4	0.33	0.60	0.107	(0.082)	0.027	0.081
5	0.42	0.60	0.107	(0.082)	0.027	0.081
6	0.50	0.70	0.125	(0.082)	0.031	0.094
7	0.58	0.70	0.125	(0.082)	0.031	0.094
8	0.67	0.70	0.125	(0.082)	0.031	0.094
9	0.75	0.70	0.125	(0.082)	0.031	0.094
10	0.83	0.70	0.125	(0.082)	0.031	0.094

11	0.92	0.70	0.125	(0.082)	0.031	0.094
12	1.00	0.80	0.143	(0.082)	0.036	0.107
13	1.08	0.80	0.143	(0.082)	0.036	0.107
14	1.17	0.80	0.143	(0.082)	0.036	0.107
15	1.25	0.80	0.143	(0.082)	0.036	0.107
16	1.33	0.80	0.143	(0.082)	0.036	0.107
17	1.42	0.80	0.143	(0.082)	0.036	0.107
18	1.50	0.80	0.143	(0.082)	0.036	0.107
19	1.58	0.80	0.143	(0.082)	0.036	0.107
20	1.67	0.80	0.143	(0.082)	0.036	0.107
21	1.75	0.80	0.143	(0.082)	0.036	0.107
22	1.83	0.80	0.143	(0.082)	0.036	0.107
23	1.92	0.80	0.143	(0.082)	0.036	0.107
24	2.00	0.90	0.161	(0.082)	0.040	0.121
25	2.08	0.80	0.143	(0.082)	0.036	0.107
26	2.17	0.90	0.161	(0.082)	0.040	0.121
27	2.25	0.90	0.161	(0.082)	0.040	0.121
28	2.33	0.90	0.161	(0.082)	0.040	0.121
29	2.42	0.90	0.161	(0.082)	0.040	0.121
30	2.50	0.90	0.161	(0.082)	0.040	0.121
31	2.58	0.90	0.161	(0.082)	0.040	0.121
32	2.67	0.90	0.161	(0.082)	0.040	0.121
33	2.75	1.00	0.179	(0.082)	0.045	0.134
34	2.83	1.00	0.179	(0.082)	0.045	0.134
35	2.92	1.00	0.179	(0.082)	0.045	0.134
36	3.00	1.00	0.179	(0.082)	0.045	0.134
37	3.08	1.00	0.179	(0.082)	0.045	0.134
38	3.17	1.10	0.197	(0.082)	0.049	0.148
39	3.25	1.10	0.197	(0.082)	0.049	0.148
40	3.33	1.10	0.197	(0.082)	0.049	0.148
41	3.42	1.20	0.215	(0.082)	0.054	0.161
42	3.50	1.30	0.233	(0.082)	0.058	0.174
43	3.58	1.40	0.251	(0.082)	0.063	0.188
44	3.67	1.40	0.251	(0.082)	0.063	0.188
45	3.75	1.50	0.268	(0.082)	0.067	0.201
46	3.83	1.50	0.268	(0.082)	0.067	0.201
47	3.92	1.60	0.286	(0.082)	0.072	0.215
48	4.00	1.60	0.286	(0.082)	0.072	0.215
49	4.08	1.70	0.304	(0.082)	0.076	0.228
50	4.17	1.80	0.322	(0.082)	0.081	0.242
51	4.25	1.90	0.340	0.082	(0.085)	0.258
52	4.33	2.00	0.358	0.082	(0.089)	0.276
53	4.42	2.10	0.376	0.082	(0.094)	0.294
54	4.50	2.10	0.376	0.082	(0.094)	0.294
55	4.58	2.20	0.394	0.082	(0.098)	0.312
56	4.67	2.30	0.412	0.082	(0.103)	0.329
57	4.75	2.40	0.429	0.082	(0.107)	0.347
58	4.83	2.40	0.429	0.082	(0.107)	0.347
59	4.92	2.50	0.447	0.082	(0.112)	0.365
60	5.00	2.60	0.465	0.082	(0.116)	0.383
61	5.08	3.10	0.555	0.082	(0.139)	0.473
62	5.17	3.60	0.644	0.082	(0.161)	0.562
63	5.25	3.90	0.698	0.082	(0.174)	0.616
64	5.33	4.20	0.752	0.082	(0.188)	0.669
65	5.42	4.70	0.841	0.082	(0.210)	0.759
66	5.50	5.60	1.002	0.082	(0.251)	0.920
67	5.58	1.90	0.340	0.082	(0.085)	0.258

68	5.67	0.90	0.161	(0.082)	0.040	0.121
69	5.75	0.60	0.107	(0.082)	0.027	0.081
70	5.83	0.50	0.089	(0.082)	0.022	0.067
71	5.92	0.30	0.054	(0.082)	0.013	0.040
72	6.00	0.20	0.036	(0.082)	0.009	0.027

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.2

Flood volume = Effective rainfall 1.19(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.30(In)
Total soil loss = 0.038(Ac.Ft)
Total rainfall = 1.49(In)
Flood volume = 6513.2 Cubic Feet
Total soil loss = 1671.8 Cubic Feet

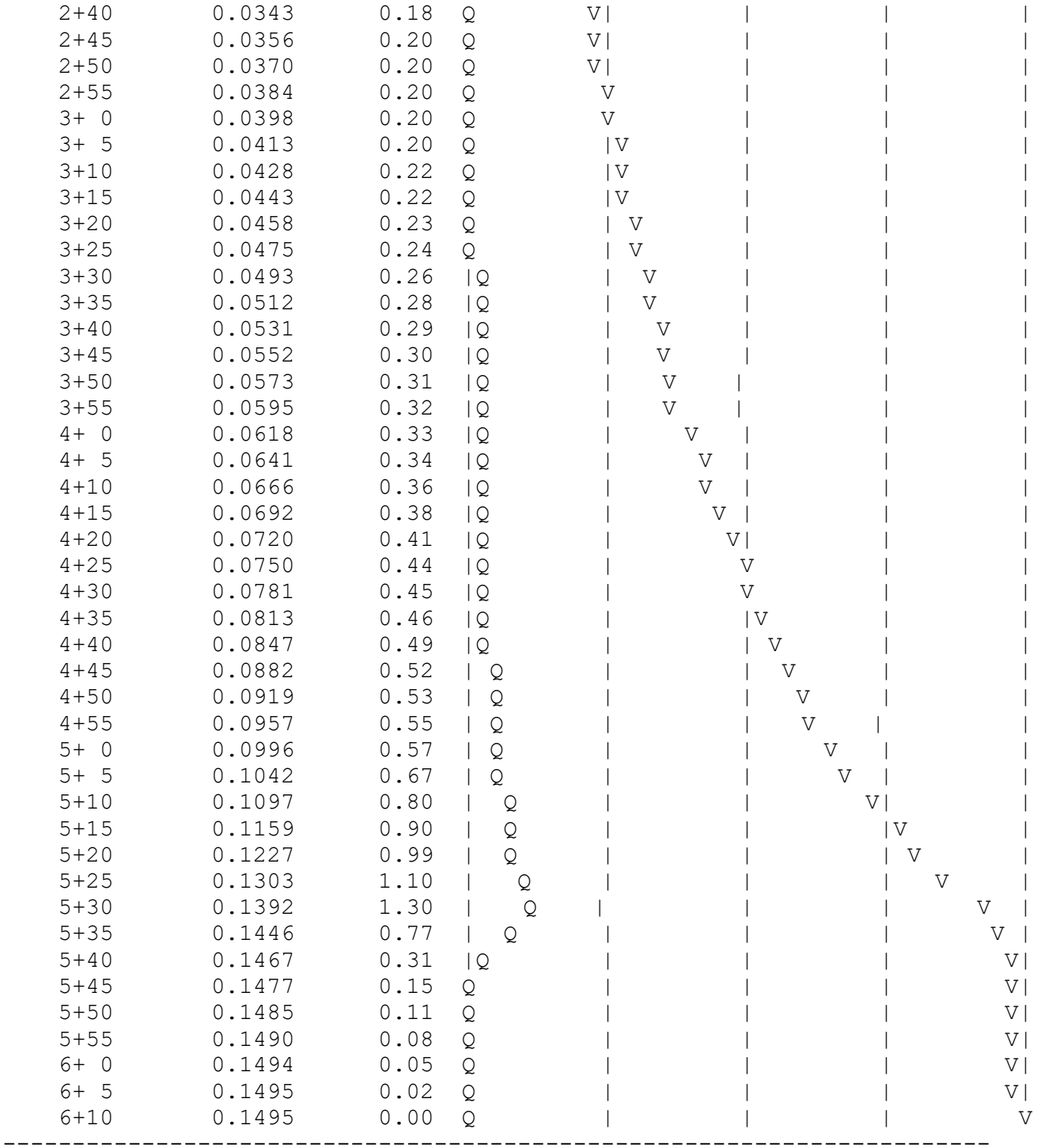
Peak flow rate of this hydrograph = 1.303(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q	|	|	|	|
0+10	0.0012	0.11	Q	|	|	|	|
0+15	0.0020	0.12	Q	|	|	|	|
0+20	0.0029	0.12	Q	|	|	|	|
0+25	0.0037	0.12	Q	|	|	|	|
0+30	0.0047	0.14	QV	|	|	|	|
0+35	0.0056	0.14	QV	|	|	|	|
0+40	0.0066	0.14	QV	|	|	|	|
0+45	0.0076	0.14	Q V	|	|	|	|
0+50	0.0086	0.14	Q V	|	|	|	|
0+55	0.0096	0.14	Q V	|	|	|	|
1+ 0	0.0107	0.16	Q V	|	|	|	|
1+ 5	0.0118	0.16	Q V	|	|	|	|
1+10	0.0129	0.16	Q V	|	|	|	|
1+15	0.0140	0.16	Q V	|	|	|	|
1+20	0.0152	0.16	Q V	|	|	|	|
1+25	0.0163	0.16	Q V	|	|	|	|
1+30	0.0174	0.16	Q V	|	|	|	|
1+35	0.0185	0.16	Q V	|	|	|	|
1+40	0.0197	0.16	Q V	|	|	|	|
1+45	0.0208	0.16	Q V	|	|	|	|
1+50	0.0219	0.16	Q V	|	|	|	|
1+55	0.0231	0.16	Q V	|	|	|	|
2+ 0	0.0243	0.18	Q V	|	|	|	|
2+ 5	0.0254	0.17	Q V	|	|	|	|
2+10	0.0267	0.18	Q V	|	|	|	|
2+15	0.0279	0.18	Q V	|	|	|	|
2+20	0.0292	0.18	Q V	|	|	|	|
2+25	0.0305	0.18	Q V	|	|	|	|
2+30	0.0317	0.18	Q V	|	|	|	|
2+35	0.0330	0.18	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 06/03/26 File: 19267e010I610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	0.95	0.76

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.80	2.26	1.80

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.795	75.00	0.970

Total Area Entered = 0.80(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.970	0.038	1.000	0.038
					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) = 0.120

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	713.013	78.934	0.632
2	0.167	1426.025	21.066	0.169
			Sum = 100.000 Sum=	0.801

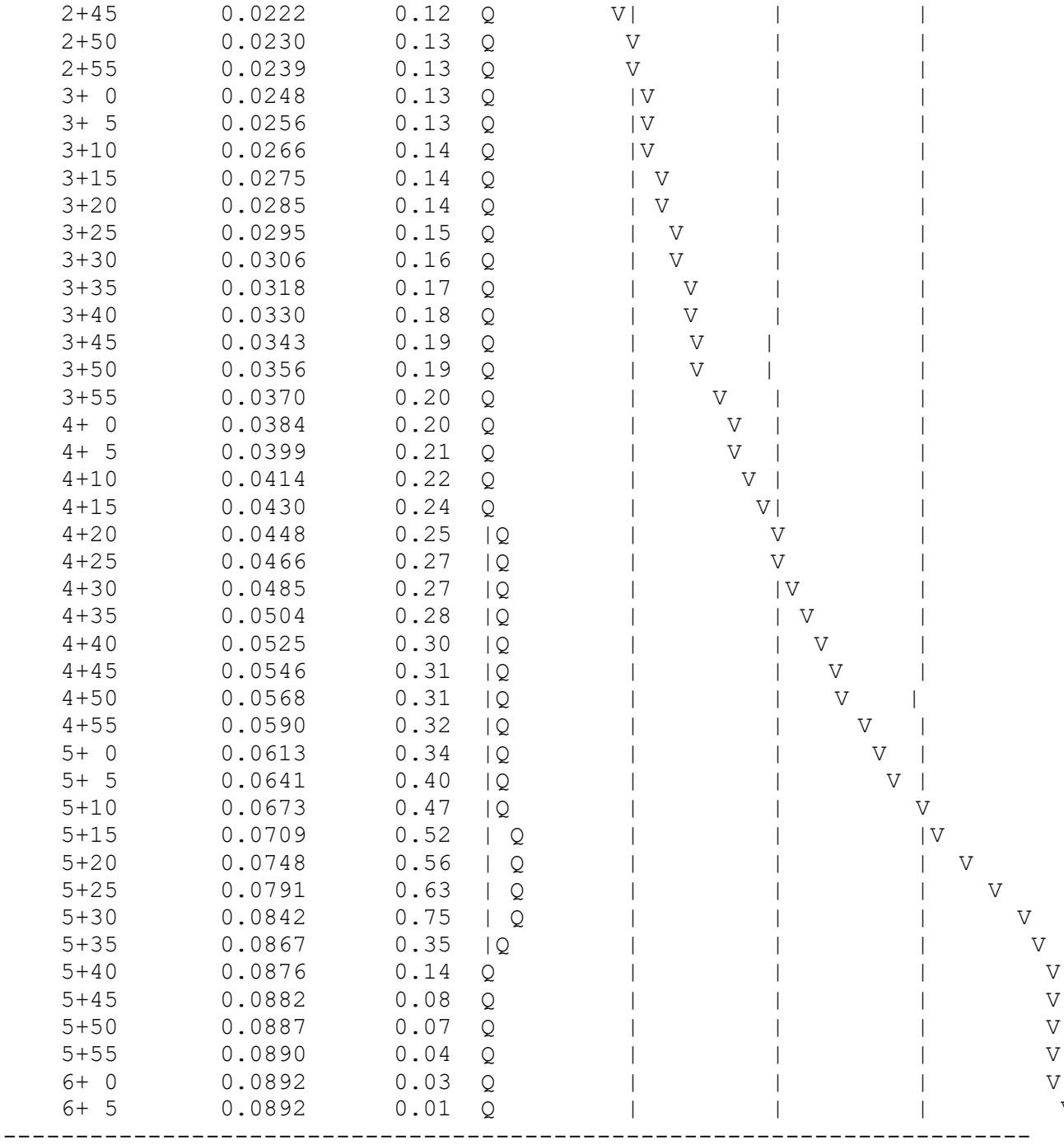
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.038)	0.011	0.079
2	0.17	0.60	0.107	(0.038)	0.013	0.094
3	0.25	0.60	0.107	(0.038)	0.013	0.094
4	0.33	0.60	0.107	(0.038)	0.013	0.094
5	0.42	0.60	0.107	(0.038)	0.013	0.094
6	0.50	0.70	0.125	(0.038)	0.015	0.110
7	0.58	0.70	0.125	(0.038)	0.015	0.110
8	0.67	0.70	0.125	(0.038)	0.015	0.110
9	0.75	0.70	0.125	(0.038)	0.015	0.110
10	0.83	0.70	0.125	(0.038)	0.015	0.110
11	0.92	0.70	0.125	(0.038)	0.015	0.110

12	1.00	0.80	0.143	(0.038)	0.017	0.126
13	1.08	0.80	0.143	(0.038)	0.017	0.126
14	1.17	0.80	0.143	(0.038)	0.017	0.126
15	1.25	0.80	0.143	(0.038)	0.017	0.126
16	1.33	0.80	0.143	(0.038)	0.017	0.126
17	1.42	0.80	0.143	(0.038)	0.017	0.126
18	1.50	0.80	0.143	(0.038)	0.017	0.126
19	1.58	0.80	0.143	(0.038)	0.017	0.126
20	1.67	0.80	0.143	(0.038)	0.017	0.126
21	1.75	0.80	0.143	(0.038)	0.017	0.126
22	1.83	0.80	0.143	(0.038)	0.017	0.126
23	1.92	0.80	0.143	(0.038)	0.017	0.126
24	2.00	0.90	0.161	(0.038)	0.019	0.142
25	2.08	0.80	0.143	(0.038)	0.017	0.126
26	2.17	0.90	0.161	(0.038)	0.019	0.142
27	2.25	0.90	0.161	(0.038)	0.019	0.142
28	2.33	0.90	0.161	(0.038)	0.019	0.142
29	2.42	0.90	0.161	(0.038)	0.019	0.142
30	2.50	0.90	0.161	(0.038)	0.019	0.142
31	2.58	0.90	0.161	(0.038)	0.019	0.142
32	2.67	0.90	0.161	(0.038)	0.019	0.142
33	2.75	1.00	0.179	(0.038)	0.021	0.157
34	2.83	1.00	0.179	(0.038)	0.021	0.157
35	2.92	1.00	0.179	(0.038)	0.021	0.157
36	3.00	1.00	0.179	(0.038)	0.021	0.157
37	3.08	1.00	0.179	(0.038)	0.021	0.157
38	3.17	1.10	0.197	(0.038)	0.024	0.173
39	3.25	1.10	0.197	(0.038)	0.024	0.173
40	3.33	1.10	0.197	(0.038)	0.024	0.173
41	3.42	1.20	0.215	(0.038)	0.026	0.189
42	3.50	1.30	0.233	(0.038)	0.028	0.205
43	3.58	1.40	0.251	(0.038)	0.030	0.220
44	3.67	1.40	0.251	(0.038)	0.030	0.220
45	3.75	1.50	0.268	(0.038)	0.032	0.236
46	3.83	1.50	0.268	(0.038)	0.032	0.236
47	3.92	1.60	0.286	(0.038)	0.034	0.252
48	4.00	1.60	0.286	(0.038)	0.034	0.252
49	4.08	1.70	0.304	(0.038)	0.037	0.268
50	4.17	1.80	0.322	0.038	(0.039)	0.284
51	4.25	1.90	0.340	0.038	(0.041)	0.302
52	4.33	2.00	0.358	0.038	(0.043)	0.319
53	4.42	2.10	0.376	0.038	(0.045)	0.337
54	4.50	2.10	0.376	0.038	(0.045)	0.337
55	4.58	2.20	0.394	0.038	(0.047)	0.355
56	4.67	2.30	0.412	0.038	(0.049)	0.373
57	4.75	2.40	0.429	0.038	(0.052)	0.391
58	4.83	2.40	0.429	0.038	(0.052)	0.391
59	4.92	2.50	0.447	0.038	(0.054)	0.409
60	5.00	2.60	0.465	0.038	(0.056)	0.427
61	5.08	3.10	0.555	0.038	(0.067)	0.516
62	5.17	3.60	0.644	0.038	(0.077)	0.606
63	5.25	3.90	0.698	0.038	(0.084)	0.659
64	5.33	4.20	0.752	0.038	(0.090)	0.713
65	5.42	4.70	0.841	0.038	(0.101)	0.803
66	5.50	5.60	1.002	0.038	(0.120)	0.964
67	5.58	1.90	0.340	0.038	(0.041)	0.302
68	5.67	0.90	0.161	(0.038)	0.019	0.142

```
69   5.75     0.60      0.107       (  0.038)       0.013        0.094
70   5.83     0.50      0.089       (  0.038)       0.011        0.079
71   5.92     0.30      0.054       (  0.038)       0.006        0.047
72   6.00     0.20      0.036       (  0.038)       0.004        0.031
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    16.2
    Flood volume = Effective rainfall      1.35(In)
     times area       0.8(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.14(In)
    Total soil loss =     0.010(Ac.Ft)
    Total rainfall =      1.49(In)
    Flood volume =        3885.6 Cubic Feet
    Total soil loss =         418.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.745(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       0.0003      0.05  Q         |         |         |         |
  0+10       0.0008      0.07  Q         |         |         |         |
  0+15       0.0014      0.08  Q         |         |         |         |
  0+20       0.0019      0.08  Q         |         |         |         |
  0+25       0.0024      0.08  QV        |         |         |         |
  0+30       0.0030      0.09  QV        |         |         |         |
  0+35       0.0036      0.09  QV        |         |         |         |
  0+40       0.0042      0.09  QV        |         |         |         |
  0+45       0.0048      0.09  Q V       |         |         |         |
  0+50       0.0054      0.09  Q V       |         |         |         |
  0+55       0.0060      0.09  Q V       |         |         |         |
  1+ 0       0.0067      0.10  Q  V      |         |         |         |
  1+ 5       0.0074      0.10  Q  V      |         |         |         |
  1+10       0.0081      0.10  Q  V      |         |         |         |
  1+15       0.0088      0.10  Q  V      |         |         |         |
  1+20       0.0095      0.10  Q   V     |         |         |         |
  1+25       0.0102      0.10  Q   V     |         |         |         |
  1+30       0.0109      0.10  Q   V     |         |         |         |
  1+35       0.0116      0.10  Q    V    |         |         |         |
  1+40       0.0123      0.10  Q    V    |         |         |         |
  1+45       0.0130      0.10  Q    V    |         |         |         |
  1+50       0.0137      0.10  Q     V   |         |         |         |
  1+55       0.0144      0.10  Q     V   |         |         |         |
  2+ 0       0.0151      0.11  Q     V   |         |         |         |
  2+ 5       0.0159      0.10  Q      V  |         |         |         |
  2+10       0.0166      0.11  Q      V  |         |         |         |
  2+15       0.0174      0.11  Q      V  |         |         |         |
  2+20       0.0182      0.11  Q       V |         |         |         |
  2+25       0.0190      0.11  Q       V |         |         |         |
  2+30       0.0197      0.11  Q       V |         |         |         |
  2+35       0.0205      0.11  Q        V|         |         |         |
  2+40       0.0213      0.11  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 06/03/26 File: 19267e010site610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	0.95	9.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	2.26	21.89

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.210	0.115	1.000	0.115
					Sum (F) =	0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
		Sum = 100.000	Sum=	9.764

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	0.089	(0.115)	0.065	0.024
2	0.17	0.60	0.107	(0.115)	0.078	0.029
3	0.25	0.60	0.107	(0.115)	0.078	0.029
4	0.33	0.60	0.107	(0.115)	0.078	0.029
5	0.42	0.60	0.107	(0.115)	0.078	0.029
6	0.50	0.70	0.125	(0.115)	0.091	0.034
7	0.58	0.70	0.125	(0.115)	0.091	0.034
8	0.67	0.70	0.125	(0.115)	0.091	0.034
9	0.75	0.70	0.125	(0.115)	0.091	0.034
10	0.83	0.70	0.125	(0.115)	0.091	0.034

11	0.92	0.70	0.125	(0.115)	0.091	0.034
12	1.00	0.80	0.143	(0.115)	0.105	0.039
13	1.08	0.80	0.143	(0.115)	0.105	0.039
14	1.17	0.80	0.143	(0.115)	0.105	0.039
15	1.25	0.80	0.143	(0.115)	0.105	0.039
16	1.33	0.80	0.143	(0.115)	0.105	0.039
17	1.42	0.80	0.143	(0.115)	0.105	0.039
18	1.50	0.80	0.143	(0.115)	0.105	0.039
19	1.58	0.80	0.143	(0.115)	0.105	0.039
20	1.67	0.80	0.143	(0.115)	0.105	0.039
21	1.75	0.80	0.143	(0.115)	0.105	0.039
22	1.83	0.80	0.143	(0.115)	0.105	0.039
23	1.92	0.80	0.143	(0.115)	0.105	0.039
24	2.00	0.90	0.161	0.115	(0.118)	0.046
25	2.08	0.80	0.143	(0.115)	0.105	0.039
26	2.17	0.90	0.161	0.115	(0.118)	0.046
27	2.25	0.90	0.161	0.115	(0.118)	0.046
28	2.33	0.90	0.161	0.115	(0.118)	0.046
29	2.42	0.90	0.161	0.115	(0.118)	0.046
30	2.50	0.90	0.161	0.115	(0.118)	0.046
31	2.58	0.90	0.161	0.115	(0.118)	0.046
32	2.67	0.90	0.161	0.115	(0.118)	0.046
33	2.75	1.00	0.179	0.115	(0.131)	0.064
34	2.83	1.00	0.179	0.115	(0.131)	0.064
35	2.92	1.00	0.179	0.115	(0.131)	0.064
36	3.00	1.00	0.179	0.115	(0.131)	0.064
37	3.08	1.00	0.179	0.115	(0.131)	0.064
38	3.17	1.10	0.197	0.115	(0.144)	0.082
39	3.25	1.10	0.197	0.115	(0.144)	0.082
40	3.33	1.10	0.197	0.115	(0.144)	0.082
41	3.42	1.20	0.215	0.115	(0.157)	0.100
42	3.50	1.30	0.233	0.115	(0.170)	0.118
43	3.58	1.40	0.251	0.115	(0.183)	0.136
44	3.67	1.40	0.251	0.115	(0.183)	0.136
45	3.75	1.50	0.268	0.115	(0.196)	0.154
46	3.83	1.50	0.268	0.115	(0.196)	0.154
47	3.92	1.60	0.286	0.115	(0.209)	0.172
48	4.00	1.60	0.286	0.115	(0.209)	0.172
49	4.08	1.70	0.304	0.115	(0.222)	0.190
50	4.17	1.80	0.322	0.115	(0.235)	0.207
51	4.25	1.90	0.340	0.115	(0.248)	0.225
52	4.33	2.00	0.358	0.115	(0.261)	0.243
53	4.42	2.10	0.376	0.115	(0.274)	0.261
54	4.50	2.10	0.376	0.115	(0.274)	0.261
55	4.58	2.20	0.394	0.115	(0.287)	0.279
56	4.67	2.30	0.412	0.115	(0.300)	0.297
57	4.75	2.40	0.429	0.115	(0.314)	0.315
58	4.83	2.40	0.429	0.115	(0.314)	0.315
59	4.92	2.50	0.447	0.115	(0.327)	0.333
60	5.00	2.60	0.465	0.115	(0.340)	0.351
61	5.08	3.10	0.555	0.115	(0.405)	0.440
62	5.17	3.60	0.644	0.115	(0.470)	0.530
63	5.25	3.90	0.698	0.115	(0.509)	0.583
64	5.33	4.20	0.752	0.115	(0.549)	0.637
65	5.42	4.70	0.841	0.115	(0.614)	0.726
66	5.50	5.60	1.002	0.115	(0.732)	0.887
67	5.58	1.90	0.340	0.115	(0.248)	0.225

68	5.67	0.90	0.161	0.115	(0.118)	0.046	
69	5.75	0.60	0.107	(0.115)	0.078	0.029	
70	5.83	0.50	0.089	(0.115)	0.065	0.024	
71	5.92	0.30	0.054	(0.115)	0.039	0.014	
72	6.00	0.20	0.036	(0.115)	0.026	0.010	

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.4

Flood volume = Effective rainfall 0.86(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.63(In)
Total soil loss = 0.507(Ac.Ft)
Total rainfall = 1.49(In)
Flood volume = 30344.2 Cubic Feet
Total soil loss = 22099.3 Cubic Feet

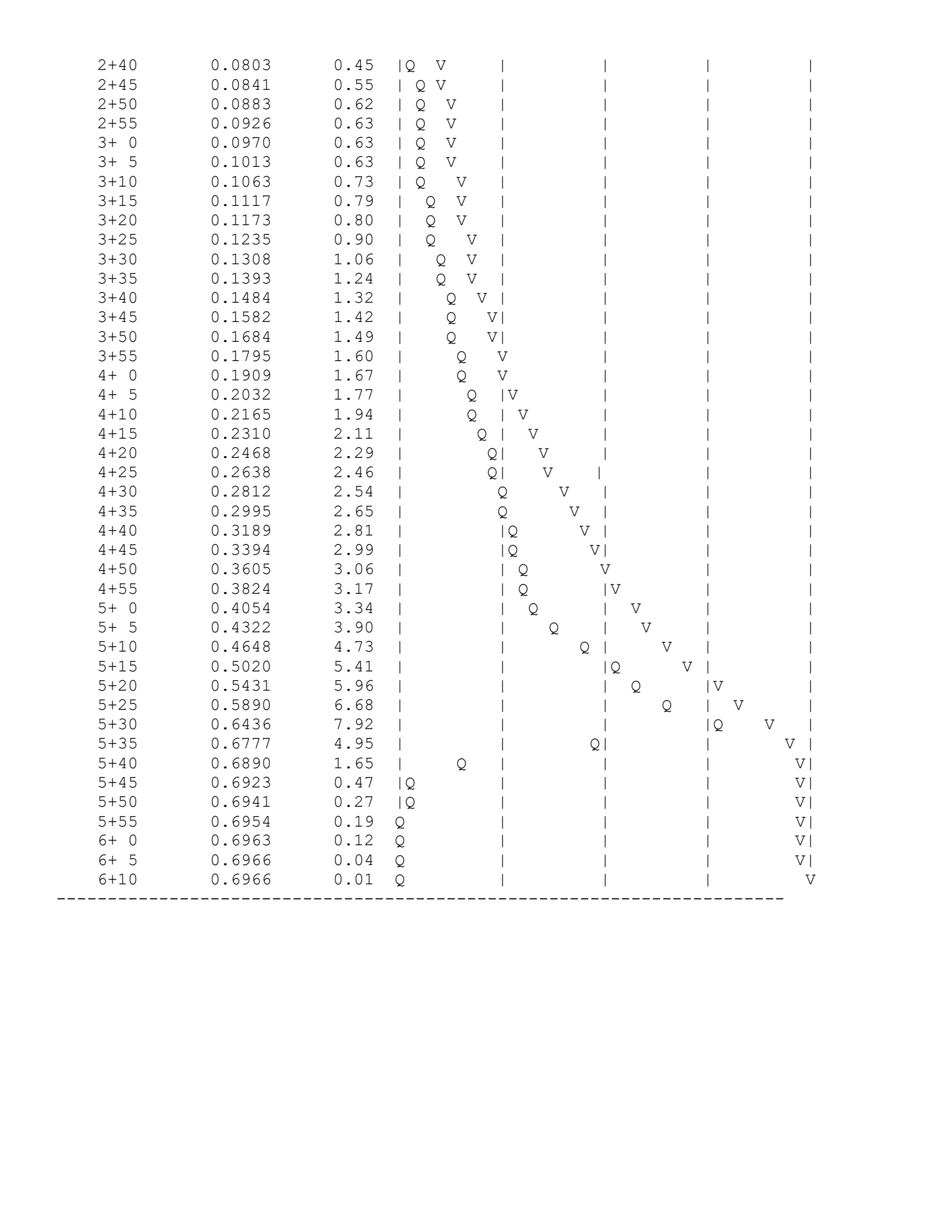
Peak flow rate of this hydrograph = 7.918(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0009	0.13	Q				
0+10	0.0026	0.25	Q				
0+15	0.0045	0.28	VQ				
0+20	0.0065	0.28	VQ				
0+25	0.0084	0.28	VQ				
0+30	0.0106	0.31	VQ				
0+35	0.0128	0.33	VQ				
0+40	0.0151	0.33	VQ				
0+45	0.0174	0.33	VQ				
0+50	0.0197	0.33	|Q				
0+55	0.0219	0.33	|Q				
1+ 0	0.0244	0.36	|Q				
1+ 5	0.0270	0.37	|Q				
1+10	0.0296	0.38	|Q				
1+15	0.0322	0.38	|Q				
1+20	0.0348	0.38	|Q				
1+25	0.0374	0.38	|QV				
1+30	0.0400	0.38	|QV				
1+35	0.0426	0.38	|QV				
1+40	0.0452	0.38	|QV				
1+45	0.0478	0.38	|QV				
1+50	0.0504	0.38	|QV				
1+55	0.0530	0.38	|Q V				
2+ 0	0.0559	0.42	|Q V				
2+ 5	0.0587	0.41	|Q V				
2+10	0.0616	0.42	|Q V				
2+15	0.0647	0.45	|Q V				
2+20	0.0678	0.45	|Q V				
2+25	0.0709	0.45	|Q V				
2+30	0.0740	0.45	|Q V				
2+35	0.0771	0.45	|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 06/03/26 File: 19267e010A2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 100

Drainage Area = 5.90(Ac.) = 0.009 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.90(Ac.) = 0.009 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
5.90	1.66	9.79

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.90	4.10	24.18

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.897	89.00	0.000

Total Area Entered = 5.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.000	0.141	1.000	0.141
					Sum (F) =	0.141

Area averaged mean soil loss (F) (In/Hr) = 0.141
Minimum soil loss rate ((In/Hr)) = 0.071
(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 (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	3.321
2	0.167	584.626	37.556	2.232
3	0.250	876.940	6.567	0.390
		Sum = 100.000	Sum=	5.943

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.251)	0.019	0.002
2	0.17	0.07	0.021	(0.250)	0.019	0.002
3	0.25	0.07	0.021	(0.249)	0.019	0.002
4	0.33	0.10	0.032	(0.248)	0.029	0.003
5	0.42	0.10	0.032	(0.247)	0.029	0.003
6	0.50	0.10	0.032	(0.246)	0.029	0.003
7	0.58	0.10	0.032	(0.245)	0.029	0.003
8	0.67	0.10	0.032	(0.244)	0.029	0.003
9	0.75	0.10	0.032	(0.243)	0.029	0.003
10	0.83	0.13	0.043	(0.242)	0.038	0.004

11	0.92	0.13	0.043	(0.241)	0.038	0.004
12	1.00	0.13	0.043	(0.240)	0.038	0.004
13	1.08	0.10	0.032	(0.239)	0.029	0.003
14	1.17	0.10	0.032	(0.238)	0.029	0.003
15	1.25	0.10	0.032	(0.237)	0.029	0.003
16	1.33	0.10	0.032	(0.236)	0.029	0.003
17	1.42	0.10	0.032	(0.235)	0.029	0.003
18	1.50	0.10	0.032	(0.234)	0.029	0.003
19	1.58	0.10	0.032	(0.234)	0.029	0.003
20	1.67	0.10	0.032	(0.233)	0.029	0.003
21	1.75	0.10	0.032	(0.232)	0.029	0.003
22	1.83	0.13	0.043	(0.231)	0.038	0.004
23	1.92	0.13	0.043	(0.230)	0.038	0.004
24	2.00	0.13	0.043	(0.229)	0.038	0.004
25	2.08	0.13	0.043	(0.228)	0.038	0.004
26	2.17	0.13	0.043	(0.227)	0.038	0.004
27	2.25	0.13	0.043	(0.226)	0.038	0.004
28	2.33	0.13	0.043	(0.225)	0.038	0.004
29	2.42	0.13	0.043	(0.224)	0.038	0.004
30	2.50	0.13	0.043	(0.223)	0.038	0.004
31	2.58	0.17	0.053	(0.222)	0.048	0.005
32	2.67	0.17	0.053	(0.221)	0.048	0.005
33	2.75	0.17	0.053	(0.221)	0.048	0.005
34	2.83	0.17	0.053	(0.220)	0.048	0.005
35	2.92	0.17	0.053	(0.219)	0.048	0.005
36	3.00	0.17	0.053	(0.218)	0.048	0.005
37	3.08	0.17	0.053	(0.217)	0.048	0.005
38	3.17	0.17	0.053	(0.216)	0.048	0.005
39	3.25	0.17	0.053	(0.215)	0.048	0.005
40	3.33	0.17	0.053	(0.214)	0.048	0.005
41	3.42	0.17	0.053	(0.213)	0.048	0.005
42	3.50	0.17	0.053	(0.212)	0.048	0.005
43	3.58	0.17	0.053	(0.212)	0.048	0.005
44	3.67	0.17	0.053	(0.211)	0.048	0.005
45	3.75	0.17	0.053	(0.210)	0.048	0.005
46	3.83	0.20	0.064	(0.209)	0.058	0.006
47	3.92	0.20	0.064	(0.208)	0.058	0.006
48	4.00	0.20	0.064	(0.207)	0.058	0.006
49	4.08	0.20	0.064	(0.206)	0.058	0.006
50	4.17	0.20	0.064	(0.205)	0.058	0.006
51	4.25	0.20	0.064	(0.205)	0.058	0.006
52	4.33	0.23	0.075	(0.204)	0.067	0.007
53	4.42	0.23	0.075	(0.203)	0.067	0.007
54	4.50	0.23	0.075	(0.202)	0.067	0.007
55	4.58	0.23	0.075	(0.201)	0.067	0.007
56	4.67	0.23	0.075	(0.200)	0.067	0.007
57	4.75	0.23	0.075	(0.199)	0.067	0.007
58	4.83	0.27	0.085	(0.198)	0.077	0.009
59	4.92	0.27	0.085	(0.198)	0.077	0.009
60	5.00	0.27	0.085	(0.197)	0.077	0.009
61	5.08	0.20	0.064	(0.196)	0.058	0.006
62	5.17	0.20	0.064	(0.195)	0.058	0.006
63	5.25	0.20	0.064	(0.194)	0.058	0.006
64	5.33	0.23	0.075	(0.193)	0.067	0.007
65	5.42	0.23	0.075	(0.193)	0.067	0.007
66	5.50	0.23	0.075	(0.192)	0.067	0.007
67	5.58	0.27	0.085	(0.191)	0.077	0.009

68	5.67	0.27	0.085	(0.190)	0.077	0.009
69	5.75	0.27	0.085	(0.189)	0.077	0.009
70	5.83	0.27	0.085	(0.188)	0.077	0.009
71	5.92	0.27	0.085	(0.187)	0.077	0.009
72	6.00	0.27	0.085	(0.187)	0.077	0.009
73	6.08	0.30	0.096	(0.186)	0.086	0.010
74	6.17	0.30	0.096	(0.185)	0.086	0.010
75	6.25	0.30	0.096	(0.184)	0.086	0.010
76	6.33	0.30	0.096	(0.183)	0.086	0.010
77	6.42	0.30	0.096	(0.183)	0.086	0.010
78	6.50	0.30	0.096	(0.182)	0.086	0.010
79	6.58	0.33	0.107	(0.181)	0.096	0.011
80	6.67	0.33	0.107	(0.180)	0.096	0.011
81	6.75	0.33	0.107	(0.179)	0.096	0.011
82	6.83	0.33	0.107	(0.178)	0.096	0.011
83	6.92	0.33	0.107	(0.178)	0.096	0.011
84	7.00	0.33	0.107	(0.177)	0.096	0.011
85	7.08	0.33	0.107	(0.176)	0.096	0.011
86	7.17	0.33	0.107	(0.175)	0.096	0.011
87	7.25	0.33	0.107	(0.174)	0.096	0.011
88	7.33	0.37	0.117	(0.174)	0.105	0.012
89	7.42	0.37	0.117	(0.173)	0.105	0.012
90	7.50	0.37	0.117	(0.172)	0.105	0.012
91	7.58	0.40	0.128	(0.171)	0.115	0.013
92	7.67	0.40	0.128	(0.170)	0.115	0.013
93	7.75	0.40	0.128	(0.170)	0.115	0.013
94	7.83	0.43	0.139	(0.169)	0.125	0.014
95	7.92	0.43	0.139	(0.168)	0.125	0.014
96	8.00	0.43	0.139	(0.167)	0.125	0.014
97	8.08	0.50	0.160	(0.167)	0.144	0.016
98	8.17	0.50	0.160	(0.166)	0.144	0.016
99	8.25	0.50	0.160	(0.165)	0.144	0.016
100	8.33	0.50	0.160	(0.164)	0.144	0.016
101	8.42	0.50	0.160	(0.163)	0.144	0.016
102	8.50	0.50	0.160	(0.163)	0.144	0.016
103	8.58	0.53	0.170	(0.162)	0.153	0.017
104	8.67	0.53	0.170	(0.161)	0.153	0.017
105	8.75	0.53	0.170	(0.160)	0.153	0.017
106	8.83	0.57	0.181	0.160	(0.163)	0.021
107	8.92	0.57	0.181	0.159	(0.163)	0.022
108	9.00	0.57	0.181	0.158	(0.163)	0.023
109	9.08	0.63	0.202	0.157	(0.182)	0.045
110	9.17	0.63	0.202	0.157	(0.182)	0.046
111	9.25	0.63	0.202	0.156	(0.182)	0.047
112	9.33	0.67	0.213	0.155	(0.192)	0.058
113	9.42	0.67	0.213	0.154	(0.192)	0.059
114	9.50	0.67	0.213	0.154	(0.192)	0.059
115	9.58	0.70	0.224	0.153	(0.201)	0.071
116	9.67	0.70	0.224	0.152	(0.201)	0.072
117	9.75	0.70	0.224	0.151	(0.201)	0.072
118	9.83	0.73	0.234	0.151	(0.211)	0.084
119	9.92	0.73	0.234	0.150	(0.211)	0.084
120	10.00	0.73	0.234	0.149	(0.211)	0.085
121	10.08	0.50	0.160	(0.149)	0.144	0.016
122	10.17	0.50	0.160	(0.148)	0.144	0.016
123	10.25	0.50	0.160	(0.147)	0.144	0.016
124	10.33	0.50	0.160	(0.146)	0.144	0.016

125	10.42	0.50	0.160	(	0.146)	0.144		0.016
126	10.50	0.50	0.160	(	0.145)	0.144		0.016
127	10.58	0.67	0.213		0.144	(0.192)		0.069
128	10.67	0.67	0.213		0.144	(0.192)		0.069
129	10.75	0.67	0.213		0.143	(0.192)		0.070
130	10.83	0.67	0.213		0.142	(0.192)		0.071
131	10.92	0.67	0.213		0.142	(0.192)		0.072
132	11.00	0.67	0.213		0.141	(0.192)		0.072
133	11.08	0.63	0.202		0.140	(0.182)		0.062
134	11.17	0.63	0.202		0.139	(0.182)		0.063
135	11.25	0.63	0.202		0.139	(0.182)		0.064
136	11.33	0.63	0.202		0.138	(0.182)		0.064
137	11.42	0.63	0.202		0.137	(0.182)		0.065
138	11.50	0.63	0.202		0.137	(0.182)		0.066
139	11.58	0.57	0.181		0.136	(0.163)		0.045
140	11.67	0.57	0.181		0.135	(0.163)		0.046
141	11.75	0.57	0.181		0.135	(0.163)		0.046
142	11.83	0.60	0.192		0.134	(0.173)		0.058
143	11.92	0.60	0.192		0.133	(0.173)		0.058
144	12.00	0.60	0.192		0.133	(0.173)		0.059
145	12.08	0.83	0.266		0.132	(0.240)		0.134
146	12.17	0.83	0.266		0.131	(0.240)		0.135
147	12.25	0.83	0.266		0.131	(0.240)		0.136
148	12.33	0.87	0.277		0.130	(0.249)		0.147
149	12.42	0.87	0.277		0.129	(0.249)		0.148
150	12.50	0.87	0.277		0.129	(0.249)		0.148
151	12.58	0.93	0.298		0.128	(0.269)		0.170
152	12.67	0.93	0.298		0.127	(0.269)		0.171
153	12.75	0.93	0.298		0.127	(0.269)		0.172
154	12.83	0.97	0.309		0.126	(0.278)		0.183
155	12.92	0.97	0.309		0.126	(0.278)		0.184
156	13.00	0.97	0.309		0.125	(0.278)		0.184
157	13.08	1.13	0.362		0.124	(0.326)		0.238
158	13.17	1.13	0.362		0.124	(0.326)		0.239
159	13.25	1.13	0.362		0.123	(0.326)		0.239
160	13.33	1.13	0.362		0.122	(0.326)		0.240
161	13.42	1.13	0.362		0.122	(0.326)		0.241
162	13.50	1.13	0.362		0.121	(0.326)		0.241
163	13.58	0.77	0.245		0.120	(0.221)		0.125
164	13.67	0.77	0.245		0.120	(0.221)		0.125
165	13.75	0.77	0.245		0.119	(0.221)		0.126
166	13.83	0.77	0.245		0.119	(0.221)		0.126
167	13.92	0.77	0.245		0.118	(0.221)		0.127
168	14.00	0.77	0.245		0.117	(0.221)		0.128
169	14.08	0.90	0.288		0.117	(0.259)		0.171
170	14.17	0.90	0.288		0.116	(0.259)		0.171
171	14.25	0.90	0.288		0.116	(0.259)		0.172
172	14.33	0.87	0.277		0.115	(0.249)		0.162
173	14.42	0.87	0.277		0.114	(0.249)		0.163
174	14.50	0.87	0.277		0.114	(0.249)		0.163
175	14.58	0.87	0.277		0.113	(0.249)		0.164
176	14.67	0.87	0.277		0.113	(0.249)		0.164
177	14.75	0.87	0.277		0.112	(0.249)		0.165
178	14.83	0.83	0.266		0.112	(0.240)		0.155
179	14.92	0.83	0.266		0.111	(0.240)		0.155
180	15.00	0.83	0.266		0.110	(0.240)		0.156
181	15.08	0.80	0.256		0.110	(0.230)		0.146

182	15.17	0.80	0.256	0.109	(0.230)	0.146
183	15.25	0.80	0.256	0.109	(0.230)	0.147
184	15.33	0.77	0.245	0.108	(0.221)	0.137
185	15.42	0.77	0.245	0.108	(0.221)	0.137
186	15.50	0.77	0.245	0.107	(0.221)	0.138
187	15.58	0.63	0.202	0.107	(0.182)	0.096
188	15.67	0.63	0.202	0.106	(0.182)	0.096
189	15.75	0.63	0.202	0.105	(0.182)	0.097
190	15.83	0.63	0.202	0.105	(0.182)	0.098
191	15.92	0.63	0.202	0.104	(0.182)	0.098
192	16.00	0.63	0.202	0.104	(0.182)	0.099
193	16.08	0.13	0.043	(0.103)	0.038	0.004
194	16.17	0.13	0.043	(0.103)	0.038	0.004
195	16.25	0.13	0.043	(0.102)	0.038	0.004
196	16.33	0.13	0.043	(0.102)	0.038	0.004
197	16.42	0.13	0.043	(0.101)	0.038	0.004
198	16.50	0.13	0.043	(0.101)	0.038	0.004
199	16.58	0.10	0.032	(0.100)	0.029	0.003
200	16.67	0.10	0.032	(0.100)	0.029	0.003
201	16.75	0.10	0.032	(0.099)	0.029	0.003
202	16.83	0.10	0.032	(0.099)	0.029	0.003
203	16.92	0.10	0.032	(0.098)	0.029	0.003
204	17.00	0.10	0.032	(0.098)	0.029	0.003
205	17.08	0.17	0.053	(0.097)	0.048	0.005
206	17.17	0.17	0.053	(0.097)	0.048	0.005
207	17.25	0.17	0.053	(0.096)	0.048	0.005
208	17.33	0.17	0.053	(0.096)	0.048	0.005
209	17.42	0.17	0.053	(0.095)	0.048	0.005
210	17.50	0.17	0.053	(0.095)	0.048	0.005
211	17.58	0.17	0.053	(0.094)	0.048	0.005
212	17.67	0.17	0.053	(0.094)	0.048	0.005
213	17.75	0.17	0.053	(0.093)	0.048	0.005
214	17.83	0.13	0.043	(0.093)	0.038	0.004
215	17.92	0.13	0.043	(0.092)	0.038	0.004
216	18.00	0.13	0.043	(0.092)	0.038	0.004
217	18.08	0.13	0.043	(0.092)	0.038	0.004
218	18.17	0.13	0.043	(0.091)	0.038	0.004
219	18.25	0.13	0.043	(0.091)	0.038	0.004
220	18.33	0.13	0.043	(0.090)	0.038	0.004
221	18.42	0.13	0.043	(0.090)	0.038	0.004
222	18.50	0.13	0.043	(0.089)	0.038	0.004
223	18.58	0.10	0.032	(0.089)	0.029	0.003
224	18.67	0.10	0.032	(0.088)	0.029	0.003
225	18.75	0.10	0.032	(0.088)	0.029	0.003
226	18.83	0.07	0.021	(0.088)	0.019	0.002
227	18.92	0.07	0.021	(0.087)	0.019	0.002
228	19.00	0.07	0.021	(0.087)	0.019	0.002
229	19.08	0.10	0.032	(0.086)	0.029	0.003
230	19.17	0.10	0.032	(0.086)	0.029	0.003
231	19.25	0.10	0.032	(0.086)	0.029	0.003
232	19.33	0.13	0.043	(0.085)	0.038	0.004
233	19.42	0.13	0.043	(0.085)	0.038	0.004
234	19.50	0.13	0.043	(0.084)	0.038	0.004
235	19.58	0.10	0.032	(0.084)	0.029	0.003
236	19.67	0.10	0.032	(0.084)	0.029	0.003
237	19.75	0.10	0.032	(0.083)	0.029	0.003
238	19.83	0.07	0.021	(0.083)	0.019	0.002

239	19.92	0.07	0.021	(0.082)	0.019	0.002
240	20.00	0.07	0.021	(0.082)	0.019	0.002
241	20.08	0.10	0.032	(0.082)	0.029	0.003
242	20.17	0.10	0.032	(0.081)	0.029	0.003
243	20.25	0.10	0.032	(0.081)	0.029	0.003
244	20.33	0.10	0.032	(0.081)	0.029	0.003
245	20.42	0.10	0.032	(0.080)	0.029	0.003
246	20.50	0.10	0.032	(0.080)	0.029	0.003
247	20.58	0.10	0.032	(0.080)	0.029	0.003
248	20.67	0.10	0.032	(0.079)	0.029	0.003
249	20.75	0.10	0.032	(0.079)	0.029	0.003
250	20.83	0.07	0.021	(0.079)	0.019	0.002
251	20.92	0.07	0.021	(0.078)	0.019	0.002
252	21.00	0.07	0.021	(0.078)	0.019	0.002
253	21.08	0.10	0.032	(0.078)	0.029	0.003
254	21.17	0.10	0.032	(0.077)	0.029	0.003
255	21.25	0.10	0.032	(0.077)	0.029	0.003
256	21.33	0.07	0.021	(0.077)	0.019	0.002
257	21.42	0.07	0.021	(0.077)	0.019	0.002
258	21.50	0.07	0.021	(0.076)	0.019	0.002
259	21.58	0.10	0.032	(0.076)	0.029	0.003
260	21.67	0.10	0.032	(0.076)	0.029	0.003
261	21.75	0.10	0.032	(0.075)	0.029	0.003
262	21.83	0.07	0.021	(0.075)	0.019	0.002
263	21.92	0.07	0.021	(0.075)	0.019	0.002
264	22.00	0.07	0.021	(0.075)	0.019	0.002
265	22.08	0.10	0.032	(0.074)	0.029	0.003
266	22.17	0.10	0.032	(0.074)	0.029	0.003
267	22.25	0.10	0.032	(0.074)	0.029	0.003
268	22.33	0.07	0.021	(0.074)	0.019	0.002
269	22.42	0.07	0.021	(0.073)	0.019	0.002
270	22.50	0.07	0.021	(0.073)	0.019	0.002
271	22.58	0.07	0.021	(0.073)	0.019	0.002
272	22.67	0.07	0.021	(0.073)	0.019	0.002
273	22.75	0.07	0.021	(0.073)	0.019	0.002
274	22.83	0.07	0.021	(0.072)	0.019	0.002
275	22.92	0.07	0.021	(0.072)	0.019	0.002
276	23.00	0.07	0.021	(0.072)	0.019	0.002
277	23.08	0.07	0.021	(0.072)	0.019	0.002
278	23.17	0.07	0.021	(0.072)	0.019	0.002
279	23.25	0.07	0.021	(0.072)	0.019	0.002
280	23.33	0.07	0.021	(0.071)	0.019	0.002
281	23.42	0.07	0.021	(0.071)	0.019	0.002
282	23.50	0.07	0.021	(0.071)	0.019	0.002
283	23.58	0.07	0.021	(0.071)	0.019	0.002
284	23.67	0.07	0.021	(0.071)	0.019	0.002
285	23.75	0.07	0.021	(0.071)	0.019	0.002
286	23.83	0.07	0.021	(0.071)	0.019	0.002
287	23.92	0.07	0.021	(0.071)	0.019	0.002
288	24.00	0.07	0.021	(0.071)	0.019	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.7

Flood volume = Effective rainfall 0.89(In)
times area 5.9(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 1.77(In)
Total soil loss = 0.872(Ac.Ft)
Total rainfall = 2.66(In)

Flood volume = 19042.5 Cubic Feet
Total soil loss = 37979.2 Cubic Feet

Peak flow rate of this hydrograph = 1.432(CFS)

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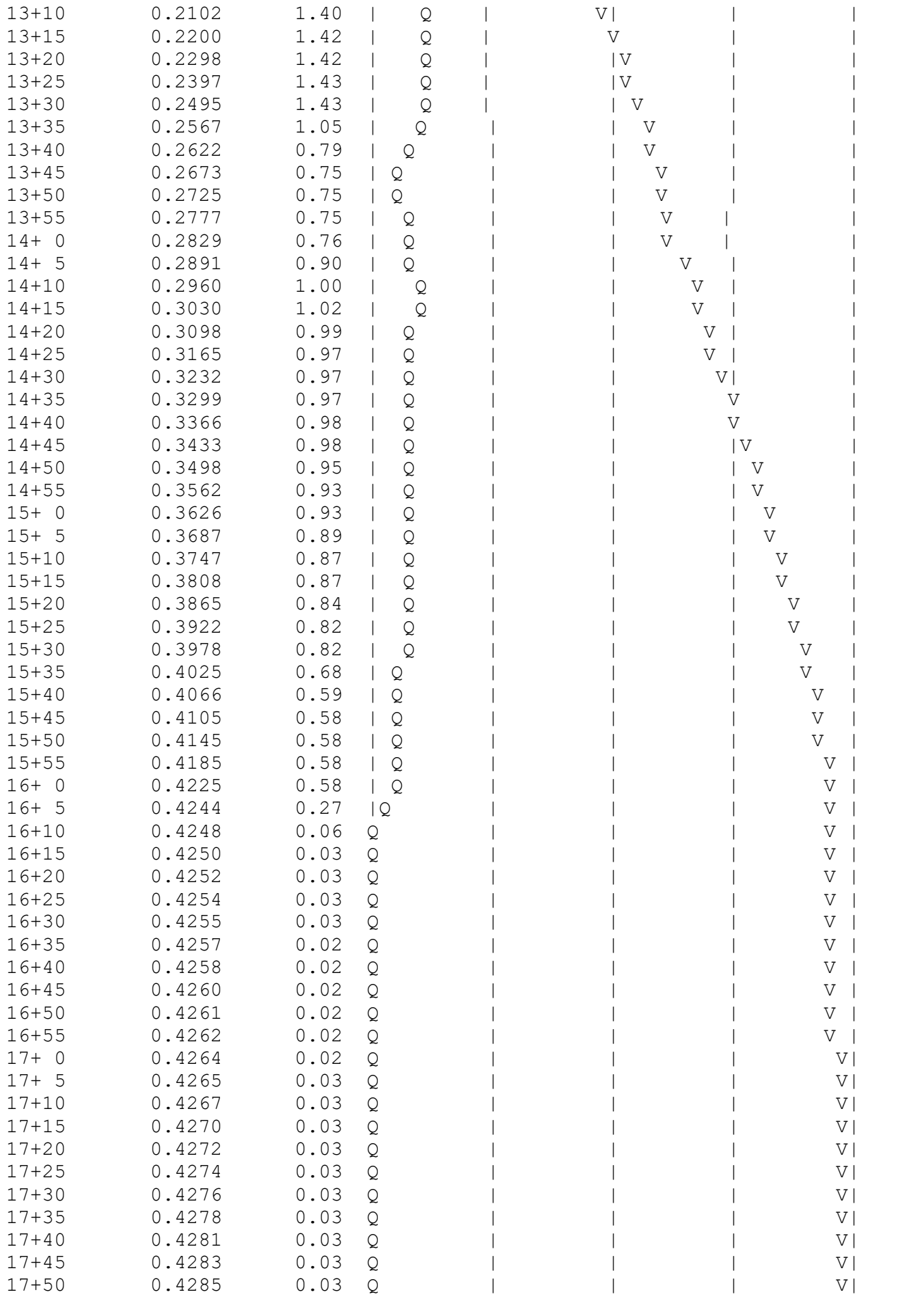
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0003	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0006	0.02	Q				
0+35	0.0007	0.02	Q				
0+40	0.0008	0.02	Q				
0+45	0.0010	0.02	Q				
0+50	0.0011	0.02	Q				
0+55	0.0013	0.02	Q				
1+ 0	0.0015	0.03	Q				
1+ 5	0.0016	0.02	Q				
1+10	0.0018	0.02	Q				
1+15	0.0019	0.02	Q				
1+20	0.0020	0.02	Q				
1+25	0.0022	0.02	Q				
1+30	0.0023	0.02	Q				
1+35	0.0024	0.02	Q				
1+40	0.0026	0.02	Q				
1+45	0.0027	0.02	Q				
1+50	0.0028	0.02	Q				
1+55	0.0030	0.02	Q				
2+ 0	0.0032	0.03	Q				
2+ 5	0.0034	0.03	Q				
2+10	0.0035	0.03	Q				
2+15	0.0037	0.03	Q				
2+20	0.0039	0.03	Q				
2+25	0.0041	0.03	Q				
2+30	0.0042	0.03	Q				
2+35	0.0044	0.03	Q				
2+40	0.0046	0.03	Q				
2+45	0.0049	0.03	Q				
2+50	0.0051	0.03	Q				
2+55	0.0053	0.03	Q				
3+ 0	0.0055	0.03	Q				
3+ 5	0.0057	0.03	Q				
3+10	0.0060	0.03	Q				
3+15	0.0062	0.03	Q				
3+20	0.0064	0.03	Q				
3+25	0.0066	0.03	Q				
3+30	0.0068	0.03	Q				
3+35	0.0070	0.03	Q				

3+40	0.0073	0.03	Q				
3+45	0.0075	0.03	Q				
3+50	0.0077	0.04	Q				
3+55	0.0080	0.04	Q				
4+ 0	0.0082	0.04	Q				
4+ 5	0.0085	0.04	Q				
4+10	0.0088	0.04	Q				
4+15	0.0090	0.04	Q				
4+20	0.0093	0.04	Q				
4+25	0.0096	0.04	Q				
4+30	0.0099	0.04	Q				
4+35	0.0102	0.04	Q				
4+40	0.0105	0.04	Q				
4+45	0.0108	0.04	Q				
4+50	0.0112	0.05	QV				
4+55	0.0115	0.05	QV				
5+ 0	0.0119	0.05	QV				
5+ 5	0.0122	0.04	QV				
5+10	0.0124	0.04	QV				
5+15	0.0127	0.04	QV				
5+20	0.0130	0.04	QV				
5+25	0.0133	0.04	QV				
5+30	0.0136	0.04	QV				
5+35	0.0139	0.05	QV				
5+40	0.0143	0.05	QV				
5+45	0.0146	0.05	QV				
5+50	0.0150	0.05	QV				
5+55	0.0153	0.05	QV				
6+ 0	0.0157	0.05	QV				
6+ 5	0.0160	0.05	QV				
6+10	0.0164	0.06	QV				
6+15	0.0168	0.06	QV				
6+20	0.0172	0.06	QV				
6+25	0.0176	0.06	QV				
6+30	0.0180	0.06	QV				
6+35	0.0184	0.06	QV				
6+40	0.0188	0.06	QV				
6+45	0.0193	0.06	QV				
6+50	0.0197	0.06	QV				
6+55	0.0202	0.06	QV				
7+ 0	0.0206	0.06	QV				
7+ 5	0.0210	0.06	QV				
7+10	0.0215	0.06	QV				
7+15	0.0219	0.06	Q V				
7+20	0.0224	0.07	Q V				
7+25	0.0228	0.07	Q V				
7+30	0.0233	0.07	Q V				
7+35	0.0238	0.07	Q V				
7+40	0.0243	0.08	Q V				
7+45	0.0249	0.08	Q V				
7+50	0.0254	0.08	Q V				
7+55	0.0260	0.08	Q V				
8+ 0	0.0265	0.08	Q V				
8+ 5	0.0272	0.09	Q V				
8+10	0.0278	0.09	Q V				
8+15	0.0285	0.10	Q V				
8+20	0.0291	0.10	Q V				

8+25	0.0298	0.10	Q V	|	|	|	|
8+30	0.0304	0.10	Q V	|	|	|	|
8+35	0.0311	0.10	Q V	|	|	|	|
8+40	0.0318	0.10	Q V	|	|	|	|
8+45	0.0325	0.10	Q V	|	|	|	|
8+50	0.0333	0.12	Q V	|	|	|	|
8+55	0.0342	0.13	Q V	|	|	|	|
9+ 0	0.0351	0.13	Q V	|	|	|	|
9+ 5	0.0366	0.21	Q V	|	|	|	|
9+10	0.0384	0.26	|Q V	|	|	|	|
9+15	0.0402	0.27	|Q V	|	|	|	|
9+20	0.0424	0.31	|Q V	|	|	|	|
9+25	0.0448	0.34	|Q V	|	|	|	|
9+30	0.0472	0.35	|Q V	|	|	|	|
9+35	0.0499	0.39	|Q V	|	|	|	|
9+40	0.0528	0.42	|Q V	|	|	|	|
9+45	0.0557	0.43	|Q V	|	|	|	|
9+50	0.0589	0.47	|Q V	|	|	|	|
9+55	0.0623	0.50	|Q V	|	|	|	|
10+ 0	0.0658	0.50	| Q V |		|	|	|
10+ 5	0.0677	0.28	|Q V |		|	|	|
10+10	0.0685	0.12	Q V |		|	|	|
10+15	0.0692	0.10	Q V |		|	|	|
10+20	0.0699	0.10	Q V |		|	|	|
10+25	0.0705	0.10	Q V |		|	|	|
10+30	0.0712	0.10	Q V |		|	|	|
10+35	0.0730	0.27	|Q V |		|	|	|
10+40	0.0757	0.39	|Q V |		|	|	|
10+45	0.0786	0.42	|Q V |		|	|	|
10+50	0.0815	0.42	|Q V |		|	|	|
10+55	0.0844	0.42	|Q V |		|	|	|
11+ 0	0.0873	0.43	|Q V |		|	|	|
11+ 5	0.0901	0.40	|Q V |		|	|	|
11+10	0.0927	0.38	|Q V |		|	|	|
11+15	0.0953	0.38	|Q V |		|	|	|
11+20	0.0979	0.38	|Q V |		|	|	|
11+25	0.1005	0.38	|Q V|		|	|	|
11+30	0.1032	0.39	|Q V|		|	|	|
11+35	0.1054	0.32	|Q V|		|	|	|
11+40	0.1073	0.28	|Q V|		|	|	|
11+45	0.1092	0.27	|Q V|		|	|	|
11+50	0.1114	0.31	|Q V |		|	|	|
11+55	0.1137	0.34	|Q V |		|	|	|
12+ 0	0.1162	0.35	|Q V |		|	|	|
12+ 5	0.1203	0.60	| Q |V |		|	|	|
12+10	0.1256	0.77	| Q |V |		|	|	|
12+15	0.1312	0.80	| Q | V |		|	|	|
12+20	0.1370	0.84	| Q | V |		|	|	|
12+25	0.1430	0.87	| Q | V |		|	|	|
12+30	0.1490	0.88	| Q | V |		|	|	|
12+35	0.1556	0.95	| Q | V |		|	|	|
12+40	0.1625	1.01	| Q | V |		|	|	|
12+45	0.1696	1.02	| Q | V |		|	|	|
12+50	0.1768	1.06	| Q | V |		|	|	|
12+55	0.1843	1.09	| Q | V |		|	|	|
13+ 0	0.1918	1.09	| Q | V |		|	|	|
13+ 5	0.2006	1.27	| Q | V |		|	|	|



17+55	0.4286	0.03	Q	|	|	|	V|
18+ 0	0.4288	0.03	Q	|	|	|	V|
18+ 5	0.4290	0.03	Q	|	|	|	V|
18+10	0.4292	0.03	Q	|	|	|	V|
18+15	0.4293	0.03	Q	|	|	|	V|
18+20	0.4295	0.03	Q	|	|	|	V|
18+25	0.4297	0.03	Q	|	|	|	V|
18+30	0.4299	0.03	Q	|	|	|	V|
18+35	0.4300	0.02	Q	|	|	|	V|
18+40	0.4302	0.02	Q	|	|	|	V|
18+45	0.4303	0.02	Q	|	|	|	V|
18+50	0.4304	0.02	Q	|	|	|	V|
18+55	0.4305	0.01	Q	|	|	|	V|
19+ 0	0.4306	0.01	Q	|	|	|	V|
19+ 5	0.4307	0.02	Q	|	|	|	V|
19+10	0.4308	0.02	Q	|	|	|	V|
19+15	0.4309	0.02	Q	|	|	|	V|
19+20	0.4311	0.02	Q	|	|	|	V|
19+25	0.4313	0.02	Q	|	|	|	V|
19+30	0.4314	0.03	Q	|	|	|	V|
19+35	0.4316	0.02	Q	|	|	|	V|
19+40	0.4317	0.02	Q	|	|	|	V|
19+45	0.4319	0.02	Q	|	|	|	V|
19+50	0.4320	0.02	Q	|	|	|	V|
19+55	0.4320	0.01	Q	|	|	|	V|
20+ 0	0.4321	0.01	Q	|	|	|	V|
20+ 5	0.4322	0.02	Q	|	|	|	V|
20+10	0.4324	0.02	Q	|	|	|	V|
20+15	0.4325	0.02	Q	|	|	|	V|
20+20	0.4326	0.02	Q	|	|	|	V|
20+25	0.4328	0.02	Q	|	|	|	V|
20+30	0.4329	0.02	Q	|	|	|	V|
20+35	0.4330	0.02	Q	|	|	|	V|
20+40	0.4332	0.02	Q	|	|	|	V|
20+45	0.4333	0.02	Q	|	|	|	V|
20+50	0.4334	0.02	Q	|	|	|	V|
20+55	0.4335	0.01	Q	|	|	|	V|
21+ 0	0.4336	0.01	Q	|	|	|	V|
21+ 5	0.4337	0.02	Q	|	|	|	V|
21+10	0.4338	0.02	Q	|	|	|	V|
21+15	0.4339	0.02	Q	|	|	|	V|
21+20	0.4341	0.02	Q	|	|	|	V|
21+25	0.4341	0.01	Q	|	|	|	V|
21+30	0.4342	0.01	Q	|	|	|	V|
21+35	0.4343	0.02	Q	|	|	|	V|
21+40	0.4345	0.02	Q	|	|	|	V|
21+45	0.4346	0.02	Q	|	|	|	V|
21+50	0.4347	0.02	Q	|	|	|	V|
21+55	0.4348	0.01	Q	|	|	|	V|
22+ 0	0.4349	0.01	Q	|	|	|	V|
22+ 5	0.4350	0.02	Q	|	|	|	V|
22+10	0.4351	0.02	Q	|	|	|	V|
22+15	0.4353	0.02	Q	|	|	|	V|
22+20	0.4354	0.02	Q	|	|	|	V|
22+25	0.4355	0.01	Q	|	|	|	V|
22+30	0.4355	0.01	Q	|	|	|	V|
22+35	0.4356	0.01	Q	|	|	|	V|

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  22+40       0.4357      0.01  Q          |          |          |         V|
  22+45       0.4358      0.01  Q          |          |          |         V|
  22+50       0.4359      0.01  Q          |          |          |         V|
  22+55       0.4360      0.01  Q          |          |          |         V|
  23+ 0       0.4361      0.01  Q          |          |          |         V|
  23+ 5       0.4362      0.01  Q          |          |          |         V|
  23+10       0.4362      0.01  Q          |          |          |         V|
  23+15       0.4363      0.01  Q          |          |          |         V|
  23+20       0.4364      0.01  Q          |          |          |         V|
  23+25       0.4365      0.01  Q          |          |          |         V|
  23+30       0.4366      0.01  Q          |          |          |         V|
  23+35       0.4367      0.01  Q          |          |          |         V|
  23+40       0.4368      0.01  Q          |          |          |         V|
  23+45       0.4368      0.01  Q          |          |          |         V|
  23+50       0.4369      0.01  Q          |          |          |         V|
  23+55       0.4370      0.01  Q          |          |          |         V|
  24+ 0       0.4371      0.01  Q          |          |          |         V|
  24+ 5       0.4371      0.01  Q          |          |          |         V|
  24+10       0.4372      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 06/03/26 File: 19267e010B2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 300

Drainage Area = 1.48(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.48(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 501.00(Ft.)
Length along longest watercourse measured to centroid = 364.00(Ft.)
Length along longest watercourse = 0.095 Mi.
Length along longest watercourse measured to centroid = 0.069 Mi.
Difference in elevation = 8.31(Ft.)
Slope along watercourse = 87.5784 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	1.66	2.46

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.48	4.10	6.08

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.484	89.00	0.040

Total Area Entered = 1.48(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.040	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	366.114	62.598	0.936
2	0.167	732.229	33.736	0.505
3	0.250	1098.343	3.666	0.055
		Sum = 100.000	Sum=	1.496

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.242)	0.018	0.003
2	0.17	0.07	0.021	(0.241)	0.018	0.003
3	0.25	0.07	0.021	(0.240)	0.018	0.003
4	0.33	0.10	0.032	(0.239)	0.027	0.004
5	0.42	0.10	0.032	(0.238)	0.027	0.004
6	0.50	0.10	0.032	(0.237)	0.027	0.004
7	0.58	0.10	0.032	(0.236)	0.027	0.004
8	0.67	0.10	0.032	(0.235)	0.027	0.004
9	0.75	0.10	0.032	(0.234)	0.027	0.004
10	0.83	0.13	0.043	(0.233)	0.037	0.006

11	0.92	0.13	0.043	(0.232)	0.037	0.006
12	1.00	0.13	0.043	(0.231)	0.037	0.006
13	1.08	0.10	0.032	(0.231)	0.027	0.004
14	1.17	0.10	0.032	(0.230)	0.027	0.004
15	1.25	0.10	0.032	(0.229)	0.027	0.004
16	1.33	0.10	0.032	(0.228)	0.027	0.004
17	1.42	0.10	0.032	(0.227)	0.027	0.004
18	1.50	0.10	0.032	(0.226)	0.027	0.004
19	1.58	0.10	0.032	(0.225)	0.027	0.004
20	1.67	0.10	0.032	(0.224)	0.027	0.004
21	1.75	0.10	0.032	(0.223)	0.027	0.004
22	1.83	0.13	0.043	(0.222)	0.037	0.006
23	1.92	0.13	0.043	(0.222)	0.037	0.006
24	2.00	0.13	0.043	(0.221)	0.037	0.006
25	2.08	0.13	0.043	(0.220)	0.037	0.006
26	2.17	0.13	0.043	(0.219)	0.037	0.006
27	2.25	0.13	0.043	(0.218)	0.037	0.006
28	2.33	0.13	0.043	(0.217)	0.037	0.006
29	2.42	0.13	0.043	(0.216)	0.037	0.006
30	2.50	0.13	0.043	(0.215)	0.037	0.006
31	2.58	0.17	0.053	(0.214)	0.046	0.007
32	2.67	0.17	0.053	(0.214)	0.046	0.007
33	2.75	0.17	0.053	(0.213)	0.046	0.007
34	2.83	0.17	0.053	(0.212)	0.046	0.007
35	2.92	0.17	0.053	(0.211)	0.046	0.007
36	3.00	0.17	0.053	(0.210)	0.046	0.007
37	3.08	0.17	0.053	(0.209)	0.046	0.007
38	3.17	0.17	0.053	(0.208)	0.046	0.007
39	3.25	0.17	0.053	(0.207)	0.046	0.007
40	3.33	0.17	0.053	(0.207)	0.046	0.007
41	3.42	0.17	0.053	(0.206)	0.046	0.007
42	3.50	0.17	0.053	(0.205)	0.046	0.007
43	3.58	0.17	0.053	(0.204)	0.046	0.007
44	3.67	0.17	0.053	(0.203)	0.046	0.007
45	3.75	0.17	0.053	(0.202)	0.046	0.007
46	3.83	0.20	0.064	(0.201)	0.055	0.009
47	3.92	0.20	0.064	(0.201)	0.055	0.009
48	4.00	0.20	0.064	(0.200)	0.055	0.009
49	4.08	0.20	0.064	(0.199)	0.055	0.009
50	4.17	0.20	0.064	(0.198)	0.055	0.009
51	4.25	0.20	0.064	(0.197)	0.055	0.009
52	4.33	0.23	0.075	(0.196)	0.064	0.010
53	4.42	0.23	0.075	(0.195)	0.064	0.010
54	4.50	0.23	0.075	(0.195)	0.064	0.010
55	4.58	0.23	0.075	(0.194)	0.064	0.010
56	4.67	0.23	0.075	(0.193)	0.064	0.010
57	4.75	0.23	0.075	(0.192)	0.064	0.010
58	4.83	0.27	0.085	(0.191)	0.073	0.012
59	4.92	0.27	0.085	(0.190)	0.073	0.012
60	5.00	0.27	0.085	(0.190)	0.073	0.012
61	5.08	0.20	0.064	(0.189)	0.055	0.009
62	5.17	0.20	0.064	(0.188)	0.055	0.009
63	5.25	0.20	0.064	(0.187)	0.055	0.009
64	5.33	0.23	0.075	(0.186)	0.064	0.010
65	5.42	0.23	0.075	(0.186)	0.064	0.010
66	5.50	0.23	0.075	(0.185)	0.064	0.010
67	5.58	0.27	0.085	(0.184)	0.073	0.012

68	5.67	0.27	0.085	(0.183)	0.073	0.012
69	5.75	0.27	0.085	(0.182)	0.073	0.012
70	5.83	0.27	0.085	(0.182)	0.073	0.012
71	5.92	0.27	0.085	(0.181)	0.073	0.012
72	6.00	0.27	0.085	(0.180)	0.073	0.012
73	6.08	0.30	0.096	(0.179)	0.082	0.013
74	6.17	0.30	0.096	(0.178)	0.082	0.013
75	6.25	0.30	0.096	(0.178)	0.082	0.013
76	6.33	0.30	0.096	(0.177)	0.082	0.013
77	6.42	0.30	0.096	(0.176)	0.082	0.013
78	6.50	0.30	0.096	(0.175)	0.082	0.013
79	6.58	0.33	0.107	(0.174)	0.092	0.015
80	6.67	0.33	0.107	(0.174)	0.092	0.015
81	6.75	0.33	0.107	(0.173)	0.092	0.015
82	6.83	0.33	0.107	(0.172)	0.092	0.015
83	6.92	0.33	0.107	(0.171)	0.092	0.015
84	7.00	0.33	0.107	(0.170)	0.092	0.015
85	7.08	0.33	0.107	(0.170)	0.092	0.015
86	7.17	0.33	0.107	(0.169)	0.092	0.015
87	7.25	0.33	0.107	(0.168)	0.092	0.015
88	7.33	0.37	0.117	(0.167)	0.101	0.016
89	7.42	0.37	0.117	(0.167)	0.101	0.016
90	7.50	0.37	0.117	(0.166)	0.101	0.016
91	7.58	0.40	0.128	(0.165)	0.110	0.018
92	7.67	0.40	0.128	(0.164)	0.110	0.018
93	7.75	0.40	0.128	(0.164)	0.110	0.018
94	7.83	0.43	0.139	(0.163)	0.119	0.019
95	7.92	0.43	0.139	(0.162)	0.119	0.019
96	8.00	0.43	0.139	(0.161)	0.119	0.019
97	8.08	0.50	0.160	(0.161)	0.137	0.022
98	8.17	0.50	0.160	(0.160)	0.137	0.022
99	8.25	0.50	0.160	(0.159)	0.137	0.022
100	8.33	0.50	0.160	(0.158)	0.137	0.022
101	8.42	0.50	0.160	(0.158)	0.137	0.022
102	8.50	0.50	0.160	(0.157)	0.137	0.022
103	8.58	0.53	0.170	(0.156)	0.147	0.024
104	8.67	0.53	0.170	(0.155)	0.147	0.024
105	8.75	0.53	0.170	(0.155)	0.147	0.024
106	8.83	0.57	0.181	0.154	(0.156)	0.027
107	8.92	0.57	0.181	0.153	(0.156)	0.028
108	9.00	0.57	0.181	0.152	(0.156)	0.029
109	9.08	0.63	0.202	0.152	(0.174)	0.051
110	9.17	0.63	0.202	0.151	(0.174)	0.051
111	9.25	0.63	0.202	0.150	(0.174)	0.052
112	9.33	0.67	0.213	0.150	(0.183)	0.064
113	9.42	0.67	0.213	0.149	(0.183)	0.064
114	9.50	0.67	0.213	0.148	(0.183)	0.065
115	9.58	0.70	0.224	0.147	(0.192)	0.076
116	9.67	0.70	0.224	0.147	(0.192)	0.077
117	9.75	0.70	0.224	0.146	(0.192)	0.078
118	9.83	0.73	0.234	0.145	(0.202)	0.089
119	9.92	0.73	0.234	0.145	(0.202)	0.090
120	10.00	0.73	0.234	0.144	(0.202)	0.090
121	10.08	0.50	0.160	(0.143)	0.137	0.022
122	10.17	0.50	0.160	(0.143)	0.137	0.022
123	10.25	0.50	0.160	(0.142)	0.137	0.022
124	10.33	0.50	0.160	(0.141)	0.137	0.022

125	10.42	0.50	0.160	(	0.140)	0.137	0.022
126	10.50	0.50	0.160	(	0.140)	0.137	0.022
127	10.58	0.67	0.213		0.139	(0.183)	0.074
128	10.67	0.67	0.213		0.138	(0.183)	0.075
129	10.75	0.67	0.213		0.138	(0.183)	0.075
130	10.83	0.67	0.213		0.137	(0.183)	0.076
131	10.92	0.67	0.213		0.136	(0.183)	0.077
132	11.00	0.67	0.213		0.136	(0.183)	0.077
133	11.08	0.63	0.202		0.135	(0.174)	0.067
134	11.17	0.63	0.202		0.134	(0.174)	0.068
135	11.25	0.63	0.202		0.134	(0.174)	0.069
136	11.33	0.63	0.202		0.133	(0.174)	0.069
137	11.42	0.63	0.202		0.132	(0.174)	0.070
138	11.50	0.63	0.202		0.132	(0.174)	0.071
139	11.58	0.57	0.181		0.131	(0.156)	0.050
140	11.67	0.57	0.181		0.130	(0.156)	0.051
141	11.75	0.57	0.181		0.130	(0.156)	0.051
142	11.83	0.60	0.192		0.129	(0.165)	0.063
143	11.92	0.60	0.192		0.129	(0.165)	0.063
144	12.00	0.60	0.192		0.128	(0.165)	0.064
145	12.08	0.83	0.266		0.127	(0.229)	0.139
146	12.17	0.83	0.266		0.127	(0.229)	0.140
147	12.25	0.83	0.266		0.126	(0.229)	0.140
148	12.33	0.87	0.277		0.125	(0.238)	0.152
149	12.42	0.87	0.277		0.125	(0.238)	0.152
150	12.50	0.87	0.277		0.124	(0.238)	0.153
151	12.58	0.93	0.298		0.123	(0.257)	0.175
152	12.67	0.93	0.298		0.123	(0.257)	0.176
153	12.75	0.93	0.298		0.122	(0.257)	0.176
154	12.83	0.97	0.309		0.122	(0.266)	0.187
155	12.92	0.97	0.309		0.121	(0.266)	0.188
156	13.00	0.97	0.309		0.120	(0.266)	0.189
157	13.08	1.13	0.362		0.120	(0.312)	0.243
158	13.17	1.13	0.362		0.119	(0.312)	0.243
159	13.25	1.13	0.362		0.119	(0.312)	0.244
160	13.33	1.13	0.362		0.118	(0.312)	0.244
161	13.42	1.13	0.362		0.117	(0.312)	0.245
162	13.50	1.13	0.362		0.117	(0.312)	0.246
163	13.58	0.77	0.245		0.116	(0.211)	0.129
164	13.67	0.77	0.245		0.116	(0.211)	0.130
165	13.75	0.77	0.245		0.115	(0.211)	0.130
166	13.83	0.77	0.245		0.114	(0.211)	0.131
167	13.92	0.77	0.245		0.114	(0.211)	0.131
168	14.00	0.77	0.245		0.113	(0.211)	0.132
169	14.08	0.90	0.288		0.113	(0.247)	0.175
170	14.17	0.90	0.288		0.112	(0.247)	0.176
171	14.25	0.90	0.288		0.111	(0.247)	0.176
172	14.33	0.87	0.277		0.111	(0.238)	0.166
173	14.42	0.87	0.277		0.110	(0.238)	0.167
174	14.50	0.87	0.277		0.110	(0.238)	0.167
175	14.58	0.87	0.277		0.109	(0.238)	0.168
176	14.67	0.87	0.277		0.109	(0.238)	0.168
177	14.75	0.87	0.277		0.108	(0.238)	0.169
178	14.83	0.83	0.266		0.108	(0.229)	0.159
179	14.92	0.83	0.266		0.107	(0.229)	0.159
180	15.00	0.83	0.266		0.106	(0.229)	0.160
181	15.08	0.80	0.256		0.106	(0.220)	0.150

182	15.17	0.80	0.256	0.105	(0.220)	0.150
183	15.25	0.80	0.256	0.105	(0.220)	0.151
184	15.33	0.77	0.245	0.104	(0.211)	0.141
185	15.42	0.77	0.245	0.104	(0.211)	0.141
186	15.50	0.77	0.245	0.103	(0.211)	0.142
187	15.58	0.63	0.202	0.103	(0.174)	0.100
188	15.67	0.63	0.202	0.102	(0.174)	0.100
189	15.75	0.63	0.202	0.102	(0.174)	0.101
190	15.83	0.63	0.202	0.101	(0.174)	0.101
191	15.92	0.63	0.202	0.101	(0.174)	0.102
192	16.00	0.63	0.202	0.100	(0.174)	0.102
193	16.08	0.13	0.043	(0.100)	0.037	0.006
194	16.17	0.13	0.043	(0.099)	0.037	0.006
195	16.25	0.13	0.043	(0.099)	0.037	0.006
196	16.33	0.13	0.043	(0.098)	0.037	0.006
197	16.42	0.13	0.043	(0.098)	0.037	0.006
198	16.50	0.13	0.043	(0.097)	0.037	0.006
199	16.58	0.10	0.032	(0.097)	0.027	0.004
200	16.67	0.10	0.032	(0.096)	0.027	0.004
201	16.75	0.10	0.032	(0.096)	0.027	0.004
202	16.83	0.10	0.032	(0.095)	0.027	0.004
203	16.92	0.10	0.032	(0.095)	0.027	0.004
204	17.00	0.10	0.032	(0.094)	0.027	0.004
205	17.08	0.17	0.053	(0.094)	0.046	0.007
206	17.17	0.17	0.053	(0.093)	0.046	0.007
207	17.25	0.17	0.053	(0.093)	0.046	0.007
208	17.33	0.17	0.053	(0.092)	0.046	0.007
209	17.42	0.17	0.053	(0.092)	0.046	0.007
210	17.50	0.17	0.053	(0.091)	0.046	0.007
211	17.58	0.17	0.053	(0.091)	0.046	0.007
212	17.67	0.17	0.053	(0.090)	0.046	0.007
213	17.75	0.17	0.053	(0.090)	0.046	0.007
214	17.83	0.13	0.043	(0.090)	0.037	0.006
215	17.92	0.13	0.043	(0.089)	0.037	0.006
216	18.00	0.13	0.043	(0.089)	0.037	0.006
217	18.08	0.13	0.043	(0.088)	0.037	0.006
218	18.17	0.13	0.043	(0.088)	0.037	0.006
219	18.25	0.13	0.043	(0.087)	0.037	0.006
220	18.33	0.13	0.043	(0.087)	0.037	0.006
221	18.42	0.13	0.043	(0.087)	0.037	0.006
222	18.50	0.13	0.043	(0.086)	0.037	0.006
223	18.58	0.10	0.032	(0.086)	0.027	0.004
224	18.67	0.10	0.032	(0.085)	0.027	0.004
225	18.75	0.10	0.032	(0.085)	0.027	0.004
226	18.83	0.07	0.021	(0.084)	0.018	0.003
227	18.92	0.07	0.021	(0.084)	0.018	0.003
228	19.00	0.07	0.021	(0.084)	0.018	0.003
229	19.08	0.10	0.032	(0.083)	0.027	0.004
230	19.17	0.10	0.032	(0.083)	0.027	0.004
231	19.25	0.10	0.032	(0.082)	0.027	0.004
232	19.33	0.13	0.043	(0.082)	0.037	0.006
233	19.42	0.13	0.043	(0.082)	0.037	0.006
234	19.50	0.13	0.043	(0.081)	0.037	0.006
235	19.58	0.10	0.032	(0.081)	0.027	0.004
236	19.67	0.10	0.032	(0.081)	0.027	0.004
237	19.75	0.10	0.032	(0.080)	0.027	0.004
238	19.83	0.07	0.021	(0.080)	0.018	0.003

239	19.92	0.07	0.021	(0.080)	0.018	0.003
240	20.00	0.07	0.021	(0.079)	0.018	0.003
241	20.08	0.10	0.032	(0.079)	0.027	0.004
242	20.17	0.10	0.032	(0.078)	0.027	0.004
243	20.25	0.10	0.032	(0.078)	0.027	0.004
244	20.33	0.10	0.032	(0.078)	0.027	0.004
245	20.42	0.10	0.032	(0.077)	0.027	0.004
246	20.50	0.10	0.032	(0.077)	0.027	0.004
247	20.58	0.10	0.032	(0.077)	0.027	0.004
248	20.67	0.10	0.032	(0.076)	0.027	0.004
249	20.75	0.10	0.032	(0.076)	0.027	0.004
250	20.83	0.07	0.021	(0.076)	0.018	0.003
251	20.92	0.07	0.021	(0.076)	0.018	0.003
252	21.00	0.07	0.021	(0.075)	0.018	0.003
253	21.08	0.10	0.032	(0.075)	0.027	0.004
254	21.17	0.10	0.032	(0.075)	0.027	0.004
255	21.25	0.10	0.032	(0.074)	0.027	0.004
256	21.33	0.07	0.021	(0.074)	0.018	0.003
257	21.42	0.07	0.021	(0.074)	0.018	0.003
258	21.50	0.07	0.021	(0.074)	0.018	0.003
259	21.58	0.10	0.032	(0.073)	0.027	0.004
260	21.67	0.10	0.032	(0.073)	0.027	0.004
261	21.75	0.10	0.032	(0.073)	0.027	0.004
262	21.83	0.07	0.021	(0.072)	0.018	0.003
263	21.92	0.07	0.021	(0.072)	0.018	0.003
264	22.00	0.07	0.021	(0.072)	0.018	0.003
265	22.08	0.10	0.032	(0.072)	0.027	0.004
266	22.17	0.10	0.032	(0.071)	0.027	0.004
267	22.25	0.10	0.032	(0.071)	0.027	0.004
268	22.33	0.07	0.021	(0.071)	0.018	0.003
269	22.42	0.07	0.021	(0.071)	0.018	0.003
270	22.50	0.07	0.021	(0.071)	0.018	0.003
271	22.58	0.07	0.021	(0.070)	0.018	0.003
272	22.67	0.07	0.021	(0.070)	0.018	0.003
273	22.75	0.07	0.021	(0.070)	0.018	0.003
274	22.83	0.07	0.021	(0.070)	0.018	0.003
275	22.92	0.07	0.021	(0.070)	0.018	0.003
276	23.00	0.07	0.021	(0.069)	0.018	0.003
277	23.08	0.07	0.021	(0.069)	0.018	0.003
278	23.17	0.07	0.021	(0.069)	0.018	0.003
279	23.25	0.07	0.021	(0.069)	0.018	0.003
280	23.33	0.07	0.021	(0.069)	0.018	0.003
281	23.42	0.07	0.021	(0.069)	0.018	0.003
282	23.50	0.07	0.021	(0.069)	0.018	0.003
283	23.58	0.07	0.021	(0.069)	0.018	0.003
284	23.67	0.07	0.021	(0.068)	0.018	0.003
285	23.75	0.07	0.021	(0.068)	0.018	0.003
286	23.83	0.07	0.021	(0.068)	0.018	0.003
287	23.92	0.07	0.021	(0.068)	0.018	0.003
288	24.00	0.07	0.021	(0.068)	0.018	0.003

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.5

Flood volume = Effective rainfall 0.96(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.70(In)
Total soil loss = 0.211(Ac.Ft)
Total rainfall = 2.66(In)

Flood volume = 5177.4 Cubic Feet
Total soil loss = 9172.4 Cubic Feet

Peak flow rate of this hydrograph = 0.367(CFS)

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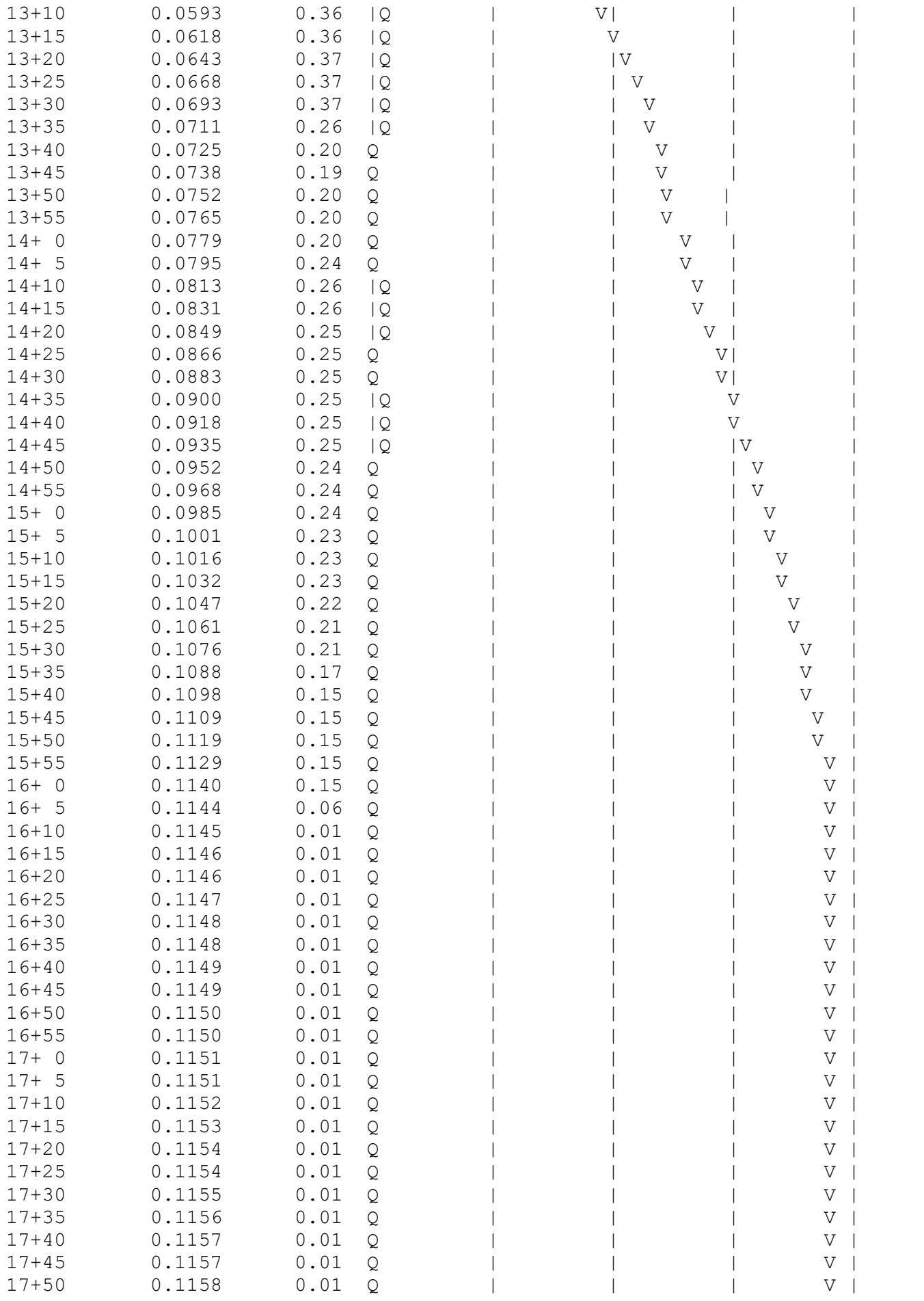
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0003	0.01	Q				
0+45	0.0004	0.01	Q				
0+50	0.0004	0.01	Q				
0+55	0.0005	0.01	Q				
1+ 0	0.0005	0.01	Q				
1+ 5	0.0006	0.01	Q				
1+10	0.0006	0.01	Q				
1+15	0.0007	0.01	Q				
1+20	0.0007	0.01	Q				
1+25	0.0008	0.01	Q				
1+30	0.0008	0.01	Q				
1+35	0.0009	0.01	Q				
1+40	0.0009	0.01	Q				
1+45	0.0009	0.01	Q				
1+50	0.0010	0.01	Q				
1+55	0.0011	0.01	Q				
2+ 0	0.0011	0.01	Q				
2+ 5	0.0012	0.01	Q				
2+10	0.0013	0.01	Q				
2+15	0.0013	0.01	Q				
2+20	0.0014	0.01	Q				
2+25	0.0014	0.01	Q				
2+30	0.0015	0.01	Q				
2+35	0.0016	0.01	Q				
2+40	0.0016	0.01	Q				
2+45	0.0017	0.01	Q				
2+50	0.0018	0.01	Q				
2+55	0.0019	0.01	Q				
3+ 0	0.0020	0.01	Q				
3+ 5	0.0020	0.01	Q				
3+10	0.0021	0.01	Q				
3+15	0.0022	0.01	Q				
3+20	0.0023	0.01	Q				
3+25	0.0023	0.01	Q				
3+30	0.0024	0.01	Q				
3+35	0.0025	0.01	Q				

3+40	0.0026	0.01	Q	|	|	|	|
3+45	0.0026	0.01	Q	|	|	|	|
3+50	0.0027	0.01	Q	|	|	|	|
3+55	0.0028	0.01	Q	|	|	|	|
4+ 0	0.0029	0.01	Q	|	|	|	|
4+ 5	0.0030	0.01	QV	|	|	|	|
4+10	0.0031	0.01	QV	|	|	|	|
4+15	0.0032	0.01	QV	|	|	|	|
4+20	0.0033	0.01	QV	|	|	|	|
4+25	0.0034	0.02	QV	|	|	|	|
4+30	0.0035	0.02	QV	|	|	|	|
4+35	0.0036	0.02	QV	|	|	|	|
4+40	0.0037	0.02	QV	|	|	|	|
4+45	0.0038	0.02	QV	|	|	|	|
4+50	0.0039	0.02	QV	|	|	|	|
4+55	0.0041	0.02	QV	|	|	|	|
5+ 0	0.0042	0.02	QV	|	|	|	|
5+ 5	0.0043	0.02	QV	|	|	|	|
5+10	0.0044	0.01	QV	|	|	|	|
5+15	0.0045	0.01	QV	|	|	|	|
5+20	0.0046	0.01	QV	|	|	|	|
5+25	0.0047	0.02	QV	|	|	|	|
5+30	0.0048	0.02	QV	|	|	|	|
5+35	0.0049	0.02	QV	|	|	|	|
5+40	0.0050	0.02	QV	|	|	|	|
5+45	0.0052	0.02	QV	|	|	|	|
5+50	0.0053	0.02	QV	|	|	|	|
5+55	0.0054	0.02	QV	|	|	|	|
6+ 0	0.0055	0.02	QV	|	|	|	|
6+ 5	0.0057	0.02	QV	|	|	|	|
6+10	0.0058	0.02	QV	|	|	|	|
6+15	0.0059	0.02	QV	|	|	|	|
6+20	0.0061	0.02	Q V	|	|	|	|
6+25	0.0062	0.02	Q V	|	|	|	|
6+30	0.0064	0.02	Q V	|	|	|	|
6+35	0.0065	0.02	Q V	|	|	|	|
6+40	0.0067	0.02	Q V	|	|	|	|
6+45	0.0068	0.02	Q V	|	|	|	|
6+50	0.0070	0.02	Q V	|	|	|	|
6+55	0.0071	0.02	Q V	|	|	|	|
7+ 0	0.0073	0.02	Q V	|	|	|	|
7+ 5	0.0074	0.02	Q V	|	|	|	|
7+10	0.0076	0.02	Q V	|	|	|	|
7+15	0.0077	0.02	Q V	|	|	|	|
7+20	0.0079	0.02	Q V	|	|	|	|
7+25	0.0081	0.02	Q V	|	|	|	|
7+30	0.0082	0.02	Q V	|	|	|	|
7+35	0.0084	0.03	Q V	|	|	|	|
7+40	0.0086	0.03	Q V	|	|	|	|
7+45	0.0088	0.03	Q V	|	|	|	|
7+50	0.0090	0.03	Q V	|	|	|	|
7+55	0.0092	0.03	Q V	|	|	|	|
8+ 0	0.0094	0.03	Q V	|	|	|	|
8+ 5	0.0096	0.03	Q V	|	|	|	|
8+10	0.0098	0.03	Q V	|	|	|	|
8+15	0.0101	0.03	Q V	|	|	|	|
8+20	0.0103	0.03	Q V	|	|	|	|

8+25	0.0105	0.03	Q V	|	|	|	|
8+30	0.0107	0.03	Q V	|	|	|	|
8+35	0.0110	0.03	Q V	|	|	|	|
8+40	0.0112	0.04	Q V	|	|	|	|
8+45	0.0115	0.04	Q V	|	|	|	|
8+50	0.0117	0.04	Q V	|	|	|	|
8+55	0.0120	0.04	Q V	|	|	|	|
9+ 0	0.0123	0.04	Q V	|	|	|	|
9+ 5	0.0128	0.06	Q V	|	|	|	|
9+10	0.0133	0.08	Q V	|	|	|	|
9+15	0.0138	0.08	Q V	|	|	|	|
9+20	0.0144	0.09	Q V	|	|	|	|
9+25	0.0151	0.10	Q V	|	|	|	|
9+30	0.0157	0.10	Q V	|	|	|	|
9+35	0.0165	0.11	Q V	|	|	|	|
9+40	0.0173	0.11	Q V	|	|	|	|
9+45	0.0181	0.12	Q V	|	|	|	|
9+50	0.0189	0.13	Q V	|	|	|	|
9+55	0.0199	0.13	Q V	|	|	|	|
10+ 0	0.0208	0.13	Q V	|	|	|	|
10+ 5	0.0213	0.07	Q V	|	|	|	|
10+10	0.0215	0.04	Q V	|	|	|	|
10+15	0.0218	0.03	Q V	|	|	|	|
10+20	0.0220	0.03	Q V	|	|	|	|
10+25	0.0222	0.03	Q V	|	|	|	|
10+30	0.0225	0.03	Q V	|	|	|	|
10+35	0.0230	0.08	Q V	|	|	|	|
10+40	0.0238	0.11	Q V	|	|	|	|
10+45	0.0245	0.11	Q V	|	|	|	|
10+50	0.0253	0.11	Q V	|	|	|	|
10+55	0.0261	0.11	Q V	|	|	|	|
11+ 0	0.0269	0.12	Q V	|	|	|	|
11+ 5	0.0276	0.11	Q V	|	|	|	|
11+10	0.0283	0.10	Q V	|	|	|	|
11+15	0.0290	0.10	Q V	|	|	|	|
11+20	0.0298	0.10	Q V	|	|	|	|
11+25	0.0305	0.10	Q V	|	|	|	|
11+30	0.0312	0.11	Q V	|	|	|	|
11+35	0.0318	0.09	Q V	|	|	|	|
11+40	0.0323	0.08	Q V	|	|	|	|
11+45	0.0329	0.08	Q | V	|	|	|	|
11+50	0.0335	0.09	Q | V	|	|	|	|
11+55	0.0341	0.09	Q | V	|	|	|	|
12+ 0	0.0348	0.10	Q | V	|	|	|	|
12+ 5	0.0359	0.17	Q | V	|	|	|	|
12+10	0.0373	0.20	Q | V	|	|	|	|
12+15	0.0388	0.21	Q | V	|	|	|	|
12+20	0.0403	0.22	Q | V	|	|	|	|
12+25	0.0418	0.23	Q | V	|	|	|	|
12+30	0.0434	0.23	Q | V	|	|	|	|
12+35	0.0451	0.25	Q | V	|	|	|	|
12+40	0.0469	0.26	|Q | V	|	|	|	|
12+45	0.0487	0.26	|Q | V	|	|	|	|
12+50	0.0506	0.27	|Q | V	|	|	|	|
12+55	0.0526	0.28	|Q | V	|	|	|	|
13+ 0	0.0545	0.28	|Q | V	|	|	|	|
13+ 5	0.0568	0.33	|Q | V	|	|	|	|



17+55	0.1159	0.01	Q	|	|	|	V |
18+ 0	0.1159	0.01	Q	|	|	|	V|
18+ 5	0.1160	0.01	Q	|	|	|	V|
18+10	0.1160	0.01	Q	|	|	|	V|
18+15	0.1161	0.01	Q	|	|	|	V|
18+20	0.1162	0.01	Q	|	|	|	V|
18+25	0.1162	0.01	Q	|	|	|	V|
18+30	0.1163	0.01	Q	|	|	|	V|
18+35	0.1163	0.01	Q	|	|	|	V|
18+40	0.1164	0.01	Q	|	|	|	V|
18+45	0.1164	0.01	Q	|	|	|	V|
18+50	0.1165	0.01	Q	|	|	|	V|
18+55	0.1165	0.00	Q	|	|	|	V|
19+ 0	0.1165	0.00	Q	|	|	|	V|
19+ 5	0.1166	0.01	Q	|	|	|	V|
19+10	0.1166	0.01	Q	|	|	|	V|
19+15	0.1167	0.01	Q	|	|	|	V|
19+20	0.1167	0.01	Q	|	|	|	V|
19+25	0.1168	0.01	Q	|	|	|	V|
19+30	0.1168	0.01	Q	|	|	|	V|
19+35	0.1169	0.01	Q	|	|	|	V|
19+40	0.1169	0.01	Q	|	|	|	V|
19+45	0.1170	0.01	Q	|	|	|	V|
19+50	0.1170	0.01	Q	|	|	|	V|
19+55	0.1171	0.00	Q	|	|	|	V|
20+ 0	0.1171	0.00	Q	|	|	|	V|
20+ 5	0.1171	0.01	Q	|	|	|	V|
20+10	0.1172	0.01	Q	|	|	|	V|
20+15	0.1172	0.01	Q	|	|	|	V|
20+20	0.1173	0.01	Q	|	|	|	V|
20+25	0.1173	0.01	Q	|	|	|	V|
20+30	0.1174	0.01	Q	|	|	|	V|
20+35	0.1174	0.01	Q	|	|	|	V|
20+40	0.1175	0.01	Q	|	|	|	V|
20+45	0.1175	0.01	Q	|	|	|	V|
20+50	0.1175	0.01	Q	|	|	|	V|
20+55	0.1176	0.00	Q	|	|	|	V|
21+ 0	0.1176	0.00	Q	|	|	|	V|
21+ 5	0.1176	0.01	Q	|	|	|	V|
21+10	0.1177	0.01	Q	|	|	|	V|
21+15	0.1177	0.01	Q	|	|	|	V|
21+20	0.1178	0.01	Q	|	|	|	V|
21+25	0.1178	0.00	Q	|	|	|	V|
21+30	0.1178	0.00	Q	|	|	|	V|
21+35	0.1179	0.01	Q	|	|	|	V|
21+40	0.1179	0.01	Q	|	|	|	V|
21+45	0.1180	0.01	Q	|	|	|	V|
21+50	0.1180	0.01	Q	|	|	|	V|
21+55	0.1180	0.00	Q	|	|	|	V|
22+ 0	0.1181	0.00	Q	|	|	|	V|
22+ 5	0.1181	0.01	Q	|	|	|	V|
22+10	0.1181	0.01	Q	|	|	|	V|
22+15	0.1182	0.01	Q	|	|	|	V|
22+20	0.1182	0.01	Q	|	|	|	V|
22+25	0.1183	0.00	Q	|	|	|	V|
22+30	0.1183	0.00	Q	|	|	|	V|
22+35	0.1183	0.00	Q	|	|	|	V|

22+40	0.1184	0.00	Q	|	|	|	V|
22+45	0.1184	0.00	Q	|	|	|	V|
22+50	0.1184	0.00	Q	|	|	|	V|
22+55	0.1184	0.00	Q	|	|	|	V|
23+ 0	0.1185	0.00	Q	|	|	|	V|
23+ 5	0.1185	0.00	Q	|	|	|	V|
23+10	0.1185	0.00	Q	|	|	|	V|
23+15	0.1186	0.00	Q	|	|	|	V|
23+20	0.1186	0.00	Q	|	|	|	V|
23+25	0.1186	0.00	Q	|	|	|	V|
23+30	0.1187	0.00	Q	|	|	|	V|
23+35	0.1187	0.00	Q	|	|	|	V|
23+40	0.1187	0.00	Q	|	|	|	V|
23+45	0.1188	0.00	Q	|	|	|	V|
23+50	0.1188	0.00	Q	|	|	|	V|
23+55	0.1188	0.00	Q	|	|	|	V|
24+ 0	0.1188	0.00	Q	|	|	|	V|
24+ 5	0.1189	0.00	Q	|	|	|	V|
24+10	0.1189	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 06/03/26 File: 19267e010GH2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 200

Drainage Area = 1.51(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.51(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 518.00(Ft.)
Length along longest watercourse measured to centroid = 173.00(Ft.)
Length along longest watercourse = 0.098 Mi.
Length along longest watercourse measured to centroid = 0.033 Mi.
Difference in elevation = 1.70(Ft.)
Slope along watercourse = 17.3282 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	1.66	2.51

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.51	4.10	6.20

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.512	75.00	0.810

Total Area Entered = 1.51(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	352.516	61.506	0.937
2	0.167	705.031	34.399	0.524
3	0.250	1057.547	4.095	0.062
			Sum = 100.000	Sum= 1.524

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.146)	0.005	0.016
2	0.17	0.07	0.021	(0.145)	0.005	0.016
3	0.25	0.07	0.021	(0.144)	0.005	0.016
4	0.33	0.10	0.032	(0.144)	0.008	0.024
5	0.42	0.10	0.032	(0.143)	0.008	0.024
6	0.50	0.10	0.032	(0.143)	0.008	0.024
7	0.58	0.10	0.032	(0.142)	0.008	0.024
8	0.67	0.10	0.032	(0.142)	0.008	0.024
9	0.75	0.10	0.032	(0.141)	0.008	0.024
10	0.83	0.13	0.043	(0.141)	0.011	0.032

11	0.92	0.13	0.043	(0.140)	0.011	0.032
12	1.00	0.13	0.043	(0.139)	0.011	0.032
13	1.08	0.10	0.032	(0.139)	0.008	0.024
14	1.17	0.10	0.032	(0.138)	0.008	0.024
15	1.25	0.10	0.032	(0.138)	0.008	0.024
16	1.33	0.10	0.032	(0.137)	0.008	0.024
17	1.42	0.10	0.032	(0.137)	0.008	0.024
18	1.50	0.10	0.032	(0.136)	0.008	0.024
19	1.58	0.10	0.032	(0.136)	0.008	0.024
20	1.67	0.10	0.032	(0.135)	0.008	0.024
21	1.75	0.10	0.032	(0.135)	0.008	0.024
22	1.83	0.13	0.043	(0.134)	0.011	0.032
23	1.92	0.13	0.043	(0.133)	0.011	0.032
24	2.00	0.13	0.043	(0.133)	0.011	0.032
25	2.08	0.13	0.043	(0.132)	0.011	0.032
26	2.17	0.13	0.043	(0.132)	0.011	0.032
27	2.25	0.13	0.043	(0.131)	0.011	0.032
28	2.33	0.13	0.043	(0.131)	0.011	0.032
29	2.42	0.13	0.043	(0.130)	0.011	0.032
30	2.50	0.13	0.043	(0.130)	0.011	0.032
31	2.58	0.17	0.053	(0.129)	0.013	0.040
32	2.67	0.17	0.053	(0.129)	0.013	0.040
33	2.75	0.17	0.053	(0.128)	0.013	0.040
34	2.83	0.17	0.053	(0.128)	0.013	0.040
35	2.92	0.17	0.053	(0.127)	0.013	0.040
36	3.00	0.17	0.053	(0.127)	0.013	0.040
37	3.08	0.17	0.053	(0.126)	0.013	0.040
38	3.17	0.17	0.053	(0.125)	0.013	0.040
39	3.25	0.17	0.053	(0.125)	0.013	0.040
40	3.33	0.17	0.053	(0.124)	0.013	0.040
41	3.42	0.17	0.053	(0.124)	0.013	0.040
42	3.50	0.17	0.053	(0.123)	0.013	0.040
43	3.58	0.17	0.053	(0.123)	0.013	0.040
44	3.67	0.17	0.053	(0.122)	0.013	0.040
45	3.75	0.17	0.053	(0.122)	0.013	0.040
46	3.83	0.20	0.064	(0.121)	0.016	0.048
47	3.92	0.20	0.064	(0.121)	0.016	0.048
48	4.00	0.20	0.064	(0.120)	0.016	0.048
49	4.08	0.20	0.064	(0.120)	0.016	0.048
50	4.17	0.20	0.064	(0.119)	0.016	0.048
51	4.25	0.20	0.064	(0.119)	0.016	0.048
52	4.33	0.23	0.075	(0.118)	0.019	0.056
53	4.42	0.23	0.075	(0.118)	0.019	0.056
54	4.50	0.23	0.075	(0.117)	0.019	0.056
55	4.58	0.23	0.075	(0.117)	0.019	0.056
56	4.67	0.23	0.075	(0.116)	0.019	0.056
57	4.75	0.23	0.075	(0.116)	0.019	0.056
58	4.83	0.27	0.085	(0.115)	0.021	0.064
59	4.92	0.27	0.085	(0.115)	0.021	0.064
60	5.00	0.27	0.085	(0.114)	0.021	0.064
61	5.08	0.20	0.064	(0.114)	0.016	0.048
62	5.17	0.20	0.064	(0.113)	0.016	0.048
63	5.25	0.20	0.064	(0.113)	0.016	0.048
64	5.33	0.23	0.075	(0.112)	0.019	0.056
65	5.42	0.23	0.075	(0.112)	0.019	0.056
66	5.50	0.23	0.075	(0.111)	0.019	0.056
67	5.58	0.27	0.085	(0.111)	0.021	0.064

68	5.67	0.27	0.085	(0.110)	0.021	0.064
69	5.75	0.27	0.085	(0.110)	0.021	0.064
70	5.83	0.27	0.085	(0.109)	0.021	0.064
71	5.92	0.27	0.085	(0.109)	0.021	0.064
72	6.00	0.27	0.085	(0.108)	0.021	0.064
73	6.08	0.30	0.096	(0.108)	0.024	0.072
74	6.17	0.30	0.096	(0.107)	0.024	0.072
75	6.25	0.30	0.096	(0.107)	0.024	0.072
76	6.33	0.30	0.096	(0.106)	0.024	0.072
77	6.42	0.30	0.096	(0.106)	0.024	0.072
78	6.50	0.30	0.096	(0.106)	0.024	0.072
79	6.58	0.33	0.107	(0.105)	0.027	0.080
80	6.67	0.33	0.107	(0.105)	0.027	0.080
81	6.75	0.33	0.107	(0.104)	0.027	0.080
82	6.83	0.33	0.107	(0.104)	0.027	0.080
83	6.92	0.33	0.107	(0.103)	0.027	0.080
84	7.00	0.33	0.107	(0.103)	0.027	0.080
85	7.08	0.33	0.107	(0.102)	0.027	0.080
86	7.17	0.33	0.107	(0.102)	0.027	0.080
87	7.25	0.33	0.107	(0.101)	0.027	0.080
88	7.33	0.37	0.117	(0.101)	0.029	0.088
89	7.42	0.37	0.117	(0.100)	0.029	0.088
90	7.50	0.37	0.117	(0.100)	0.029	0.088
91	7.58	0.40	0.128	(0.099)	0.032	0.096
92	7.67	0.40	0.128	(0.099)	0.032	0.096
93	7.75	0.40	0.128	(0.099)	0.032	0.096
94	7.83	0.43	0.139	(0.098)	0.035	0.104
95	7.92	0.43	0.139	(0.098)	0.035	0.104
96	8.00	0.43	0.139	(0.097)	0.035	0.104
97	8.08	0.50	0.160	(0.097)	0.040	0.120
98	8.17	0.50	0.160	(0.096)	0.040	0.120
99	8.25	0.50	0.160	(0.096)	0.040	0.120
100	8.33	0.50	0.160	(0.095)	0.040	0.120
101	8.42	0.50	0.160	(0.095)	0.040	0.120
102	8.50	0.50	0.160	(0.094)	0.040	0.120
103	8.58	0.53	0.170	(0.094)	0.043	0.128
104	8.67	0.53	0.170	(0.094)	0.043	0.128
105	8.75	0.53	0.170	(0.093)	0.043	0.128
106	8.83	0.57	0.181	(0.093)	0.045	0.136
107	8.92	0.57	0.181	(0.092)	0.045	0.136
108	9.00	0.57	0.181	(0.092)	0.045	0.136
109	9.08	0.63	0.202	(0.091)	0.051	0.152
110	9.17	0.63	0.202	(0.091)	0.051	0.152
111	9.25	0.63	0.202	(0.091)	0.051	0.152
112	9.33	0.67	0.213	(0.090)	0.053	0.160
113	9.42	0.67	0.213	(0.090)	0.053	0.160
114	9.50	0.67	0.213	(0.089)	0.053	0.160
115	9.58	0.70	0.224	(0.089)	0.056	0.168
116	9.67	0.70	0.224	(0.088)	0.056	0.168
117	9.75	0.70	0.224	(0.088)	0.056	0.168
118	9.83	0.73	0.234	(0.088)	0.059	0.176
119	9.92	0.73	0.234	(0.087)	0.059	0.176
120	10.00	0.73	0.234	(0.087)	0.059	0.176
121	10.08	0.50	0.160	(0.086)	0.040	0.120
122	10.17	0.50	0.160	(0.086)	0.040	0.120
123	10.25	0.50	0.160	(0.085)	0.040	0.120
124	10.33	0.50	0.160	(0.085)	0.040	0.120

125	10.42	0.50	0.160	(0.085)	0.040	0.120
126	10.50	0.50	0.160	(0.084)	0.040	0.120
127	10.58	0.67	0.213	(0.084)	0.053	0.160
128	10.67	0.67	0.213	(0.083)	0.053	0.160
129	10.75	0.67	0.213	(0.083)	0.053	0.160
130	10.83	0.67	0.213	(0.083)	0.053	0.160
131	10.92	0.67	0.213	(0.082)	0.053	0.160
132	11.00	0.67	0.213	(0.082)	0.053	0.160
133	11.08	0.63	0.202	(0.081)	0.051	0.152
134	11.17	0.63	0.202	(0.081)	0.051	0.152
135	11.25	0.63	0.202	(0.081)	0.051	0.152
136	11.33	0.63	0.202	(0.080)	0.051	0.152
137	11.42	0.63	0.202	(0.080)	0.051	0.152
138	11.50	0.63	0.202	(0.079)	0.051	0.152
139	11.58	0.57	0.181	(0.079)	0.045	0.136
140	11.67	0.57	0.181	(0.079)	0.045	0.136
141	11.75	0.57	0.181	(0.078)	0.045	0.136
142	11.83	0.60	0.192	(0.078)	0.048	0.144
143	11.92	0.60	0.192	(0.077)	0.048	0.144
144	12.00	0.60	0.192	(0.077)	0.048	0.144
145	12.08	0.83	0.266	(0.077)	0.067	0.200
146	12.17	0.83	0.266	(0.076)	0.067	0.200
147	12.25	0.83	0.266	(0.076)	0.067	0.200
148	12.33	0.87	0.277	(0.076)	0.069	0.208
149	12.42	0.87	0.277	(0.075)	0.069	0.208
150	12.50	0.87	0.277	(0.075)	0.069	0.208
151	12.58	0.93	0.298	0.074	(0.075)	0.224
152	12.67	0.93	0.298	0.074	(0.075)	0.224
153	12.75	0.93	0.298	0.074	(0.075)	0.225
154	12.83	0.97	0.309	0.073	(0.077)	0.236
155	12.92	0.97	0.309	0.073	(0.077)	0.236
156	13.00	0.97	0.309	0.073	(0.077)	0.236
157	13.08	1.13	0.362	0.072	(0.091)	0.290
158	13.17	1.13	0.362	0.072	(0.091)	0.291
159	13.25	1.13	0.362	0.071	(0.091)	0.291
160	13.33	1.13	0.362	0.071	(0.091)	0.291
161	13.42	1.13	0.362	0.071	(0.091)	0.292
162	13.50	1.13	0.362	0.070	(0.091)	0.292
163	13.58	0.77	0.245	(0.070)	0.061	0.184
164	13.67	0.77	0.245	(0.070)	0.061	0.184
165	13.75	0.77	0.245	(0.069)	0.061	0.184
166	13.83	0.77	0.245	(0.069)	0.061	0.184
167	13.92	0.77	0.245	(0.069)	0.061	0.184
168	14.00	0.77	0.245	(0.068)	0.061	0.184
169	14.08	0.90	0.288	0.068	(0.072)	0.220
170	14.17	0.90	0.288	0.068	(0.072)	0.220
171	14.25	0.90	0.288	0.067	(0.072)	0.221
172	14.33	0.87	0.277	0.067	(0.069)	0.210
173	14.42	0.87	0.277	0.066	(0.069)	0.211
174	14.50	0.87	0.277	0.066	(0.069)	0.211
175	14.58	0.87	0.277	0.066	(0.069)	0.211
176	14.67	0.87	0.277	0.065	(0.069)	0.212
177	14.75	0.87	0.277	0.065	(0.069)	0.212
178	14.83	0.83	0.266	0.065	(0.067)	0.202
179	14.92	0.83	0.266	0.064	(0.067)	0.202
180	15.00	0.83	0.266	0.064	(0.067)	0.202
181	15.08	0.80	0.256	0.064	(0.064)	0.192

182	15.17	0.80	0.256	0.063	(0.064)	0.192
183	15.25	0.80	0.256	0.063	(0.064)	0.193
184	15.33	0.77	0.245	(0.063)	0.061	0.184
185	15.42	0.77	0.245	(0.063)	0.061	0.184
186	15.50	0.77	0.245	(0.062)	0.061	0.184
187	15.58	0.63	0.202	(0.062)	0.051	0.152
188	15.67	0.63	0.202	(0.062)	0.051	0.152
189	15.75	0.63	0.202	(0.061)	0.051	0.152
190	15.83	0.63	0.202	(0.061)	0.051	0.152
191	15.92	0.63	0.202	(0.061)	0.051	0.152
192	16.00	0.63	0.202	(0.060)	0.051	0.152
193	16.08	0.13	0.043	(0.060)	0.011	0.032
194	16.17	0.13	0.043	(0.060)	0.011	0.032
195	16.25	0.13	0.043	(0.059)	0.011	0.032
196	16.33	0.13	0.043	(0.059)	0.011	0.032
197	16.42	0.13	0.043	(0.059)	0.011	0.032
198	16.50	0.13	0.043	(0.058)	0.011	0.032
199	16.58	0.10	0.032	(0.058)	0.008	0.024
200	16.67	0.10	0.032	(0.058)	0.008	0.024
201	16.75	0.10	0.032	(0.058)	0.008	0.024
202	16.83	0.10	0.032	(0.057)	0.008	0.024
203	16.92	0.10	0.032	(0.057)	0.008	0.024
204	17.00	0.10	0.032	(0.057)	0.008	0.024
205	17.08	0.17	0.053	(0.056)	0.013	0.040
206	17.17	0.17	0.053	(0.056)	0.013	0.040
207	17.25	0.17	0.053	(0.056)	0.013	0.040
208	17.33	0.17	0.053	(0.056)	0.013	0.040
209	17.42	0.17	0.053	(0.055)	0.013	0.040
210	17.50	0.17	0.053	(0.055)	0.013	0.040
211	17.58	0.17	0.053	(0.055)	0.013	0.040
212	17.67	0.17	0.053	(0.054)	0.013	0.040
213	17.75	0.17	0.053	(0.054)	0.013	0.040
214	17.83	0.13	0.043	(0.054)	0.011	0.032
215	17.92	0.13	0.043	(0.054)	0.011	0.032
216	18.00	0.13	0.043	(0.053)	0.011	0.032
217	18.08	0.13	0.043	(0.053)	0.011	0.032
218	18.17	0.13	0.043	(0.053)	0.011	0.032
219	18.25	0.13	0.043	(0.053)	0.011	0.032
220	18.33	0.13	0.043	(0.052)	0.011	0.032
221	18.42	0.13	0.043	(0.052)	0.011	0.032
222	18.50	0.13	0.043	(0.052)	0.011	0.032
223	18.58	0.10	0.032	(0.052)	0.008	0.024
224	18.67	0.10	0.032	(0.051)	0.008	0.024
225	18.75	0.10	0.032	(0.051)	0.008	0.024
226	18.83	0.07	0.021	(0.051)	0.005	0.016
227	18.92	0.07	0.021	(0.051)	0.005	0.016
228	19.00	0.07	0.021	(0.050)	0.005	0.016
229	19.08	0.10	0.032	(0.050)	0.008	0.024
230	19.17	0.10	0.032	(0.050)	0.008	0.024
231	19.25	0.10	0.032	(0.050)	0.008	0.024
232	19.33	0.13	0.043	(0.049)	0.011	0.032
233	19.42	0.13	0.043	(0.049)	0.011	0.032
234	19.50	0.13	0.043	(0.049)	0.011	0.032
235	19.58	0.10	0.032	(0.049)	0.008	0.024
236	19.67	0.10	0.032	(0.049)	0.008	0.024
237	19.75	0.10	0.032	(0.048)	0.008	0.024
238	19.83	0.07	0.021	(0.048)	0.005	0.016

239	19.92	0.07	0.021	(0.048)	0.005	0.016
240	20.00	0.07	0.021	(0.048)	0.005	0.016
241	20.08	0.10	0.032	(0.047)	0.008	0.024
242	20.17	0.10	0.032	(0.047)	0.008	0.024
243	20.25	0.10	0.032	(0.047)	0.008	0.024
244	20.33	0.10	0.032	(0.047)	0.008	0.024
245	20.42	0.10	0.032	(0.047)	0.008	0.024
246	20.50	0.10	0.032	(0.046)	0.008	0.024
247	20.58	0.10	0.032	(0.046)	0.008	0.024
248	20.67	0.10	0.032	(0.046)	0.008	0.024
249	20.75	0.10	0.032	(0.046)	0.008	0.024
250	20.83	0.07	0.021	(0.046)	0.005	0.016
251	20.92	0.07	0.021	(0.046)	0.005	0.016
252	21.00	0.07	0.021	(0.045)	0.005	0.016
253	21.08	0.10	0.032	(0.045)	0.008	0.024
254	21.17	0.10	0.032	(0.045)	0.008	0.024
255	21.25	0.10	0.032	(0.045)	0.008	0.024
256	21.33	0.07	0.021	(0.045)	0.005	0.016
257	21.42	0.07	0.021	(0.044)	0.005	0.016
258	21.50	0.07	0.021	(0.044)	0.005	0.016
259	21.58	0.10	0.032	(0.044)	0.008	0.024
260	21.67	0.10	0.032	(0.044)	0.008	0.024
261	21.75	0.10	0.032	(0.044)	0.008	0.024
262	21.83	0.07	0.021	(0.044)	0.005	0.016
263	21.92	0.07	0.021	(0.044)	0.005	0.016
264	22.00	0.07	0.021	(0.043)	0.005	0.016
265	22.08	0.10	0.032	(0.043)	0.008	0.024
266	22.17	0.10	0.032	(0.043)	0.008	0.024
267	22.25	0.10	0.032	(0.043)	0.008	0.024
268	22.33	0.07	0.021	(0.043)	0.005	0.016
269	22.42	0.07	0.021	(0.043)	0.005	0.016
270	22.50	0.07	0.021	(0.043)	0.005	0.016
271	22.58	0.07	0.021	(0.042)	0.005	0.016
272	22.67	0.07	0.021	(0.042)	0.005	0.016
273	22.75	0.07	0.021	(0.042)	0.005	0.016
274	22.83	0.07	0.021	(0.042)	0.005	0.016
275	22.92	0.07	0.021	(0.042)	0.005	0.016
276	23.00	0.07	0.021	(0.042)	0.005	0.016
277	23.08	0.07	0.021	(0.042)	0.005	0.016
278	23.17	0.07	0.021	(0.042)	0.005	0.016
279	23.25	0.07	0.021	(0.042)	0.005	0.016
280	23.33	0.07	0.021	(0.042)	0.005	0.016
281	23.42	0.07	0.021	(0.041)	0.005	0.016
282	23.50	0.07	0.021	(0.041)	0.005	0.016
283	23.58	0.07	0.021	(0.041)	0.005	0.016
284	23.67	0.07	0.021	(0.041)	0.005	0.016
285	23.75	0.07	0.021	(0.041)	0.005	0.016
286	23.83	0.07	0.021	(0.041)	0.005	0.016
287	23.92	0.07	0.021	(0.041)	0.005	0.016
288	24.00	0.07	0.021	(0.041)	0.005	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.1

Flood volume = Effective rainfall 2.01(In)
times area 1.5(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.65(In)
Total soil loss = 0.082(Ac.Ft)
Total rainfall = 2.66(In)

Flood volume = 11043.9 Cubic Feet
Total soil loss = 3576.7 Cubic Feet

Peak flow rate of this hydrograph = 0.445(CFS)

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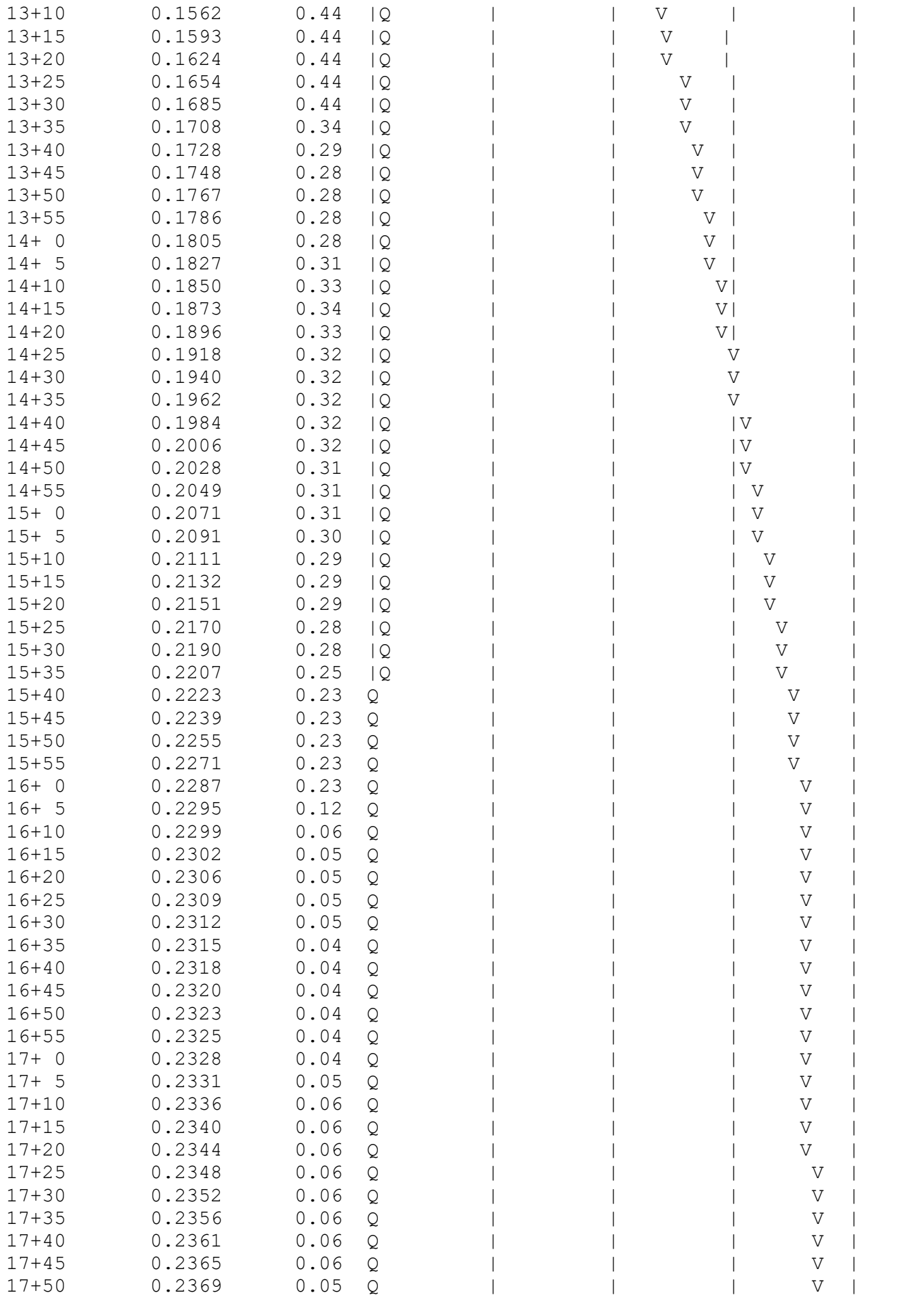
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0001	0.01	Q				
0+10	0.0003	0.02	Q				
0+15	0.0004	0.02	Q				
0+20	0.0007	0.03	Q				
0+25	0.0009	0.04	Q				
0+30	0.0012	0.04	Q				
0+35	0.0014	0.04	Q				
0+40	0.0017	0.04	Q				
0+45	0.0019	0.04	Q				
0+50	0.0022	0.04	Q				
0+55	0.0025	0.05	Q				
1+ 0	0.0029	0.05	Q				
1+ 5	0.0032	0.04	Q				
1+10	0.0034	0.04	Q				
1+15	0.0037	0.04	Q				
1+20	0.0039	0.04	Q				
1+25	0.0042	0.04	Q				
1+30	0.0044	0.04	Q				
1+35	0.0047	0.04	Q				
1+40	0.0049	0.04	Q				
1+45	0.0052	0.04	Q				
1+50	0.0055	0.04	Q				
1+55	0.0058	0.05	Q				
2+ 0	0.0062	0.05	Q				
2+ 5	0.0065	0.05	QV				
2+10	0.0068	0.05	QV				
2+15	0.0072	0.05	QV				
2+20	0.0075	0.05	QV				
2+25	0.0078	0.05	QV				
2+30	0.0082	0.05	QV				
2+35	0.0086	0.06	QV				
2+40	0.0090	0.06	QV				
2+45	0.0094	0.06	QV				
2+50	0.0098	0.06	QV				
2+55	0.0102	0.06	QV				
3+ 0	0.0106	0.06	QV				
3+ 5	0.0111	0.06	QV				
3+10	0.0115	0.06	QV				
3+15	0.0119	0.06	QV				
3+20	0.0123	0.06	QV				
3+25	0.0127	0.06	Q V				
3+30	0.0132	0.06	Q V				
3+35	0.0136	0.06	Q V				

3+40	0.0140	0.06	Q V	|	|	|	|
3+45	0.0144	0.06	Q V	|	|	|	|
3+50	0.0149	0.07	Q V	|	|	|	|
3+55	0.0154	0.07	Q V	|	|	|	|
4+ 0	0.0159	0.07	Q V	|	|	|	|
4+ 5	0.0164	0.07	Q V	|	|	|	|
4+10	0.0169	0.07	Q V	|	|	|	|
4+15	0.0174	0.07	Q V	|	|	|	|
4+20	0.0180	0.08	Q V	|	|	|	|
4+25	0.0185	0.08	Q V	|	|	|	|
4+30	0.0191	0.09	Q V	|	|	|	|
4+35	0.0197	0.09	Q V	|	|	|	|
4+40	0.0203	0.09	Q V	|	|	|	|
4+45	0.0209	0.09	Q V	|	|	|	|
4+50	0.0215	0.09	Q V	|	|	|	|
4+55	0.0222	0.10	Q V	|	|	|	|
5+ 0	0.0229	0.10	Q V	|	|	|	|
5+ 5	0.0234	0.08	Q V	|	|	|	|
5+10	0.0240	0.07	Q V	|	|	|	|
5+15	0.0245	0.07	Q V	|	|	|	|
5+20	0.0250	0.08	Q V	|	|	|	|
5+25	0.0256	0.08	Q V	|	|	|	|
5+30	0.0262	0.09	Q V	|	|	|	|
5+35	0.0268	0.09	Q V	|	|	|	|
5+40	0.0275	0.10	Q V	|	|	|	|
5+45	0.0282	0.10	Q V	|	|	|	|
5+50	0.0288	0.10	Q V	|	|	|	|
5+55	0.0295	0.10	Q V	|	|	|	|
6+ 0	0.0302	0.10	Q V	|	|	|	|
6+ 5	0.0309	0.10	Q V	|	|	|	|
6+10	0.0316	0.11	Q V	|	|	|	|
6+15	0.0324	0.11	Q V	|	|	|	|
6+20	0.0332	0.11	Q V	|	|	|	|
6+25	0.0339	0.11	Q V	|	|	|	|
6+30	0.0347	0.11	Q V	|	|	|	|
6+35	0.0355	0.12	Q V	|	|	|	|
6+40	0.0363	0.12	Q V	|	|	|	|
6+45	0.0372	0.12	Q V	|	|	|	|
6+50	0.0380	0.12	Q V	|	|	|	|
6+55	0.0388	0.12	Q V	|	|	|	|
7+ 0	0.0397	0.12	Q V	|	|	|	|
7+ 5	0.0405	0.12	Q V	|	|	|	|
7+10	0.0413	0.12	Q V	|	|	|	|
7+15	0.0422	0.12	Q V	|	|	|	|
7+20	0.0431	0.13	Q V	|	|	|	|
7+25	0.0440	0.13	Q V	|	|	|	|
7+30	0.0449	0.13	Q V	|	|	|	|
7+35	0.0459	0.14	Q V	|	|	|	|
7+40	0.0469	0.15	Q V	|	|	|	|
7+45	0.0479	0.15	Q V	|	|	|	|
7+50	0.0490	0.15	Q V	|	|	|	|
7+55	0.0500	0.16	Q V	|	|	|	|
8+ 0	0.0511	0.16	Q V	|	|	|	|
8+ 5	0.0523	0.17	Q V	|	|	|	|
8+10	0.0536	0.18	Q V	|	|	|	|
8+15	0.0548	0.18	Q V	|	|	|	|
8+20	0.0561	0.18	Q V	|	|	|	|

8+25	0.0574	0.18	Q	V|	|	|	|
8+30	0.0586	0.18	Q	V|	|	|	|
8+35	0.0599	0.19	Q	V|	|	|	|
8+40	0.0613	0.19	Q	V|	|	|	|
8+45	0.0626	0.19	Q	V|	|	|	|
8+50	0.0640	0.20	Q	V	|	|	|
8+55	0.0654	0.21	Q	V	|	|	|
9+ 0	0.0669	0.21	Q	V	|	|	|
9+ 5	0.0684	0.22	Q	V	|	|	|
9+10	0.0700	0.23	Q	|V	|	|	|
9+15	0.0716	0.23	Q	|V	|	|	|
9+20	0.0732	0.24	Q	|V	|	|	|
9+25	0.0749	0.24	Q	|V	|	|	|
9+30	0.0766	0.24	Q	| V	|	|	|
9+35	0.0783	0.25	|Q	| V	|	|	|
9+40	0.0801	0.26	|Q	| V	|	|	|
9+45	0.0818	0.26	|Q	| V	|	|	|
9+50	0.0836	0.26	|Q	| V	|	|	|
9+55	0.0855	0.27	|Q	| V	|	|	|
10+ 0	0.0873	0.27	|Q	| V	|	|	|
10+ 5	0.0888	0.22	Q	| V	|	|	|
10+10	0.0901	0.19	Q	| V	|	|	|
10+15	0.0913	0.18	Q	| V	|	|	|
10+20	0.0926	0.18	Q	| V	|	|	|
10+25	0.0939	0.18	Q	| V	|	|	|
10+30	0.0951	0.18	Q	| V	|	|	|
10+35	0.0966	0.22	Q	| V	|	|	|
10+40	0.0983	0.24	Q	| V	|	|	|
10+45	0.1000	0.24	Q	| V	|	|	|
10+50	0.1017	0.24	Q	| V	|	|	|
10+55	0.1033	0.24	Q	| V	|	|	|
11+ 0	0.1050	0.24	Q	| V	|	|	|
11+ 5	0.1066	0.24	Q	| V	|	|	|
11+10	0.1082	0.23	Q	| V	|	|	|
11+15	0.1098	0.23	Q	| V	|	|	|
11+20	0.1114	0.23	Q	| V	|	|	|
11+25	0.1130	0.23	Q	| V	|	|	|
11+30	0.1146	0.23	Q	| V	|	|	|
11+35	0.1161	0.22	Q	| V	|	|	|
11+40	0.1175	0.21	Q	| V	|	|	|
11+45	0.1190	0.21	Q	| V	|	|	|
11+50	0.1204	0.21	Q	| V	|	|	|
11+55	0.1220	0.22	Q	| V	|	|	|
12+ 0	0.1235	0.22	Q	| V	|	|	|
12+ 5	0.1253	0.27	|Q	| V	|	|	|
12+10	0.1274	0.30	|Q	| V	|	|	|
12+15	0.1295	0.30	|Q	| V	|	|	|
12+20	0.1317	0.31	|Q	| V	|	|	|
12+25	0.1338	0.32	|Q	| V	|	|	|
12+30	0.1360	0.32	|Q	| V	|	|	|
12+35	0.1383	0.33	|Q	| V	|	|	|
12+40	0.1406	0.34	|Q	| V	|	|	|
12+45	0.1430	0.34	|Q	| V	|	|	|
12+50	0.1454	0.35	|Q	| V	|	|	|
12+55	0.1479	0.36	|Q	| V	|	|	|
13+ 0	0.1504	0.36	|Q	| V	|	|	|
13+ 5	0.1532	0.41	|Q	| V	|	|	|



17+55	0.2372	0.05	Q	|	|	|	V |
18+ 0	0.2375	0.05	Q	|	|	|	V |
18+ 5	0.2379	0.05	Q	|	|	|	V |
18+10	0.2382	0.05	Q	|	|	|	V |
18+15	0.2385	0.05	Q	|	|	|	V |
18+20	0.2389	0.05	Q	|	|	|	V |
18+25	0.2392	0.05	Q	|	|	|	V |
18+30	0.2395	0.05	Q	|	|	|	V |
18+35	0.2398	0.04	Q	|	|	|	V |
18+40	0.2401	0.04	Q	|	|	|	V |
18+45	0.2403	0.04	Q	|	|	|	V |
18+50	0.2405	0.03	Q	|	|	|	V |
18+55	0.2407	0.02	Q	|	|	|	V |
19+ 0	0.2409	0.02	Q	|	|	|	V |
19+ 5	0.2411	0.03	Q	|	|	|	V |
19+10	0.2413	0.04	Q	|	|	|	V |
19+15	0.2416	0.04	Q	|	|	|	V |
19+20	0.2419	0.04	Q	|	|	|	V |
19+25	0.2422	0.05	Q	|	|	|	V |
19+30	0.2426	0.05	Q	|	|	|	V |
19+35	0.2429	0.04	Q	|	|	|	V |
19+40	0.2431	0.04	Q	|	|	|	V |
19+45	0.2434	0.04	Q	|	|	|	V |
19+50	0.2436	0.03	Q	|	|	|	V |
19+55	0.2437	0.02	Q	|	|	|	V |
20+ 0	0.2439	0.02	Q	|	|	|	V |
20+ 5	0.2441	0.03	Q	|	|	|	V |
20+10	0.2444	0.04	Q	|	|	|	V |
20+15	0.2446	0.04	Q	|	|	|	V |
20+20	0.2449	0.04	Q	|	|	|	V |
20+25	0.2451	0.04	Q	|	|	|	V |
20+30	0.2454	0.04	Q	|	|	|	V |
20+35	0.2456	0.04	Q	|	|	|	V |
20+40	0.2459	0.04	Q	|	|	|	V |
20+45	0.2461	0.04	Q	|	|	|	V |
20+50	0.2463	0.03	Q	|	|	|	V |
20+55	0.2465	0.02	Q	|	|	|	V |
21+ 0	0.2467	0.02	Q	|	|	|	V |
21+ 5	0.2469	0.03	Q	|	|	|	V |
21+10	0.2471	0.04	Q	|	|	|	V |
21+15	0.2474	0.04	Q	|	|	|	V|
21+20	0.2476	0.03	Q	|	|	|	V|
21+25	0.2478	0.02	Q	|	|	|	V|
21+30	0.2479	0.02	Q	|	|	|	V|
21+35	0.2481	0.03	Q	|	|	|	V|
21+40	0.2484	0.04	Q	|	|	|	V|
21+45	0.2486	0.04	Q	|	|	|	V|
21+50	0.2488	0.03	Q	|	|	|	V|
21+55	0.2490	0.02	Q	|	|	|	V|
22+ 0	0.2492	0.02	Q	|	|	|	V|
22+ 5	0.2494	0.03	Q	|	|	|	V|
22+10	0.2497	0.04	Q	|	|	|	V|
22+15	0.2499	0.04	Q	|	|	|	V|
22+20	0.2501	0.03	Q	|	|	|	V|
22+25	0.2503	0.02	Q	|	|	|	V|
22+30	0.2504	0.02	Q	|	|	|	V|
22+35	0.2506	0.02	Q	|	|	|	V|

22+40	0.2508	0.02	Q	|	|	|	V|
22+45	0.2509	0.02	Q	|	|	|	V|
22+50	0.2511	0.02	Q	|	|	|	V|
22+55	0.2513	0.02	Q	|	|	|	V|
23+ 0	0.2514	0.02	Q	|	|	|	V|
23+ 5	0.2516	0.02	Q	|	|	|	V|
23+10	0.2518	0.02	Q	|	|	|	V|
23+15	0.2520	0.02	Q	|	|	|	V|
23+20	0.2521	0.02	Q	|	|	|	V|
23+25	0.2523	0.02	Q	|	|	|	V|
23+30	0.2525	0.02	Q	|	|	|	V|
23+35	0.2526	0.02	Q	|	|	|	V|
23+40	0.2528	0.02	Q	|	|	|	V|
23+45	0.2530	0.02	Q	|	|	|	V|
23+50	0.2531	0.02	Q	|	|	|	V|
23+55	0.2533	0.02	Q	|	|	|	V|
24+ 0	0.2535	0.02	Q	|	|	|	V|
24+ 5	0.2535	0.01	Q	|	|	|	V|
24+10	0.2535	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 06/03/26 File: 19267e010I2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Area 400

Drainage Area = 0.80(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.80(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 257.00(Ft.)
Length along longest watercourse measured to centroid = 133.00(Ft.)
Length along longest watercourse = 0.049 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 102.7237 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.70 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.28 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]
0.80	1.66	1.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.80	4.10	3.26

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.795	75.00	0.970

Total Area Entered = 0.80(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.970	0.038	1.000	0.038
					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) = 0.120

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	713.013	78.934	0.632
2	0.167	1426.025	21.066	0.169
			Sum = 100.000 Sum=	0.801

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.068)	0.003	0.019
2	0.17	0.07	0.021	(0.068)	0.003	0.019
3	0.25	0.07	0.021	(0.068)	0.003	0.019
4	0.33	0.10	0.032	(0.067)	0.004	0.028
5	0.42	0.10	0.032	(0.067)	0.004	0.028
6	0.50	0.10	0.032	(0.067)	0.004	0.028
7	0.58	0.10	0.032	(0.067)	0.004	0.028
8	0.67	0.10	0.032	(0.066)	0.004	0.028
9	0.75	0.10	0.032	(0.066)	0.004	0.028
10	0.83	0.13	0.043	(0.066)	0.005	0.038
11	0.92	0.13	0.043	(0.066)	0.005	0.038

12	1.00	0.13	0.043	(0.065)	0.005	0.038
13	1.08	0.10	0.032	(0.065)	0.004	0.028
14	1.17	0.10	0.032	(0.065)	0.004	0.028
15	1.25	0.10	0.032	(0.065)	0.004	0.028
16	1.33	0.10	0.032	(0.064)	0.004	0.028
17	1.42	0.10	0.032	(0.064)	0.004	0.028
18	1.50	0.10	0.032	(0.064)	0.004	0.028
19	1.58	0.10	0.032	(0.064)	0.004	0.028
20	1.67	0.10	0.032	(0.063)	0.004	0.028
21	1.75	0.10	0.032	(0.063)	0.004	0.028
22	1.83	0.13	0.043	(0.063)	0.005	0.038
23	1.92	0.13	0.043	(0.063)	0.005	0.038
24	2.00	0.13	0.043	(0.062)	0.005	0.038
25	2.08	0.13	0.043	(0.062)	0.005	0.038
26	2.17	0.13	0.043	(0.062)	0.005	0.038
27	2.25	0.13	0.043	(0.062)	0.005	0.038
28	2.33	0.13	0.043	(0.061)	0.005	0.038
29	2.42	0.13	0.043	(0.061)	0.005	0.038
30	2.50	0.13	0.043	(0.061)	0.005	0.038
31	2.58	0.17	0.053	(0.061)	0.006	0.047
32	2.67	0.17	0.053	(0.060)	0.006	0.047
33	2.75	0.17	0.053	(0.060)	0.006	0.047
34	2.83	0.17	0.053	(0.060)	0.006	0.047
35	2.92	0.17	0.053	(0.060)	0.006	0.047
36	3.00	0.17	0.053	(0.059)	0.006	0.047
37	3.08	0.17	0.053	(0.059)	0.006	0.047
38	3.17	0.17	0.053	(0.059)	0.006	0.047
39	3.25	0.17	0.053	(0.059)	0.006	0.047
40	3.33	0.17	0.053	(0.058)	0.006	0.047
41	3.42	0.17	0.053	(0.058)	0.006	0.047
42	3.50	0.17	0.053	(0.058)	0.006	0.047
43	3.58	0.17	0.053	(0.058)	0.006	0.047
44	3.67	0.17	0.053	(0.057)	0.006	0.047
45	3.75	0.17	0.053	(0.057)	0.006	0.047
46	3.83	0.20	0.064	(0.057)	0.008	0.056
47	3.92	0.20	0.064	(0.057)	0.008	0.056
48	4.00	0.20	0.064	(0.056)	0.008	0.056
49	4.08	0.20	0.064	(0.056)	0.008	0.056
50	4.17	0.20	0.064	(0.056)	0.008	0.056
51	4.25	0.20	0.064	(0.056)	0.008	0.056
52	4.33	0.23	0.075	(0.055)	0.009	0.066
53	4.42	0.23	0.075	(0.055)	0.009	0.066
54	4.50	0.23	0.075	(0.055)	0.009	0.066
55	4.58	0.23	0.075	(0.055)	0.009	0.066
56	4.67	0.23	0.075	(0.054)	0.009	0.066
57	4.75	0.23	0.075	(0.054)	0.009	0.066
58	4.83	0.27	0.085	(0.054)	0.010	0.075
59	4.92	0.27	0.085	(0.054)	0.010	0.075
60	5.00	0.27	0.085	(0.054)	0.010	0.075
61	5.08	0.20	0.064	(0.053)	0.008	0.056
62	5.17	0.20	0.064	(0.053)	0.008	0.056
63	5.25	0.20	0.064	(0.053)	0.008	0.056
64	5.33	0.23	0.075	(0.053)	0.009	0.066
65	5.42	0.23	0.075	(0.052)	0.009	0.066
66	5.50	0.23	0.075	(0.052)	0.009	0.066
67	5.58	0.27	0.085	(0.052)	0.010	0.075
68	5.67	0.27	0.085	(0.052)	0.010	0.075

69	5.75	0.27	0.085	(0.051)	0.010	0.075
70	5.83	0.27	0.085	(0.051)	0.010	0.075
71	5.92	0.27	0.085	(0.051)	0.010	0.075
72	6.00	0.27	0.085	(0.051)	0.010	0.075
73	6.08	0.30	0.096	(0.051)	0.012	0.084
74	6.17	0.30	0.096	(0.050)	0.012	0.084
75	6.25	0.30	0.096	(0.050)	0.012	0.084
76	6.33	0.30	0.096	(0.050)	0.012	0.084
77	6.42	0.30	0.096	(0.050)	0.012	0.084
78	6.50	0.30	0.096	(0.049)	0.012	0.084
79	6.58	0.33	0.107	(0.049)	0.013	0.094
80	6.67	0.33	0.107	(0.049)	0.013	0.094
81	6.75	0.33	0.107	(0.049)	0.013	0.094
82	6.83	0.33	0.107	(0.049)	0.013	0.094
83	6.92	0.33	0.107	(0.048)	0.013	0.094
84	7.00	0.33	0.107	(0.048)	0.013	0.094
85	7.08	0.33	0.107	(0.048)	0.013	0.094
86	7.17	0.33	0.107	(0.048)	0.013	0.094
87	7.25	0.33	0.107	(0.047)	0.013	0.094
88	7.33	0.37	0.117	(0.047)	0.014	0.103
89	7.42	0.37	0.117	(0.047)	0.014	0.103
90	7.50	0.37	0.117	(0.047)	0.014	0.103
91	7.58	0.40	0.128	(0.047)	0.015	0.113
92	7.67	0.40	0.128	(0.046)	0.015	0.113
93	7.75	0.40	0.128	(0.046)	0.015	0.113
94	7.83	0.43	0.139	(0.046)	0.017	0.122
95	7.92	0.43	0.139	(0.046)	0.017	0.122
96	8.00	0.43	0.139	(0.046)	0.017	0.122
97	8.08	0.50	0.160	(0.045)	0.019	0.141
98	8.17	0.50	0.160	(0.045)	0.019	0.141
99	8.25	0.50	0.160	(0.045)	0.019	0.141
100	8.33	0.50	0.160	(0.045)	0.019	0.141
101	8.42	0.50	0.160	(0.044)	0.019	0.141
102	8.50	0.50	0.160	(0.044)	0.019	0.141
103	8.58	0.53	0.170	(0.044)	0.020	0.150
104	8.67	0.53	0.170	(0.044)	0.020	0.150
105	8.75	0.53	0.170	(0.044)	0.020	0.150
106	8.83	0.57	0.181	(0.043)	0.022	0.159
107	8.92	0.57	0.181	(0.043)	0.022	0.159
108	9.00	0.57	0.181	(0.043)	0.022	0.159
109	9.08	0.63	0.202	(0.043)	0.024	0.178
110	9.17	0.63	0.202	(0.043)	0.024	0.178
111	9.25	0.63	0.202	(0.042)	0.024	0.178
112	9.33	0.67	0.213	(0.042)	0.026	0.188
113	9.42	0.67	0.213	(0.042)	0.026	0.188
114	9.50	0.67	0.213	(0.042)	0.026	0.188
115	9.58	0.70	0.224	(0.042)	0.027	0.197
116	9.67	0.70	0.224	(0.041)	0.027	0.197
117	9.75	0.70	0.224	(0.041)	0.027	0.197
118	9.83	0.73	0.234	(0.041)	0.028	0.206
119	9.92	0.73	0.234	(0.041)	0.028	0.206
120	10.00	0.73	0.234	(0.041)	0.028	0.206
121	10.08	0.50	0.160	(0.040)	0.019	0.141
122	10.17	0.50	0.160	(0.040)	0.019	0.141
123	10.25	0.50	0.160	(0.040)	0.019	0.141
124	10.33	0.50	0.160	(0.040)	0.019	0.141
125	10.42	0.50	0.160	(0.040)	0.019	0.141

126	10.50	0.50	0.160	(0.039)	0.019	0.141
127	10.58	0.67	0.213	(0.039)	0.026	0.188
128	10.67	0.67	0.213	(0.039)	0.026	0.188
129	10.75	0.67	0.213	(0.039)	0.026	0.188
130	10.83	0.67	0.213	(0.039)	0.026	0.188
131	10.92	0.67	0.213	(0.039)	0.026	0.188
132	11.00	0.67	0.213	(0.038)	0.026	0.188
133	11.08	0.63	0.202	(0.038)	0.024	0.178
134	11.17	0.63	0.202	(0.038)	0.024	0.178
135	11.25	0.63	0.202	(0.038)	0.024	0.178
136	11.33	0.63	0.202	(0.038)	0.024	0.178
137	11.42	0.63	0.202	(0.037)	0.024	0.178
138	11.50	0.63	0.202	(0.037)	0.024	0.178
139	11.58	0.57	0.181	(0.037)	0.022	0.159
140	11.67	0.57	0.181	(0.037)	0.022	0.159
141	11.75	0.57	0.181	(0.037)	0.022	0.159
142	11.83	0.60	0.192	(0.036)	0.023	0.169
143	11.92	0.60	0.192	(0.036)	0.023	0.169
144	12.00	0.60	0.192	(0.036)	0.023	0.169
145	12.08	0.83	0.266	(0.036)	0.032	0.234
146	12.17	0.83	0.266	(0.036)	0.032	0.234
147	12.25	0.83	0.266	(0.036)	0.032	0.234
148	12.33	0.87	0.277	(0.035)	0.033	0.244
149	12.42	0.87	0.277	(0.035)	0.033	0.244
150	12.50	0.87	0.277	(0.035)	0.033	0.244
151	12.58	0.93	0.298	0.035	(0.036)	0.263
152	12.67	0.93	0.298	0.035	(0.036)	0.264
153	12.75	0.93	0.298	0.035	(0.036)	0.264
154	12.83	0.97	0.309	0.034	(0.037)	0.275
155	12.92	0.97	0.309	0.034	(0.037)	0.275
156	13.00	0.97	0.309	0.034	(0.037)	0.275
157	13.08	1.13	0.362	0.034	(0.043)	0.328
158	13.17	1.13	0.362	0.034	(0.043)	0.329
159	13.25	1.13	0.362	0.033	(0.043)	0.329
160	13.33	1.13	0.362	0.033	(0.043)	0.329
161	13.42	1.13	0.362	0.033	(0.043)	0.329
162	13.50	1.13	0.362	0.033	(0.043)	0.329
163	13.58	0.77	0.245	(0.033)	0.029	0.216
164	13.67	0.77	0.245	(0.033)	0.029	0.216
165	13.75	0.77	0.245	(0.032)	0.029	0.216
166	13.83	0.77	0.245	(0.032)	0.029	0.216
167	13.92	0.77	0.245	(0.032)	0.029	0.216
168	14.00	0.77	0.245	(0.032)	0.029	0.216
169	14.08	0.90	0.288	0.032	(0.035)	0.256
170	14.17	0.90	0.288	0.032	(0.035)	0.256
171	14.25	0.90	0.288	0.031	(0.035)	0.256
172	14.33	0.87	0.277	0.031	(0.033)	0.246
173	14.42	0.87	0.277	0.031	(0.033)	0.246
174	14.50	0.87	0.277	0.031	(0.033)	0.246
175	14.58	0.87	0.277	0.031	(0.033)	0.246
176	14.67	0.87	0.277	0.031	(0.033)	0.246
177	14.75	0.87	0.277	0.031	(0.033)	0.247
178	14.83	0.83	0.266	0.030	(0.032)	0.236
179	14.92	0.83	0.266	0.030	(0.032)	0.236
180	15.00	0.83	0.266	0.030	(0.032)	0.236
181	15.08	0.80	0.256	0.030	(0.031)	0.226
182	15.17	0.80	0.256	0.030	(0.031)	0.226

183	15.25	0.80	0.256	0.030	(0.031)	0.226
184	15.33	0.77	0.245	(0.029)	0.029	0.216
185	15.42	0.77	0.245	0.029	(0.029)	0.216
186	15.50	0.77	0.245	0.029	(0.029)	0.216
187	15.58	0.63	0.202	(0.029)	0.024	0.178
188	15.67	0.63	0.202	(0.029)	0.024	0.178
189	15.75	0.63	0.202	(0.029)	0.024	0.178
190	15.83	0.63	0.202	(0.029)	0.024	0.178
191	15.92	0.63	0.202	(0.028)	0.024	0.178
192	16.00	0.63	0.202	(0.028)	0.024	0.178
193	16.08	0.13	0.043	(0.028)	0.005	0.038
194	16.17	0.13	0.043	(0.028)	0.005	0.038
195	16.25	0.13	0.043	(0.028)	0.005	0.038
196	16.33	0.13	0.043	(0.028)	0.005	0.038
197	16.42	0.13	0.043	(0.028)	0.005	0.038
198	16.50	0.13	0.043	(0.027)	0.005	0.038
199	16.58	0.10	0.032	(0.027)	0.004	0.028
200	16.67	0.10	0.032	(0.027)	0.004	0.028
201	16.75	0.10	0.032	(0.027)	0.004	0.028
202	16.83	0.10	0.032	(0.027)	0.004	0.028
203	16.92	0.10	0.032	(0.027)	0.004	0.028
204	17.00	0.10	0.032	(0.027)	0.004	0.028
205	17.08	0.17	0.053	(0.026)	0.006	0.047
206	17.17	0.17	0.053	(0.026)	0.006	0.047
207	17.25	0.17	0.053	(0.026)	0.006	0.047
208	17.33	0.17	0.053	(0.026)	0.006	0.047
209	17.42	0.17	0.053	(0.026)	0.006	0.047
210	17.50	0.17	0.053	(0.026)	0.006	0.047
211	17.58	0.17	0.053	(0.026)	0.006	0.047
212	17.67	0.17	0.053	(0.026)	0.006	0.047
213	17.75	0.17	0.053	(0.025)	0.006	0.047
214	17.83	0.13	0.043	(0.025)	0.005	0.038
215	17.92	0.13	0.043	(0.025)	0.005	0.038
216	18.00	0.13	0.043	(0.025)	0.005	0.038
217	18.08	0.13	0.043	(0.025)	0.005	0.038
218	18.17	0.13	0.043	(0.025)	0.005	0.038
219	18.25	0.13	0.043	(0.025)	0.005	0.038
220	18.33	0.13	0.043	(0.025)	0.005	0.038
221	18.42	0.13	0.043	(0.024)	0.005	0.038
222	18.50	0.13	0.043	(0.024)	0.005	0.038
223	18.58	0.10	0.032	(0.024)	0.004	0.028
224	18.67	0.10	0.032	(0.024)	0.004	0.028
225	18.75	0.10	0.032	(0.024)	0.004	0.028
226	18.83	0.07	0.021	(0.024)	0.003	0.019
227	18.92	0.07	0.021	(0.024)	0.003	0.019
228	19.00	0.07	0.021	(0.024)	0.003	0.019
229	19.08	0.10	0.032	(0.024)	0.004	0.028
230	19.17	0.10	0.032	(0.023)	0.004	0.028
231	19.25	0.10	0.032	(0.023)	0.004	0.028
232	19.33	0.13	0.043	(0.023)	0.005	0.038
233	19.42	0.13	0.043	(0.023)	0.005	0.038
234	19.50	0.13	0.043	(0.023)	0.005	0.038
235	19.58	0.10	0.032	(0.023)	0.004	0.028
236	19.67	0.10	0.032	(0.023)	0.004	0.028
237	19.75	0.10	0.032	(0.023)	0.004	0.028
238	19.83	0.07	0.021	(0.023)	0.003	0.019
239	19.92	0.07	0.021	(0.022)	0.003	0.019

240	20.00	0.07	0.021	(0.022)	0.003	0.019
241	20.08	0.10	0.032	(0.022)	0.004	0.028
242	20.17	0.10	0.032	(0.022)	0.004	0.028
243	20.25	0.10	0.032	(0.022)	0.004	0.028
244	20.33	0.10	0.032	(0.022)	0.004	0.028
245	20.42	0.10	0.032	(0.022)	0.004	0.028
246	20.50	0.10	0.032	(0.022)	0.004	0.028
247	20.58	0.10	0.032	(0.022)	0.004	0.028
248	20.67	0.10	0.032	(0.022)	0.004	0.028
249	20.75	0.10	0.032	(0.021)	0.004	0.028
250	20.83	0.07	0.021	(0.021)	0.003	0.019
251	20.92	0.07	0.021	(0.021)	0.003	0.019
252	21.00	0.07	0.021	(0.021)	0.003	0.019
253	21.08	0.10	0.032	(0.021)	0.004	0.028
254	21.17	0.10	0.032	(0.021)	0.004	0.028
255	21.25	0.10	0.032	(0.021)	0.004	0.028
256	21.33	0.07	0.021	(0.021)	0.003	0.019
257	21.42	0.07	0.021	(0.021)	0.003	0.019
258	21.50	0.07	0.021	(0.021)	0.003	0.019
259	21.58	0.10	0.032	(0.021)	0.004	0.028
260	21.67	0.10	0.032	(0.021)	0.004	0.028
261	21.75	0.10	0.032	(0.021)	0.004	0.028
262	21.83	0.07	0.021	(0.020)	0.003	0.019
263	21.92	0.07	0.021	(0.020)	0.003	0.019
264	22.00	0.07	0.021	(0.020)	0.003	0.019
265	22.08	0.10	0.032	(0.020)	0.004	0.028
266	22.17	0.10	0.032	(0.020)	0.004	0.028
267	22.25	0.10	0.032	(0.020)	0.004	0.028
268	22.33	0.07	0.021	(0.020)	0.003	0.019
269	22.42	0.07	0.021	(0.020)	0.003	0.019
270	22.50	0.07	0.021	(0.020)	0.003	0.019
271	22.58	0.07	0.021	(0.020)	0.003	0.019
272	22.67	0.07	0.021	(0.020)	0.003	0.019
273	22.75	0.07	0.021	(0.020)	0.003	0.019
274	22.83	0.07	0.021	(0.020)	0.003	0.019
275	22.92	0.07	0.021	(0.020)	0.003	0.019
276	23.00	0.07	0.021	(0.020)	0.003	0.019
277	23.08	0.07	0.021	(0.020)	0.003	0.019
278	23.17	0.07	0.021	(0.020)	0.003	0.019
279	23.25	0.07	0.021	(0.019)	0.003	0.019
280	23.33	0.07	0.021	(0.019)	0.003	0.019
281	23.42	0.07	0.021	(0.019)	0.003	0.019
282	23.50	0.07	0.021	(0.019)	0.003	0.019
283	23.58	0.07	0.021	(0.019)	0.003	0.019
284	23.67	0.07	0.021	(0.019)	0.003	0.019
285	23.75	0.07	0.021	(0.019)	0.003	0.019
286	23.83	0.07	0.021	(0.019)	0.003	0.019
287	23.92	0.07	0.021	(0.019)	0.003	0.019
288	24.00	0.07	0.021	(0.019)	0.003	0.019

(Loss Rate Not Used)

Sum = 100.0 Sum = 28.2

Flood volume = Effective rainfall 2.35(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.31(In)
Total soil loss = 0.021(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 6789.9 Cubic Feet

Total soil loss = 897.5 Cubic Feet

Peak flow rate of this hydrograph = 0.264(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	0.0001	0.01	Q				
0+10	0.0002	0.02	Q				
0+15	0.0003	0.02	Q				
0+20	0.0004	0.02	Q				
0+25	0.0006	0.02	Q				
0+30	0.0007	0.02	Q				
0+35	0.0009	0.02	Q				
0+40	0.0011	0.02	Q				
0+45	0.0012	0.02	Q				
0+50	0.0014	0.03	Q				
0+55	0.0016	0.03	Q				
1+ 0	0.0018	0.03	Q				
1+ 5	0.0020	0.02	Q				
1+10	0.0021	0.02	Q				
1+15	0.0023	0.02	Q				
1+20	0.0025	0.02	Q				
1+25	0.0026	0.02	Q				
1+30	0.0028	0.02	Q				
1+35	0.0029	0.02	Q				
1+40	0.0031	0.02	Q				
1+45	0.0032	0.02	Q				
1+50	0.0034	0.03	Q				
1+55	0.0036	0.03	Q				
2+ 0	0.0038	0.03	Q				
2+ 5	0.0040	0.03	QV				
2+10	0.0043	0.03	QV				
2+15	0.0045	0.03	QV				
2+20	0.0047	0.03	QV				
2+25	0.0049	0.03	QV				
2+30	0.0051	0.03	QV				
2+35	0.0053	0.04	QV				
2+40	0.0056	0.04	QV				
2+45	0.0058	0.04	QV				
2+50	0.0061	0.04	QV				
2+55	0.0064	0.04	QV				
3+ 0	0.0066	0.04	QV				
3+ 5	0.0069	0.04	QV				
3+10	0.0071	0.04	QV				
3+15	0.0074	0.04	QV				
3+20	0.0077	0.04	QV				
3+25	0.0079	0.04	Q V				
3+30	0.0082	0.04	Q V				
3+35	0.0084	0.04	Q V				
3+40	0.0087	0.04	Q V				

3+45	0.0090	0.04	Q V	|	|	|	|
3+50	0.0093	0.04	Q V	|	|	|	|
3+55	0.0096	0.05	Q V	|	|	|	|
4+ 0	0.0099	0.05	Q V	|	|	|	|
4+ 5	0.0102	0.05	Q V	|	|	|	|
4+10	0.0105	0.05	Q V	|	|	|	|
4+15	0.0108	0.05	Q V	|	|	|	|
4+20	0.0112	0.05	Q V	|	|	|	|
4+25	0.0115	0.05	Q V	|	|	|	|
4+30	0.0119	0.05	Q V	|	|	|	|
4+35	0.0122	0.05	Q V	|	|	|	|
4+40	0.0126	0.05	Q V	|	|	|	|
4+45	0.0130	0.05	Q V	|	|	|	|
4+50	0.0134	0.06	Q V	|	|	|	|
4+55	0.0138	0.06	Q V	|	|	|	|
5+ 0	0.0142	0.06	Q V	|	|	|	|
5+ 5	0.0145	0.05	Q V	|	|	|	|
5+10	0.0148	0.05	Q V	|	|	|	|
5+15	0.0152	0.05	Q V	|	|	|	|
5+20	0.0155	0.05	Q V	|	|	|	|
5+25	0.0159	0.05	Q V	|	|	|	|
5+30	0.0162	0.05	Q V	|	|	|	|
5+35	0.0166	0.06	Q V	|	|	|	|
5+40	0.0170	0.06	Q V	|	|	|	|
5+45	0.0175	0.06	Q V	|	|	|	|
5+50	0.0179	0.06	Q V	|	|	|	|
5+55	0.0183	0.06	Q V	|	|	|	|
6+ 0	0.0187	0.06	Q V	|	|	|	|
6+ 5	0.0192	0.07	Q V	|	|	|	|
6+10	0.0196	0.07	Q V	|	|	|	|
6+15	0.0201	0.07	Q V	|	|	|	|
6+20	0.0206	0.07	Q V	|	|	|	|
6+25	0.0210	0.07	Q V	|	|	|	|
6+30	0.0215	0.07	Q V	|	|	|	|
6+35	0.0220	0.07	Q V	|	|	|	|
6+40	0.0225	0.08	Q V	|	|	|	|
6+45	0.0230	0.08	Q V	|	|	|	|
6+50	0.0235	0.08	Q V	|	|	|	|
6+55	0.0241	0.08	Q V	|	|	|	|
7+ 0	0.0246	0.08	Q V	|	|	|	|
7+ 5	0.0251	0.08	Q V	|	|	|	|
7+10	0.0256	0.08	Q V	|	|	|	|
7+15	0.0261	0.08	Q V	|	|	|	|
7+20	0.0267	0.08	Q V	|	|	|	|
7+25	0.0273	0.08	Q V	|	|	|	|
7+30	0.0278	0.08	Q V	|	|	|	|
7+35	0.0284	0.09	Q V	|	|	|	|
7+40	0.0291	0.09	Q V	|	|	|	|
7+45	0.0297	0.09	Q V	|	|	|	|
7+50	0.0303	0.10	Q V	|	|	|	|
7+55	0.0310	0.10	Q V	|	|	|	|
8+ 0	0.0317	0.10	Q V	|	|	|	|
8+ 5	0.0324	0.11	Q V	|	|	|	|
8+10	0.0332	0.11	Q V	|	|	|	|
8+15	0.0340	0.11	Q V	|	|	|	|
8+20	0.0348	0.11	Q V	|	|	|	|
8+25	0.0356	0.11	Q V	|	|	|	|

8+30	0.0363	0.11	Q	V|				
8+35	0.0371	0.12	Q	V|				
8+40	0.0380	0.12	Q	V|				
8+45	0.0388	0.12	Q	V|				
8+50	0.0397	0.13	Q	V				
8+55	0.0406	0.13	Q	V				
9+ 0	0.0414	0.13	Q	V				
9+ 5	0.0424	0.14	Q	V				
9+10	0.0434	0.14	Q	|V				
9+15	0.0444	0.14	Q	|V				
9+20	0.0454	0.15	Q	|V				
9+25	0.0464	0.15	Q	|V				
9+30	0.0475	0.15	Q	| V				
9+35	0.0485	0.16	Q	| V				
9+40	0.0496	0.16	Q	| V				
9+45	0.0507	0.16	Q	| V				
9+50	0.0518	0.16	Q	| V				
9+55	0.0530	0.17	Q	| V				
10+ 0	0.0541	0.17	Q	| V				
10+ 5	0.0550	0.12	Q	| V				
10+10	0.0557	0.11	Q	| V				
10+15	0.0565	0.11	Q	| V				
10+20	0.0573	0.11	Q	| V				
10+25	0.0581	0.11	Q	| V				
10+30	0.0589	0.11	Q	| V |				
10+35	0.0598	0.14	Q	| V |				
10+40	0.0609	0.15	Q	| V |				
10+45	0.0619	0.15	Q	| V |				
10+50	0.0629	0.15	Q	| V |				
10+55	0.0640	0.15	Q	| V |				
11+ 0	0.0650	0.15	Q	| V |				
11+ 5	0.0660	0.14	Q	| V |				
11+10	0.0670	0.14	Q	| V |				
11+15	0.0680	0.14	Q	| V |				
11+20	0.0690	0.14	Q	| V |				
11+25	0.0699	0.14	Q	| V |				
11+30	0.0709	0.14	Q	| V |				
11+35	0.0718	0.13	Q	| V |				
11+40	0.0727	0.13	Q	| V |				
11+45	0.0736	0.13	Q	| V |				
11+50	0.0745	0.13	Q	| V|				
11+55	0.0754	0.14	Q	| V|				
12+ 0	0.0764	0.14	Q	| V|				
12+ 5	0.0776	0.18	Q	| V|				
12+10	0.0789	0.19	Q	| V				
12+15	0.0802	0.19	Q	| V				
12+20	0.0815	0.19	Q	| V				
12+25	0.0829	0.20	Q	| |V				
12+30	0.0842	0.20	Q	| |V				
12+35	0.0856	0.21	Q	| |V				
12+40	0.0871	0.21	Q	| | V				
12+45	0.0885	0.21	Q	| | V				
12+50	0.0900	0.22	Q	| | V				
12+55	0.0916	0.22	Q	| | V				
13+ 0	0.0931	0.22	Q	| | V				
13+ 5	0.0948	0.25	|Q	| | V				
13+10	0.0966	0.26	|Q	| | V				

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13+15       0.0985      0.26  |Q        |          |    V    |          |
13+20       0.1003      0.26  |Q        |          |    V    |          |
13+25       0.1021      0.26  |Q        |          |      V   |          |
13+30       0.1039      0.26  |Q        |          |      V   |          |
13+35       0.1052      0.19  Q         |          |       V  |          |
13+40       0.1064      0.17  Q         |          |       V  |          |
13+45       0.1076      0.17  Q         |          |       V  |          |
13+50       0.1088      0.17  Q         |          |       V  |          |
13+55       0.1100      0.17  Q         |          |        V |          |
14+ 0       0.1112      0.17  Q         |          |        V |          |
14+ 5       0.1126      0.20  Q         |          |        V |          |
14+10       0.1140      0.21  Q         |          |         V|          |
14+15       0.1154      0.21  Q         |          |         V|          |
14+20       0.1168      0.20  Q         |          |         V|          |
14+25       0.1181      0.20  Q         |          |          V          |
14+30       0.1195      0.20  Q         |          |          V          |
14+35       0.1208      0.20  Q         |          |          |V         |
14+40       0.1222      0.20  Q         |          |          |V         |
14+45       0.1235      0.20  Q         |          |          |V         |
14+50       0.1249      0.19  Q         |          |          | V        |
14+55       0.1262      0.19  Q         |          |          | V        |
15+ 0       0.1275      0.19  Q         |          |          | V        |
15+ 5       0.1287      0.18  Q         |          |          |  V       |
15+10       0.1300      0.18  Q         |          |          |  V       |
15+15       0.1312      0.18  Q         |          |          |  V       |
15+20       0.1324      0.17  Q         |          |          |  V       |
15+25       0.1336      0.17  Q         |          |          |   V      |
15+30       0.1348      0.17  Q         |          |          |   V      |
15+35       0.1358      0.15  Q         |          |          |   V      |
15+40       0.1368      0.14  Q         |          |          |    V     |
15+45       0.1378      0.14  Q         |          |          |    V     |
15+50       0.1388      0.14  Q         |          |          |    V     |
15+55       0.1398      0.14  Q         |          |          |    V     |
16+ 0       0.1408      0.14  Q         |          |          |     V    |
16+ 5       0.1411      0.05  Q         |          |          |     V    |
16+10       0.1413      0.03  Q         |          |          |     V    |
16+15       0.1415      0.03  Q         |          |          |     V    |
16+20       0.1418      0.03  Q         |          |          |     V    |
16+25       0.1420      0.03  Q         |          |          |     V    |
16+30       0.1422      0.03  Q         |          |          |     V    |
16+35       0.1423      0.02  Q         |          |          |     V    |
16+40       0.1425      0.02  Q         |          |          |     V    |
16+45       0.1426      0.02  Q         |          |          |     V    |
16+50       0.1428      0.02  Q         |          |          |     V    |
16+55       0.1430      0.02  Q         |          |          |     V    |
17+ 0       0.1431      0.02  Q         |          |          |     V    |
17+ 5       0.1433      0.03  Q         |          |          |     V    |
17+10       0.1436      0.04  Q         |          |          |     V    |
17+15       0.1439      0.04  Q         |          |          |     V    |
17+20       0.1441      0.04  Q         |          |          |     V    |
17+25       0.1444      0.04  Q         |          |          |      V   |
17+30       0.1446      0.04  Q         |          |          |      V   |
17+35       0.1449      0.04  Q         |          |          |      V   |
17+40       0.1452      0.04  Q         |          |          |      V   |
17+45       0.1454      0.04  Q         |          |          |      V   |
17+50       0.1456      0.03  Q         |          |          |      V   |
17+55       0.1458      0.03  Q         |          |          |      V   |
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18+ 0	0.1460	0.03	Q	|	|	|	V |
18+ 5	0.1463	0.03	Q	|	|	|	V |
18+10	0.1465	0.03	Q	|	|	|	V |
18+15	0.1467	0.03	Q	|	|	|	V |
18+20	0.1469	0.03	Q	|	|	|	V |
18+25	0.1471	0.03	Q	|	|	|	V |
18+30	0.1473	0.03	Q	|	|	|	V |
18+35	0.1475	0.02	Q	|	|	|	V |
18+40	0.1476	0.02	Q	|	|	|	V |
18+45	0.1478	0.02	Q	|	|	|	V |
18+50	0.1479	0.02	Q	|	|	|	V |
18+55	0.1480	0.02	Q	|	|	|	V |
19+ 0	0.1481	0.02	Q	|	|	|	V |
19+ 5	0.1482	0.02	Q	|	|	|	V |
19+10	0.1484	0.02	Q	|	|	|	V |
19+15	0.1485	0.02	Q	|	|	|	V |
19+20	0.1487	0.03	Q	|	|	|	V |
19+25	0.1489	0.03	Q	|	|	|	V |
19+30	0.1492	0.03	Q	|	|	|	V |
19+35	0.1493	0.02	Q	|	|	|	V |
19+40	0.1495	0.02	Q	|	|	|	V |
19+45	0.1496	0.02	Q	|	|	|	V |
19+50	0.1497	0.02	Q	|	|	|	V |
19+55	0.1498	0.02	Q	|	|	|	V |
20+ 0	0.1500	0.02	Q	|	|	|	V |
20+ 5	0.1501	0.02	Q	|	|	|	V |
20+10	0.1503	0.02	Q	|	|	|	V |
20+15	0.1504	0.02	Q	|	|	|	V |
20+20	0.1506	0.02	Q	|	|	|	V |
20+25	0.1507	0.02	Q	|	|	|	V |
20+30	0.1509	0.02	Q	|	|	|	V |
20+35	0.1510	0.02	Q	|	|	|	V |
20+40	0.1512	0.02	Q	|	|	|	V |
20+45	0.1513	0.02	Q	|	|	|	V |
20+50	0.1515	0.02	Q	|	|	|	V |
20+55	0.1516	0.02	Q	|	|	|	V |
21+ 0	0.1517	0.02	Q	|	|	|	V |
21+ 5	0.1518	0.02	Q	|	|	|	V |
21+10	0.1520	0.02	Q	|	|	|	V |
21+15	0.1521	0.02	Q	|	|	|	V|
21+20	0.1522	0.02	Q	|	|	|	V|
21+25	0.1523	0.02	Q	|	|	|	V|
21+30	0.1524	0.02	Q	|	|	|	V|
21+35	0.1526	0.02	Q	|	|	|	V|
21+40	0.1527	0.02	Q	|	|	|	V|
21+45	0.1529	0.02	Q	|	|	|	V|
21+50	0.1530	0.02	Q	|	|	|	V|
21+55	0.1531	0.02	Q	|	|	|	V|
22+ 0	0.1532	0.02	Q	|	|	|	V|
22+ 5	0.1534	0.02	Q	|	|	|	V|
22+10	0.1535	0.02	Q	|	|	|	V|
22+15	0.1537	0.02	Q	|	|	|	V|
22+20	0.1538	0.02	Q	|	|	|	V|
22+25	0.1539	0.02	Q	|	|	|	V|
22+30	0.1540	0.02	Q	|	|	|	V|
22+35	0.1541	0.02	Q	|	|	|	V|
22+40	0.1542	0.02	Q	|	|	|	V|

22+45	0.1543	0.02	Q	|	|	|	V|
22+50	0.1544	0.02	Q	|	|	|	V|
22+55	0.1545	0.02	Q	|	|	|	V|
23+ 0	0.1546	0.02	Q	|	|	|	V|
23+ 5	0.1547	0.02	Q	|	|	|	V|
23+10	0.1548	0.02	Q	|	|	|	V|
23+15	0.1549	0.02	Q	|	|	|	V|
23+20	0.1550	0.02	Q	|	|	|	V|
23+25	0.1551	0.02	Q	|	|	|	V|
23+30	0.1552	0.02	Q	|	|	|	V|
23+35	0.1553	0.02	Q	|	|	|	V|
23+40	0.1554	0.02	Q	|	|	|	V|
23+45	0.1555	0.02	Q	|	|	|	V|
23+50	0.1556	0.02	Q	|	|	|	V|
23+55	0.1557	0.02	Q	|	|	|	V|
24+ 0	0.1559	0.02	Q	|	|	|	V|
24+ 5	0.1559	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 06/03/26 File: 19267e010site2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Existing Condition
10-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 695.00(Ft.)
Length along longest watercourse measured to centroid = 375.00(Ft.)
Length along longest watercourse = 0.132 Mi.
Length along longest watercourse measured to centroid = 0.071 Mi.
Difference in elevation = 7.20(Ft.)
Slope along watercourse = 54.6993 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.71 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.68 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]
9.69	1.66	16.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	4.10	39.72

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	89.00	0.210

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.210	0.115	1.000	0.115
					Sum (F) =	0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.730

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	292.313	55.877	5.456
2	0.167	584.626	37.556	3.667
3	0.250	876.940	6.567	0.641
		Sum = 100.000	Sum=	9.764

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.203)	0.016	0.006
2	0.17	0.07	0.021	(0.203)	0.016	0.006
3	0.25	0.07	0.021	(0.202)	0.016	0.006
4	0.33	0.10	0.032	(0.201)	0.023	0.009
5	0.42	0.10	0.032	(0.200)	0.023	0.009
6	0.50	0.10	0.032	(0.199)	0.023	0.009
7	0.58	0.10	0.032	(0.199)	0.023	0.009
8	0.67	0.10	0.032	(0.198)	0.023	0.009
9	0.75	0.10	0.032	(0.197)	0.023	0.009
10	0.83	0.13	0.043	(0.196)	0.031	0.012

11	0.92	0.13	0.043	(0.195)	0.031	0.012
12	1.00	0.13	0.043	(0.195)	0.031	0.012
13	1.08	0.10	0.032	(0.194)	0.023	0.009
14	1.17	0.10	0.032	(0.193)	0.023	0.009
15	1.25	0.10	0.032	(0.192)	0.023	0.009
16	1.33	0.10	0.032	(0.192)	0.023	0.009
17	1.42	0.10	0.032	(0.191)	0.023	0.009
18	1.50	0.10	0.032	(0.190)	0.023	0.009
19	1.58	0.10	0.032	(0.189)	0.023	0.009
20	1.67	0.10	0.032	(0.189)	0.023	0.009
21	1.75	0.10	0.032	(0.188)	0.023	0.009
22	1.83	0.13	0.043	(0.187)	0.031	0.012
23	1.92	0.13	0.043	(0.186)	0.031	0.012
24	2.00	0.13	0.043	(0.186)	0.031	0.012
25	2.08	0.13	0.043	(0.185)	0.031	0.012
26	2.17	0.13	0.043	(0.184)	0.031	0.012
27	2.25	0.13	0.043	(0.183)	0.031	0.012
28	2.33	0.13	0.043	(0.183)	0.031	0.012
29	2.42	0.13	0.043	(0.182)	0.031	0.012
30	2.50	0.13	0.043	(0.181)	0.031	0.012
31	2.58	0.17	0.053	(0.180)	0.039	0.014
32	2.67	0.17	0.053	(0.180)	0.039	0.014
33	2.75	0.17	0.053	(0.179)	0.039	0.014
34	2.83	0.17	0.053	(0.178)	0.039	0.014
35	2.92	0.17	0.053	(0.177)	0.039	0.014
36	3.00	0.17	0.053	(0.177)	0.039	0.014
37	3.08	0.17	0.053	(0.176)	0.039	0.014
38	3.17	0.17	0.053	(0.175)	0.039	0.014
39	3.25	0.17	0.053	(0.174)	0.039	0.014
40	3.33	0.17	0.053	(0.174)	0.039	0.014
41	3.42	0.17	0.053	(0.173)	0.039	0.014
42	3.50	0.17	0.053	(0.172)	0.039	0.014
43	3.58	0.17	0.053	(0.172)	0.039	0.014
44	3.67	0.17	0.053	(0.171)	0.039	0.014
45	3.75	0.17	0.053	(0.170)	0.039	0.014
46	3.83	0.20	0.064	(0.169)	0.047	0.017
47	3.92	0.20	0.064	(0.169)	0.047	0.017
48	4.00	0.20	0.064	(0.168)	0.047	0.017
49	4.08	0.20	0.064	(0.167)	0.047	0.017
50	4.17	0.20	0.064	(0.167)	0.047	0.017
51	4.25	0.20	0.064	(0.166)	0.047	0.017
52	4.33	0.23	0.075	(0.165)	0.054	0.020
53	4.42	0.23	0.075	(0.164)	0.054	0.020
54	4.50	0.23	0.075	(0.164)	0.054	0.020
55	4.58	0.23	0.075	(0.163)	0.054	0.020
56	4.67	0.23	0.075	(0.162)	0.054	0.020
57	4.75	0.23	0.075	(0.162)	0.054	0.020
58	4.83	0.27	0.085	(0.161)	0.062	0.023
59	4.92	0.27	0.085	(0.160)	0.062	0.023
60	5.00	0.27	0.085	(0.160)	0.062	0.023
61	5.08	0.20	0.064	(0.159)	0.047	0.017
62	5.17	0.20	0.064	(0.158)	0.047	0.017
63	5.25	0.20	0.064	(0.157)	0.047	0.017
64	5.33	0.23	0.075	(0.157)	0.054	0.020
65	5.42	0.23	0.075	(0.156)	0.054	0.020
66	5.50	0.23	0.075	(0.155)	0.054	0.020
67	5.58	0.27	0.085	(0.155)	0.062	0.023

68	5.67	0.27	0.085	(0.154)	0.062	0.023
69	5.75	0.27	0.085	(0.153)	0.062	0.023
70	5.83	0.27	0.085	(0.153)	0.062	0.023
71	5.92	0.27	0.085	(0.152)	0.062	0.023
72	6.00	0.27	0.085	(0.151)	0.062	0.023
73	6.08	0.30	0.096	(0.151)	0.070	0.026
74	6.17	0.30	0.096	(0.150)	0.070	0.026
75	6.25	0.30	0.096	(0.149)	0.070	0.026
76	6.33	0.30	0.096	(0.149)	0.070	0.026
77	6.42	0.30	0.096	(0.148)	0.070	0.026
78	6.50	0.30	0.096	(0.147)	0.070	0.026
79	6.58	0.33	0.107	(0.147)	0.078	0.029
80	6.67	0.33	0.107	(0.146)	0.078	0.029
81	6.75	0.33	0.107	(0.145)	0.078	0.029
82	6.83	0.33	0.107	(0.145)	0.078	0.029
83	6.92	0.33	0.107	(0.144)	0.078	0.029
84	7.00	0.33	0.107	(0.143)	0.078	0.029
85	7.08	0.33	0.107	(0.143)	0.078	0.029
86	7.17	0.33	0.107	(0.142)	0.078	0.029
87	7.25	0.33	0.107	(0.141)	0.078	0.029
88	7.33	0.37	0.117	(0.141)	0.086	0.032
89	7.42	0.37	0.117	(0.140)	0.086	0.032
90	7.50	0.37	0.117	(0.140)	0.086	0.032
91	7.58	0.40	0.128	(0.139)	0.093	0.035
92	7.67	0.40	0.128	(0.138)	0.093	0.035
93	7.75	0.40	0.128	(0.138)	0.093	0.035
94	7.83	0.43	0.139	(0.137)	0.101	0.037
95	7.92	0.43	0.139	(0.136)	0.101	0.037
96	8.00	0.43	0.139	(0.136)	0.101	0.037
97	8.08	0.50	0.160	(0.135)	0.117	0.043
98	8.17	0.50	0.160	(0.134)	0.117	0.043
99	8.25	0.50	0.160	(0.134)	0.117	0.043
100	8.33	0.50	0.160	(0.133)	0.117	0.043
101	8.42	0.50	0.160	(0.133)	0.117	0.043
102	8.50	0.50	0.160	(0.132)	0.117	0.043
103	8.58	0.53	0.170	(0.131)	0.124	0.046
104	8.67	0.53	0.170	(0.131)	0.124	0.046
105	8.75	0.53	0.170	(0.130)	0.124	0.046
106	8.83	0.57	0.181	0.129	(0.132)	0.052
107	8.92	0.57	0.181	0.129	(0.132)	0.052
108	9.00	0.57	0.181	0.128	(0.132)	0.053
109	9.08	0.63	0.202	0.128	(0.148)	0.075
110	9.17	0.63	0.202	0.127	(0.148)	0.075
111	9.25	0.63	0.202	0.126	(0.148)	0.076
112	9.33	0.67	0.213	0.126	(0.156)	0.087
113	9.42	0.67	0.213	0.125	(0.156)	0.088
114	9.50	0.67	0.213	0.125	(0.156)	0.088
115	9.58	0.70	0.224	0.124	(0.163)	0.100
116	9.67	0.70	0.224	0.123	(0.163)	0.100
117	9.75	0.70	0.224	0.123	(0.163)	0.101
118	9.83	0.73	0.234	0.122	(0.171)	0.112
119	9.92	0.73	0.234	0.122	(0.171)	0.113
120	10.00	0.73	0.234	0.121	(0.171)	0.113
121	10.08	0.50	0.160	(0.121)	0.117	0.043
122	10.17	0.50	0.160	(0.120)	0.117	0.043
123	10.25	0.50	0.160	(0.119)	0.117	0.043
124	10.33	0.50	0.160	(0.119)	0.117	0.043

125	10.42	0.50	0.160	(	0.118)	0.117		0.043
126	10.50	0.50	0.160	(	0.118)	0.117		0.043
127	10.58	0.67	0.213		0.117	(0.156)		0.096
128	10.67	0.67	0.213		0.116	(0.156)		0.097
129	10.75	0.67	0.213		0.116	(0.156)		0.097
130	10.83	0.67	0.213		0.115	(0.156)		0.098
131	10.92	0.67	0.213		0.115	(0.156)		0.098
132	11.00	0.67	0.213		0.114	(0.156)		0.099
133	11.08	0.63	0.202		0.114	(0.148)		0.089
134	11.17	0.63	0.202		0.113	(0.148)		0.089
135	11.25	0.63	0.202		0.113	(0.148)		0.090
136	11.33	0.63	0.202		0.112	(0.148)		0.090
137	11.42	0.63	0.202		0.111	(0.148)		0.091
138	11.50	0.63	0.202		0.111	(0.148)		0.092
139	11.58	0.57	0.181		0.110	(0.132)		0.071
140	11.67	0.57	0.181		0.110	(0.132)		0.071
141	11.75	0.57	0.181		0.109	(0.132)		0.072
142	11.83	0.60	0.192		0.109	(0.140)		0.083
143	11.92	0.60	0.192		0.108	(0.140)		0.084
144	12.00	0.60	0.192		0.108	(0.140)		0.084
145	12.08	0.83	0.266		0.107	(0.194)		0.159
146	12.17	0.83	0.266		0.107	(0.194)		0.160
147	12.25	0.83	0.266		0.106	(0.194)		0.160
148	12.33	0.87	0.277		0.105	(0.202)		0.172
149	12.42	0.87	0.277		0.105	(0.202)		0.172
150	12.50	0.87	0.277		0.104	(0.202)		0.173
151	12.58	0.93	0.298		0.104	(0.218)		0.194
152	12.67	0.93	0.298		0.103	(0.218)		0.195
153	12.75	0.93	0.298		0.103	(0.218)		0.196
154	12.83	0.97	0.309		0.102	(0.226)		0.207
155	12.92	0.97	0.309		0.102	(0.226)		0.207
156	13.00	0.97	0.309		0.101	(0.226)		0.208
157	13.08	1.13	0.362		0.101	(0.264)		0.262
158	13.17	1.13	0.362		0.100	(0.264)		0.262
159	13.25	1.13	0.362		0.100	(0.264)		0.263
160	13.33	1.13	0.362		0.099	(0.264)		0.263
161	13.42	1.13	0.362		0.099	(0.264)		0.264
162	13.50	1.13	0.362		0.098	(0.264)		0.264
163	13.58	0.77	0.245		0.098	(0.179)		0.147
164	13.67	0.77	0.245		0.097	(0.179)		0.148
165	13.75	0.77	0.245		0.097	(0.179)		0.148
166	13.83	0.77	0.245		0.096	(0.179)		0.149
167	13.92	0.77	0.245		0.096	(0.179)		0.149
168	14.00	0.77	0.245		0.095	(0.179)		0.150
169	14.08	0.90	0.288		0.095	(0.210)		0.193
170	14.17	0.90	0.288		0.094	(0.210)		0.193
171	14.25	0.90	0.288		0.094	(0.210)		0.194
172	14.33	0.87	0.277		0.093	(0.202)		0.184
173	14.42	0.87	0.277		0.093	(0.202)		0.184
174	14.50	0.87	0.277		0.092	(0.202)		0.185
175	14.58	0.87	0.277		0.092	(0.202)		0.185
176	14.67	0.87	0.277		0.091	(0.202)		0.186
177	14.75	0.87	0.277		0.091	(0.202)		0.186
178	14.83	0.83	0.266		0.090	(0.194)		0.176
179	14.92	0.83	0.266		0.090	(0.194)		0.176
180	15.00	0.83	0.266		0.090	(0.194)		0.177
181	15.08	0.80	0.256		0.089	(0.187)		0.167

182	15.17	0.80	0.256	0.089	(0.187)	0.167
183	15.25	0.80	0.256	0.088	(0.187)	0.168
184	15.33	0.77	0.245	0.088	(0.179)	0.157
185	15.42	0.77	0.245	0.087	(0.179)	0.158
186	15.50	0.77	0.245	0.087	(0.179)	0.158
187	15.58	0.63	0.202	0.086	(0.148)	0.116
188	15.67	0.63	0.202	0.086	(0.148)	0.116
189	15.75	0.63	0.202	0.086	(0.148)	0.117
190	15.83	0.63	0.202	0.085	(0.148)	0.117
191	15.92	0.63	0.202	0.085	(0.148)	0.118
192	16.00	0.63	0.202	0.084	(0.148)	0.118
193	16.08	0.13	0.043	(0.084)	0.031	0.012
194	16.17	0.13	0.043	(0.083)	0.031	0.012
195	16.25	0.13	0.043	(0.083)	0.031	0.012
196	16.33	0.13	0.043	(0.083)	0.031	0.012
197	16.42	0.13	0.043	(0.082)	0.031	0.012
198	16.50	0.13	0.043	(0.082)	0.031	0.012
199	16.58	0.10	0.032	(0.081)	0.023	0.009
200	16.67	0.10	0.032	(0.081)	0.023	0.009
201	16.75	0.10	0.032	(0.080)	0.023	0.009
202	16.83	0.10	0.032	(0.080)	0.023	0.009
203	16.92	0.10	0.032	(0.080)	0.023	0.009
204	17.00	0.10	0.032	(0.079)	0.023	0.009
205	17.08	0.17	0.053	(0.079)	0.039	0.014
206	17.17	0.17	0.053	(0.078)	0.039	0.014
207	17.25	0.17	0.053	(0.078)	0.039	0.014
208	17.33	0.17	0.053	(0.078)	0.039	0.014
209	17.42	0.17	0.053	(0.077)	0.039	0.014
210	17.50	0.17	0.053	(0.077)	0.039	0.014
211	17.58	0.17	0.053	(0.076)	0.039	0.014
212	17.67	0.17	0.053	(0.076)	0.039	0.014
213	17.75	0.17	0.053	(0.076)	0.039	0.014
214	17.83	0.13	0.043	(0.075)	0.031	0.012
215	17.92	0.13	0.043	(0.075)	0.031	0.012
216	18.00	0.13	0.043	(0.075)	0.031	0.012
217	18.08	0.13	0.043	(0.074)	0.031	0.012
218	18.17	0.13	0.043	(0.074)	0.031	0.012
219	18.25	0.13	0.043	(0.073)	0.031	0.012
220	18.33	0.13	0.043	(0.073)	0.031	0.012
221	18.42	0.13	0.043	(0.073)	0.031	0.012
222	18.50	0.13	0.043	(0.072)	0.031	0.012
223	18.58	0.10	0.032	(0.072)	0.023	0.009
224	18.67	0.10	0.032	(0.072)	0.023	0.009
225	18.75	0.10	0.032	(0.071)	0.023	0.009
226	18.83	0.07	0.021	(0.071)	0.016	0.006
227	18.92	0.07	0.021	(0.071)	0.016	0.006
228	19.00	0.07	0.021	(0.070)	0.016	0.006
229	19.08	0.10	0.032	(0.070)	0.023	0.009
230	19.17	0.10	0.032	(0.070)	0.023	0.009
231	19.25	0.10	0.032	(0.069)	0.023	0.009
232	19.33	0.13	0.043	(0.069)	0.031	0.012
233	19.42	0.13	0.043	(0.069)	0.031	0.012
234	19.50	0.13	0.043	(0.068)	0.031	0.012
235	19.58	0.10	0.032	(0.068)	0.023	0.009
236	19.67	0.10	0.032	(0.068)	0.023	0.009
237	19.75	0.10	0.032	(0.067)	0.023	0.009
238	19.83	0.07	0.021	(0.067)	0.016	0.006

239	19.92	0.07	0.021	(0.067)	0.016	0.006
240	20.00	0.07	0.021	(0.067)	0.016	0.006
241	20.08	0.10	0.032	(0.066)	0.023	0.009
242	20.17	0.10	0.032	(0.066)	0.023	0.009
243	20.25	0.10	0.032	(0.066)	0.023	0.009
244	20.33	0.10	0.032	(0.065)	0.023	0.009
245	20.42	0.10	0.032	(0.065)	0.023	0.009
246	20.50	0.10	0.032	(0.065)	0.023	0.009
247	20.58	0.10	0.032	(0.065)	0.023	0.009
248	20.67	0.10	0.032	(0.064)	0.023	0.009
249	20.75	0.10	0.032	(0.064)	0.023	0.009
250	20.83	0.07	0.021	(0.064)	0.016	0.006
251	20.92	0.07	0.021	(0.064)	0.016	0.006
252	21.00	0.07	0.021	(0.063)	0.016	0.006
253	21.08	0.10	0.032	(0.063)	0.023	0.009
254	21.17	0.10	0.032	(0.063)	0.023	0.009
255	21.25	0.10	0.032	(0.063)	0.023	0.009
256	21.33	0.07	0.021	(0.062)	0.016	0.006
257	21.42	0.07	0.021	(0.062)	0.016	0.006
258	21.50	0.07	0.021	(0.062)	0.016	0.006
259	21.58	0.10	0.032	(0.062)	0.023	0.009
260	21.67	0.10	0.032	(0.061)	0.023	0.009
261	21.75	0.10	0.032	(0.061)	0.023	0.009
262	21.83	0.07	0.021	(0.061)	0.016	0.006
263	21.92	0.07	0.021	(0.061)	0.016	0.006
264	22.00	0.07	0.021	(0.061)	0.016	0.006
265	22.08	0.10	0.032	(0.060)	0.023	0.009
266	22.17	0.10	0.032	(0.060)	0.023	0.009
267	22.25	0.10	0.032	(0.060)	0.023	0.009
268	22.33	0.07	0.021	(0.060)	0.016	0.006
269	22.42	0.07	0.021	(0.060)	0.016	0.006
270	22.50	0.07	0.021	(0.059)	0.016	0.006
271	22.58	0.07	0.021	(0.059)	0.016	0.006
272	22.67	0.07	0.021	(0.059)	0.016	0.006
273	22.75	0.07	0.021	(0.059)	0.016	0.006
274	22.83	0.07	0.021	(0.059)	0.016	0.006
275	22.92	0.07	0.021	(0.059)	0.016	0.006
276	23.00	0.07	0.021	(0.058)	0.016	0.006
277	23.08	0.07	0.021	(0.058)	0.016	0.006
278	23.17	0.07	0.021	(0.058)	0.016	0.006
279	23.25	0.07	0.021	(0.058)	0.016	0.006
280	23.33	0.07	0.021	(0.058)	0.016	0.006
281	23.42	0.07	0.021	(0.058)	0.016	0.006
282	23.50	0.07	0.021	(0.058)	0.016	0.006
283	23.58	0.07	0.021	(0.058)	0.016	0.006
284	23.67	0.07	0.021	(0.058)	0.016	0.006
285	23.75	0.07	0.021	(0.057)	0.016	0.006
286	23.83	0.07	0.021	(0.057)	0.016	0.006
287	23.92	0.07	0.021	(0.057)	0.016	0.006
288	24.00	0.07	0.021	(0.057)	0.016	0.006

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.7

Flood volume = Effective rainfall 1.22(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 1.44(In)
Total soil loss = 1.162(Ac.Ft)
Total rainfall = 2.66(In)

Flood volume = 43072.9 Cubic Feet
Total soil loss = 50605.6 Cubic Feet

Peak flow rate of this hydrograph = 2.577(CFS)

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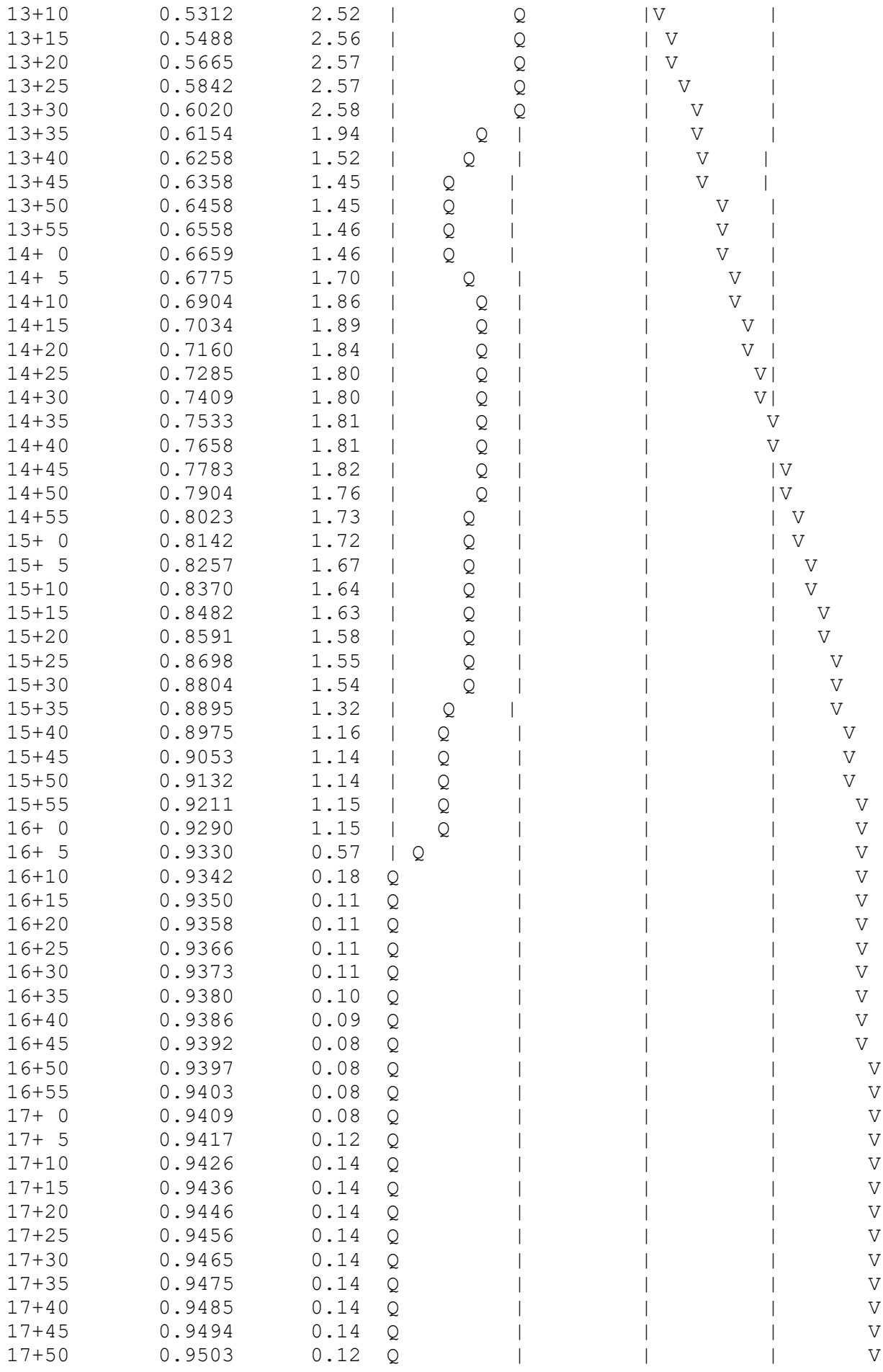
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0006	0.05	Q				
0+15	0.0010	0.06	Q				
0+20	0.0015	0.07	Q				
0+25	0.0020	0.08	Q				
0+30	0.0026	0.08	Q				
0+35	0.0032	0.08	Q				
0+40	0.0038	0.08	Q				
0+45	0.0044	0.08	Q				
0+50	0.0050	0.10	Q				
0+55	0.0058	0.11	Q				
1+ 0	0.0066	0.11	Q				
1+ 5	0.0072	0.10	Q				
1+10	0.0078	0.09	Q				
1+15	0.0084	0.08	Q				
1+20	0.0090	0.08	Q				
1+25	0.0096	0.08	Q				
1+30	0.0102	0.08	Q				
1+35	0.0107	0.08	Q				
1+40	0.0113	0.08	Q				
1+45	0.0119	0.08	Q				
1+50	0.0126	0.10	Q				
1+55	0.0133	0.11	Q				
2+ 0	0.0141	0.11	Q				
2+ 5	0.0149	0.11	Q				
2+10	0.0157	0.11	Q				
2+15	0.0164	0.11	Q				
2+20	0.0172	0.11	Q				
2+25	0.0180	0.11	Q				
2+30	0.0188	0.11	Q				
2+35	0.0197	0.13	Q				
2+40	0.0206	0.14	Q				
2+45	0.0216	0.14	Q				
2+50	0.0225	0.14	Q				
2+55	0.0235	0.14	Q				
3+ 0	0.0245	0.14	Q				
3+ 5	0.0254	0.14	QV				
3+10	0.0264	0.14	QV				
3+15	0.0274	0.14	QV				
3+20	0.0283	0.14	QV				
3+25	0.0293	0.14	QV				
3+30	0.0303	0.14	QV				
3+35	0.0313	0.14	QV				

3+40	0.0322	0.14	QV	|	|	|	|
3+45	0.0332	0.14	QV	|	|	|	|
3+50	0.0343	0.16	QV	|	|	|	|
3+55	0.0354	0.17	QV	|	|	|	|
4+ 0	0.0366	0.17	QV	|	|	|	|
4+ 5	0.0377	0.17	QV	|	|	|	|
4+10	0.0389	0.17	QV	|	|	|	|
4+15	0.0401	0.17	QV	|	|	|	|
4+20	0.0413	0.18	QV	|	|	|	|
4+25	0.0427	0.19	QV	|	|	|	|
4+30	0.0440	0.20	QV	|	|	|	|
4+35	0.0454	0.20	QV	|	|	|	|
4+40	0.0467	0.20	QV	|	|	|	|
4+45	0.0481	0.20	QV	|	|	|	|
4+50	0.0496	0.21	Q V	|	|	|	|
4+55	0.0511	0.22	Q V	|	|	|	|
5+ 0	0.0526	0.22	Q V	|	|	|	|
5+ 5	0.0540	0.19	Q V	|	|	|	|
5+10	0.0552	0.17	Q V	|	|	|	|
5+15	0.0563	0.17	Q V	|	|	|	|
5+20	0.0576	0.18	Q V	|	|	|	|
5+25	0.0589	0.19	Q V	|	|	|	|
5+30	0.0603	0.20	Q V	|	|	|	|
5+35	0.0617	0.21	Q V	|	|	|	|
5+40	0.0633	0.22	Q V	|	|	|	|
5+45	0.0648	0.22	Q V	|	|	|	|
5+50	0.0664	0.22	Q V	|	|	|	|
5+55	0.0679	0.22	Q V	|	|	|	|
6+ 0	0.0695	0.22	Q V	|	|	|	|
6+ 5	0.0711	0.24	Q V	|	|	|	|
6+10	0.0729	0.25	|QV	|	|	|	|
6+15	0.0746	0.25	|Q V	|	|	|	|
6+20	0.0763	0.25	|Q V	|	|	|	|
6+25	0.0781	0.25	|Q V	|	|	|	|
6+30	0.0798	0.25	|Q V	|	|	|	|
6+35	0.0817	0.27	|Q V	|	|	|	|
6+40	0.0836	0.28	|Q V	|	|	|	|
6+45	0.0855	0.28	|Q V	|	|	|	|
6+50	0.0875	0.28	|Q V	|	|	|	|
6+55	0.0894	0.28	|Q V	|	|	|	|
7+ 0	0.0913	0.28	|Q V	|	|	|	|
7+ 5	0.0933	0.28	|Q V	|	|	|	|
7+10	0.0952	0.28	|Q V	|	|	|	|
7+15	0.0971	0.28	|Q V	|	|	|	|
7+20	0.0992	0.30	|Q V	|	|	|	|
7+25	0.1013	0.31	|Q V	|	|	|	|
7+30	0.1034	0.31	|Q V	|	|	|	|
7+35	0.1057	0.32	|Q V	|	|	|	|
7+40	0.1080	0.34	|Q V	|	|	|	|
7+45	0.1103	0.34	|Q V	|	|	|	|
7+50	0.1127	0.35	|Q V	|	|	|	|
7+55	0.1152	0.36	|Q V	|	|	|	|
8+ 0	0.1178	0.37	|Q V	|	|	|	|
8+ 5	0.1205	0.40	|Q V	|	|	|	|
8+10	0.1234	0.42	|Q V	|	|	|	|
8+15	0.1263	0.42	|Q V	|	|	|	|
8+20	0.1292	0.42	|Q V	|	|	|	|

8+25	0.1321	0.42	Q V				
8+30	0.1350	0.42	Q V				
8+35	0.1380	0.44	Q V				
8+40	0.1411	0.45	Q V				
8+45	0.1442	0.45	Q V				
8+50	0.1475	0.48	Q V				
8+55	0.1510	0.50	Q V				
9+ 0	0.1545	0.51	Q V				
9+ 5	0.1589	0.64	Q V				
9+10	0.1638	0.72	Q V				
9+15	0.1689	0.74	Q V				
9+20	0.1745	0.80	Q V				
9+25	0.1803	0.85	Q V				
9+30	0.1862	0.86	Q V				
9+35	0.1926	0.93	Q V				
9+40	0.1993	0.97	Q V				
9+45	0.2060	0.98	Q V				
9+50	0.2133	1.05	Q V				
9+55	0.2208	1.09	Q V				
10+ 0	0.2284	1.10	Q V				
10+ 5	0.2334	0.72	Q V				
10+10	0.2366	0.47	Q V				
10+15	0.2395	0.42	Q V				
10+20	0.2424	0.42	Q V				
10+25	0.2453	0.42	Q V				
10+30	0.2482	0.42	Q V				
10+35	0.2531	0.71	Q V				
10+40	0.2593	0.91	Q V				
10+45	0.2658	0.95	Q V				
10+50	0.2724	0.95	Q V				
10+55	0.2790	0.96	Q V				
11+ 0	0.2856	0.96	Q V				
11+ 5	0.2919	0.91	Q V				
11+10	0.2979	0.88	Q V				
11+15	0.3040	0.88	Q V				
11+20	0.3100	0.88	Q V				
11+25	0.3162	0.89	Q V				
11+30	0.3223	0.89	Q V				
11+35	0.3277	0.78	Q V				
11+40	0.3326	0.71	Q V				
11+45	0.3374	0.70	Q V				
11+50	0.3426	0.76	Q V				
11+55	0.3482	0.81	Q V				
12+ 0	0.3538	0.82	Q V				
12+ 5	0.3623	1.23	Q V				
12+10	0.3727	1.51	Q V				
12+15	0.3835	1.56	Q V				
12+20	0.3947	1.63	Q V				
12+25	0.4062	1.67	Q V				
12+30	0.4178	1.68	Q V				
12+35	0.4303	1.81	Q V				
12+40	0.4433	1.89	Q V				
12+45	0.4564	1.91	Q V				
12+50	0.4700	1.97	Q V				
12+55	0.4839	2.01	Q V				
13+ 0	0.4978	2.03	Q V				
13+ 5	0.5138	2.32	Q V				



17+55	0.9511	0.11	Q	|	|	|	V |
18+ 0	0.9518	0.11	Q	|	|	|	V |
18+ 5	0.9526	0.11	Q	|	|	|	V |
18+10	0.9534	0.11	Q	|	|	|	V |
18+15	0.9542	0.11	Q	|	|	|	V |
18+20	0.9549	0.11	Q	|	|	|	V |
18+25	0.9557	0.11	Q	|	|	|	V |
18+30	0.9565	0.11	Q	|	|	|	V |
18+35	0.9572	0.10	Q	|	|	|	V |
18+40	0.9577	0.09	Q	|	|	|	V |
18+45	0.9583	0.08	Q	|	|	|	V |
18+50	0.9588	0.07	Q	|	|	|	V |
18+55	0.9592	0.06	Q	|	|	|	V |
19+ 0	0.9596	0.06	Q	|	|	|	V |
19+ 5	0.9601	0.07	Q	|	|	|	V |
19+10	0.9607	0.08	Q	|	|	|	V |
19+15	0.9612	0.08	Q	|	|	|	V |
19+20	0.9619	0.10	Q	|	|	|	V |
19+25	0.9627	0.11	Q	|	|	|	V |
19+30	0.9635	0.11	Q	|	|	|	V |
19+35	0.9641	0.10	Q	|	|	|	V|
19+40	0.9647	0.09	Q	|	|	|	V|
19+45	0.9653	0.08	Q	|	|	|	V|
19+50	0.9658	0.07	Q	|	|	|	V|
19+55	0.9662	0.06	Q	|	|	|	V|
20+ 0	0.9666	0.06	Q	|	|	|	V|
20+ 5	0.9671	0.07	Q	|	|	|	V|
20+10	0.9676	0.08	Q	|	|	|	V|
20+15	0.9682	0.08	Q	|	|	|	V|
20+20	0.9688	0.08	Q	|	|	|	V|
20+25	0.9694	0.08	Q	|	|	|	V|
20+30	0.9699	0.08	Q	|	|	|	V|
20+35	0.9705	0.08	Q	|	|	|	V|
20+40	0.9711	0.08	Q	|	|	|	V|
20+45	0.9717	0.08	Q	|	|	|	V|
20+50	0.9722	0.07	Q	|	|	|	V|
20+55	0.9726	0.06	Q	|	|	|	V|
21+ 0	0.9729	0.06	Q	|	|	|	V|
21+ 5	0.9734	0.07	Q	|	|	|	V|
21+10	0.9740	0.08	Q	|	|	|	V|
21+15	0.9746	0.08	Q	|	|	|	V|
21+20	0.9751	0.07	Q	|	|	|	V|
21+25	0.9755	0.06	Q	|	|	|	V|
21+30	0.9758	0.06	Q	|	|	|	V|
21+35	0.9763	0.07	Q	|	|	|	V|
21+40	0.9769	0.08	Q	|	|	|	V|
21+45	0.9775	0.08	Q	|	|	|	V|
21+50	0.9780	0.07	Q	|	|	|	V|
21+55	0.9784	0.06	Q	|	|	|	V|
22+ 0	0.9788	0.06	Q	|	|	|	V|
22+ 5	0.9792	0.07	Q	|	|	|	V|
22+10	0.9798	0.08	Q	|	|	|	V|
22+15	0.9804	0.08	Q	|	|	|	V|
22+20	0.9809	0.07	Q	|	|	|	V|
22+25	0.9813	0.06	Q	|	|	|	V|
22+30	0.9817	0.06	Q	|	|	|	V|
22+35	0.9820	0.06	Q	|	|	|	V|

22+40	0.9824	0.06	Q	|	|	|	V|
22+45	0.9828	0.06	Q	|	|	|	V|
22+50	0.9832	0.06	Q	|	|	|	V|
22+55	0.9836	0.06	Q	|	|	|	V|
23+ 0	0.9840	0.06	Q	|	|	|	V|
23+ 5	0.9844	0.06	Q	|	|	|	V|
23+10	0.9848	0.06	Q	|	|	|	V|
23+15	0.9851	0.06	Q	|	|	|	V|
23+20	0.9855	0.06	Q	|	|	|	V|
23+25	0.9859	0.06	Q	|	|	|	V|
23+30	0.9863	0.06	Q	|	|	|	V|
23+35	0.9867	0.06	Q	|	|	|	V|
23+40	0.9871	0.06	Q	|	|	|	V|
23+45	0.9875	0.06	Q	|	|	|	V|
23+50	0.9878	0.06	Q	|	|	|	V|
23+55	0.9882	0.06	Q	|	|	|	V|
24+ 0	0.9886	0.06	Q	|	|	|	V|
24+ 5	0.9888	0.02	Q	|	|	|	V|
24+10	0.9888	0.00	Q	|	|	|	V

Proposed Condition

2-year return – 1-, 3-, 6-, 24-hour duration

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 06/03/26 File: 19267p002AL12.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	0.42	0.61

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	1.22	1.76

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.419(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.419(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.900	0.095	1.000	0.095
					Sum (F) =	0.095

Area averaged mean soil loss (F) (In/Hr) = 0.095
Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
		Sum = 100.000	Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.166	(0.095)	0.030	0.136
2	0.17	4.20	0.211	(0.095)	0.038	0.173
3	0.25	4.40	0.221	(0.095)	0.040	0.181
4	0.33	4.80	0.241	(0.095)	0.043	0.198
5	0.42	5.20	0.261	(0.095)	0.047	0.214
6	0.50	6.20	0.312	(0.095)	0.056	0.256
7	0.58	6.80	0.342	(0.095)	0.062	0.280
8	0.67	8.80	0.442	(0.095)	0.080	0.363
9	0.75	13.90	0.699	0.095	(0.126)	0.604

```
 10   0.83    31.40      1.579          0.095    (  0.284)        1.484
 11   0.92     7.20      0.362       (  0.095)       0.065        0.297
 12   1.00     3.80      0.191       (  0.095)       0.034        0.157
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     4.3
    Flood volume = Effective rainfall      0.36(In)
     times area       1.4(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.007(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        1898.2 Cubic Feet
    Total soil loss =         299.5 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.913(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0011      0.16  QV        |         |         |         |
   0+10       0.0028      0.24  Q V       |         |         |         |
   0+15       0.0046      0.26  |Q  V     |         |         |         |
   0+20       0.0065      0.28  |Q   V    |         |         |         |
   0+25       0.0086      0.31  |Q     V  |         |         |         |
   0+30       0.0111      0.36  |Q        V         |         |         |
   0+35       0.0139      0.40  |Q        | V       |         |         |
   0+40       0.0174      0.51  | Q       |   V     |         |         |
   0+45       0.0230      0.81  |  Q      |         |V        |         |
   0+50       0.0361      1.91  |      Q  |         |         |  V      |
   0+55       0.0414      0.77  |  Q      |         |         |       V |
   1+ 0       0.0433      0.27  |Q        |         |         |        V|
   1+ 5       0.0436      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 06/03/26 File: 19267p002B12.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-Year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	0.42	1.36

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.25             1.22                 3.96

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.419(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.419(In)

Sub-Area Data:
Area(Ac.)          Runoff Index   Impervious %
     3.245            75.00          0.870
 Total Area Entered =      3.25(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  57.0      0.501     0.870        0.109        1.000      0.109
                                                    Sum (F) =   0.109
Area averaged mean soil loss (F) (In/Hr) =  0.109
Minimum soil loss rate ((In/Hr)) =  0.054
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.200
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        964.758        100.000             3.270
                               Sum = 100.000   Sum=       3.270
------------------------------------------------------------------------
```

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	3.30	0.166	(0.109)	0.033	0.133
2	0.17	4.20	0.211	(0.109)	0.042	0.169
3	0.25	4.40	0.221	(0.109)	0.044	0.177
4	0.33	4.80	0.241	(0.109)	0.048	0.193
5	0.42	5.20	0.261	(0.109)	0.052	0.209
6	0.50	6.20	0.312	(0.109)	0.062	0.249
7	0.58	6.80	0.342	(0.109)	0.068	0.274
8	0.67	8.80	0.442	(0.109)	0.088	0.354
9	0.75	13.90	0.699	0.109	(0.140)	0.590
10	0.83	31.40	1.579	0.109	(0.316)	1.470

```
 11   0.92     7.20      0.362       (  0.109)       0.072        0.290
 12   1.00     3.80      0.191       (  0.109)       0.038        0.153
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     4.3
    Flood volume = Effective rainfall      0.36(In)
     times area       3.2(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.017(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        4182.2 Cubic Feet
    Total soil loss =         753.2 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      4.810(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0030      0.43  |Q        |         |         |         |
   0+10       0.0068      0.55  | Q       |         |         |         |
   0+15       0.0108      0.58  | Q V     |         |         |         |
   0+20       0.0151      0.63  | Q  V    |         |         |         |
   0+25       0.0199      0.68  | Q     V |         |         |         |
   0+30       0.0255      0.82  |  Q      V         |         |         |
   0+35       0.0316      0.89  |  Q      |  V      |         |         |
   0+40       0.0396      1.16  |   Q     |     V   |         |         |
   0+45       0.0529      1.93  |      Q  |         | V       |         |
   0+50       0.0860      4.81  |         |        Q|         |    V    |
   0+55       0.0926      0.95  |  Q      |         |         |       V |
   1+ 0       0.0960      0.50  | 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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	0.42	0.53

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        1.25             1.22                 1.53

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.419(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.419(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     1.254           75.00          0.790
 Total Area Entered =      1.25(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  57.0      0.501     0.790        0.145        1.000      0.145
                                                    Sum (F) =   0.145
Area averaged mean soil loss (F) (In/Hr) =  0.145
Minimum soil loss rate ((In/Hr)) =  0.072
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.270
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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       1293.145        100.000             1.264
                               Sum = 100.000   Sum=       1.264
------------------------------------------------------------------------
```

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	3.30	0.166	(0.145)		0.045	0.121
2	0.17	4.20	0.211	(0.145)		0.057	0.154
3	0.25	4.40	0.221	(0.145)		0.060	0.161
4	0.33	4.80	0.241	(0.145)		0.065	0.176
5	0.42	5.20	0.261	(0.145)		0.071	0.191
6	0.50	6.20	0.312	(0.145)		0.084	0.228
7	0.58	6.80	0.342	(0.145)		0.092	0.250
8	0.67	8.80	0.442	(0.145)		0.119	0.323
9	0.75	13.90	0.699	0.145	(	0.189)	0.554
10	0.83	31.40	1.579	0.145	(	0.426)	1.434

```
 11   0.92     7.20      0.362       (  0.145)       0.098        0.264
 12   1.00     3.80      0.191       (  0.145)       0.052        0.139
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     4.0
    Flood volume = Effective rainfall      0.33(In)
     times area       1.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.09(In)
    Total soil loss =     0.009(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        1515.8 Cubic Feet
    Total soil loss =         391.4 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.813(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0011      0.15  QV        |         |         |         |
   0+10       0.0024      0.19  Q V       |         |         |         |
   0+15       0.0038      0.20  Q   V     |         |         |         |
   0+20       0.0053      0.22  Q     V   |         |         |         |
   0+25       0.0070      0.24  Q       V |         |         |         |
   0+30       0.0090      0.29  |Q        V         |         |         |
   0+35       0.0112      0.32  |Q        | V       |         |         |
   0+40       0.0140      0.41  |Q        |     V   |         |         |
   0+45       0.0188      0.70  | Q       |         |V        |         |
   0+50       0.0313      1.81  |      Q  |         |         |    V    |
   0+55       0.0336      0.33  |Q        |         |         |       V |
   1+ 0       0.0348      0.18  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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
0.33	0.42	0.14

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        0.33             1.22                 0.41

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.419(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.419(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     0.332           75.00          0.880
 Total Area Entered =      0.33(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  57.0      0.501     0.880        0.104        1.000      0.104
                                                    Sum (F) =   0.104
Area averaged mean soil loss (F) (In/Hr) =  0.104
Minimum soil loss rate ((In/Hr)) =  0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.200
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        699.916         78.557             0.263
    2   0.167       1399.832         21.443             0.072
                               Sum = 100.000   Sum=       0.335
------------------------------------------------------------------------
```

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	3.30	0.166	(0.104)		0.033	0.133
2	0.17	4.20	0.211	(0.104)		0.042	0.169
3	0.25	4.40	0.221	(0.104)		0.044	0.177
4	0.33	4.80	0.241	(0.104)		0.048	0.193
5	0.42	5.20	0.261	(0.104)		0.052	0.209
6	0.50	6.20	0.312	(0.104)		0.062	0.249
7	0.58	6.80	0.342	(0.104)		0.068	0.274
8	0.67	8.80	0.442	(0.104)		0.088	0.354
9	0.75	13.90	0.699	0.104	(	0.140)	0.595

```
 10   0.83    31.40      1.579          0.104    (  0.316)        1.475
 11   0.92     7.20      0.362       (  0.104)       0.072        0.290
 12   1.00     3.80      0.191       (  0.104)       0.038        0.153
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     4.3
    Flood volume = Effective rainfall      0.36(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.002(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =         428.8 Cubic Feet
    Total soil loss =          76.2 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.431(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0002      0.03  Q          |         |         |         |
   0+10       0.0006      0.05  Q V        |         |         |         |
   0+15       0.0010      0.06  Q   V      |         |         |         |
   0+20       0.0015      0.06  Q    V     |         |         |         |
   0+25       0.0019      0.07  Q      V   |         |         |         |
   0+30       0.0025      0.08  Q          V         |         |         |
   0+35       0.0031      0.09  Q          | V       |         |         |
   0+40       0.0039      0.11  Q          |   V     |         |         |
   0+45       0.0051      0.18  Q          |         V         |         |
   0+50       0.0081      0.43  |Q         |         |         | V       |
   0+55       0.0093      0.18  Q          |         |         |      V  |
   1+ 0       0.0098      0.06  Q          |         |         |        V|
   1+ 5       0.0098      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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	0.42	0.16

100 YEAR Area rainfall data:

```
    Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
            0.38             1.22                 0.47

    STORM EVENT (YEAR) =    2.00
    Area Averaged 2-Year Rainfall =    0.419(In)
    Area Averaged 100-Year Rainfall =    1.220(In)

    Point rain (area averaged) =    0.419(In)
    Areal adjustment factor =  100.00 %
    Adjusted average point rain =    0.419(In)

    Sub-Area Data:
    Area(Ac.)         Runoff Index   Impervious %
         0.382           75.00         0.880
     Total Area Entered =      0.38(Ac.)


    RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
    AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
    75.0  57.0      0.501     0.880        0.104        1.000      0.104
                                                        Sum (F) =   0.104
    Area averaged mean soil loss (F) (In/Hr) =  0.104
    Minimum soil loss rate ((In/Hr)) =  0.052
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.200
    ------------------------------------------------------------------------
    Slope of intensity-duration curve for a 1 hour storm =0.5500
    ------------------------------------------------------------------------

              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       1040.009        100.000             0.385
                                  Sum = 100.000   Sum=       0.385
------------------------------------------------------------------------
```

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	3.30	0.166	(0.104)	0.033	0.133
2	0.17	4.20	0.211	(0.104)	0.042	0.169
3	0.25	4.40	0.221	(0.104)	0.044	0.177
4	0.33	4.80	0.241	(0.104)	0.048	0.193
5	0.42	5.20	0.261	(0.104)	0.052	0.209
6	0.50	6.20	0.312	(0.104)	0.062	0.249
7	0.58	6.80	0.342	(0.104)	0.068	0.274
8	0.67	8.80	0.442	(0.104)	0.088	0.354
9	0.75	13.90	0.699	0.104	(0.140)	0.595
10	0.83	31.40	1.579	0.104	(0.316)	1.475

```
 11   0.92     7.20      0.362       (  0.104)       0.072        0.290
 12   1.00     3.80      0.191       (  0.104)       0.038        0.153
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     4.3
    Flood volume = Effective rainfall      0.36(In)
     times area       0.4(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.002(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =         493.4 Cubic Feet
    Total soil loss =          87.6 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.568(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0004      0.05  QV        |         |         |         |
   0+10       0.0008      0.07  Q V       |         |         |         |
   0+15       0.0013      0.07  Q   V     |         |         |         |
   0+20       0.0018      0.07  Q     V   |         |         |         |
   0+25       0.0023      0.08  Q       V |         |         |         |
   0+30       0.0030      0.10  Q         V         |         |         |
   0+35       0.0037      0.11  Q         |  V      |         |         |
   0+40       0.0047      0.14  Q         |     V   |         |         |
   0+45       0.0062      0.23  Q         |         | V       |         |
   0+50       0.0102      0.57  | Q       |         |         |    V    |
   0+55       0.0109      0.11  Q         |         |         |       V |
   1+ 0       0.0113      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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	0.42	0.46

100 YEAR Area rainfall data:

```
    Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
            1.11             1.22                 1.35

    STORM EVENT (YEAR) =    2.00
    Area Averaged 2-Year Rainfall =    0.419(In)
    Area Averaged 100-Year Rainfall =    1.220(In)

    Point rain (area averaged) =    0.419(In)
    Areal adjustment factor =  100.00 %
    Adjusted average point rain =    0.419(In)

    Sub-Area Data:
    Area(Ac.)         Runoff Index   Impervious %
         1.105           75.00         0.840
     Total Area Entered =      1.11(Ac.)


    RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
    AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
    75.0  57.0      0.501     0.840        0.122        1.000      0.122
                                                        Sum (F) =   0.122
    Area averaged mean soil loss (F) (In/Hr) =  0.122
    Minimum soil loss rate ((In/Hr)) =  0.061
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.230
    ------------------------------------------------------------------------
    Slope of intensity-duration curve for a 1 hour storm =0.5500
    ------------------------------------------------------------------------

               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       1261.013        100.000             1.114
                                  Sum = 100.000   Sum=       1.114
-------------------------------------------------------------------------


 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     3.30      0.166       (  0.122)       0.038        0.128
    2   0.17     4.20      0.211       (  0.122)       0.049        0.163
    3   0.25     4.40      0.221       (  0.122)       0.051        0.170
    4   0.33     4.80      0.241       (  0.122)       0.056        0.186
    5   0.42     5.20      0.261       (  0.122)       0.060        0.201
    6   0.50     6.20      0.312       (  0.122)       0.072        0.240
    7   0.58     6.80      0.342       (  0.122)       0.079        0.263
    8   0.67     8.80      0.442       (  0.122)       0.102        0.341
    9   0.75    13.90      0.699          0.122    (  0.161)        0.577
   10   0.83    31.40      1.579          0.122    (  0.363)        1.457
```

```
 11   0.92     7.20      0.362       (  0.122)       0.083        0.279
 12   1.00     3.80      0.191       (  0.122)       0.044        0.147
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     4.2
    Flood volume = Effective rainfall      0.35(In)
     times area       1.1(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.07(In)
    Total soil loss =     0.007(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        1387.6 Cubic Feet
    Total soil loss =         293.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.623(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0010      0.14  QV        |         |         |         |
   0+10       0.0022      0.18  Q V       |         |         |         |
   0+15       0.0035      0.19  Q   V     |         |         |         |
   0+20       0.0050      0.21  Q     V   |         |         |         |
   0+25       0.0065      0.22  Q       V |         |         |         |
   0+30       0.0083      0.27  |Q        V         |         |         |
   0+35       0.0104      0.29  |Q        |  V      |         |         |
   0+40       0.0130      0.38  |Q        |     V   |         |         |
   0+45       0.0174      0.64  | Q       |         |V        |         |
   0+50       0.0286      1.62  |     Q   |         |         |    V    |
   0+55       0.0307      0.31  |Q        |         |         |       V |
   1+ 0       0.0319      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 06/03/26 File: 19267p002I12.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	0.42	0.38

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.90	1.22	1.10

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.419(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.419(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.830	0.127	1.000	0.127
					Sum (F) =	0.127

Area averaged mean soil loss (F) (In/Hr) = 0.127
Minimum soil loss rate ((In/Hr)) = 0.063
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
		Sum = 100.000	Sum=	0.907

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	3.30	0.166	(0.127)		0.040	0.126
2	0.17	4.20	0.211	(0.127)		0.051	0.160
3	0.25	4.40	0.221	(0.127)		0.053	0.168
4	0.33	4.80	0.241	(0.127)		0.058	0.183
5	0.42	5.20	0.261	(0.127)		0.063	0.199
6	0.50	6.20	0.312	(0.127)		0.075	0.237
7	0.58	6.80	0.342	(0.127)		0.082	0.260
8	0.67	8.80	0.442	(0.127)		0.106	0.336
9	0.75	13.90	0.699	0.127	(	0.168)	0.572

```
 10   0.83    31.40      1.579          0.127    (  0.379)        1.452
 11   0.92     7.20      0.362       (  0.127)       0.087        0.275
 12   1.00     3.80      0.191       (  0.127)       0.046        0.145
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     4.1
    Flood volume = Effective rainfall      0.34(In)
     times area       0.9(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.08(In)
    Total soil loss =     0.006(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =        1120.2 Cubic Feet
    Total soil loss =         248.7 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.130(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0006      0.09  Q          |         |         |         |
   0+10       0.0016      0.14  Q V        |         |         |         |
   0+15       0.0026      0.15  Q   V      |         |         |         |
   0+20       0.0037      0.16  Q    V     |         |         |         |
   0+25       0.0049      0.18  Q      V   |         |         |         |
   0+30       0.0064      0.21  Q        V |         |         |         |
   0+35       0.0080      0.23  Q          | V       |         |         |
   0+40       0.0099      0.29  |Q         |   V     |         |         |
   0+45       0.0132      0.47  |Q         |         V         |         |
   0+50       0.0210      1.13  |   Q      |         |         | V       |
   0+55       0.0244      0.50  | Q        |         |         |      V  |
   1+ 0       0.0255      0.16  Q          |         |         |        V|
   1+ 5       0.0257      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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	0.42	0.14

100 YEAR Area rainfall data:

```
    Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
            0.34             1.22                 0.41

    STORM EVENT (YEAR) =    2.00
    Area Averaged 2-Year Rainfall =    0.419(In)
    Area Averaged 100-Year Rainfall =    1.220(In)

    Point rain (area averaged) =    0.419(In)
    Areal adjustment factor =  100.00 %
    Adjusted average point rain =    0.419(In)

    Sub-Area Data:
    Area(Ac.)         Runoff Index   Impervious %
         0.340           75.00          0.860
     Total Area Entered =      0.34(Ac.)


    RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
    AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
    75.0  57.0      0.501     0.860        0.113        1.000      0.113
                                                        Sum (F) =   0.113
    Area averaged mean soil loss (F) (In/Hr) =  0.113
    Minimum soil loss rate ((In/Hr)) =  0.057
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.210
    ------------------------------------------------------------------------
    Slope of intensity-duration curve for a 1 hour storm =0.5500
    ------------------------------------------------------------------------

               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       1304.735        100.000             0.343
                                  Sum = 100.000   Sum=       0.343
------------------------------------------------------------------------
```

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	3.30	0.166	(0.113) 0.035	0.131
2	0.17	4.20	0.211	(0.113) 0.044	0.167
3	0.25	4.40	0.221	(0.113) 0.046	0.175
4	0.33	4.80	0.241	(0.113) 0.051	0.191
5	0.42	5.20	0.261	(0.113) 0.055	0.207
6	0.50	6.20	0.312	(0.113) 0.065	0.246
7	0.58	6.80	0.342	(0.113) 0.072	0.270
8	0.67	8.80	0.442	(0.113) 0.093	0.350
9	0.75	13.90	0.699	0.113 (0.147)	0.586
10	0.83	31.40	1.579	0.113 (0.332)	1.466

```
 11   0.92     7.20      0.362       (  0.113)       0.076        0.286
 12   1.00     3.80      0.191       (  0.113)       0.040        0.151
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     4.2
    Flood volume = Effective rainfall      0.35(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.07(In)
    Total soil loss =     0.002(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =         434.5 Cubic Feet
    Total soil loss =          82.7 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.502(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0003      0.04  QV        |         |         |         |
   0+10       0.0007      0.06  Q V       |         |         |         |
   0+15       0.0011      0.06  Q   V     |         |         |         |
   0+20       0.0016      0.07  Q     V   |         |         |         |
   0+25       0.0021      0.07  Q       V |         |         |         |
   0+30       0.0026      0.08  Q         V         |         |         |
   0+35       0.0033      0.09  Q         |  V      |         |         |
   0+40       0.0041      0.12  Q         |     V   |         |         |
   0+45       0.0055      0.20  Q         |         |V        |         |
   0+50       0.0089      0.50  | Q       |         |         |    V    |
   0+55       0.0096      0.10  Q         |         |         |       V |
   1+ 0       0.0100      0.05  Q         |         |         |         V
------------------------------------------------------------------------
```

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

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	0.42	0.29

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	1.22	0.84

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.419(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.419(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
		Sum = 100.000	Sum=	0.690

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	3.30	0.166	(0.136)	0.041	0.124
2	0.17	4.20	0.211	(0.136)	0.053	0.158
3	0.25	4.40	0.221	(0.136)	0.055	0.166
4	0.33	4.80	0.241	(0.136)	0.060	0.181
5	0.42	5.20	0.261	(0.136)	0.065	0.196
6	0.50	6.20	0.312	(0.136)	0.078	0.234
7	0.58	6.80	0.342	(0.136)	0.085	0.256

8	0.67	8.80	0.442	(0.136)	0.111	0.332
9	0.75	13.90	0.699	0.136	(0.175)	0.563
10	0.83	31.40	1.579	0.136	(0.395)	1.443
11	0.92	7.20	0.362	(0.136)	0.091	0.272
12	1.00	3.80	0.191	(0.136)	0.048	0.143

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.1

Flood volume = Effective rainfall 0.34(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.08(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 0.42(In)
Flood volume = 843.2 Cubic Feet
Total soil loss = 198.7 Cubic Feet

Peak flow rate of this hydrograph = 0.680(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q				
0+10	0.0009	0.09	QV				
0+15	0.0017	0.11	Q V				
0+20	0.0025	0.12	Q V				
0+25	0.0034	0.13	Q V				
0+30	0.0044	0.15	Q V				
0+35	0.0055	0.17	Q V				
0+40	0.0069	0.20	Q V				
0+45	0.0090	0.30	Q V				
0+50	0.0137	0.68	Q V				
0+55	0.0173	0.53	Q V				
1+ 0	0.0188	0.20	Q V				
1+ 5	0.0193	0.07	Q V				
1+10	0.0193	0.01	Q V				
1+15	0.0194	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 06/03/26 File: 19267p002site12.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	0.42	4.06

100 YEAR Area rainfall data:

```
    Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
            9.69             1.22                 11.82

    STORM EVENT (YEAR) =    2.00
    Area Averaged 2-Year Rainfall =    0.419(In)
    Area Averaged 100-Year Rainfall =    1.220(In)

    Point rain (area averaged) =    0.419(In)
    Areal adjustment factor =   99.99 %
    Adjusted average point rain =    0.419(In)

    Sub-Area Data:
    Area(Ac.)         Runoff Index   Impervious %
         9.688           75.00          0.640
     Total Area Entered =      9.69(Ac.)


    RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
    AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
    75.0  57.0      0.501     0.640        0.212        1.000      0.212
                                                        Sum (F) =   0.212
    Area averaged mean soil loss (F) (In/Hr) =  0.212
    Minimum soil loss rate ((In/Hr)) =  0.106
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.230
    ------------------------------------------------------------------------
    Slope of intensity-duration curve for a 1 hour storm =0.5500
    ------------------------------------------------------------------------

               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        964.758        100.000             9.764
                                  Sum = 100.000   Sum=       9.764
------------------------------------------------------------------------


 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     3.30      0.166       (  0.212)      0.038        0.128
    2   0.17     4.20      0.211       (  0.212)      0.049        0.163
    3   0.25     4.40      0.221       (  0.212)      0.051        0.170
    4   0.33     4.80      0.241       (  0.212)      0.056        0.186
    5   0.42     5.20      0.261       (  0.212)      0.060        0.201
    6   0.50     6.20      0.312       (  0.212)      0.072        0.240
    7   0.58     6.80      0.342       (  0.212)      0.079        0.263
    8   0.67     8.80      0.442       (  0.212)      0.102        0.341
    9   0.75    13.90      0.699       (  0.212)      0.161        0.538
   10   0.83    31.40      1.579          0.212    (  0.363)       1.366
```

```
 11   0.92     7.20      0.362       (  0.212)       0.083        0.279
 12   1.00     3.80      0.191       (  0.212)       0.044        0.147
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     4.0
    Flood volume = Effective rainfall      0.34(In)
     times area       9.7(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.08(In)
    Total soil loss =     0.068(Ac.Ft)
    Total rainfall =      0.42(In)
    Flood volume =       11787.1 Cubic Feet
    Total soil loss =        2946.7 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     13.348(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       0.0086      1.25  |VQ       |         |         |         |
   0+10       0.0195      1.59  | VQ      |         |         |         |
   0+15       0.0310      1.66  |  QV     |         |         |         |
   0+20       0.0435      1.82  |  Q  V   |         |         |         |
   0+25       0.0570      1.97  |  Q    V |         |         |         |
   0+30       0.0732      2.34  |   Q     V         |         |         |
   0+35       0.0909      2.57  |    Q    |  V      |         |         |
   0+40       0.1138      3.33  |     Q   |     V   |         |         |
   0+45       0.1500      5.26  |         Q         | V       |         |
   0+50       0.2419     13.35  |         |         |     Q   |    V    |
   0+55       0.2607      2.72  |    Q    |         |         |       V |
   1+ 0       0.2706      1.44  | 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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 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]
1.45	0.71	1.02

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	1.75	2.53

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.900	0.095	1.000	0.095
					Sum (F) =	0.095

Area averaged mean soil loss (F) (In/Hr) = 0.095
Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
			Sum = 100.000 Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.110	(0.095)	0.020	0.091
2	0.17	1.30	0.110	(0.095)	0.020	0.091
3	0.25	1.10	0.093	(0.095)	0.017	0.077
4	0.33	1.50	0.127	(0.095)	0.023	0.105
5	0.42	1.50	0.127	(0.095)	0.023	0.105
6	0.50	1.80	0.153	(0.095)	0.028	0.125
7	0.58	1.50	0.127	(0.095)	0.023	0.105
8	0.67	1.80	0.153	(0.095)	0.028	0.125
9	0.75	1.80	0.153	(0.095)	0.028	0.125
10	0.83	1.50	0.127	(0.095)	0.023	0.105
11	0.92	1.60	0.136	(0.095)	0.024	0.111

12	1.00	1.80	0.153	(0.095)	0.028	0.125
13	1.08	2.20	0.187	(0.095)	0.034	0.153
14	1.17	2.20	0.187	(0.095)	0.034	0.153
15	1.25	2.20	0.187	(0.095)	0.034	0.153
16	1.33	2.00	0.170	(0.095)	0.031	0.139
17	1.42	2.60	0.221	(0.095)	0.040	0.181
18	1.50	2.70	0.229	(0.095)	0.041	0.188
19	1.58	2.40	0.204	(0.095)	0.037	0.167
20	1.67	2.70	0.229	(0.095)	0.041	0.188
21	1.75	3.30	0.280	(0.095)	0.050	0.230
22	1.83	3.10	0.263	(0.095)	0.047	0.216
23	1.92	2.90	0.246	(0.095)	0.044	0.202
24	2.00	3.00	0.255	(0.095)	0.046	0.209
25	2.08	3.10	0.263	(0.095)	0.047	0.216
26	2.17	4.20	0.357	(0.095)	0.064	0.293
27	2.25	5.00	0.425	(0.095)	0.076	0.348
28	2.33	3.50	0.297	(0.095)	0.054	0.244
29	2.42	6.80	0.578	0.095	(0.104)	0.483
30	2.50	7.30	0.620	0.095	(0.112)	0.525
31	2.58	8.20	0.697	0.095	(0.125)	0.602
32	2.67	5.90	0.501	(0.095)	0.090	0.411
33	2.75	2.00	0.170	(0.095)	0.031	0.139
34	2.83	1.80	0.153	(0.095)	0.028	0.125
35	2.92	1.80	0.153	(0.095)	0.028	0.125
36	3.00	0.60	0.051	(0.095)	0.009	0.042

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.0

Flood volume = Effective rainfall 0.59(In)
times area 1.4(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.12(In)
Total soil loss = 0.015(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 3069.6 Cubic Feet
Total soil loss = 644.1 Cubic Feet

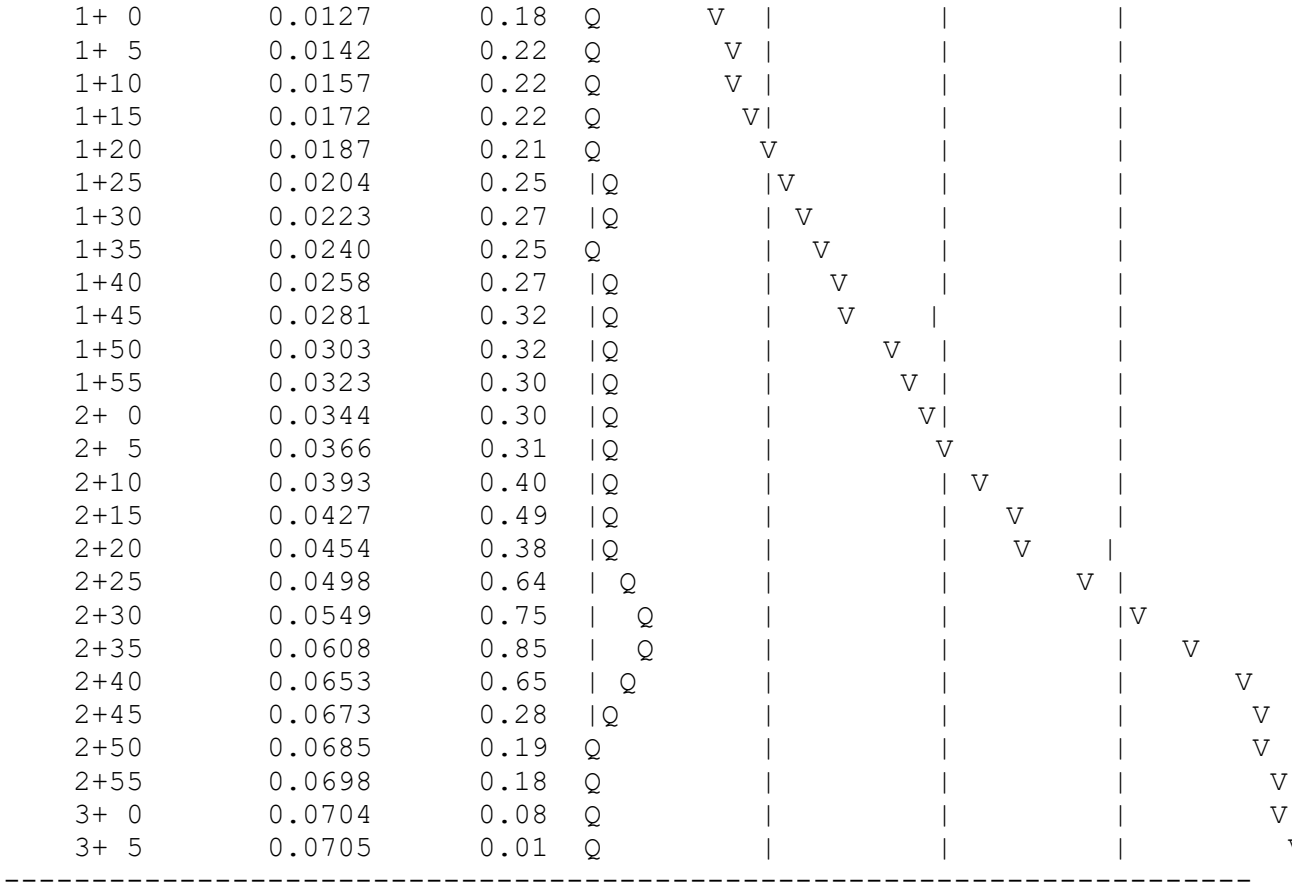
Peak flow rate of this hydrograph = 0.855(CFS)

++

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	0.0007	0.11	Q	|	|	|	|
0+10	0.0016	0.13	Q	|	|	|	|
0+15	0.0024	0.12	QV	|	|	|	|
0+20	0.0034	0.14	QV	|	|	|	|
0+25	0.0045	0.15	Q V	|	|	|	|
0+30	0.0057	0.18	Q V	|	|	|	|
0+35	0.0068	0.16	Q V	|	|	|	|
0+40	0.0080	0.18	Q V	|	|	|	|
0+45	0.0093	0.18	Q V	|	|	|	|
0+50	0.0104	0.16	Q V	|	|	|	|
0+55	0.0115	0.16	Q V	|	|	|	|


1+ 0 0.0127 0.18
1+ 5 0.0142 0.22
1+10 0.0157 0.22
1+15 0.0172 0.22
1+20 0.0187 0.21
1+25 0.0204 0.25
1+30 0.0223 0.27
1+35 0.0240 0.25
1+40 0.0258 0.27
1+45 0.0281 0.32
1+50 0.0303 0.32
1+55 0.0323 0.30
2+ 0 0.0344 0.30
2+ 5 0.0366 0.31
2+10 0.0393 0.40
2+15 0.0427 0.49
2+20 0.0454 0.38
2+25 0.0498 0.64
2+30 0.0549 0.75
2+35 0.0608 0.85
2+40 0.0653 0.65
2+45 0.0673 0.28
2+50 0.0685 0.19
2+55 0.0698 0.18
3+ 0 0.0704 0.08
3+ 5 0.0705 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 06/03/26 File: 19267p002B32.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-Year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	0.71	2.30

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.25	1.75	5.68

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.245	75.00	0.870

Total Area Entered = 3.25(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.870	0.109	1.000	0.109
					Sum (F) =	0.109

Area averaged mean soil loss (F) (In/Hr) = 0.109
Minimum soil loss rate ((In/Hr)) = 0.054
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	3.270
		Sum = 100.000	Sum= 3.270

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	0.110	(0.109)		0.022	0.088
2	0.17	1.30	0.110	(0.109)		0.022	0.088
3	0.25	1.10	0.093	(0.109)		0.019	0.075
4	0.33	1.50	0.127	(0.109)		0.025	0.102
5	0.42	1.50	0.127	(0.109)		0.025	0.102
6	0.50	1.80	0.153	(0.109)		0.031	0.122
7	0.58	1.50	0.127	(0.109)		0.025	0.102
8	0.67	1.80	0.153	(0.109)		0.031	0.122
9	0.75	1.80	0.153	(0.109)		0.031	0.122
10	0.83	1.50	0.127	(0.109)		0.025	0.102
11	0.92	1.60	0.136	(0.109)		0.027	0.109
12	1.00	1.80	0.153	(0.109)		0.031	0.122

13	1.08	2.20	0.187	(0.109)	0.037	0.150
14	1.17	2.20	0.187	(0.109)	0.037	0.150
15	1.25	2.20	0.187	(0.109)	0.037	0.150
16	1.33	2.00	0.170	(0.109)	0.034	0.136
17	1.42	2.60	0.221	(0.109)	0.044	0.177
18	1.50	2.70	0.229	(0.109)	0.046	0.184
19	1.58	2.40	0.204	(0.109)	0.041	0.163
20	1.67	2.70	0.229	(0.109)	0.046	0.184
21	1.75	3.30	0.280	(0.109)	0.056	0.224
22	1.83	3.10	0.263	(0.109)	0.053	0.211
23	1.92	2.90	0.246	(0.109)	0.049	0.197
24	2.00	3.00	0.255	(0.109)	0.051	0.204
25	2.08	3.10	0.263	(0.109)	0.053	0.211
26	2.17	4.20	0.357	(0.109)	0.071	0.285
27	2.25	5.00	0.425	(0.109)	0.085	0.340
28	2.33	3.50	0.297	(0.109)	0.059	0.238
29	2.42	6.80	0.578	0.109	(0.116)	0.469
30	2.50	7.30	0.620	0.109	(0.124)	0.512
31	2.58	8.20	0.697	0.109	(0.139)	0.588
32	2.67	5.90	0.501	(0.109)	0.100	0.401
33	2.75	2.00	0.170	(0.109)	0.034	0.136
34	2.83	1.80	0.153	(0.109)	0.031	0.122
35	2.92	1.80	0.153	(0.109)	0.031	0.122
36	3.00	0.60	0.051	(0.109)	0.010	0.041

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.8

Flood volume = Effective rainfall 0.57(In)
times area 3.2(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.14(In)
Total soil loss = 0.037(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 6723.8 Cubic Feet
Total soil loss = 1615.9 Cubic Feet

Peak flow rate of this hydrograph = 1.924(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 2.5 5.0 7.5 10.0
0+ 5	0.0020	0.29	VQ | | | |
0+10	0.0040	0.29	|Q | | | |
0+15	0.0057	0.24	QV | | | |
0+20	0.0080	0.33	|QV | | | |
0+25	0.0103	0.33	|QV | | | |
0+30	0.0130	0.40	|Q V | | | |
0+35	0.0153	0.33	|Q V | | | |
0+40	0.0181	0.40	|Q V | | | |
0+45	0.0208	0.40	|Q V | | | |
0+50	0.0231	0.33	|Q V | | | |
0+55	0.0256	0.36	|Q V | | | |
1+ 0	0.0283	0.40	|Q V | | | |

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    1+ 5       0.0317      0.49  |Q      V |          |          |          |
    1+10       0.0351      0.49  |Q       V|          |          |          |
    1+15       0.0384      0.49  |Q       V|          |          |          |
    1+20       0.0415      0.44  |Q        V          |          |          |
    1+25       0.0455      0.58  | Q       |V         |          |          |
    1+30       0.0496      0.60  | Q       | V        |          |          |
    1+35       0.0533      0.53  | Q       |  V       |          |          |
    1+40       0.0574      0.60  | Q       |   V      |          |          |
    1+45       0.0625      0.73  | Q       |     V    |          |          |
    1+50       0.0672      0.69  | Q       |      V   |          |          |
    1+55       0.0717      0.64  | Q       |       V  |          |          |
    2+ 0       0.0763      0.67  | Q       |        V |          |          |
    2+ 5       0.0810      0.69  | Q       |          V          |          |
    2+10       0.0875      0.93  |  Q      |          | V        |          |
    2+15       0.0951      1.11  |   Q     |          |   V      |          |
    2+20       0.1005      0.78  |  Q      |          |     V    |          |
    2+25       0.1110      1.53  |     Q   |          |       V  |          |
    2+30       0.1226      1.67  |     Q   |          |          |V         |
    2+35       0.1358      1.92  |      Q  |          |          |    V     |
    2+40       0.1449      1.31  |   Q     |          |          |      V   |
    2+45       0.1479      0.44  |Q        |          |          |       V  |
    2+50       0.1507      0.40  |Q        |          |          |        V |
    2+55       0.1534      0.40  |Q        |          |          |        V |
    3+ 0       0.1544      0.13  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 06/03/26 File: 19267p002CD32.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
1.25	0.71	0.89

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	1.75	2.19

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.254	75.00	0.790

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.790	0.145	1.000	0.145
					Sum (F) =	0.145

Area averaged mean soil loss (F) (In/Hr) = 0.145
Minimum soil loss rate ((In/Hr)) = 0.072
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1293.145	100.000	1.264
		Sum = 100.000	Sum=	1.264

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	0.110	(0.145)	0.030	0.081
2	0.17	1.30	0.110	(0.145)	0.030	0.081
3	0.25	1.10	0.093	(0.145)	0.025	0.068
4	0.33	1.50	0.127	(0.145)	0.034	0.093
5	0.42	1.50	0.127	(0.145)	0.034	0.093
6	0.50	1.80	0.153	(0.145)	0.041	0.112
7	0.58	1.50	0.127	(0.145)	0.034	0.093
8	0.67	1.80	0.153	(0.145)	0.041	0.112
9	0.75	1.80	0.153	(0.145)	0.041	0.112
10	0.83	1.50	0.127	(0.145)	0.034	0.093
11	0.92	1.60	0.136	(0.145)	0.037	0.099
12	1.00	1.80	0.153	(0.145)	0.041	0.112

13	1.08	2.20	0.187	(0.145)	0.050	0.136
14	1.17	2.20	0.187	(0.145)	0.050	0.136
15	1.25	2.20	0.187	(0.145)	0.050	0.136
16	1.33	2.00	0.170	(0.145)	0.046	0.124
17	1.42	2.60	0.221	(0.145)	0.060	0.161
18	1.50	2.70	0.229	(0.145)	0.062	0.167
19	1.58	2.40	0.204	(0.145)	0.055	0.149
20	1.67	2.70	0.229	(0.145)	0.062	0.167
21	1.75	3.30	0.280	(0.145)	0.076	0.205
22	1.83	3.10	0.263	(0.145)	0.071	0.192
23	1.92	2.90	0.246	(0.145)	0.067	0.180
24	2.00	3.00	0.255	(0.145)	0.069	0.186
25	2.08	3.10	0.263	(0.145)	0.071	0.192
26	2.17	4.20	0.357	(0.145)	0.096	0.260
27	2.25	5.00	0.425	(0.145)	0.115	0.310
28	2.33	3.50	0.297	(0.145)	0.080	0.217
29	2.42	6.80	0.578	0.145	(0.156)	0.433
30	2.50	7.30	0.620	0.145	(0.167)	0.476
31	2.58	8.20	0.697	0.145	(0.188)	0.552
32	2.67	5.90	0.501	(0.145)	0.135	0.366
33	2.75	2.00	0.170	(0.145)	0.046	0.124
34	2.83	1.80	0.153	(0.145)	0.041	0.112
35	2.92	1.80	0.153	(0.145)	0.041	0.112
36	3.00	0.60	0.051	(0.145)	0.014	0.037

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.3

Flood volume = Effective rainfall 0.52(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.18(In)
Total soil loss = 0.019(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 2382.1 Cubic Feet
Total soil loss = 840.8 Cubic Feet

Peak flow rate of this hydrograph = 0.698(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	2.5	5.0	7.5	10.0
0+ 5	0.0007	0.10	Q	|	|	|	|
0+10	0.0014	0.10	QV	|	|	|	|
0+15	0.0020	0.09	QV	|	|	|	|
0+20	0.0028	0.12	Q V	|	|	|	|
0+25	0.0036	0.12	Q V	|	|	|	|
0+30	0.0046	0.14	Q V	|	|	|	|
0+35	0.0054	0.12	Q V	|	|	|	|
0+40	0.0064	0.14	Q V	|	|	|	|
0+45	0.0073	0.14	Q V	|	|	|	|
0+50	0.0082	0.12	Q V	|	|	|	|
0+55	0.0090	0.13	Q V	|	|	|	|
1+ 0	0.0100	0.14	Q V	|	|	|	|

```
    1+ 5       0.0112      0.17  Q       V |          |          |          |
    1+10       0.0124      0.17  Q        V|          |          |          |
    1+15       0.0136      0.17  Q        V|          |          |          |
    1+20       0.0146      0.16  Q         V          |          |          |
    1+25       0.0160      0.20  Q          |V        |          |          |
    1+30       0.0175      0.21  Q          | V       |          |          |
    1+35       0.0188      0.19  Q          |  V      |          |          |
    1+40       0.0203      0.21  Q          |   V     |          |          |
    1+45       0.0220      0.26  |Q         |     V   |          |          |
    1+50       0.0237      0.24  Q          |      V  |          |          |
    1+55       0.0253      0.23  Q          |       V |          |          |
    2+ 0       0.0269      0.24  Q          |        V|          |          |
    2+ 5       0.0286      0.24  Q          |         V          |          |
    2+10       0.0308      0.33  |Q         |          | V       |          |
    2+15       0.0335      0.39  |Q         |          |   V     |          |
    2+20       0.0354      0.27  |Q         |          |   V    |           |
    2+25       0.0392      0.55  | Q        |          |       V |          |
    2+30       0.0433      0.60  | Q        |          |         |V         |
    2+35       0.0481      0.70  | Q        |          |         |    V     |
    2+40       0.0513      0.46  |Q         |          |         |      V   |
    2+45       0.0524      0.16  Q          |          |         |       V  |
    2+50       0.0534      0.14  Q          |          |         |        V |
    2+55       0.0544      0.14  Q          |          |         |        V |
    3+ 0       0.0547      0.05  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 06/03/26 File: 19267p002EK32.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
0.33	0.71	0.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	1.75	0.58

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.332	75.00	0.880

Total Area Entered = 0.33(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.880	0.104	1.000	0.104
					Sum (F) =	0.104

Area averaged mean soil loss (F) (In/Hr) = 0.104
Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	78.557	0.263
2	0.167	21.443	0.072
	Sum =	100.000 Sum=	0.335

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	0.110	(0.104)	0.022	0.088
2	0.17	1.30	0.110	(0.104)	0.022	0.088
3	0.25	1.10	0.093	(0.104)	0.019	0.075
4	0.33	1.50	0.127	(0.104)	0.025	0.102
5	0.42	1.50	0.127	(0.104)	0.025	0.102
6	0.50	1.80	0.153	(0.104)	0.031	0.122
7	0.58	1.50	0.127	(0.104)	0.025	0.102
8	0.67	1.80	0.153	(0.104)	0.031	0.122
9	0.75	1.80	0.153	(0.104)	0.031	0.122
10	0.83	1.50	0.127	(0.104)	0.025	0.102
11	0.92	1.60	0.136	(0.104)	0.027	0.109

12	1.00	1.80	0.153	(0.104)	0.031	0.122
13	1.08	2.20	0.187	(0.104)	0.037	0.150
14	1.17	2.20	0.187	(0.104)	0.037	0.150
15	1.25	2.20	0.187	(0.104)	0.037	0.150
16	1.33	2.00	0.170	(0.104)	0.034	0.136
17	1.42	2.60	0.221	(0.104)	0.044	0.177
18	1.50	2.70	0.229	(0.104)	0.046	0.184
19	1.58	2.40	0.204	(0.104)	0.041	0.163
20	1.67	2.70	0.229	(0.104)	0.046	0.184
21	1.75	3.30	0.280	(0.104)	0.056	0.224
22	1.83	3.10	0.263	(0.104)	0.053	0.211
23	1.92	2.90	0.246	(0.104)	0.049	0.197
24	2.00	3.00	0.255	(0.104)	0.051	0.204
25	2.08	3.10	0.263	(0.104)	0.053	0.211
26	2.17	4.20	0.357	(0.104)	0.071	0.285
27	2.25	5.00	0.425	(0.104)	0.085	0.340
28	2.33	3.50	0.297	(0.104)	0.059	0.238
29	2.42	6.80	0.578	0.104	(0.116)	0.474
30	2.50	7.30	0.620	0.104	(0.124)	0.516
31	2.58	8.20	0.697	0.104	(0.139)	0.593
32	2.67	5.90	0.501	(0.104)	0.100	0.401
33	2.75	2.00	0.170	(0.104)	0.034	0.136
34	2.83	1.80	0.153	(0.104)	0.031	0.122
35	2.92	1.80	0.153	(0.104)	0.031	0.122
36	3.00	0.60	0.051	(0.104)	0.010	0.041

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.9

Flood volume = Effective rainfall 0.57(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.14(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 689.3 Cubic Feet
Total soil loss = 164.0 Cubic Feet

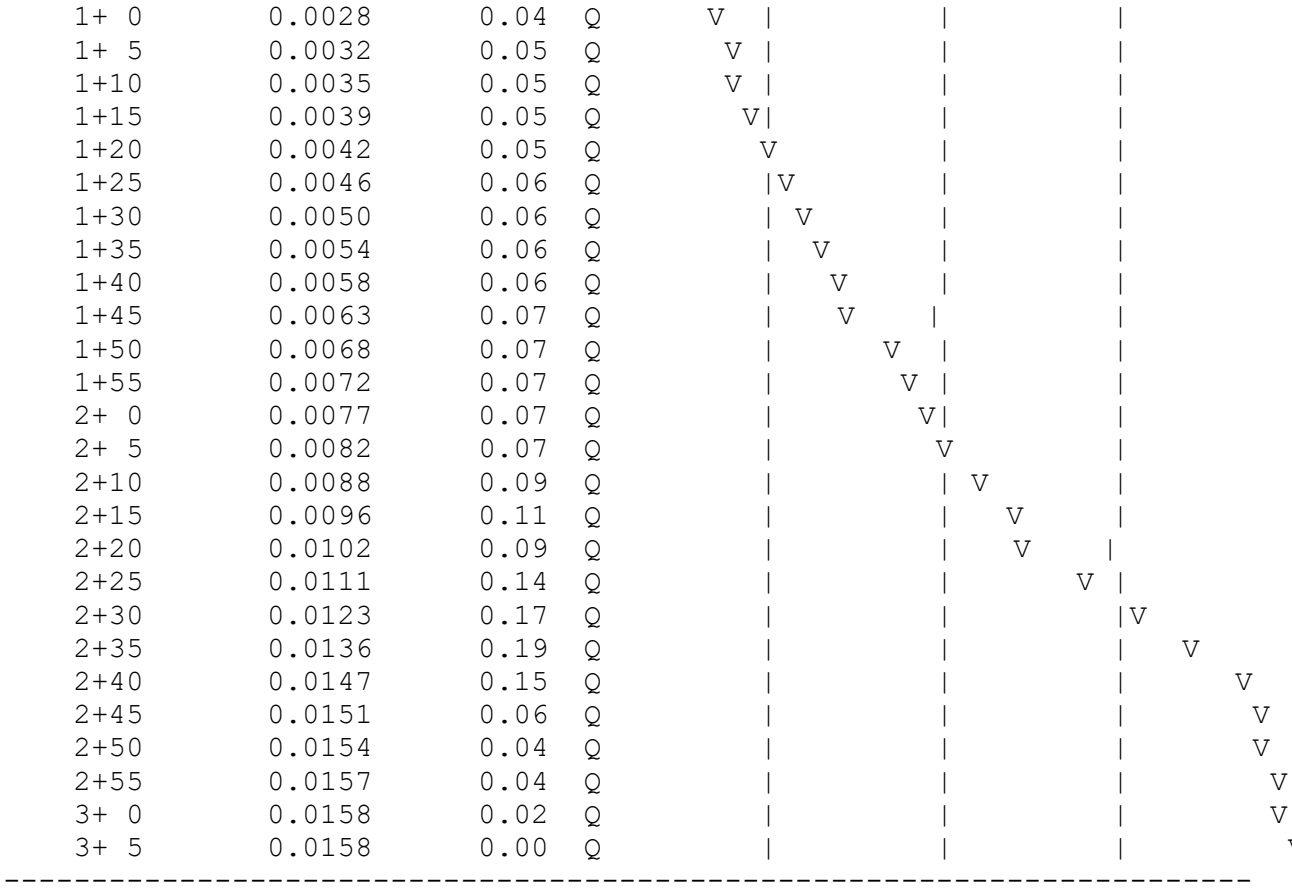
Peak flow rate of this hydrograph = 0.193(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.02	Q	|	|	|	|
0+10	0.0004	0.03	Q	|	|	|	|
0+15	0.0005	0.03	QV	|	|	|	|
0+20	0.0008	0.03	QV	|	|	|	|
0+25	0.0010	0.03	Q V	|	|	|	|
0+30	0.0013	0.04	Q V	|	|	|	|
0+35	0.0015	0.04	Q V	|	|	|	|
0+40	0.0018	0.04	Q V	|	|	|	|
0+45	0.0021	0.04	Q V	|	|	|	|
0+50	0.0023	0.04	Q V	|	|	|	|
0+55	0.0026	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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	0.71	0.27

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.38	1.72	0.66

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.720(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.382	75.00	0.880

Total Area Entered = 0.38(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.880	0.104	1.000	0.104
					Sum (F) =	0.104

Area averaged mean soil loss (F) (In/Hr) = 0.104
Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1040.009	100.000	0.385
		Sum = 100.000	Sum=	0.385

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	0.110	(0.104)	0.022	0.088
2	0.17	1.30	0.110	(0.104)	0.022	0.088
3	0.25	1.10	0.093	(0.104)	0.019	0.075
4	0.33	1.50	0.127	(0.104)	0.025	0.102
5	0.42	1.50	0.127	(0.104)	0.025	0.102
6	0.50	1.80	0.153	(0.104)	0.031	0.122
7	0.58	1.50	0.127	(0.104)	0.025	0.102
8	0.67	1.80	0.153	(0.104)	0.031	0.122
9	0.75	1.80	0.153	(0.104)	0.031	0.122
10	0.83	1.50	0.127	(0.104)	0.025	0.102
11	0.92	1.60	0.136	(0.104)	0.027	0.109
12	1.00	1.80	0.153	(0.104)	0.031	0.122

13	1.08	2.20	0.187	(0.104)	0.037	0.150
14	1.17	2.20	0.187	(0.104)	0.037	0.150
15	1.25	2.20	0.187	(0.104)	0.037	0.150
16	1.33	2.00	0.170	(0.104)	0.034	0.136
17	1.42	2.60	0.221	(0.104)	0.044	0.177
18	1.50	2.70	0.229	(0.104)	0.046	0.184
19	1.58	2.40	0.204	(0.104)	0.041	0.163
20	1.67	2.70	0.229	(0.104)	0.046	0.184
21	1.75	3.30	0.280	(0.104)	0.056	0.224
22	1.83	3.10	0.263	(0.104)	0.053	0.211
23	1.92	2.90	0.246	(0.104)	0.049	0.197
24	2.00	3.00	0.255	(0.104)	0.051	0.204
25	2.08	3.10	0.263	(0.104)	0.053	0.211
26	2.17	4.20	0.357	(0.104)	0.071	0.285
27	2.25	5.00	0.425	(0.104)	0.085	0.340
28	2.33	3.50	0.297	(0.104)	0.059	0.238
29	2.42	6.80	0.578	0.104	(0.116)	0.474
30	2.50	7.30	0.620	0.104	(0.124)	0.516
31	2.58	8.20	0.697	0.104	(0.139)	0.593
32	2.67	5.90	0.501	(0.104)	0.100	0.401
33	2.75	2.00	0.170	(0.104)	0.034	0.136
34	2.83	1.80	0.153	(0.104)	0.031	0.122
35	2.92	1.80	0.153	(0.104)	0.031	0.122
36	3.00	0.60	0.051	(0.104)	0.010	0.041

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.9

Flood volume = Effective rainfall 0.57(In)
times area 0.4(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.14(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 793.1 Cubic Feet
Total soil loss = 188.7 Cubic Feet

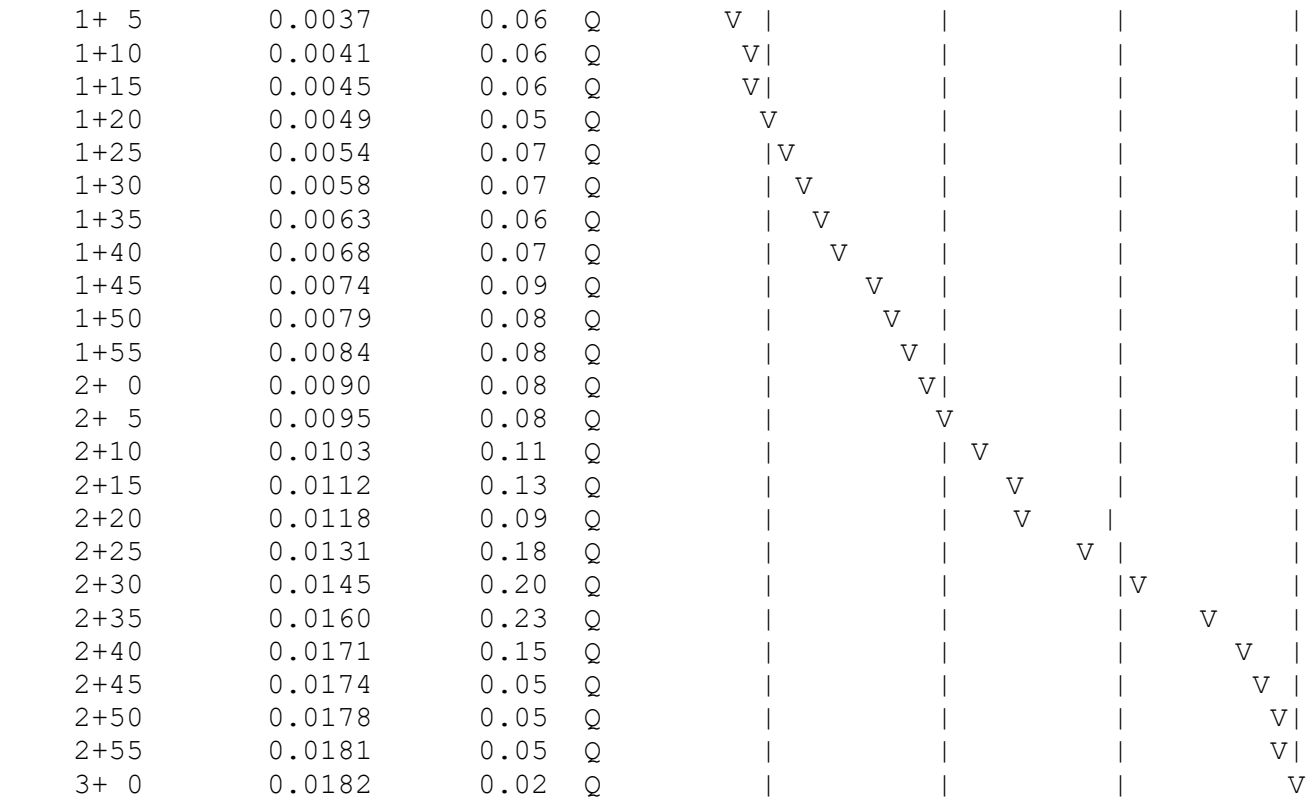
Peak flow rate of this hydrograph = 0.228(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0005	0.03	QV	|	|	|	|
0+15	0.0007	0.03	QV	|	|	|	|
0+20	0.0009	0.04	Q V	|	|	|	|
0+25	0.0012	0.04	Q V	|	|	|	|
0+30	0.0015	0.05	Q V	|	|	|	|
0+35	0.0018	0.04	Q V	|	|	|	|
0+40	0.0021	0.05	Q V	|	|	|	|
0+45	0.0025	0.05	Q V	|	|	|	|
0+50	0.0027	0.04	Q V	|	|	|	|
0+55	0.0030	0.04	Q V	|	|	|	|
1+ 0	0.0033	0.05	Q V	|	|	|	|


1+ 5 0.0037 0.06 Q
1+10 0.0041 0.06 Q
1+15 0.0045 0.06 Q
1+20 0.0049 0.05 Q
1+25 0.0054 0.07 Q
1+30 0.0058 0.07 Q
1+35 0.0063 0.06 Q
1+40 0.0068 0.07 Q
1+45 0.0074 0.09 Q
1+50 0.0079 0.08 Q
1+55 0.0084 0.08 Q
2+ 0 0.0090 0.08 Q
2+ 5 0.0095 0.08 Q
2+10 0.0103 0.11 Q
2+15 0.0112 0.13 Q
2+20 0.0118 0.09 Q
2+25 0.0131 0.18 Q
2+30 0.0145 0.20 Q
2+35 0.0160 0.23 Q
2+40 0.0171 0.15 Q
2+45 0.0174 0.05 Q
2+50 0.0178 0.05 Q
2+55 0.0181 0.05 Q
3+ 0 0.0182 0.02 Q

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 06/03/26 File: 19267p002GH32.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 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]
1.11	0.71	0.78

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	1.75	1.93

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.105	75.00	0.840

Total Area Entered = 1.11(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.840	0.122	1.000	0.122
					Sum (F) =	0.122

Area averaged mean soil loss (F) (In/Hr) = 0.122
Minimum soil loss rate ((In/Hr)) = 0.061
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1261.013	100.000	1.114
		Sum = 100.000	Sum= 1.114

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	0.110	(0.122)	0.025	0.085
2	0.17	1.30	0.110	(0.122)	0.025	0.085
3	0.25	1.10	0.093	(0.122)	0.021	0.072
4	0.33	1.50	0.127	(0.122)	0.029	0.098
5	0.42	1.50	0.127	(0.122)	0.029	0.098
6	0.50	1.80	0.153	(0.122)	0.035	0.118
7	0.58	1.50	0.127	(0.122)	0.029	0.098
8	0.67	1.80	0.153	(0.122)	0.035	0.118
9	0.75	1.80	0.153	(0.122)	0.035	0.118
10	0.83	1.50	0.127	(0.122)	0.029	0.098
11	0.92	1.60	0.136	(0.122)	0.031	0.105
12	1.00	1.80	0.153	(0.122)	0.035	0.118

13	1.08	2.20	0.187	(0.122)	0.043	0.144
14	1.17	2.20	0.187	(0.122)	0.043	0.144
15	1.25	2.20	0.187	(0.122)	0.043	0.144
16	1.33	2.00	0.170	(0.122)	0.039	0.131
17	1.42	2.60	0.221	(0.122)	0.051	0.170
18	1.50	2.70	0.229	(0.122)	0.053	0.177
19	1.58	2.40	0.204	(0.122)	0.047	0.157
20	1.67	2.70	0.229	(0.122)	0.053	0.177
21	1.75	3.30	0.280	(0.122)	0.064	0.216
22	1.83	3.10	0.263	(0.122)	0.061	0.203
23	1.92	2.90	0.246	(0.122)	0.057	0.190
24	2.00	3.00	0.255	(0.122)	0.059	0.196
25	2.08	3.10	0.263	(0.122)	0.061	0.203
26	2.17	4.20	0.357	(0.122)	0.082	0.275
27	2.25	5.00	0.425	(0.122)	0.098	0.327
28	2.33	3.50	0.297	(0.122)	0.068	0.229
29	2.42	6.80	0.578	0.122	(0.133)	0.456
30	2.50	7.30	0.620	0.122	(0.143)	0.498
31	2.58	8.20	0.697	0.122	(0.160)	0.575
32	2.67	5.90	0.501	(0.122)	0.115	0.386
33	2.75	2.00	0.170	(0.122)	0.039	0.131
34	2.83	1.80	0.153	(0.122)	0.035	0.118
35	2.92	1.80	0.153	(0.122)	0.035	0.118
36	3.00	0.60	0.051	(0.122)	0.012	0.039

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.6

Flood volume = Effective rainfall 0.55(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 2209.9 Cubic Feet
Total soil loss = 630.0 Cubic Feet

Peak flow rate of this hydrograph = 0.640(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	2.5	5.0	7.5	10.0
0+ 5	0.0007	0.09	Q	|	|	|	|
0+10	0.0013	0.09	QV	|	|	|	|
0+15	0.0019	0.08	QV	|	|	|	|
0+20	0.0026	0.11	Q V	|	|	|	|
0+25	0.0034	0.11	Q V	|	|	|	|
0+30	0.0043	0.13	Q V	|	|	|	|
0+35	0.0050	0.11	Q V	|	|	|	|
0+40	0.0059	0.13	Q V	|	|	|	|
0+45	0.0068	0.13	Q V	|	|	|	|
0+50	0.0076	0.11	Q V	|	|	|	|
0+55	0.0084	0.12	Q V	|	|	|	|
1+ 0	0.0093	0.13	Q V	|	|	|	|

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    1+ 5       0.0104      0.16  Q       V |          |          |          |
    1+10       0.0115      0.16  Q        V|          |          |          |
    1+15       0.0126      0.16  Q        V|          |          |          |
    1+20       0.0136      0.15  Q         V          |          |          |
    1+25       0.0149      0.19  Q          |V         |          |          |
    1+30       0.0163      0.20  Q          | V        |          |          |
    1+35       0.0175      0.17  Q          |  V       |          |          |
    1+40       0.0188      0.20  Q          |   V      |          |          |
    1+45       0.0205      0.24  Q          |     V    |          |          |
    1+50       0.0220      0.23  Q          |      V   |          |          |
    1+55       0.0235      0.21  Q          |       V  |          |          |
    2+ 0       0.0250      0.22  Q          |        V |          |          |
    2+ 5       0.0266      0.23  Q          |         V          |          |
    2+10       0.0287      0.31  |Q         |          | V        |          |
    2+15       0.0312      0.36  |Q         |          |   V      |          |
    2+20       0.0329      0.26  |Q         |          |   V    |           |
    2+25       0.0364      0.51  | Q        |          |       V |          |
    2+30       0.0402      0.55  | Q        |          |         |V         |
    2+35       0.0447      0.64  | Q        |          |         |    V     |
    2+40       0.0476      0.43  |Q         |          |         |      V   |
    2+45       0.0486      0.15  Q          |          |         |       V  |
    2+50       0.0495      0.13  Q          |          |         |        V |
    2+55       0.0504      0.13  Q          |          |         |        V |
    3+ 0       0.0507      0.04  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 06/03/26 File: 19267p002I32.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	0.71	0.64

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.90	1.75	1.58

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.830	0.127	1.000	0.127
					Sum (F) =	0.127

Area averaged mean soil loss (F) (In/Hr) = 0.127
Minimum soil loss rate ((In/Hr)) = 0.063
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
			Sum = 100.000 Sum=	0.907

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	0.110	(0.127)	0.027	0.084
2	0.17	1.30	0.110	(0.127)	0.027	0.084
3	0.25	1.10	0.093	(0.127)	0.022	0.071
4	0.33	1.50	0.127	(0.127)	0.031	0.097
5	0.42	1.50	0.127	(0.127)	0.031	0.097
6	0.50	1.80	0.153	(0.127)	0.037	0.116
7	0.58	1.50	0.127	(0.127)	0.031	0.097
8	0.67	1.80	0.153	(0.127)	0.037	0.116
9	0.75	1.80	0.153	(0.127)	0.037	0.116
10	0.83	1.50	0.127	(0.127)	0.031	0.097
11	0.92	1.60	0.136	(0.127)	0.033	0.103

12	1.00	1.80	0.153	(	0.127)	0.037	0.116
13	1.08	2.20	0.187	(	0.127)	0.045	0.142
14	1.17	2.20	0.187	(	0.127)	0.045	0.142
15	1.25	2.20	0.187	(	0.127)	0.045	0.142
16	1.33	2.00	0.170	(	0.127)	0.041	0.129
17	1.42	2.60	0.221	(	0.127)	0.053	0.168
18	1.50	2.70	0.229	(	0.127)	0.055	0.174
19	1.58	2.40	0.204	(	0.127)	0.049	0.155
20	1.67	2.70	0.229	(	0.127)	0.055	0.174
21	1.75	3.30	0.280	(	0.127)	0.067	0.213
22	1.83	3.10	0.263	(	0.127)	0.063	0.200
23	1.92	2.90	0.246	(	0.127)	0.059	0.187
24	2.00	3.00	0.255	(	0.127)	0.061	0.194
25	2.08	3.10	0.263	(	0.127)	0.063	0.200
26	2.17	4.20	0.357	(	0.127)	0.086	0.271
27	2.25	5.00	0.425	(	0.127)	0.102	0.323
28	2.33	3.50	0.297	(	0.127)	0.071	0.226
29	2.42	6.80	0.578		0.127	(0.139)	0.451
30	2.50	7.30	0.620		0.127	(0.149)	0.494
31	2.58	8.20	0.697		0.127	(0.167)	0.570
32	2.67	5.90	0.501	(	0.127)	0.120	0.381
33	2.75	2.00	0.170	(	0.127)	0.041	0.129
34	2.83	1.80	0.153	(	0.127)	0.037	0.116
35	2.92	1.80	0.153	(	0.127)	0.037	0.116
36	3.00	0.60	0.051	(	0.127)	0.012	0.039

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.5

Flood volume = Effective rainfall 0.54(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.012(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 1778.3 Cubic Feet
Total soil loss = 534.8 Cubic Feet

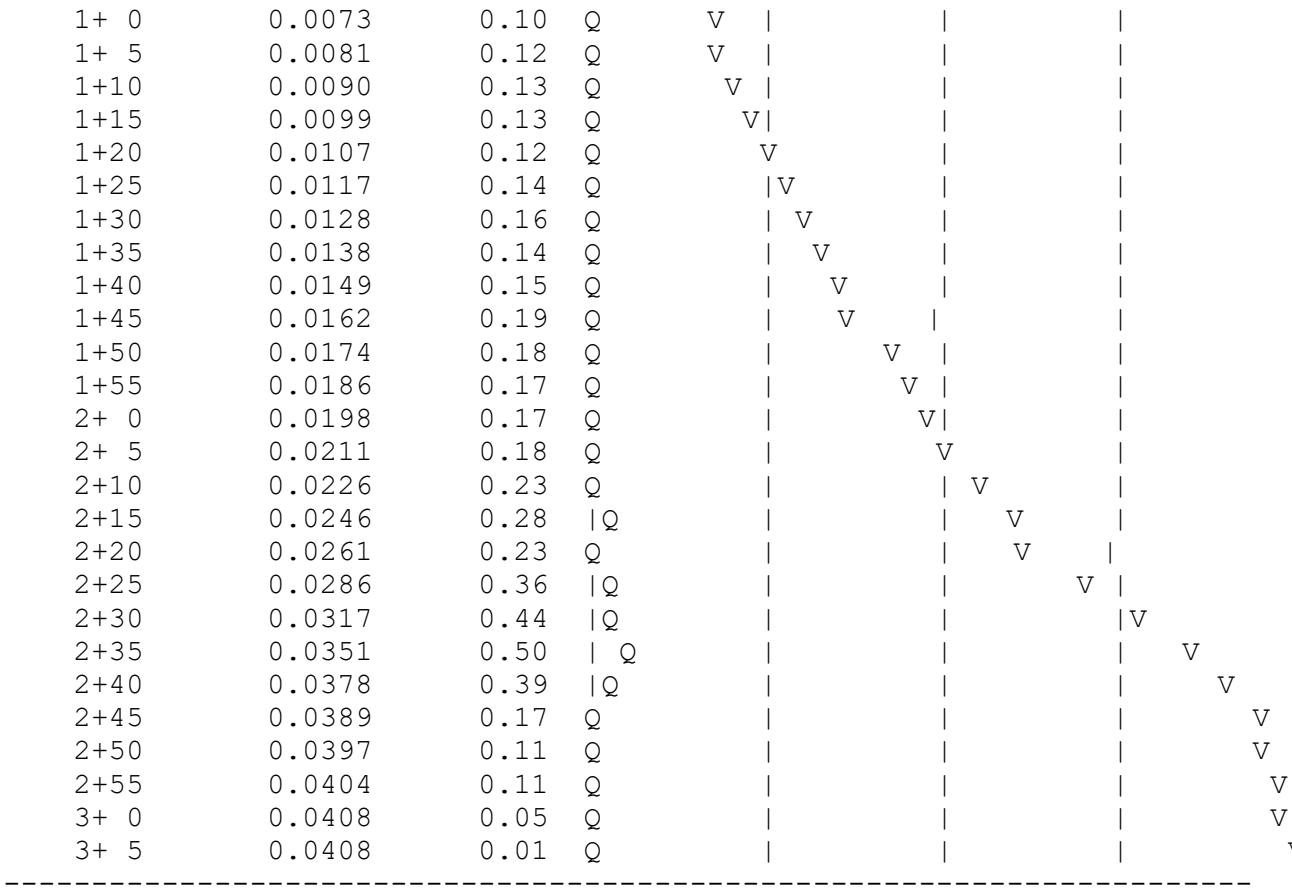
Peak flow rate of this hydrograph = 0.501(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q	|	|	|	|
0+10	0.0009	0.08	Q	|	|	|	|
0+15	0.0014	0.07	QV	|	|	|	|
0+20	0.0020	0.08	QV	|	|	|	|
0+25	0.0026	0.09	Q V	|	|	|	|
0+30	0.0033	0.10	Q V	|	|	|	|
0+35	0.0039	0.09	Q V	|	|	|	|
0+40	0.0046	0.10	Q V	|	|	|	|
0+45	0.0053	0.11	Q V	|	|	|	|
0+50	0.0060	0.09	Q V	|	|	|	|
0+55	0.0066	0.09	Q V	|	|	|	|


1+ 0 0.0073 0.10
1+ 5 0.0081 0.12
1+10 0.0090 0.13
1+15 0.0099 0.13
1+20 0.0107 0.12
1+25 0.0117 0.14
1+30 0.0128 0.16
1+35 0.0138 0.14
1+40 0.0149 0.15
1+45 0.0162 0.19
1+50 0.0174 0.18
1+55 0.0186 0.17
2+ 0 0.0198 0.17
2+ 5 0.0211 0.18
2+10 0.0226 0.23
2+15 0.0246 0.28
2+20 0.0261 0.23
2+25 0.0286 0.36
2+30 0.0317 0.44
2+35 0.0351 0.50
2+40 0.0378 0.39
2+45 0.0389 0.17
2+50 0.0397 0.11
2+55 0.0404 0.11
3+ 0 0.0408 0.05
3+ 5 0.0408 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 06/03/26 File: 19267p002J32.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	0.71	0.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.34	1.75	0.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.340	75.00	0.860

Total Area Entered = 0.34(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.860	0.113	1.000	0.113
					Sum (F) =	0.113

Area averaged mean soil loss (F) (In/Hr) = 0.113
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.210

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1304.735	100.000	0.343
		Sum = 100.000	Sum=	0.343

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	0.110	(0.113)	0.023	0.087
2	0.17	1.30	0.110	(0.113)	0.023	0.087
3	0.25	1.10	0.093	(0.113)	0.020	0.074
4	0.33	1.50	0.127	(0.113)	0.027	0.101
5	0.42	1.50	0.127	(0.113)	0.027	0.101
6	0.50	1.80	0.153	(0.113)	0.032	0.121
7	0.58	1.50	0.127	(0.113)	0.027	0.101
8	0.67	1.80	0.153	(0.113)	0.032	0.121
9	0.75	1.80	0.153	(0.113)	0.032	0.121
10	0.83	1.50	0.127	(0.113)	0.027	0.101
11	0.92	1.60	0.136	(0.113)	0.029	0.107
12	1.00	1.80	0.153	(0.113)	0.032	0.121

13	1.08	2.20	0.187	(0.113)	0.039	0.148
14	1.17	2.20	0.187	(0.113)	0.039	0.148
15	1.25	2.20	0.187	(0.113)	0.039	0.148
16	1.33	2.00	0.170	(0.113)	0.036	0.134
17	1.42	2.60	0.221	(0.113)	0.046	0.175
18	1.50	2.70	0.229	(0.113)	0.048	0.181
19	1.58	2.40	0.204	(0.113)	0.043	0.161
20	1.67	2.70	0.229	(0.113)	0.048	0.181
21	1.75	3.30	0.280	(0.113)	0.059	0.221
22	1.83	3.10	0.263	(0.113)	0.055	0.208
23	1.92	2.90	0.246	(0.113)	0.052	0.195
24	2.00	3.00	0.255	(0.113)	0.054	0.201
25	2.08	3.10	0.263	(0.113)	0.055	0.208
26	2.17	4.20	0.357	(0.113)	0.075	0.282
27	2.25	5.00	0.425	(0.113)	0.089	0.336
28	2.33	3.50	0.297	(0.113)	0.062	0.235
29	2.42	6.80	0.578	0.113	(0.121)	0.465
30	2.50	7.30	0.620	0.113	(0.130)	0.507
31	2.58	8.20	0.697	0.113	(0.146)	0.584
32	2.67	5.90	0.501	(0.113)	0.105	0.396
33	2.75	2.00	0.170	(0.113)	0.036	0.134
34	2.83	1.80	0.153	(0.113)	0.032	0.121
35	2.92	1.80	0.153	(0.113)	0.032	0.121
36	3.00	0.60	0.051	(0.113)	0.011	0.040

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.8

Flood volume = Effective rainfall 0.56(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.14(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 696.3 Cubic Feet
Total soil loss = 177.5 Cubic Feet

Peak flow rate of this hydrograph = 0.200(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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0004	0.03	QV	|	|	|	|
0+15	0.0006	0.03	QV	|	|	|	|
0+20	0.0008	0.03	Q V	|	|	|	|
0+25	0.0011	0.03	Q V	|	|	|	|
0+30	0.0013	0.04	Q V	|	|	|	|
0+35	0.0016	0.03	Q V	|	|	|	|
0+40	0.0019	0.04	Q V	|	|	|	|
0+45	0.0022	0.04	Q V	|	|	|	|
0+50	0.0024	0.03	Q V	|	|	|	|
0+55	0.0026	0.04	Q V	|	|	|	|
1+ 0	0.0029	0.04	Q V	|	|	|	|

1+ 5	0.0033	0.05	Q	V	|	|	|	|
1+10	0.0036	0.05	Q	V	|	|	|	|
1+15	0.0040	0.05	Q	V	|	|	|	|
1+20	0.0043	0.05	Q	V		|	|	|
1+25	0.0047	0.06	Q	|	V	|	|	|
1+30	0.0051	0.06	Q	|	V	|	|	|
1+35	0.0055	0.06	Q	|	V	|	|	|
1+40	0.0059	0.06	Q	|	V	|	|	|
1+45	0.0065	0.08	Q	|	V	|	|	|
1+50	0.0070	0.07	Q	|	V	|	|	|
1+55	0.0074	0.07	Q	|	V	|	|	|
2+ 0	0.0079	0.07	Q	|	V	|	|	|
2+ 5	0.0084	0.07	Q	|	V	|	|	|
2+10	0.0090	0.10	Q	|	V	|	|	|
2+15	0.0098	0.12	Q	|	V	|	|	|
2+20	0.0104	0.08	Q	|	V	|	|	|
2+25	0.0115	0.16	Q	|	V	|	|	|
2+30	0.0127	0.17	Q	|	V	|	|	|
2+35	0.0141	0.20	Q	|	V	|	|	|
2+40	0.0150	0.14	Q	|	V	|	|	|
2+45	0.0153	0.05	Q	|	V	|	|	|
2+50	0.0156	0.04	Q	|	V	|	|	|
2+55	0.0159	0.04	Q	|	V	|	|	|
3+ 0	0.0160	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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	0.71	0.48

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	1.75	1.20

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
		Sum = 100.000	Sum=	0.690

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	0.110	(0.136)	0.028	0.083
2	0.17	1.30	0.110	(0.136)	0.028	0.083
3	0.25	1.10	0.093	(0.136)	0.023	0.070
4	0.33	1.50	0.127	(0.136)	0.032	0.096
5	0.42	1.50	0.127	(0.136)	0.032	0.096
6	0.50	1.80	0.153	(0.136)	0.038	0.115
7	0.58	1.50	0.127	(0.136)	0.032	0.096
8	0.67	1.80	0.153	(0.136)	0.038	0.115
9	0.75	1.80	0.153	(0.136)	0.038	0.115

10	0.83	1.50	0.127	(	0.136)	0.032	0.096
11	0.92	1.60	0.136	(	0.136)	0.034	0.102
12	1.00	1.80	0.153	(	0.136)	0.038	0.115
13	1.08	2.20	0.187	(	0.136)	0.047	0.140
14	1.17	2.20	0.187	(	0.136)	0.047	0.140
15	1.25	2.20	0.187	(	0.136)	0.047	0.140
16	1.33	2.00	0.170	(	0.136)	0.042	0.127
17	1.42	2.60	0.221	(	0.136)	0.055	0.166
18	1.50	2.70	0.229	(	0.136)	0.057	0.172
19	1.58	2.40	0.204	(	0.136)	0.051	0.153
20	1.67	2.70	0.229	(	0.136)	0.057	0.172
21	1.75	3.30	0.280	(	0.136)	0.070	0.210
22	1.83	3.10	0.263	(	0.136)	0.066	0.198
23	1.92	2.90	0.246	(	0.136)	0.062	0.185
24	2.00	3.00	0.255	(	0.136)	0.064	0.191
25	2.08	3.10	0.263	(	0.136)	0.066	0.198
26	2.17	4.20	0.357	(	0.136)	0.089	0.268
27	2.25	5.00	0.425	(	0.136)	0.106	0.319
28	2.33	3.50	0.297	(	0.136)	0.074	0.223
29	2.42	6.80	0.578		0.136	(0.144)	0.442
30	2.50	7.30	0.620		0.136	(0.155)	0.485
31	2.58	8.20	0.697		0.136	(0.174)	0.561
32	2.67	5.90	0.501	(	0.136)	0.125	0.376
33	2.75	2.00	0.170	(	0.136)	0.042	0.127
34	2.83	1.80	0.153	(	0.136)	0.038	0.115
35	2.92	1.80	0.153	(	0.136)	0.038	0.115
36	3.00	0.60	0.051	(	0.136)	0.013	0.038

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.4

Flood volume = Effective rainfall 0.54(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.010(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 1334.2 Cubic Feet
Total soil loss = 426.3 Cubic Feet

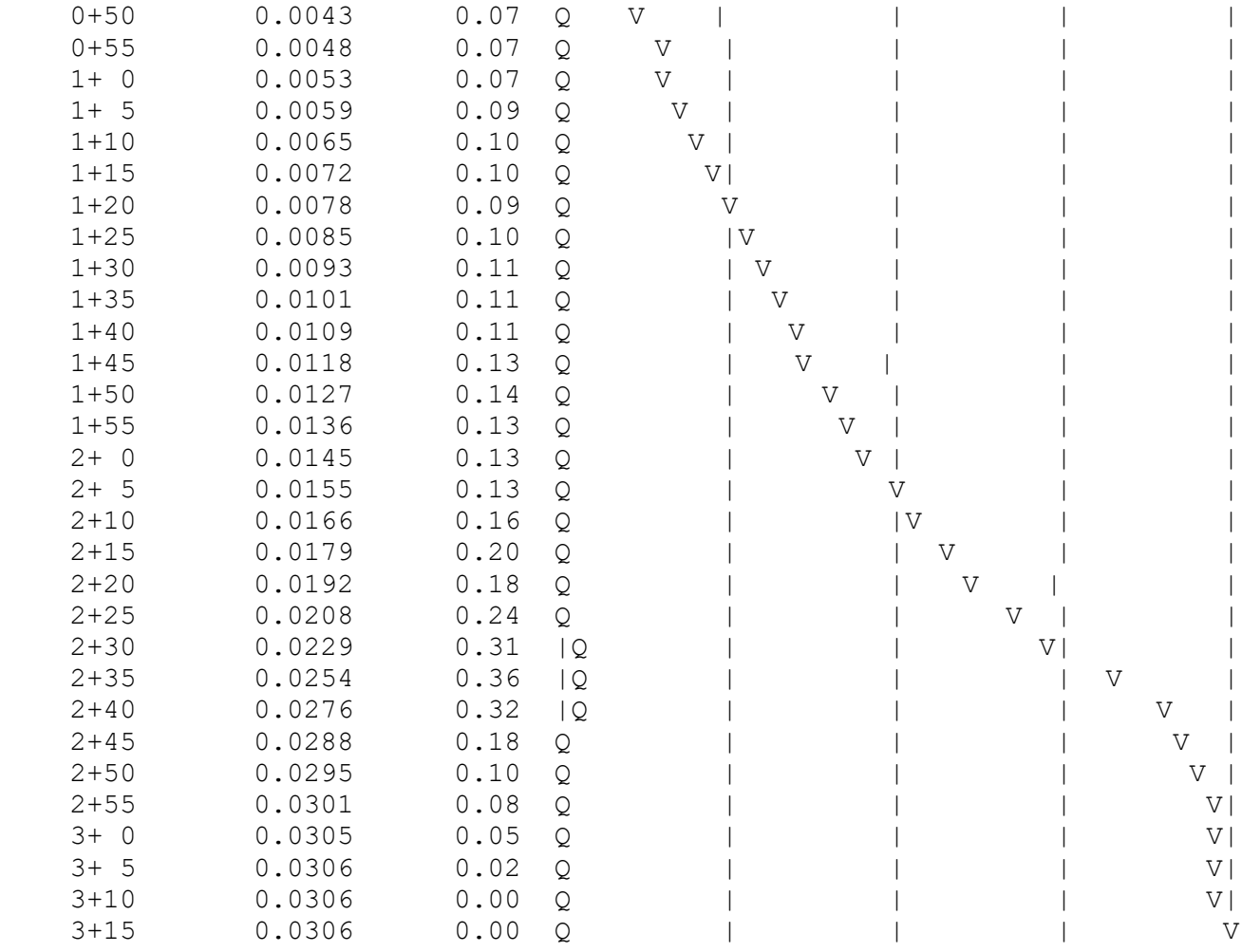
Peak flow rate of this hydrograph = 0.355(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0006	0.05	Q				
0+15	0.0009	0.05	QV				
0+20	0.0013	0.06	QV				
0+25	0.0018	0.06	Q V				
0+30	0.0023	0.07	Q V				
0+35	0.0027	0.07	Q V				
0+40	0.0033	0.07	Q V				
0+45	0.0038	0.08	Q V				


0+50 0.0043 0.07
0+55 0.0048 0.07
1+ 0 0.0053 0.07
1+ 5 0.0059 0.09
1+10 0.0065 0.10
1+15 0.0072 0.10
1+20 0.0078 0.09
1+25 0.0085 0.10
1+30 0.0093 0.11
1+35 0.0101 0.11
1+40 0.0109 0.11
1+45 0.0118 0.13
1+50 0.0127 0.14
1+55 0.0136 0.13
2+ 0 0.0145 0.13
2+ 5 0.0155 0.13
2+10 0.0166 0.16
2+15 0.0179 0.20
2+20 0.0192 0.18
2+25 0.0208 0.24
2+30 0.0229 0.31
2+35 0.0254 0.36
2+40 0.0276 0.32
2+45 0.0288 0.18
2+50 0.0295 0.10
2+55 0.0301 0.08
3+ 0 0.0305 0.05
3+ 5 0.0306 0.02
3+10 0.0306 0.00
3+15 0.0306 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 06/03/26 File: 19267p002site32.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	0.71	6.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	1.75	16.95

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.708(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.708(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	75.00	0.640

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.640	0.212	1.000	0.212
					Sum (F) =	0.212

Area averaged mean soil loss (F) (In/Hr) = 0.212
Minimum soil loss rate ((In/Hr)) = 0.106
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	9.764
		Sum =	100.000	Sum= 9.764

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	0.110	(0.212)	0.025	0.085
2	0.17	1.30	0.110	(0.212)	0.025	0.085
3	0.25	1.10	0.093	(0.212)	0.021	0.072
4	0.33	1.50	0.127	(0.212)	0.029	0.098
5	0.42	1.50	0.127	(0.212)	0.029	0.098
6	0.50	1.80	0.153	(0.212)	0.035	0.118
7	0.58	1.50	0.127	(0.212)	0.029	0.098
8	0.67	1.80	0.153	(0.212)	0.035	0.118
9	0.75	1.80	0.153	(0.212)	0.035	0.118
10	0.83	1.50	0.127	(0.212)	0.029	0.098
11	0.92	1.60	0.136	(0.212)	0.031	0.105
12	1.00	1.80	0.153	(0.212)	0.035	0.118

13	1.08	2.20	0.187	(0.212)	0.043	0.144
14	1.17	2.20	0.187	(0.212)	0.043	0.144
15	1.25	2.20	0.187	(0.212)	0.043	0.144
16	1.33	2.00	0.170	(0.212)	0.039	0.131
17	1.42	2.60	0.221	(0.212)	0.051	0.170
18	1.50	2.70	0.229	(0.212)	0.053	0.177
19	1.58	2.40	0.204	(0.212)	0.047	0.157
20	1.67	2.70	0.229	(0.212)	0.053	0.177
21	1.75	3.30	0.280	(0.212)	0.064	0.216
22	1.83	3.10	0.263	(0.212)	0.061	0.203
23	1.92	2.90	0.246	(0.212)	0.057	0.190
24	2.00	3.00	0.255	(0.212)	0.059	0.196
25	2.08	3.10	0.263	(0.212)	0.061	0.203
26	2.17	4.20	0.357	(0.212)	0.082	0.275
27	2.25	5.00	0.425	(0.212)	0.098	0.327
28	2.33	3.50	0.297	(0.212)	0.068	0.229
29	2.42	6.80	0.578	(0.212)	0.133	0.445
30	2.50	7.30	0.620	(0.212)	0.143	0.478
31	2.58	8.20	0.697	(0.212)	0.160	0.536
32	2.67	5.90	0.501	(0.212)	0.115	0.386
33	2.75	2.00	0.170	(0.212)	0.039	0.131
34	2.83	1.80	0.153	(0.212)	0.035	0.118
35	2.92	1.80	0.153	(0.212)	0.035	0.118
36	3.00	0.60	0.051	(0.212)	0.012	0.039

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.5

Flood volume = Effective rainfall 0.55(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.131(Ac.Ft)
Total rainfall = 0.71(In)
Flood volume = 19171.1 Cubic Feet
Total soil loss = 5726.4 Cubic Feet

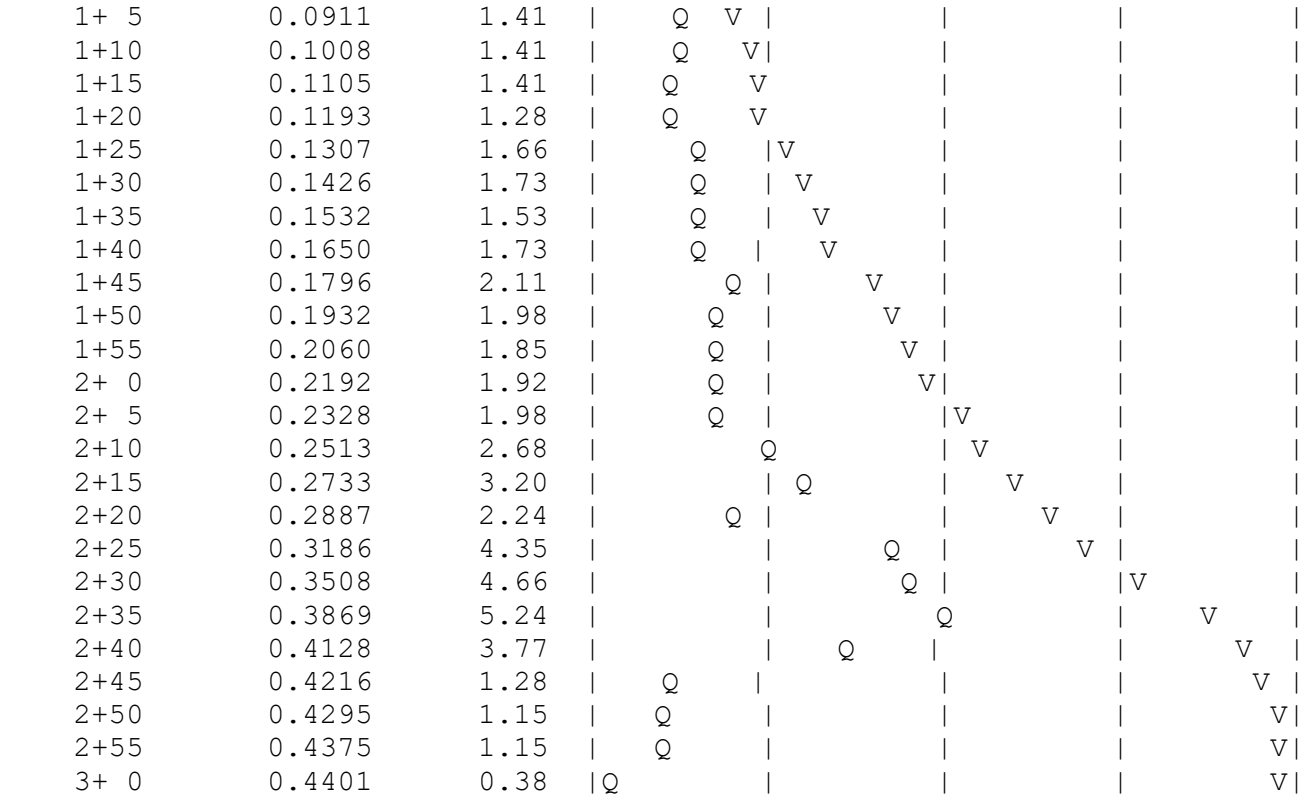
Peak flow rate of this hydrograph = 5.240(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0057	0.83	V Q				
0+10	0.0114	0.83	|V Q				
0+15	0.0163	0.70	|VQ				
0+20	0.0229	0.96	| VQ				
0+25	0.0295	0.96	| VQ				
0+30	0.0374	1.15	| VQ				
0+35	0.0440	0.96	| Q				
0+40	0.0519	1.15	| Q				
0+45	0.0599	1.15	| QV				
0+50	0.0665	0.96	| Q V				
0+55	0.0735	1.02	| Q V				
1+ 0	0.0814	1.15	| Q V |				


1+ 5 0.0911 1.41
1+10 0.1008 1.41
1+15 0.1105 1.41
1+20 0.1193 1.28
1+25 0.1307 1.66
1+30 0.1426 1.73
1+35 0.1532 1.53
1+40 0.1650 1.73
1+45 0.1796 2.11
1+50 0.1932 1.98
1+55 0.2060 1.85
2+ 0 0.2192 1.92
2+ 5 0.2328 1.98
2+10 0.2513 2.68
2+15 0.2733 3.20
2+20 0.2887 2.24
2+25 0.3186 4.35
2+30 0.3508 4.66
2+35 0.3869 5.24
2+40 0.4128 3.77
2+45 0.4216 1.28
2+50 0.4295 1.15
2+55 0.4375 1.15
3+ 0 0.4401 0.38

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 06/03/26 File: 19267p002AL62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 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]
1.45	0.95	1.38

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	2.26	3.27

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.900	0.095	1.000	0.095
					Sum (F) =	0.095

Area averaged mean soil loss (F) (In/Hr) = 0.095
Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
		Sum = 100.000	Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.057	(0.095)	0.010	0.047
2	0.17	0.60	0.069	(0.095)	0.012	0.056
3	0.25	0.60	0.069	(0.095)	0.012	0.056
4	0.33	0.60	0.069	(0.095)	0.012	0.056
5	0.42	0.60	0.069	(0.095)	0.012	0.056
6	0.50	0.70	0.080	(0.095)	0.014	0.066
7	0.58	0.70	0.080	(0.095)	0.014	0.066
8	0.67	0.70	0.080	(0.095)	0.014	0.066
9	0.75	0.70	0.080	(0.095)	0.014	0.066
10	0.83	0.70	0.080	(0.095)	0.014	0.066
11	0.92	0.70	0.080	(0.095)	0.014	0.066

12	1.00	0.80	0.092	(0.095)	0.016	0.075
13	1.08	0.80	0.092	(0.095)	0.016	0.075
14	1.17	0.80	0.092	(0.095)	0.016	0.075
15	1.25	0.80	0.092	(0.095)	0.016	0.075
16	1.33	0.80	0.092	(0.095)	0.016	0.075
17	1.42	0.80	0.092	(0.095)	0.016	0.075
18	1.50	0.80	0.092	(0.095)	0.016	0.075
19	1.58	0.80	0.092	(0.095)	0.016	0.075
20	1.67	0.80	0.092	(0.095)	0.016	0.075
21	1.75	0.80	0.092	(0.095)	0.016	0.075
22	1.83	0.80	0.092	(0.095)	0.016	0.075
23	1.92	0.80	0.092	(0.095)	0.016	0.075
24	2.00	0.90	0.103	(0.095)	0.019	0.084
25	2.08	0.80	0.092	(0.095)	0.016	0.075
26	2.17	0.90	0.103	(0.095)	0.019	0.084
27	2.25	0.90	0.103	(0.095)	0.019	0.084
28	2.33	0.90	0.103	(0.095)	0.019	0.084
29	2.42	0.90	0.103	(0.095)	0.019	0.084
30	2.50	0.90	0.103	(0.095)	0.019	0.084
31	2.58	0.90	0.103	(0.095)	0.019	0.084
32	2.67	0.90	0.103	(0.095)	0.019	0.084
33	2.75	1.00	0.114	(0.095)	0.021	0.094
34	2.83	1.00	0.114	(0.095)	0.021	0.094
35	2.92	1.00	0.114	(0.095)	0.021	0.094
36	3.00	1.00	0.114	(0.095)	0.021	0.094
37	3.08	1.00	0.114	(0.095)	0.021	0.094
38	3.17	1.10	0.126	(0.095)	0.023	0.103
39	3.25	1.10	0.126	(0.095)	0.023	0.103
40	3.33	1.10	0.126	(0.095)	0.023	0.103
41	3.42	1.20	0.137	(0.095)	0.025	0.113
42	3.50	1.30	0.149	(0.095)	0.027	0.122
43	3.58	1.40	0.160	(0.095)	0.029	0.131
44	3.67	1.40	0.160	(0.095)	0.029	0.131
45	3.75	1.50	0.172	(0.095)	0.031	0.141
46	3.83	1.50	0.172	(0.095)	0.031	0.141
47	3.92	1.60	0.183	(0.095)	0.033	0.150
48	4.00	1.60	0.183	(0.095)	0.033	0.150
49	4.08	1.70	0.195	(0.095)	0.035	0.160
50	4.17	1.80	0.206	(0.095)	0.037	0.169
51	4.25	1.90	0.218	(0.095)	0.039	0.178
52	4.33	2.00	0.229	(0.095)	0.041	0.188
53	4.42	2.10	0.240	(0.095)	0.043	0.197
54	4.50	2.10	0.240	(0.095)	0.043	0.197
55	4.58	2.20	0.252	(0.095)	0.045	0.207
56	4.67	2.30	0.263	(0.095)	0.047	0.216
57	4.75	2.40	0.275	(0.095)	0.049	0.225
58	4.83	2.40	0.275	(0.095)	0.049	0.225
59	4.92	2.50	0.286	(0.095)	0.052	0.235
60	5.00	2.60	0.298	(0.095)	0.054	0.244
61	5.08	3.10	0.355	(0.095)	0.064	0.291
62	5.17	3.60	0.412	(0.095)	0.074	0.338
63	5.25	3.90	0.446	(0.095)	0.080	0.366
64	5.33	4.20	0.481	(0.095)	0.087	0.394
65	5.42	4.70	0.538	0.095	(0.097)	0.443
66	5.50	5.60	0.641	0.095	(0.115)	0.546
67	5.58	1.90	0.218	(0.095)	0.039	0.178
68	5.67	0.90	0.103	(0.095)	0.019	0.084

69	5.75	0.60	0.069	(0.095)	0.012	0.056
70	5.83	0.50	0.057	(0.095)	0.010	0.047
71	5.92	0.30	0.034	(0.095)	0.006	0.028
72	6.00	0.20	0.023	(0.095)	0.004	0.019

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.4

Flood volume = Effective rainfall 0.78(In)
times area 1.4(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.020(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 4112.9 Cubic Feet
Total soil loss = 891.1 Cubic Feet

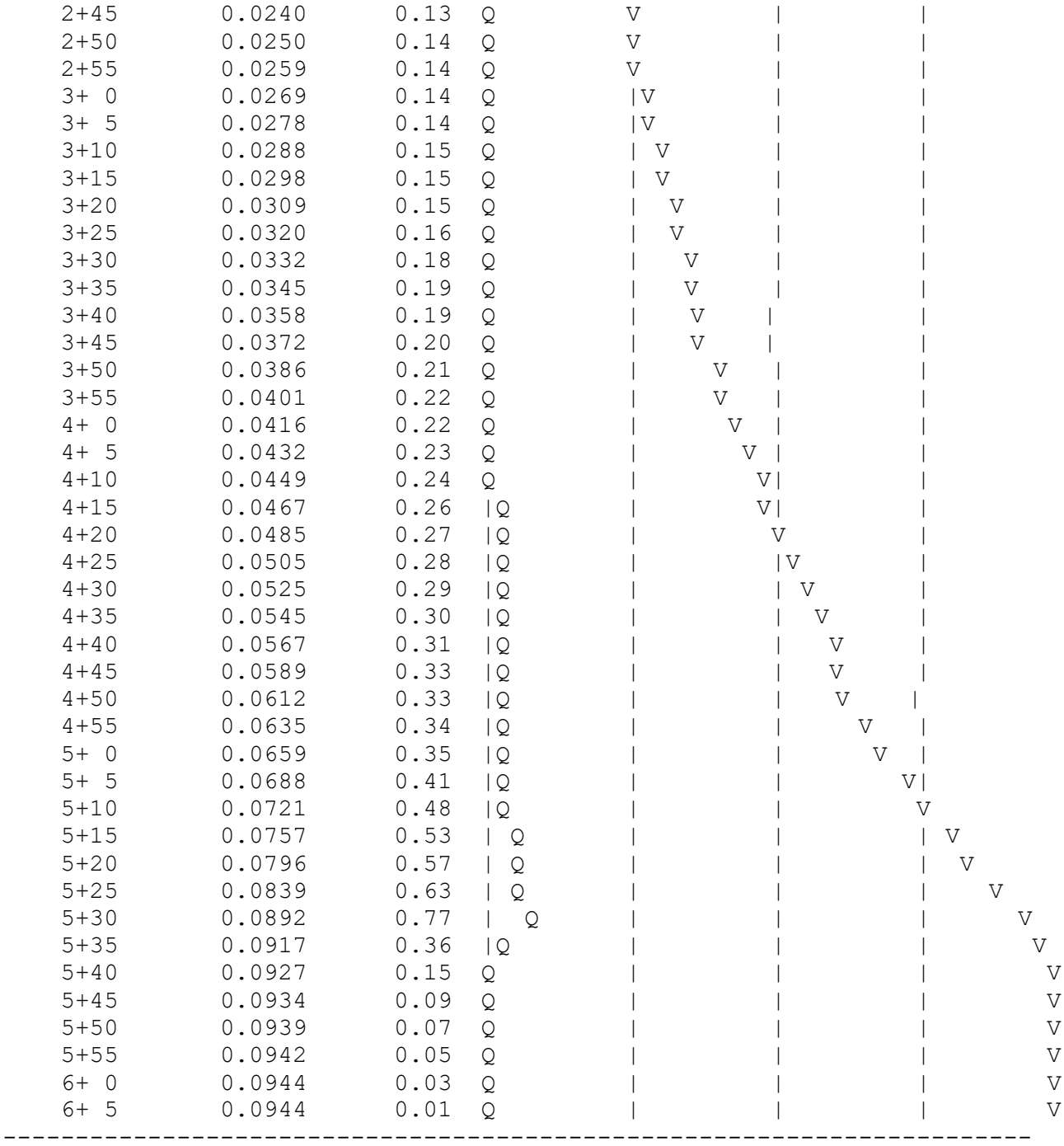
Peak flow rate of this hydrograph = 0.766(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q				
0+10	0.0009	0.08	Q				
0+15	0.0015	0.08	Q				
0+20	0.0021	0.08	Q				
0+25	0.0026	0.08	QV				
0+30	0.0033	0.09	QV				
0+35	0.0039	0.10	QV				
0+40	0.0046	0.10	QV				
0+45	0.0052	0.10	Q V				
0+50	0.0059	0.10	Q V				
0+55	0.0066	0.10	Q V				
1+ 0	0.0073	0.11	Q V				
1+ 5	0.0080	0.11	Q V				
1+10	0.0088	0.11	Q V				
1+15	0.0096	0.11	Q V				
1+20	0.0103	0.11	Q V				
1+25	0.0111	0.11	Q V				
1+30	0.0118	0.11	Q V				
1+35	0.0126	0.11	Q V				
1+40	0.0133	0.11	Q V				
1+45	0.0141	0.11	Q V				
1+50	0.0148	0.11	Q V				
1+55	0.0156	0.11	Q V				
2+ 0	0.0164	0.12	Q V				
2+ 5	0.0172	0.11	Q V				
2+10	0.0180	0.12	Q V				
2+15	0.0189	0.12	Q V				
2+20	0.0197	0.12	Q V				
2+25	0.0206	0.12	Q V				
2+30	0.0214	0.12	Q V				
2+35	0.0223	0.12	Q V				
2+40	0.0231	0.12	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 06/03/26 File: 19267p002B62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-Year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	0.95	3.10

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.25	2.26	7.33

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.245	75.00	0.870

Total Area Entered = 3.25(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.870	0.109	1.000	0.109
					Sum (F) =	0.109

Area averaged mean soil loss (F) (In/Hr) = 0.109
Minimum soil loss rate ((In/Hr)) = 0.054
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	3.270
		Sum = 100.000	Sum= 3.270

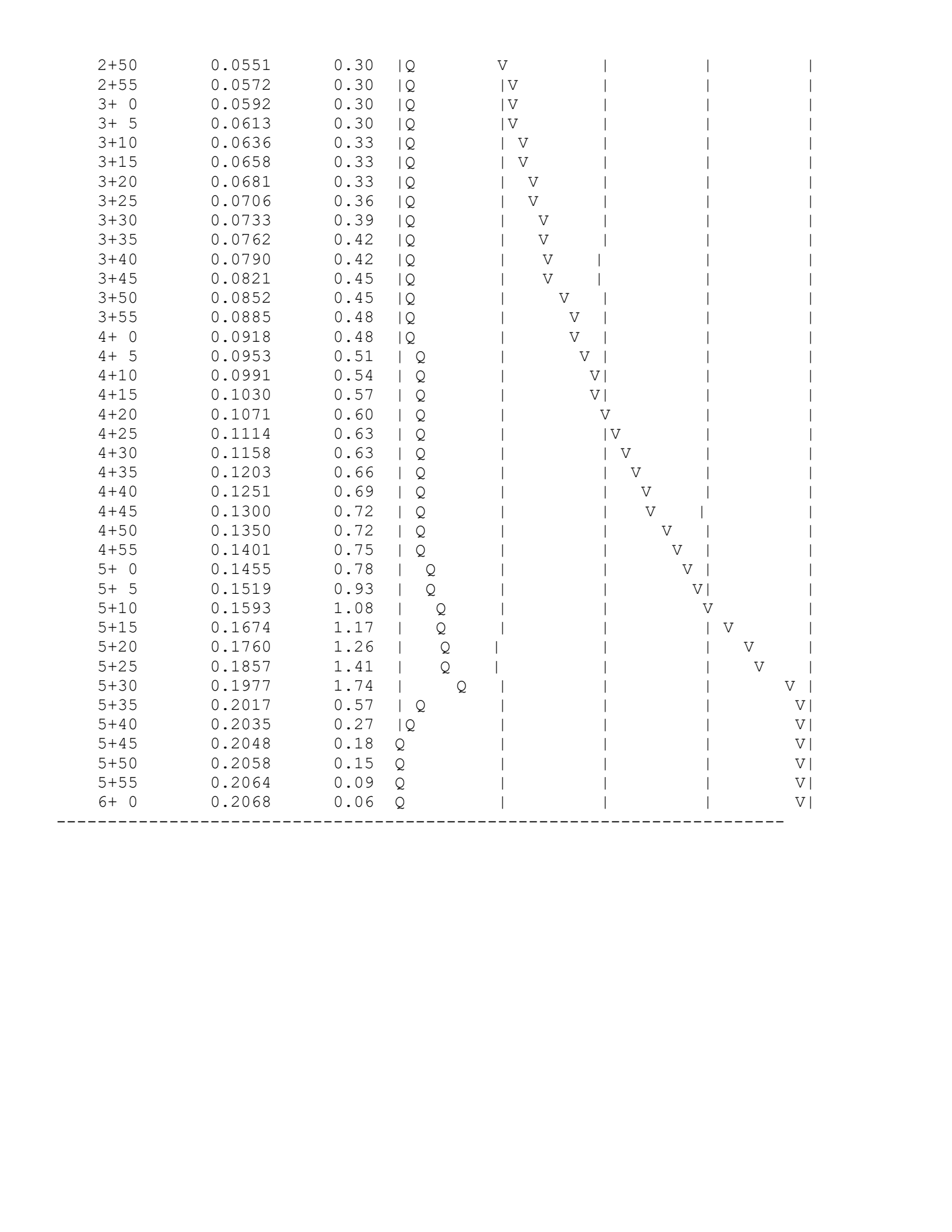
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.057	(0.109)	0.011	0.046
2	0.17	0.60	0.069	(0.109)	0.014	0.055
3	0.25	0.60	0.069	(0.109)	0.014	0.055
4	0.33	0.60	0.069	(0.109)	0.014	0.055
5	0.42	0.60	0.069	(0.109)	0.014	0.055
6	0.50	0.70	0.080	(0.109)	0.016	0.064
7	0.58	0.70	0.080	(0.109)	0.016	0.064
8	0.67	0.70	0.080	(0.109)	0.016	0.064
9	0.75	0.70	0.080	(0.109)	0.016	0.064
10	0.83	0.70	0.080	(0.109)	0.016	0.064
11	0.92	0.70	0.080	(0.109)	0.016	0.064
12	1.00	0.80	0.092	(0.109)	0.018	0.073

13	1.08	0.80	0.092	(0.109)	0.018	0.073
14	1.17	0.80	0.092	(0.109)	0.018	0.073
15	1.25	0.80	0.092	(0.109)	0.018	0.073
16	1.33	0.80	0.092	(0.109)	0.018	0.073
17	1.42	0.80	0.092	(0.109)	0.018	0.073
18	1.50	0.80	0.092	(0.109)	0.018	0.073
19	1.58	0.80	0.092	(0.109)	0.018	0.073
20	1.67	0.80	0.092	(0.109)	0.018	0.073
21	1.75	0.80	0.092	(0.109)	0.018	0.073
22	1.83	0.80	0.092	(0.109)	0.018	0.073
23	1.92	0.80	0.092	(0.109)	0.018	0.073
24	2.00	0.90	0.103	(0.109)	0.021	0.082
25	2.08	0.80	0.092	(0.109)	0.018	0.073
26	2.17	0.90	0.103	(0.109)	0.021	0.082
27	2.25	0.90	0.103	(0.109)	0.021	0.082
28	2.33	0.90	0.103	(0.109)	0.021	0.082
29	2.42	0.90	0.103	(0.109)	0.021	0.082
30	2.50	0.90	0.103	(0.109)	0.021	0.082
31	2.58	0.90	0.103	(0.109)	0.021	0.082
32	2.67	0.90	0.103	(0.109)	0.021	0.082
33	2.75	1.00	0.114	(0.109)	0.023	0.092
34	2.83	1.00	0.114	(0.109)	0.023	0.092
35	2.92	1.00	0.114	(0.109)	0.023	0.092
36	3.00	1.00	0.114	(0.109)	0.023	0.092
37	3.08	1.00	0.114	(0.109)	0.023	0.092
38	3.17	1.10	0.126	(0.109)	0.025	0.101
39	3.25	1.10	0.126	(0.109)	0.025	0.101
40	3.33	1.10	0.126	(0.109)	0.025	0.101
41	3.42	1.20	0.137	(0.109)	0.027	0.110
42	3.50	1.30	0.149	(0.109)	0.030	0.119
43	3.58	1.40	0.160	(0.109)	0.032	0.128
44	3.67	1.40	0.160	(0.109)	0.032	0.128
45	3.75	1.50	0.172	(0.109)	0.034	0.137
46	3.83	1.50	0.172	(0.109)	0.034	0.137
47	3.92	1.60	0.183	(0.109)	0.037	0.147
48	4.00	1.60	0.183	(0.109)	0.037	0.147
49	4.08	1.70	0.195	(0.109)	0.039	0.156
50	4.17	1.80	0.206	(0.109)	0.041	0.165
51	4.25	1.90	0.218	(0.109)	0.044	0.174
52	4.33	2.00	0.229	(0.109)	0.046	0.183
53	4.42	2.10	0.240	(0.109)	0.048	0.192
54	4.50	2.10	0.240	(0.109)	0.048	0.192
55	4.58	2.20	0.252	(0.109)	0.050	0.201
56	4.67	2.30	0.263	(0.109)	0.053	0.211
57	4.75	2.40	0.275	(0.109)	0.055	0.220
58	4.83	2.40	0.275	(0.109)	0.055	0.220
59	4.92	2.50	0.286	(0.109)	0.057	0.229
60	5.00	2.60	0.298	(0.109)	0.060	0.238
61	5.08	3.10	0.355	(0.109)	0.071	0.284
62	5.17	3.60	0.412	(0.109)	0.082	0.330
63	5.25	3.90	0.446	(0.109)	0.089	0.357
64	5.33	4.20	0.481	(0.109)	0.096	0.385
65	5.42	4.70	0.538	(0.109)	0.108	0.430
66	5.50	5.60	0.641	0.109	(0.128)	0.532
67	5.58	1.90	0.218	(0.109)	0.044	0.174
68	5.67	0.90	0.103	(0.109)	0.021	0.082
69	5.75	0.60	0.069	(0.109)	0.014	0.055

```
70   5.83     0.50      0.057       (  0.109)       0.011        0.046
71   5.92     0.30      0.034       (  0.109)       0.007        0.027
72   6.00     0.20      0.023       (  0.109)       0.005        0.018
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     9.2
    Flood volume = Effective rainfall      0.76(In)
     times area       3.2(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.19(In)
    Total soil loss =     0.051(Ac.Ft)
    Total rainfall =      0.95(In)
    Flood volume =        9009.1 Cubic Feet
    Total soil loss =        2228.2 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.742(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0010      0.15  Q         |         |         |         |
  0+10       0.0023      0.18  Q         |         |         |         |
  0+15       0.0035      0.18  Q         |         |         |         |
  0+20       0.0047      0.18  Q         |         |         |         |
  0+25       0.0060      0.18  QV        |         |         |         |
  0+30       0.0074      0.21  QV        |         |         |         |
  0+35       0.0089      0.21  QV        |         |         |         |
  0+40       0.0103      0.21  QV        |         |         |         |
  0+45       0.0118      0.21  Q V       |         |         |         |
  0+50       0.0132      0.21  Q V       |         |         |         |
  0+55       0.0147      0.21  Q V       |         |         |         |
  1+ 0       0.0163      0.24  Q  V      |         |         |         |
  1+ 5       0.0180      0.24  Q  V      |         |         |         |
  1+10       0.0196      0.24  Q  V      |         |         |         |
  1+15       0.0213      0.24  Q   V     |         |         |         |
  1+20       0.0229      0.24  Q   V     |         |         |         |
  1+25       0.0246      0.24  Q   V     |         |         |         |
  1+30       0.0262      0.24  Q    V    |         |         |         |
  1+35       0.0279      0.24  Q    V    |         |         |         |
  1+40       0.0295      0.24  Q    V    |         |         |         |
  1+45       0.0312      0.24  Q     V   |         |         |         |
  1+50       0.0328      0.24  Q     V   |         |         |         |
  1+55       0.0345      0.24  Q     V   |         |         |         |
  2+ 0       0.0363      0.27  |Q     V  |         |         |         |
  2+ 5       0.0380      0.24  Q      V  |         |         |         |
  2+10       0.0398      0.27  |Q     V  |         |         |         |
  2+15       0.0417      0.27  |Q      V |         |         |         |
  2+20       0.0435      0.27  |Q      V |         |         |         |
  2+25       0.0454      0.27  |Q      V |         |         |         |
  2+30       0.0473      0.27  |Q       V|         |         |         |
  2+35       0.0491      0.27  |Q       V|         |         |         |
  2+40       0.0510      0.27  |Q       V|         |         |         |
  2+45       0.0530      0.30  |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 06/03/26 File: 19267p002CD62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
1.25	0.95	1.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	2.26	2.83

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.254	75.00	0.790

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.790	0.145	1.000	0.145
					Sum (F) =	0.145

Area averaged mean soil loss (F) (In/Hr) = 0.145
Minimum soil loss rate ((In/Hr)) = 0.072
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1293.145	100.000	1.264
		Sum = 100.000	Sum= 1.264

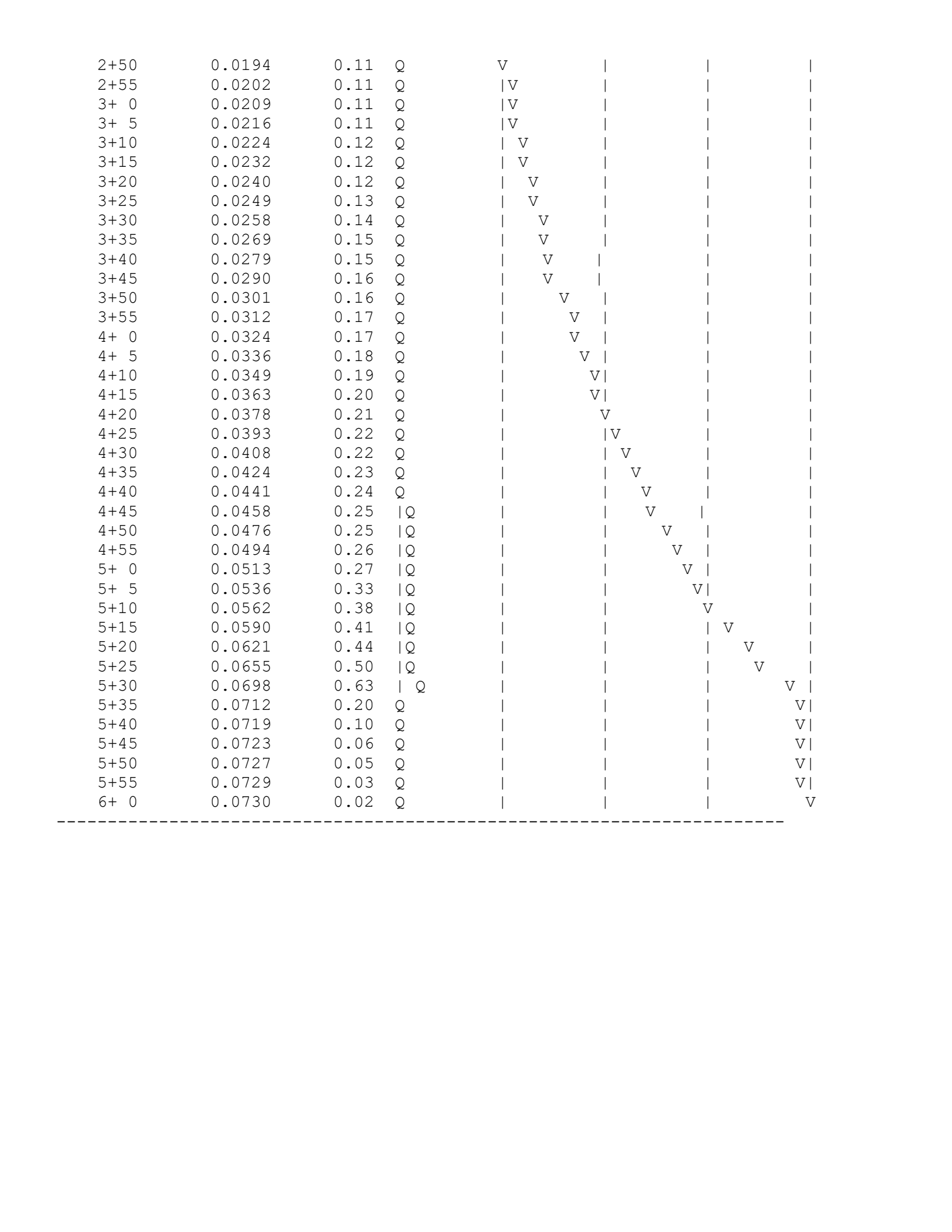
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.057	(0.145)	0.015	0.042
2	0.17	0.60	0.069	(0.145)	0.019	0.050
3	0.25	0.60	0.069	(0.145)	0.019	0.050
4	0.33	0.60	0.069	(0.145)	0.019	0.050
5	0.42	0.60	0.069	(0.145)	0.019	0.050
6	0.50	0.70	0.080	(0.145)	0.022	0.058
7	0.58	0.70	0.080	(0.145)	0.022	0.058
8	0.67	0.70	0.080	(0.145)	0.022	0.058
9	0.75	0.70	0.080	(0.145)	0.022	0.058
10	0.83	0.70	0.080	(0.145)	0.022	0.058
11	0.92	0.70	0.080	(0.145)	0.022	0.058
12	1.00	0.80	0.092	(0.145)	0.025	0.067

13	1.08	0.80	0.092	(0.145)	0.025	0.067
14	1.17	0.80	0.092	(0.145)	0.025	0.067
15	1.25	0.80	0.092	(0.145)	0.025	0.067
16	1.33	0.80	0.092	(0.145)	0.025	0.067
17	1.42	0.80	0.092	(0.145)	0.025	0.067
18	1.50	0.80	0.092	(0.145)	0.025	0.067
19	1.58	0.80	0.092	(0.145)	0.025	0.067
20	1.67	0.80	0.092	(0.145)	0.025	0.067
21	1.75	0.80	0.092	(0.145)	0.025	0.067
22	1.83	0.80	0.092	(0.145)	0.025	0.067
23	1.92	0.80	0.092	(0.145)	0.025	0.067
24	2.00	0.90	0.103	(0.145)	0.028	0.075
25	2.08	0.80	0.092	(0.145)	0.025	0.067
26	2.17	0.90	0.103	(0.145)	0.028	0.075
27	2.25	0.90	0.103	(0.145)	0.028	0.075
28	2.33	0.90	0.103	(0.145)	0.028	0.075
29	2.42	0.90	0.103	(0.145)	0.028	0.075
30	2.50	0.90	0.103	(0.145)	0.028	0.075
31	2.58	0.90	0.103	(0.145)	0.028	0.075
32	2.67	0.90	0.103	(0.145)	0.028	0.075
33	2.75	1.00	0.114	(0.145)	0.031	0.084
34	2.83	1.00	0.114	(0.145)	0.031	0.084
35	2.92	1.00	0.114	(0.145)	0.031	0.084
36	3.00	1.00	0.114	(0.145)	0.031	0.084
37	3.08	1.00	0.114	(0.145)	0.031	0.084
38	3.17	1.10	0.126	(0.145)	0.034	0.092
39	3.25	1.10	0.126	(0.145)	0.034	0.092
40	3.33	1.10	0.126	(0.145)	0.034	0.092
41	3.42	1.20	0.137	(0.145)	0.037	0.100
42	3.50	1.30	0.149	(0.145)	0.040	0.109
43	3.58	1.40	0.160	(0.145)	0.043	0.117
44	3.67	1.40	0.160	(0.145)	0.043	0.117
45	3.75	1.50	0.172	(0.145)	0.046	0.125
46	3.83	1.50	0.172	(0.145)	0.046	0.125
47	3.92	1.60	0.183	(0.145)	0.049	0.134
48	4.00	1.60	0.183	(0.145)	0.049	0.134
49	4.08	1.70	0.195	(0.145)	0.053	0.142
50	4.17	1.80	0.206	(0.145)	0.056	0.150
51	4.25	1.90	0.218	(0.145)	0.059	0.159
52	4.33	2.00	0.229	(0.145)	0.062	0.167
53	4.42	2.10	0.240	(0.145)	0.065	0.175
54	4.50	2.10	0.240	(0.145)	0.065	0.175
55	4.58	2.20	0.252	(0.145)	0.068	0.184
56	4.67	2.30	0.263	(0.145)	0.071	0.192
57	4.75	2.40	0.275	(0.145)	0.074	0.201
58	4.83	2.40	0.275	(0.145)	0.074	0.201
59	4.92	2.50	0.286	(0.145)	0.077	0.209
60	5.00	2.60	0.298	(0.145)	0.080	0.217
61	5.08	3.10	0.355	(0.145)	0.096	0.259
62	5.17	3.60	0.412	(0.145)	0.111	0.301
63	5.25	3.90	0.446	(0.145)	0.121	0.326
64	5.33	4.20	0.481	(0.145)	0.130	0.351
65	5.42	4.70	0.538	0.145	(0.145)	0.393
66	5.50	5.60	0.641	0.145	(0.173)	0.496
67	5.58	1.90	0.218	(0.145)	0.059	0.159
68	5.67	0.90	0.103	(0.145)	0.028	0.075
69	5.75	0.60	0.069	(0.145)	0.019	0.050

```
70   5.83     0.50      0.057       (  0.145)       0.015        0.042
71   5.92     0.30      0.034       (  0.145)       0.009        0.025
72   6.00     0.20      0.023       (  0.145)       0.006        0.017
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     8.4
    Flood volume = Effective rainfall      0.70(In)
     times area       1.3(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.26(In)
    Total soil loss =     0.027(Ac.Ft)
    Total rainfall =      0.95(In)
    Flood volume =        3181.1 Cubic Feet
    Total soil loss =        1161.5 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.628(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       0.0004      0.05  Q         |         |         |         |
  0+10       0.0008      0.06  Q         |         |         |         |
  0+15       0.0012      0.06  Q         |         |         |         |
  0+20       0.0017      0.06  Q         |         |         |         |
  0+25       0.0021      0.06  QV        |         |         |         |
  0+30       0.0026      0.07  QV        |         |         |         |
  0+35       0.0031      0.07  QV        |         |         |         |
  0+40       0.0036      0.07  QV        |         |         |         |
  0+45       0.0041      0.07  Q V       |         |         |         |
  0+50       0.0047      0.07  Q V       |         |         |         |
  0+55       0.0052      0.07  Q V       |         |         |         |
  1+ 0       0.0057      0.08  Q  V      |         |         |         |
  1+ 5       0.0063      0.08  Q  V      |         |         |         |
  1+10       0.0069      0.08  Q  V      |         |         |         |
  1+15       0.0075      0.08  Q   V     |         |         |         |
  1+20       0.0081      0.08  Q   V     |         |         |         |
  1+25       0.0087      0.08  Q   V     |         |         |         |
  1+30       0.0092      0.08  Q    V    |         |         |         |
  1+35       0.0098      0.08  Q    V    |         |         |         |
  1+40       0.0104      0.08  Q    V    |         |         |         |
  1+45       0.0110      0.08  Q     V   |         |         |         |
  1+50       0.0116      0.08  Q     V   |         |         |         |
  1+55       0.0122      0.08  Q     V   |         |         |         |
  2+ 0       0.0128      0.10  Q      V  |         |         |         |
  2+ 5       0.0134      0.08  Q      V  |         |         |         |
  2+10       0.0140      0.10  Q      V  |         |         |         |
  2+15       0.0147      0.10  Q       V |         |         |         |
  2+20       0.0154      0.10  Q       V |         |         |         |
  2+25       0.0160      0.10  Q       V |         |         |         |
  2+30       0.0167      0.10  Q        V|         |         |         |
  2+35       0.0173      0.10  Q        V|         |         |         |
  2+40       0.0180      0.10  Q        V|         |         |         |
  2+45       0.0187      0.11  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 06/03/26 File: 19267p002EK62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	0.95	0.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	2.26	0.75

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.332	75.00	0.880

Total Area Entered = 0.33(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.880	0.104	1.000	0.104
					Sum (F) =	0.104

Area averaged mean soil loss (F) (In/Hr) = 0.104
Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	699.916	78.557	0.263
2	0.167	1399.832	21.443	0.072
		Sum = 100.000	Sum=	0.335

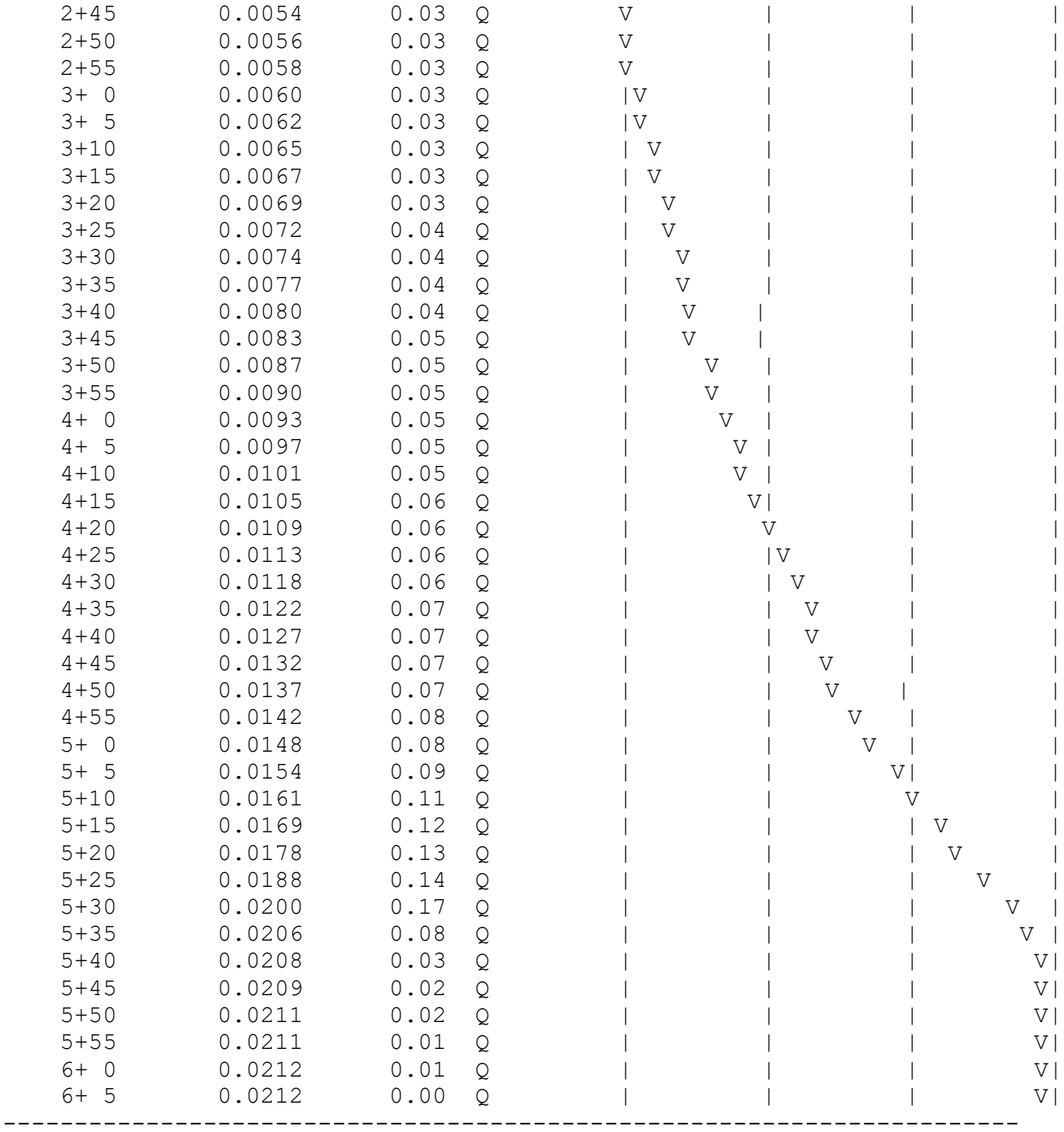
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.057	(0.104)	0.011	0.046
2	0.17	0.60	0.069	(0.104)	0.014	0.055
3	0.25	0.60	0.069	(0.104)	0.014	0.055
4	0.33	0.60	0.069	(0.104)	0.014	0.055
5	0.42	0.60	0.069	(0.104)	0.014	0.055
6	0.50	0.70	0.080	(0.104)	0.016	0.064
7	0.58	0.70	0.080	(0.104)	0.016	0.064
8	0.67	0.70	0.080	(0.104)	0.016	0.064
9	0.75	0.70	0.080	(0.104)	0.016	0.064
10	0.83	0.70	0.080	(0.104)	0.016	0.064
11	0.92	0.70	0.080	(0.104)	0.016	0.064

12	1.00	0.80	0.092	(0.104)	0.018	0.073
13	1.08	0.80	0.092	(0.104)	0.018	0.073
14	1.17	0.80	0.092	(0.104)	0.018	0.073
15	1.25	0.80	0.092	(0.104)	0.018	0.073
16	1.33	0.80	0.092	(0.104)	0.018	0.073
17	1.42	0.80	0.092	(0.104)	0.018	0.073
18	1.50	0.80	0.092	(0.104)	0.018	0.073
19	1.58	0.80	0.092	(0.104)	0.018	0.073
20	1.67	0.80	0.092	(0.104)	0.018	0.073
21	1.75	0.80	0.092	(0.104)	0.018	0.073
22	1.83	0.80	0.092	(0.104)	0.018	0.073
23	1.92	0.80	0.092	(0.104)	0.018	0.073
24	2.00	0.90	0.103	(0.104)	0.021	0.082
25	2.08	0.80	0.092	(0.104)	0.018	0.073
26	2.17	0.90	0.103	(0.104)	0.021	0.082
27	2.25	0.90	0.103	(0.104)	0.021	0.082
28	2.33	0.90	0.103	(0.104)	0.021	0.082
29	2.42	0.90	0.103	(0.104)	0.021	0.082
30	2.50	0.90	0.103	(0.104)	0.021	0.082
31	2.58	0.90	0.103	(0.104)	0.021	0.082
32	2.67	0.90	0.103	(0.104)	0.021	0.082
33	2.75	1.00	0.114	(0.104)	0.023	0.092
34	2.83	1.00	0.114	(0.104)	0.023	0.092
35	2.92	1.00	0.114	(0.104)	0.023	0.092
36	3.00	1.00	0.114	(0.104)	0.023	0.092
37	3.08	1.00	0.114	(0.104)	0.023	0.092
38	3.17	1.10	0.126	(0.104)	0.025	0.101
39	3.25	1.10	0.126	(0.104)	0.025	0.101
40	3.33	1.10	0.126	(0.104)	0.025	0.101
41	3.42	1.20	0.137	(0.104)	0.027	0.110
42	3.50	1.30	0.149	(0.104)	0.030	0.119
43	3.58	1.40	0.160	(0.104)	0.032	0.128
44	3.67	1.40	0.160	(0.104)	0.032	0.128
45	3.75	1.50	0.172	(0.104)	0.034	0.137
46	3.83	1.50	0.172	(0.104)	0.034	0.137
47	3.92	1.60	0.183	(0.104)	0.037	0.147
48	4.00	1.60	0.183	(0.104)	0.037	0.147
49	4.08	1.70	0.195	(0.104)	0.039	0.156
50	4.17	1.80	0.206	(0.104)	0.041	0.165
51	4.25	1.90	0.218	(0.104)	0.044	0.174
52	4.33	2.00	0.229	(0.104)	0.046	0.183
53	4.42	2.10	0.240	(0.104)	0.048	0.192
54	4.50	2.10	0.240	(0.104)	0.048	0.192
55	4.58	2.20	0.252	(0.104)	0.050	0.201
56	4.67	2.30	0.263	(0.104)	0.053	0.211
57	4.75	2.40	0.275	(0.104)	0.055	0.220
58	4.83	2.40	0.275	(0.104)	0.055	0.220
59	4.92	2.50	0.286	(0.104)	0.057	0.229
60	5.00	2.60	0.298	(0.104)	0.060	0.238
61	5.08	3.10	0.355	(0.104)	0.071	0.284
62	5.17	3.60	0.412	(0.104)	0.082	0.330
63	5.25	3.90	0.446	(0.104)	0.089	0.357
64	5.33	4.20	0.481	(0.104)	0.096	0.385
65	5.42	4.70	0.538	0.104	(0.108)	0.434
66	5.50	5.60	0.641	0.104	(0.128)	0.537
67	5.58	1.90	0.218	(0.104)	0.044	0.174
68	5.67	0.90	0.103	(0.104)	0.021	0.082

```
69   5.75     0.60      0.069       (  0.104)       0.014        0.055
70   5.83     0.50      0.057       (  0.104)       0.011        0.046
71   5.92     0.30      0.034       (  0.104)       0.007        0.027
72   6.00     0.20      0.023       (  0.104)       0.005        0.018
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     9.2
    Flood volume = Effective rainfall      0.77(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.19(In)
    Total soil loss =     0.005(Ac.Ft)
    Total rainfall =      0.95(In)
    Flood volume =         922.5 Cubic Feet
    Total soil loss =         227.2 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.172(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.01  Q         |         |         |         |
  0+10       0.0002      0.02  Q         |         |         |         |
  0+15       0.0003      0.02  Q         |         |         |         |
  0+20       0.0005      0.02  Q         |         |         |         |
  0+25       0.0006      0.02  QV        |         |         |         |
  0+30       0.0007      0.02  QV        |         |         |         |
  0+35       0.0009      0.02  QV        |         |         |         |
  0+40       0.0010      0.02  QV        |         |         |         |
  0+45       0.0012      0.02  Q V       |         |         |         |
  0+50       0.0013      0.02  Q V       |         |         |         |
  0+55       0.0015      0.02  Q V       |         |         |         |
  1+ 0       0.0016      0.02  Q  V      |         |         |         |
  1+ 5       0.0018      0.02  Q  V      |         |         |         |
  1+10       0.0020      0.02  Q  V      |         |         |         |
  1+15       0.0021      0.02  Q   V     |         |         |         |
  1+20       0.0023      0.02  Q   V     |         |         |         |
  1+25       0.0025      0.02  Q   V     |         |         |         |
  1+30       0.0026      0.02  Q   V     |         |         |         |
  1+35       0.0028      0.02  Q    V    |         |         |         |
  1+40       0.0030      0.02  Q    V    |         |         |         |
  1+45       0.0032      0.02  Q    V    |         |         |         |
  1+50       0.0033      0.02  Q     V   |         |         |         |
  1+55       0.0035      0.02  Q     V   |         |         |         |
  2+ 0       0.0037      0.03  Q     V   |         |         |         |
  2+ 5       0.0038      0.03  Q      V  |         |         |         |
  2+10       0.0040      0.03  Q      V  |         |         |         |
  2+15       0.0042      0.03  Q      V  |         |         |         |
  2+20       0.0044      0.03  Q       V |         |         |         |
  2+25       0.0046      0.03  Q       V |         |         |         |
  2+30       0.0048      0.03  Q        V|         |         |         |
  2+35       0.0050      0.03  Q        V|         |         |         |
  2+40       0.0052      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 06/03/26 File: 19267p002F62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	0.95	0.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.38	2.26	0.86

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.382	75.00	0.880

Total Area Entered = 0.38(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.880	0.104	1.000	0.104
					Sum (F) =	0.104

Area averaged mean soil loss (F) (In/Hr) = 0.104
Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1040.009	100.000	0.385
		Sum = 100.000	Sum=	0.385

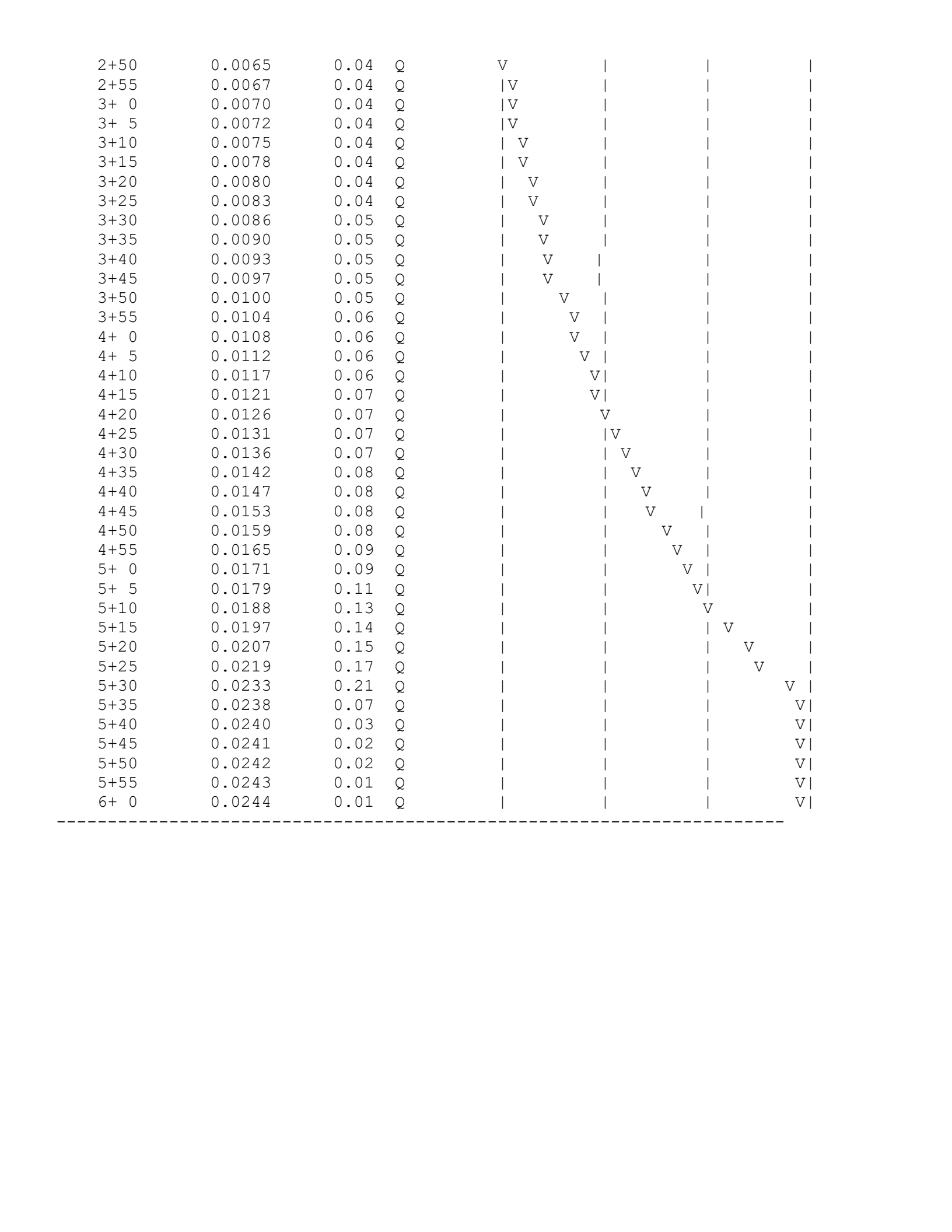
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.057	(0.104)	0.011	0.046
2	0.17	0.60	0.069	(0.104)	0.014	0.055
3	0.25	0.60	0.069	(0.104)	0.014	0.055
4	0.33	0.60	0.069	(0.104)	0.014	0.055
5	0.42	0.60	0.069	(0.104)	0.014	0.055
6	0.50	0.70	0.080	(0.104)	0.016	0.064
7	0.58	0.70	0.080	(0.104)	0.016	0.064
8	0.67	0.70	0.080	(0.104)	0.016	0.064
9	0.75	0.70	0.080	(0.104)	0.016	0.064
10	0.83	0.70	0.080	(0.104)	0.016	0.064
11	0.92	0.70	0.080	(0.104)	0.016	0.064
12	1.00	0.80	0.092	(0.104)	0.018	0.073

13	1.08	0.80	0.092	(0.104)	0.018	0.073
14	1.17	0.80	0.092	(0.104)	0.018	0.073
15	1.25	0.80	0.092	(0.104)	0.018	0.073
16	1.33	0.80	0.092	(0.104)	0.018	0.073
17	1.42	0.80	0.092	(0.104)	0.018	0.073
18	1.50	0.80	0.092	(0.104)	0.018	0.073
19	1.58	0.80	0.092	(0.104)	0.018	0.073
20	1.67	0.80	0.092	(0.104)	0.018	0.073
21	1.75	0.80	0.092	(0.104)	0.018	0.073
22	1.83	0.80	0.092	(0.104)	0.018	0.073
23	1.92	0.80	0.092	(0.104)	0.018	0.073
24	2.00	0.90	0.103	(0.104)	0.021	0.082
25	2.08	0.80	0.092	(0.104)	0.018	0.073
26	2.17	0.90	0.103	(0.104)	0.021	0.082
27	2.25	0.90	0.103	(0.104)	0.021	0.082
28	2.33	0.90	0.103	(0.104)	0.021	0.082
29	2.42	0.90	0.103	(0.104)	0.021	0.082
30	2.50	0.90	0.103	(0.104)	0.021	0.082
31	2.58	0.90	0.103	(0.104)	0.021	0.082
32	2.67	0.90	0.103	(0.104)	0.021	0.082
33	2.75	1.00	0.114	(0.104)	0.023	0.092
34	2.83	1.00	0.114	(0.104)	0.023	0.092
35	2.92	1.00	0.114	(0.104)	0.023	0.092
36	3.00	1.00	0.114	(0.104)	0.023	0.092
37	3.08	1.00	0.114	(0.104)	0.023	0.092
38	3.17	1.10	0.126	(0.104)	0.025	0.101
39	3.25	1.10	0.126	(0.104)	0.025	0.101
40	3.33	1.10	0.126	(0.104)	0.025	0.101
41	3.42	1.20	0.137	(0.104)	0.027	0.110
42	3.50	1.30	0.149	(0.104)	0.030	0.119
43	3.58	1.40	0.160	(0.104)	0.032	0.128
44	3.67	1.40	0.160	(0.104)	0.032	0.128
45	3.75	1.50	0.172	(0.104)	0.034	0.137
46	3.83	1.50	0.172	(0.104)	0.034	0.137
47	3.92	1.60	0.183	(0.104)	0.037	0.147
48	4.00	1.60	0.183	(0.104)	0.037	0.147
49	4.08	1.70	0.195	(0.104)	0.039	0.156
50	4.17	1.80	0.206	(0.104)	0.041	0.165
51	4.25	1.90	0.218	(0.104)	0.044	0.174
52	4.33	2.00	0.229	(0.104)	0.046	0.183
53	4.42	2.10	0.240	(0.104)	0.048	0.192
54	4.50	2.10	0.240	(0.104)	0.048	0.192
55	4.58	2.20	0.252	(0.104)	0.050	0.201
56	4.67	2.30	0.263	(0.104)	0.053	0.211
57	4.75	2.40	0.275	(0.104)	0.055	0.220
58	4.83	2.40	0.275	(0.104)	0.055	0.220
59	4.92	2.50	0.286	(0.104)	0.057	0.229
60	5.00	2.60	0.298	(0.104)	0.060	0.238
61	5.08	3.10	0.355	(0.104)	0.071	0.284
62	5.17	3.60	0.412	(0.104)	0.082	0.330
63	5.25	3.90	0.446	(0.104)	0.089	0.357
64	5.33	4.20	0.481	(0.104)	0.096	0.385
65	5.42	4.70	0.538	0.104	(0.108)	0.434
66	5.50	5.60	0.641	0.104	(0.128)	0.537
67	5.58	1.90	0.218	(0.104)	0.044	0.174
68	5.67	0.90	0.103	(0.104)	0.021	0.082
69	5.75	0.60	0.069	(0.104)	0.014	0.055

```
70   5.83     0.50      0.057       (  0.104)       0.011        0.046
71   5.92     0.30      0.034       (  0.104)       0.007        0.027
72   6.00     0.20      0.023       (  0.104)       0.005        0.018
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     9.2
    Flood volume = Effective rainfall      0.77(In)
     times area       0.4(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.19(In)
    Total soil loss =     0.006(Ac.Ft)
    Total rainfall =      0.95(In)
    Flood volume =        1061.5 Cubic Feet
    Total soil loss =         261.4 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.207(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.02  Q         |         |         |         |
  0+10       0.0003      0.02  Q         |         |         |         |
  0+15       0.0004      0.02  Q         |         |         |         |
  0+20       0.0006      0.02  Q         |         |         |         |
  0+25       0.0007      0.02  QV        |         |         |         |
  0+30       0.0009      0.02  QV        |         |         |         |
  0+35       0.0010      0.02  QV        |         |         |         |
  0+40       0.0012      0.02  QV        |         |         |         |
  0+45       0.0014      0.02  Q V       |         |         |         |
  0+50       0.0016      0.02  Q V       |         |         |         |
  0+55       0.0017      0.02  Q V       |         |         |         |
  1+ 0       0.0019      0.03  Q  V      |         |         |         |
  1+ 5       0.0021      0.03  Q  V      |         |         |         |
  1+10       0.0023      0.03  Q  V      |         |         |         |
  1+15       0.0025      0.03  Q   V     |         |         |         |
  1+20       0.0027      0.03  Q   V     |         |         |         |
  1+25       0.0029      0.03  Q   V     |         |         |         |
  1+30       0.0031      0.03  Q    V    |         |         |         |
  1+35       0.0033      0.03  Q    V    |         |         |         |
  1+40       0.0035      0.03  Q    V    |         |         |         |
  1+45       0.0037      0.03  Q     V   |         |         |         |
  1+50       0.0039      0.03  Q     V   |         |         |         |
  1+55       0.0041      0.03  Q     V   |         |         |         |
  2+ 0       0.0043      0.03  Q      V  |         |         |         |
  2+ 5       0.0045      0.03  Q      V  |         |         |         |
  2+10       0.0047      0.03  Q      V  |         |         |         |
  2+15       0.0049      0.03  Q       V |         |         |         |
  2+20       0.0051      0.03  Q       V |         |         |         |
  2+25       0.0053      0.03  Q       V |         |         |         |
  2+30       0.0056      0.03  Q        V|         |         |         |
  2+35       0.0058      0.03  Q        V|         |         |         |
  2+40       0.0060      0.03  Q        V|         |         |         |
  2+45       0.0062      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 06/03/26 File: 19267p002GH62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 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]
1.11	0.95	1.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	2.26	2.50

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.105	75.00	0.840

Total Area Entered = 1.11(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.840	0.122	1.000	0.122
					Sum (F) =	0.122

Area averaged mean soil loss (F) (In/Hr) = 0.122
Minimum soil loss rate ((In/Hr)) = 0.061
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1261.013	100.000	1.114
		Sum = 100.000	Sum= 1.114

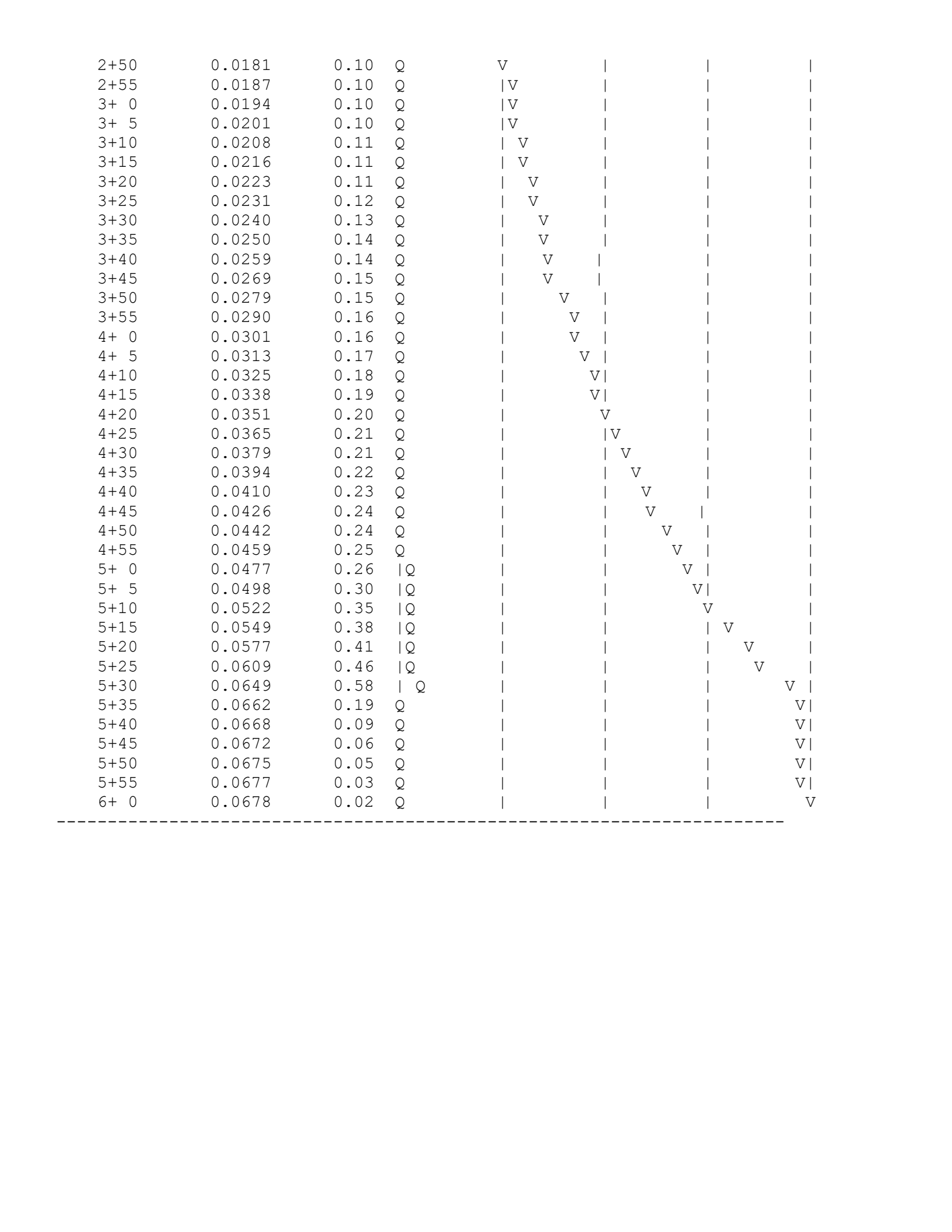
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.057	(0.122)	0.013	0.044
2	0.17	0.60	0.069	(0.122)	0.016	0.053
3	0.25	0.60	0.069	(0.122)	0.016	0.053
4	0.33	0.60	0.069	(0.122)	0.016	0.053
5	0.42	0.60	0.069	(0.122)	0.016	0.053
6	0.50	0.70	0.080	(0.122)	0.018	0.062
7	0.58	0.70	0.080	(0.122)	0.018	0.062
8	0.67	0.70	0.080	(0.122)	0.018	0.062
9	0.75	0.70	0.080	(0.122)	0.018	0.062
10	0.83	0.70	0.080	(0.122)	0.018	0.062
11	0.92	0.70	0.080	(0.122)	0.018	0.062
12	1.00	0.80	0.092	(0.122)	0.021	0.071

13	1.08	0.80	0.092	(0.122)	0.021	0.071
14	1.17	0.80	0.092	(0.122)	0.021	0.071
15	1.25	0.80	0.092	(0.122)	0.021	0.071
16	1.33	0.80	0.092	(0.122)	0.021	0.071
17	1.42	0.80	0.092	(0.122)	0.021	0.071
18	1.50	0.80	0.092	(0.122)	0.021	0.071
19	1.58	0.80	0.092	(0.122)	0.021	0.071
20	1.67	0.80	0.092	(0.122)	0.021	0.071
21	1.75	0.80	0.092	(0.122)	0.021	0.071
22	1.83	0.80	0.092	(0.122)	0.021	0.071
23	1.92	0.80	0.092	(0.122)	0.021	0.071
24	2.00	0.90	0.103	(0.122)	0.024	0.079
25	2.08	0.80	0.092	(0.122)	0.021	0.071
26	2.17	0.90	0.103	(0.122)	0.024	0.079
27	2.25	0.90	0.103	(0.122)	0.024	0.079
28	2.33	0.90	0.103	(0.122)	0.024	0.079
29	2.42	0.90	0.103	(0.122)	0.024	0.079
30	2.50	0.90	0.103	(0.122)	0.024	0.079
31	2.58	0.90	0.103	(0.122)	0.024	0.079
32	2.67	0.90	0.103	(0.122)	0.024	0.079
33	2.75	1.00	0.114	(0.122)	0.026	0.088
34	2.83	1.00	0.114	(0.122)	0.026	0.088
35	2.92	1.00	0.114	(0.122)	0.026	0.088
36	3.00	1.00	0.114	(0.122)	0.026	0.088
37	3.08	1.00	0.114	(0.122)	0.026	0.088
38	3.17	1.10	0.126	(0.122)	0.029	0.097
39	3.25	1.10	0.126	(0.122)	0.029	0.097
40	3.33	1.10	0.126	(0.122)	0.029	0.097
41	3.42	1.20	0.137	(0.122)	0.032	0.106
42	3.50	1.30	0.149	(0.122)	0.034	0.115
43	3.58	1.40	0.160	(0.122)	0.037	0.123
44	3.67	1.40	0.160	(0.122)	0.037	0.123
45	3.75	1.50	0.172	(0.122)	0.039	0.132
46	3.83	1.50	0.172	(0.122)	0.039	0.132
47	3.92	1.60	0.183	(0.122)	0.042	0.141
48	4.00	1.60	0.183	(0.122)	0.042	0.141
49	4.08	1.70	0.195	(0.122)	0.045	0.150
50	4.17	1.80	0.206	(0.122)	0.047	0.159
51	4.25	1.90	0.218	(0.122)	0.050	0.167
52	4.33	2.00	0.229	(0.122)	0.053	0.176
53	4.42	2.10	0.240	(0.122)	0.055	0.185
54	4.50	2.10	0.240	(0.122)	0.055	0.185
55	4.58	2.20	0.252	(0.122)	0.058	0.194
56	4.67	2.30	0.263	(0.122)	0.061	0.203
57	4.75	2.40	0.275	(0.122)	0.063	0.212
58	4.83	2.40	0.275	(0.122)	0.063	0.212
59	4.92	2.50	0.286	(0.122)	0.066	0.220
60	5.00	2.60	0.298	(0.122)	0.068	0.229
61	5.08	3.10	0.355	(0.122)	0.082	0.273
62	5.17	3.60	0.412	(0.122)	0.095	0.317
63	5.25	3.90	0.446	(0.122)	0.103	0.344
64	5.33	4.20	0.481	(0.122)	0.111	0.370
65	5.42	4.70	0.538	0.122	(0.124)	0.416
66	5.50	5.60	0.641	0.122	(0.147)	0.519
67	5.58	1.90	0.218	(0.122)	0.050	0.167
68	5.67	0.90	0.103	(0.122)	0.024	0.079
69	5.75	0.60	0.069	(0.122)	0.016	0.053

```
70   5.83     0.50      0.057       (  0.122)       0.013        0.044
71   5.92     0.30      0.034       (  0.122)       0.008        0.026
72   6.00     0.20      0.023       (  0.122)       0.005        0.018
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     8.8
    Flood volume = Effective rainfall      0.74(In)
     times area       1.1(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.22(In)
    Total soil loss =     0.020(Ac.Ft)
    Total rainfall =      0.95(In)
    Flood volume =        2955.5 Cubic Feet
    Total soil loss =         871.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.578(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       0.0003      0.05  Q         |         |         |         |
  0+10       0.0007      0.06  Q         |         |         |         |
  0+15       0.0011      0.06  Q         |         |         |         |
  0+20       0.0016      0.06  Q         |         |         |         |
  0+25       0.0020      0.06  QV        |         |         |         |
  0+30       0.0024      0.07  QV        |         |         |         |
  0+35       0.0029      0.07  QV        |         |         |         |
  0+40       0.0034      0.07  QV        |         |         |         |
  0+45       0.0039      0.07  Q V       |         |         |         |
  0+50       0.0043      0.07  Q V       |         |         |         |
  0+55       0.0048      0.07  Q V       |         |         |         |
  1+ 0       0.0053      0.08  Q  V      |         |         |         |
  1+ 5       0.0059      0.08  Q  V      |         |         |         |
  1+10       0.0064      0.08  Q  V      |         |         |         |
  1+15       0.0070      0.08  Q   V     |         |         |         |
  1+20       0.0075      0.08  Q   V     |         |         |         |
  1+25       0.0080      0.08  Q   V     |         |         |         |
  1+30       0.0086      0.08  Q    V    |         |         |         |
  1+35       0.0091      0.08  Q    V    |         |         |         |
  1+40       0.0097      0.08  Q    V    |         |         |         |
  1+45       0.0102      0.08  Q     V   |         |         |         |
  1+50       0.0108      0.08  Q     V   |         |         |         |
  1+55       0.0113      0.08  Q     V   |         |         |         |
  2+ 0       0.0119      0.09  Q      V  |         |         |         |
  2+ 5       0.0124      0.08  Q      V  |         |         |         |
  2+10       0.0131      0.09  Q      V  |         |         |         |
  2+15       0.0137      0.09  Q       V |         |         |         |
  2+20       0.0143      0.09  Q       V |         |         |         |
  2+25       0.0149      0.09  Q       V |         |         |         |
  2+30       0.0155      0.09  Q        V|         |         |         |
  2+35       0.0161      0.09  Q        V|         |         |         |
  2+40       0.0167      0.09  Q        V|         |         |         |
  2+45       0.0174      0.10  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 06/03/26 File: 19267p002I62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	0.95	0.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.90	2.26	2.03

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.830	0.127	1.000	0.127
					Sum (F) =	0.127

Area averaged mean soil loss (F) (In/Hr) = 0.127
Minimum soil loss rate ((In/Hr)) = 0.063
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
		Sum = 100.000	Sum=	0.907

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	0.057	(0.127)	0.014	0.044
2	0.17	0.60	0.069	(0.127)	0.016	0.052
3	0.25	0.60	0.069	(0.127)	0.016	0.052
4	0.33	0.60	0.069	(0.127)	0.016	0.052
5	0.42	0.60	0.069	(0.127)	0.016	0.052
6	0.50	0.70	0.080	(0.127)	0.019	0.061
7	0.58	0.70	0.080	(0.127)	0.019	0.061
8	0.67	0.70	0.080	(0.127)	0.019	0.061
9	0.75	0.70	0.080	(0.127)	0.019	0.061
10	0.83	0.70	0.080	(0.127)	0.019	0.061
11	0.92	0.70	0.080	(0.127)	0.019	0.061

12	1.00	0.80	0.092	(0.127)	0.022	0.070
13	1.08	0.80	0.092	(0.127)	0.022	0.070
14	1.17	0.80	0.092	(0.127)	0.022	0.070
15	1.25	0.80	0.092	(0.127)	0.022	0.070
16	1.33	0.80	0.092	(0.127)	0.022	0.070
17	1.42	0.80	0.092	(0.127)	0.022	0.070
18	1.50	0.80	0.092	(0.127)	0.022	0.070
19	1.58	0.80	0.092	(0.127)	0.022	0.070
20	1.67	0.80	0.092	(0.127)	0.022	0.070
21	1.75	0.80	0.092	(0.127)	0.022	0.070
22	1.83	0.80	0.092	(0.127)	0.022	0.070
23	1.92	0.80	0.092	(0.127)	0.022	0.070
24	2.00	0.90	0.103	(0.127)	0.025	0.078
25	2.08	0.80	0.092	(0.127)	0.022	0.070
26	2.17	0.90	0.103	(0.127)	0.025	0.078
27	2.25	0.90	0.103	(0.127)	0.025	0.078
28	2.33	0.90	0.103	(0.127)	0.025	0.078
29	2.42	0.90	0.103	(0.127)	0.025	0.078
30	2.50	0.90	0.103	(0.127)	0.025	0.078
31	2.58	0.90	0.103	(0.127)	0.025	0.078
32	2.67	0.90	0.103	(0.127)	0.025	0.078
33	2.75	1.00	0.114	(0.127)	0.027	0.087
34	2.83	1.00	0.114	(0.127)	0.027	0.087
35	2.92	1.00	0.114	(0.127)	0.027	0.087
36	3.00	1.00	0.114	(0.127)	0.027	0.087
37	3.08	1.00	0.114	(0.127)	0.027	0.087
38	3.17	1.10	0.126	(0.127)	0.030	0.096
39	3.25	1.10	0.126	(0.127)	0.030	0.096
40	3.33	1.10	0.126	(0.127)	0.030	0.096
41	3.42	1.20	0.137	(0.127)	0.033	0.104
42	3.50	1.30	0.149	(0.127)	0.036	0.113
43	3.58	1.40	0.160	(0.127)	0.038	0.122
44	3.67	1.40	0.160	(0.127)	0.038	0.122
45	3.75	1.50	0.172	(0.127)	0.041	0.131
46	3.83	1.50	0.172	(0.127)	0.041	0.131
47	3.92	1.60	0.183	(0.127)	0.044	0.139
48	4.00	1.60	0.183	(0.127)	0.044	0.139
49	4.08	1.70	0.195	(0.127)	0.047	0.148
50	4.17	1.80	0.206	(0.127)	0.049	0.157
51	4.25	1.90	0.218	(0.127)	0.052	0.165
52	4.33	2.00	0.229	(0.127)	0.055	0.174
53	4.42	2.10	0.240	(0.127)	0.058	0.183
54	4.50	2.10	0.240	(0.127)	0.058	0.183
55	4.58	2.20	0.252	(0.127)	0.060	0.191
56	4.67	2.30	0.263	(0.127)	0.063	0.200
57	4.75	2.40	0.275	(0.127)	0.066	0.209
58	4.83	2.40	0.275	(0.127)	0.066	0.209
59	4.92	2.50	0.286	(0.127)	0.069	0.218
60	5.00	2.60	0.298	(0.127)	0.071	0.226
61	5.08	3.10	0.355	(0.127)	0.085	0.270
62	5.17	3.60	0.412	(0.127)	0.099	0.313
63	5.25	3.90	0.446	(0.127)	0.107	0.339
64	5.33	4.20	0.481	(0.127)	0.115	0.365
65	5.42	4.70	0.538	0.127	(0.129)	0.411
66	5.50	5.60	0.641	0.127	(0.154)	0.514
67	5.58	1.90	0.218	(0.127)	0.052	0.165
68	5.67	0.90	0.103	(0.127)	0.025	0.078

69	5.75	0.60	0.069	(0.127)	0.016	0.052
70	5.83	0.50	0.057	(0.127)	0.014	0.044
71	5.92	0.30	0.034	(0.127)	0.008	0.026
72	6.00	0.20	0.023	(0.127)	0.005	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.7

Flood volume = Effective rainfall 0.73(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.23(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 2376.8 Cubic Feet
Total soil loss = 739.9 Cubic Feet

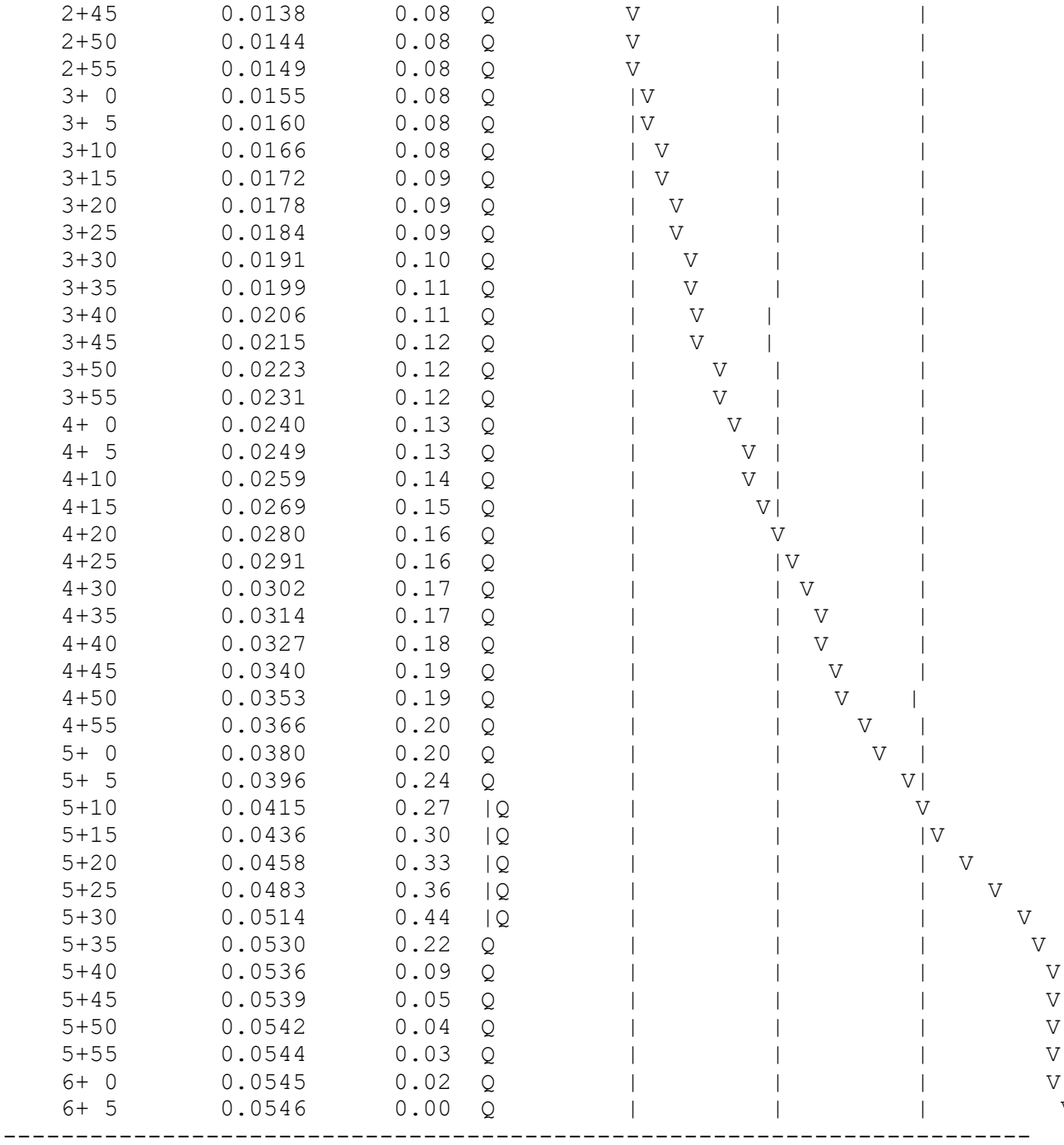
Peak flow rate of this hydrograph = 0.445(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0005	0.05	Q	|	|	|	|
0+15	0.0008	0.05	Q	|	|	|	|
0+20	0.0012	0.05	Q	|	|	|	|
0+25	0.0015	0.05	QV	|	|	|	|
0+30	0.0019	0.05	QV	|	|	|	|
0+35	0.0022	0.06	QV	|	|	|	|
0+40	0.0026	0.06	QV	|	|	|	|
0+45	0.0030	0.06	Q V	|	|	|	|
0+50	0.0034	0.06	Q V	|	|	|	|
0+55	0.0038	0.06	Q V	|	|	|	|
1+ 0	0.0042	0.06	Q V	|	|	|	|
1+ 5	0.0046	0.06	Q V	|	|	|	|
1+10	0.0051	0.06	Q V	|	|	|	|
1+15	0.0055	0.06	Q V	|	|	|	|
1+20	0.0059	0.06	Q V	|	|	|	|
1+25	0.0064	0.06	Q V	|	|	|	|
1+30	0.0068	0.06	Q V	|	|	|	|
1+35	0.0072	0.06	Q V	|	|	|	|
1+40	0.0077	0.06	Q V	|	|	|	|
1+45	0.0081	0.06	Q V	|	|	|	|
1+50	0.0085	0.06	Q V	|	|	|	|
1+55	0.0090	0.06	Q V	|	|	|	|
2+ 0	0.0095	0.07	Q V	|	|	|	|
2+ 5	0.0099	0.07	Q V	|	|	|	|
2+10	0.0104	0.07	Q V	|	|	|	|
2+15	0.0109	0.07	Q V	|	|	|	|
2+20	0.0114	0.07	Q V	|	|	|	|
2+25	0.0118	0.07	Q V	|	|	|	|
2+30	0.0123	0.07	Q V	|	|	|	|
2+35	0.0128	0.07	Q V	|	|	|	|
2+40	0.0133	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 06/03/26 File: 19267p002J62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	0.95	0.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.34	2.26	0.77

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.340	75.00	0.860

Total Area Entered = 0.34(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.860	0.113	1.000	0.113
					Sum (F) =	0.113

Area averaged mean soil loss (F) (In/Hr) = 0.113
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.210

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1304.735	100.000	0.343
		Sum = 100.000	Sum=	0.343

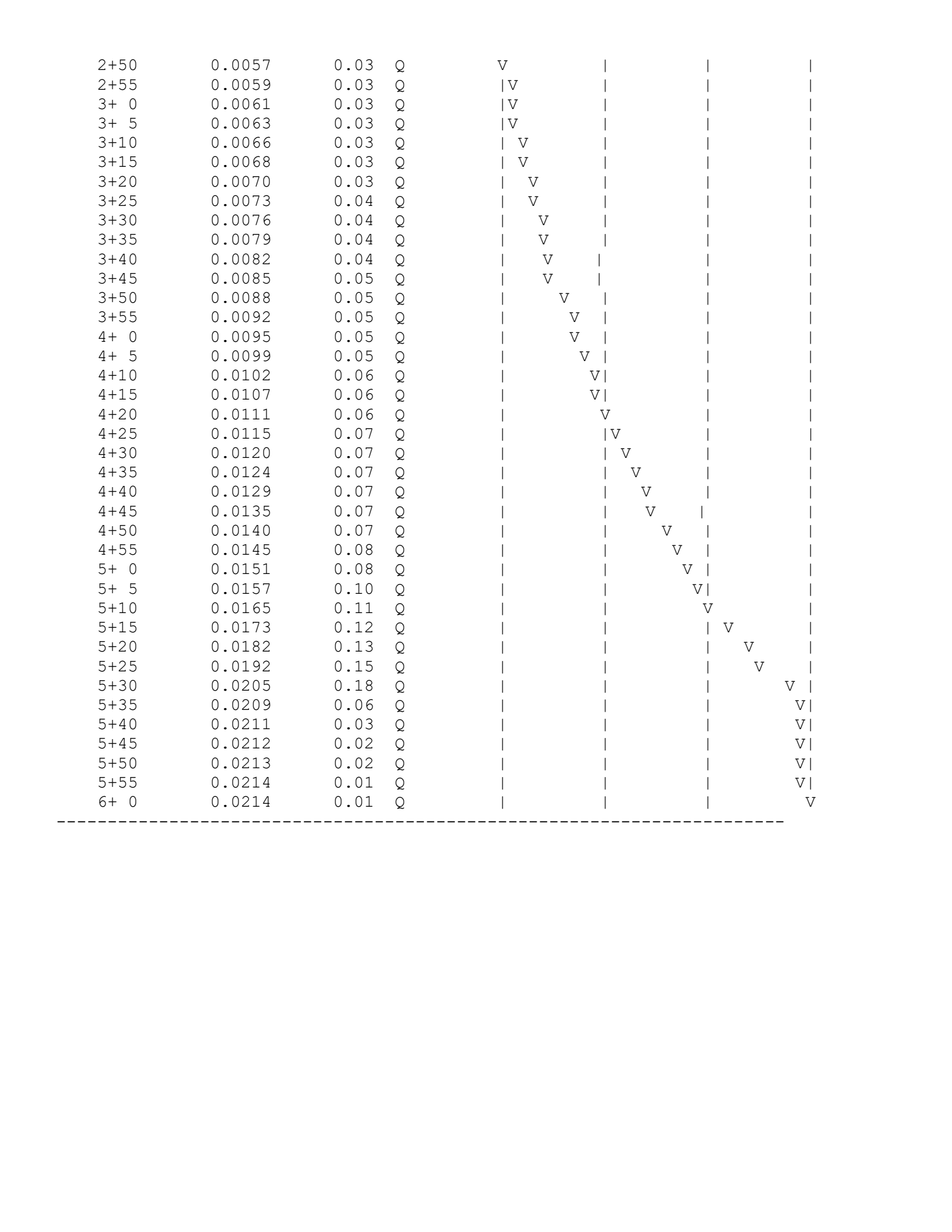
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.057	(0.113)	0.012	0.045
2	0.17	0.60	0.069	(0.113)	0.014	0.054
3	0.25	0.60	0.069	(0.113)	0.014	0.054
4	0.33	0.60	0.069	(0.113)	0.014	0.054
5	0.42	0.60	0.069	(0.113)	0.014	0.054
6	0.50	0.70	0.080	(0.113)	0.017	0.063
7	0.58	0.70	0.080	(0.113)	0.017	0.063
8	0.67	0.70	0.080	(0.113)	0.017	0.063
9	0.75	0.70	0.080	(0.113)	0.017	0.063
10	0.83	0.70	0.080	(0.113)	0.017	0.063
11	0.92	0.70	0.080	(0.113)	0.017	0.063
12	1.00	0.80	0.092	(0.113)	0.019	0.072

13	1.08	0.80	0.092	(0.113)	0.019	0.072
14	1.17	0.80	0.092	(0.113)	0.019	0.072
15	1.25	0.80	0.092	(0.113)	0.019	0.072
16	1.33	0.80	0.092	(0.113)	0.019	0.072
17	1.42	0.80	0.092	(0.113)	0.019	0.072
18	1.50	0.80	0.092	(0.113)	0.019	0.072
19	1.58	0.80	0.092	(0.113)	0.019	0.072
20	1.67	0.80	0.092	(0.113)	0.019	0.072
21	1.75	0.80	0.092	(0.113)	0.019	0.072
22	1.83	0.80	0.092	(0.113)	0.019	0.072
23	1.92	0.80	0.092	(0.113)	0.019	0.072
24	2.00	0.90	0.103	(0.113)	0.022	0.081
25	2.08	0.80	0.092	(0.113)	0.019	0.072
26	2.17	0.90	0.103	(0.113)	0.022	0.081
27	2.25	0.90	0.103	(0.113)	0.022	0.081
28	2.33	0.90	0.103	(0.113)	0.022	0.081
29	2.42	0.90	0.103	(0.113)	0.022	0.081
30	2.50	0.90	0.103	(0.113)	0.022	0.081
31	2.58	0.90	0.103	(0.113)	0.022	0.081
32	2.67	0.90	0.103	(0.113)	0.022	0.081
33	2.75	1.00	0.114	(0.113)	0.024	0.090
34	2.83	1.00	0.114	(0.113)	0.024	0.090
35	2.92	1.00	0.114	(0.113)	0.024	0.090
36	3.00	1.00	0.114	(0.113)	0.024	0.090
37	3.08	1.00	0.114	(0.113)	0.024	0.090
38	3.17	1.10	0.126	(0.113)	0.026	0.099
39	3.25	1.10	0.126	(0.113)	0.026	0.099
40	3.33	1.10	0.126	(0.113)	0.026	0.099
41	3.42	1.20	0.137	(0.113)	0.029	0.109
42	3.50	1.30	0.149	(0.113)	0.031	0.118
43	3.58	1.40	0.160	(0.113)	0.034	0.127
44	3.67	1.40	0.160	(0.113)	0.034	0.127
45	3.75	1.50	0.172	(0.113)	0.036	0.136
46	3.83	1.50	0.172	(0.113)	0.036	0.136
47	3.92	1.60	0.183	(0.113)	0.038	0.145
48	4.00	1.60	0.183	(0.113)	0.038	0.145
49	4.08	1.70	0.195	(0.113)	0.041	0.154
50	4.17	1.80	0.206	(0.113)	0.043	0.163
51	4.25	1.90	0.218	(0.113)	0.046	0.172
52	4.33	2.00	0.229	(0.113)	0.048	0.181
53	4.42	2.10	0.240	(0.113)	0.050	0.190
54	4.50	2.10	0.240	(0.113)	0.050	0.190
55	4.58	2.20	0.252	(0.113)	0.053	0.199
56	4.67	2.30	0.263	(0.113)	0.055	0.208
57	4.75	2.40	0.275	(0.113)	0.058	0.217
58	4.83	2.40	0.275	(0.113)	0.058	0.217
59	4.92	2.50	0.286	(0.113)	0.060	0.226
60	5.00	2.60	0.298	(0.113)	0.063	0.235
61	5.08	3.10	0.355	(0.113)	0.075	0.280
62	5.17	3.60	0.412	(0.113)	0.087	0.326
63	5.25	3.90	0.446	(0.113)	0.094	0.353
64	5.33	4.20	0.481	(0.113)	0.101	0.380
65	5.42	4.70	0.538	(0.113)	0.113	0.425
66	5.50	5.60	0.641	0.113	(0.135)	0.528
67	5.58	1.90	0.218	(0.113)	0.046	0.172
68	5.67	0.90	0.103	(0.113)	0.022	0.081
69	5.75	0.60	0.069	(0.113)	0.014	0.054

```
70   5.83     0.50      0.057       (  0.113)       0.012        0.045
71   5.92     0.30      0.034       (  0.113)       0.007        0.027
72   6.00     0.20      0.023       (  0.113)       0.005        0.018
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     9.1
    Flood volume = Effective rainfall      0.76(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.20(In)
    Total soil loss =     0.006(Ac.Ft)
    Total rainfall =      0.95(In)
    Flood volume =         932.4 Cubic Feet
    Total soil loss =         245.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.181(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.02  Q         |         |         |         |
  0+10       0.0002      0.02  Q         |         |         |         |
  0+15       0.0004      0.02  Q         |         |         |         |
  0+20       0.0005      0.02  Q         |         |         |         |
  0+25       0.0006      0.02  QV        |         |         |         |
  0+30       0.0008      0.02  QV        |         |         |         |
  0+35       0.0009      0.02  QV        |         |         |         |
  0+40       0.0011      0.02  QV        |         |         |         |
  0+45       0.0012      0.02  Q V       |         |         |         |
  0+50       0.0014      0.02  Q V       |         |         |         |
  0+55       0.0015      0.02  Q V       |         |         |         |
  1+ 0       0.0017      0.02  Q  V      |         |         |         |
  1+ 5       0.0019      0.02  Q  V      |         |         |         |
  1+10       0.0020      0.02  Q  V      |         |         |         |
  1+15       0.0022      0.02  Q   V     |         |         |         |
  1+20       0.0024      0.02  Q   V     |         |         |         |
  1+25       0.0025      0.02  Q   V     |         |         |         |
  1+30       0.0027      0.02  Q    V    |         |         |         |
  1+35       0.0029      0.02  Q    V    |         |         |         |
  1+40       0.0031      0.02  Q    V    |         |         |         |
  1+45       0.0032      0.02  Q     V   |         |         |         |
  1+50       0.0034      0.02  Q     V   |         |         |         |
  1+55       0.0036      0.02  Q     V   |         |         |         |
  2+ 0       0.0038      0.03  Q      V  |         |         |         |
  2+ 5       0.0039      0.02  Q      V  |         |         |         |
  2+10       0.0041      0.03  Q      V  |         |         |         |
  2+15       0.0043      0.03  Q       V |         |         |         |
  2+20       0.0045      0.03  Q       V |         |         |         |
  2+25       0.0047      0.03  Q       V |         |         |         |
  2+30       0.0049      0.03  Q        V|         |         |         |
  2+35       0.0051      0.03  Q        V|         |         |         |
  2+40       0.0053      0.03  Q        V|         |         |         |
  2+45       0.0055      0.03  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 06/03/26 File: 19267p002S62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	0.95	0.65

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	2.26	1.55

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
		Sum = 100.000	Sum=	0.690

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	0.057	(0.136)	0.014	0.043
2	0.17	0.60	0.069	(0.136)	0.017	0.052
3	0.25	0.60	0.069	(0.136)	0.017	0.052
4	0.33	0.60	0.069	(0.136)	0.017	0.052
5	0.42	0.60	0.069	(0.136)	0.017	0.052
6	0.50	0.70	0.080	(0.136)	0.020	0.060
7	0.58	0.70	0.080	(0.136)	0.020	0.060
8	0.67	0.70	0.080	(0.136)	0.020	0.060
9	0.75	0.70	0.080	(0.136)	0.020	0.060

10	0.83	0.70	0.080	(0.136)	0.020	0.060
11	0.92	0.70	0.080	(0.136)	0.020	0.060
12	1.00	0.80	0.092	(0.136)	0.023	0.069
13	1.08	0.80	0.092	(0.136)	0.023	0.069
14	1.17	0.80	0.092	(0.136)	0.023	0.069
15	1.25	0.80	0.092	(0.136)	0.023	0.069
16	1.33	0.80	0.092	(0.136)	0.023	0.069
17	1.42	0.80	0.092	(0.136)	0.023	0.069
18	1.50	0.80	0.092	(0.136)	0.023	0.069
19	1.58	0.80	0.092	(0.136)	0.023	0.069
20	1.67	0.80	0.092	(0.136)	0.023	0.069
21	1.75	0.80	0.092	(0.136)	0.023	0.069
22	1.83	0.80	0.092	(0.136)	0.023	0.069
23	1.92	0.80	0.092	(0.136)	0.023	0.069
24	2.00	0.90	0.103	(0.136)	0.026	0.077
25	2.08	0.80	0.092	(0.136)	0.023	0.069
26	2.17	0.90	0.103	(0.136)	0.026	0.077
27	2.25	0.90	0.103	(0.136)	0.026	0.077
28	2.33	0.90	0.103	(0.136)	0.026	0.077
29	2.42	0.90	0.103	(0.136)	0.026	0.077
30	2.50	0.90	0.103	(0.136)	0.026	0.077
31	2.58	0.90	0.103	(0.136)	0.026	0.077
32	2.67	0.90	0.103	(0.136)	0.026	0.077
33	2.75	1.00	0.114	(0.136)	0.029	0.086
34	2.83	1.00	0.114	(0.136)	0.029	0.086
35	2.92	1.00	0.114	(0.136)	0.029	0.086
36	3.00	1.00	0.114	(0.136)	0.029	0.086
37	3.08	1.00	0.114	(0.136)	0.029	0.086
38	3.17	1.10	0.126	(0.136)	0.031	0.094
39	3.25	1.10	0.126	(0.136)	0.031	0.094
40	3.33	1.10	0.126	(0.136)	0.031	0.094
41	3.42	1.20	0.137	(0.136)	0.034	0.103
42	3.50	1.30	0.149	(0.136)	0.037	0.112
43	3.58	1.40	0.160	(0.136)	0.040	0.120
44	3.67	1.40	0.160	(0.136)	0.040	0.120
45	3.75	1.50	0.172	(0.136)	0.043	0.129
46	3.83	1.50	0.172	(0.136)	0.043	0.129
47	3.92	1.60	0.183	(0.136)	0.046	0.137
48	4.00	1.60	0.183	(0.136)	0.046	0.137
49	4.08	1.70	0.195	(0.136)	0.049	0.146
50	4.17	1.80	0.206	(0.136)	0.052	0.155
51	4.25	1.90	0.218	(0.136)	0.054	0.163
52	4.33	2.00	0.229	(0.136)	0.057	0.172
53	4.42	2.10	0.240	(0.136)	0.060	0.180
54	4.50	2.10	0.240	(0.136)	0.060	0.180
55	4.58	2.20	0.252	(0.136)	0.063	0.189
56	4.67	2.30	0.263	(0.136)	0.066	0.197
57	4.75	2.40	0.275	(0.136)	0.069	0.206
58	4.83	2.40	0.275	(0.136)	0.069	0.206
59	4.92	2.50	0.286	(0.136)	0.072	0.215
60	5.00	2.60	0.298	(0.136)	0.074	0.223
61	5.08	3.10	0.355	(0.136)	0.089	0.266
62	5.17	3.60	0.412	(0.136)	0.103	0.309
63	5.25	3.90	0.446	(0.136)	0.112	0.335
64	5.33	4.20	0.481	(0.136)	0.120	0.361
65	5.42	4.70	0.538	(0.136)	0.135	0.404
66	5.50	5.60	0.641	0.136	(0.160)	0.505

67	5.58	1.90	0.218	(0.136)	0.054	0.163
68	5.67	0.90	0.103	(0.136)	0.026	0.077
69	5.75	0.60	0.069	(0.136)	0.017	0.052
70	5.83	0.50	0.057	(0.136)	0.014	0.043
71	5.92	0.30	0.034	(0.136)	0.009	0.026
72	6.00	0.20	0.023	(0.136)	0.006	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.6

Flood volume = Effective rainfall 0.72(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.24(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 1784.2 Cubic Feet
Total soil loss = 587.9 Cubic Feet

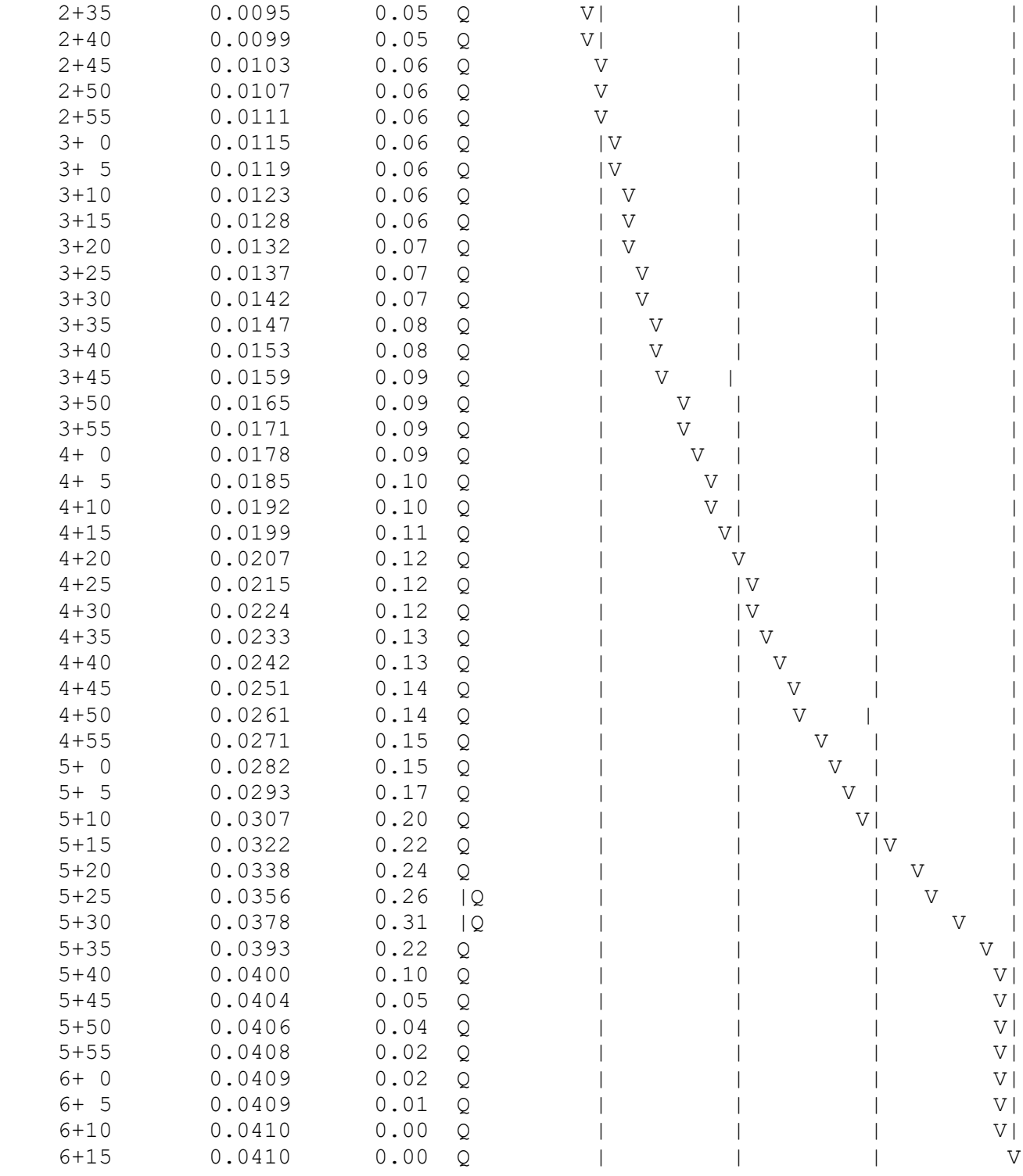
Peak flow rate of this hydrograph = 0.311(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q	|	|	|	|
0+10	0.0003	0.03	Q	|	|	|	|
0+15	0.0005	0.03	Q	|	|	|	|
0+20	0.0008	0.04	Q	|	|	|	|
0+25	0.0010	0.04	QV	|	|	|	|
0+30	0.0013	0.04	QV	|	|	|	|
0+35	0.0016	0.04	QV	|	|	|	|
0+40	0.0019	0.04	QV	|	|	|	|
0+45	0.0022	0.04	Q V	|	|	|	|
0+50	0.0024	0.04	Q V	|	|	|	|
0+55	0.0027	0.04	Q V	|	|	|	|
1+ 0	0.0030	0.04	Q V	|	|	|	|
1+ 5	0.0034	0.05	Q V	|	|	|	|
1+10	0.0037	0.05	Q V	|	|	|	|
1+15	0.0040	0.05	Q V	|	|	|	|
1+20	0.0043	0.05	Q V	|	|	|	|
1+25	0.0047	0.05	Q V	|	|	|	|
1+30	0.0050	0.05	Q V	|	|	|	|
1+35	0.0053	0.05	Q V	|	|	|	|
1+40	0.0056	0.05	Q V	|	|	|	|
1+45	0.0060	0.05	Q V	|	|	|	|
1+50	0.0063	0.05	Q V	|	|	|	|
1+55	0.0066	0.05	Q V	|	|	|	|
2+ 0	0.0070	0.05	Q V	|	|	|	|
2+ 5	0.0073	0.05	Q V	|	|	|	|
2+10	0.0077	0.05	Q V	|	|	|	|
2+15	0.0080	0.05	Q V	|	|	|	|
2+20	0.0084	0.05	Q V	|	|	|	|
2+25	0.0088	0.05	Q V	|	|	|	|
2+30	0.0091	0.05	Q V	|	|	|	|



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

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Study date 06/03/26 File: 19267p002site62.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	0.95	9.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	2.26	21.89

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 0.954(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.954(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	75.00	0.640

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.640	0.212	1.000	0.212
					Sum (F) =	0.212

Area averaged mean soil loss (F) (In/Hr) = 0.212
Minimum soil loss rate ((In/Hr)) = 0.106
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	9.764
		Sum = 100.000	Sum= 9.764

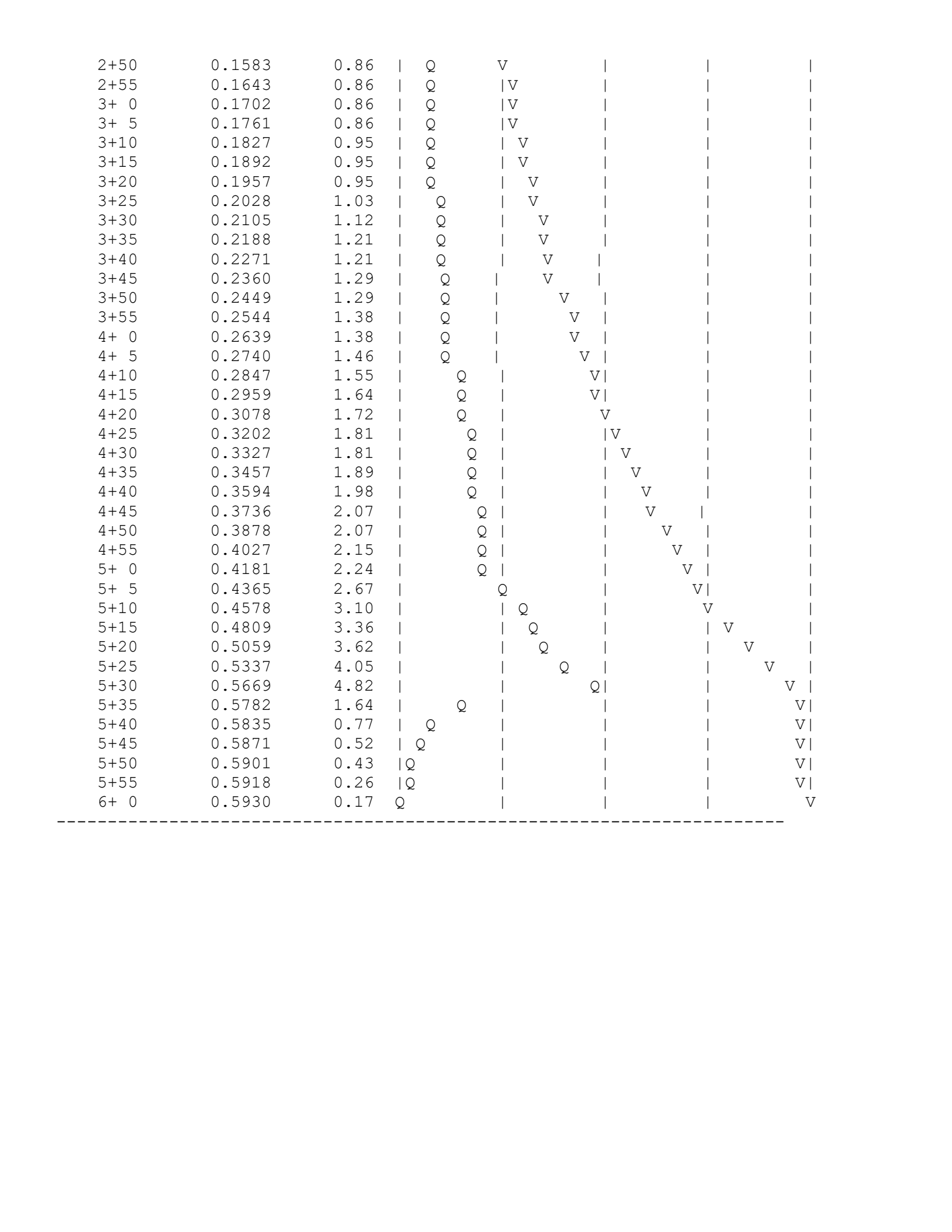
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.057	(0.212)	0.013	0.044
2	0.17	0.60	0.069	(0.212)	0.016	0.053
3	0.25	0.60	0.069	(0.212)	0.016	0.053
4	0.33	0.60	0.069	(0.212)	0.016	0.053
5	0.42	0.60	0.069	(0.212)	0.016	0.053
6	0.50	0.70	0.080	(0.212)	0.018	0.062
7	0.58	0.70	0.080	(0.212)	0.018	0.062
8	0.67	0.70	0.080	(0.212)	0.018	0.062
9	0.75	0.70	0.080	(0.212)	0.018	0.062
10	0.83	0.70	0.080	(0.212)	0.018	0.062
11	0.92	0.70	0.080	(0.212)	0.018	0.062
12	1.00	0.80	0.092	(0.212)	0.021	0.071

13	1.08	0.80	0.092	(0.212)	0.021	0.071
14	1.17	0.80	0.092	(0.212)	0.021	0.071
15	1.25	0.80	0.092	(0.212)	0.021	0.071
16	1.33	0.80	0.092	(0.212)	0.021	0.071
17	1.42	0.80	0.092	(0.212)	0.021	0.071
18	1.50	0.80	0.092	(0.212)	0.021	0.071
19	1.58	0.80	0.092	(0.212)	0.021	0.071
20	1.67	0.80	0.092	(0.212)	0.021	0.071
21	1.75	0.80	0.092	(0.212)	0.021	0.071
22	1.83	0.80	0.092	(0.212)	0.021	0.071
23	1.92	0.80	0.092	(0.212)	0.021	0.071
24	2.00	0.90	0.103	(0.212)	0.024	0.079
25	2.08	0.80	0.092	(0.212)	0.021	0.071
26	2.17	0.90	0.103	(0.212)	0.024	0.079
27	2.25	0.90	0.103	(0.212)	0.024	0.079
28	2.33	0.90	0.103	(0.212)	0.024	0.079
29	2.42	0.90	0.103	(0.212)	0.024	0.079
30	2.50	0.90	0.103	(0.212)	0.024	0.079
31	2.58	0.90	0.103	(0.212)	0.024	0.079
32	2.67	0.90	0.103	(0.212)	0.024	0.079
33	2.75	1.00	0.114	(0.212)	0.026	0.088
34	2.83	1.00	0.114	(0.212)	0.026	0.088
35	2.92	1.00	0.114	(0.212)	0.026	0.088
36	3.00	1.00	0.114	(0.212)	0.026	0.088
37	3.08	1.00	0.114	(0.212)	0.026	0.088
38	3.17	1.10	0.126	(0.212)	0.029	0.097
39	3.25	1.10	0.126	(0.212)	0.029	0.097
40	3.33	1.10	0.126	(0.212)	0.029	0.097
41	3.42	1.20	0.137	(0.212)	0.032	0.106
42	3.50	1.30	0.149	(0.212)	0.034	0.115
43	3.58	1.40	0.160	(0.212)	0.037	0.123
44	3.67	1.40	0.160	(0.212)	0.037	0.123
45	3.75	1.50	0.172	(0.212)	0.039	0.132
46	3.83	1.50	0.172	(0.212)	0.039	0.132
47	3.92	1.60	0.183	(0.212)	0.042	0.141
48	4.00	1.60	0.183	(0.212)	0.042	0.141
49	4.08	1.70	0.195	(0.212)	0.045	0.150
50	4.17	1.80	0.206	(0.212)	0.047	0.159
51	4.25	1.90	0.218	(0.212)	0.050	0.167
52	4.33	2.00	0.229	(0.212)	0.053	0.176
53	4.42	2.10	0.240	(0.212)	0.055	0.185
54	4.50	2.10	0.240	(0.212)	0.055	0.185
55	4.58	2.20	0.252	(0.212)	0.058	0.194
56	4.67	2.30	0.263	(0.212)	0.061	0.203
57	4.75	2.40	0.275	(0.212)	0.063	0.212
58	4.83	2.40	0.275	(0.212)	0.063	0.212
59	4.92	2.50	0.286	(0.212)	0.066	0.220
60	5.00	2.60	0.298	(0.212)	0.068	0.229
61	5.08	3.10	0.355	(0.212)	0.082	0.273
62	5.17	3.60	0.412	(0.212)	0.095	0.317
63	5.25	3.90	0.446	(0.212)	0.103	0.344
64	5.33	4.20	0.481	(0.212)	0.111	0.370
65	5.42	4.70	0.538	(0.212)	0.124	0.414
66	5.50	5.60	0.641	(0.212)	0.147	0.494
67	5.58	1.90	0.218	(0.212)	0.050	0.167
68	5.67	0.90	0.103	(0.212)	0.024	0.079
69	5.75	0.60	0.069	(0.212)	0.016	0.053

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70   5.83     0.50      0.057       (  0.212)       0.013        0.044
71   5.92     0.30      0.034       (  0.212)       0.008        0.026
72   6.00     0.20      0.023       (  0.212)       0.005        0.018
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     8.8
    Flood volume = Effective rainfall      0.73(In)
     times area       9.7(Ac.)/[(In)/(Ft.)] =       0.6(Ac.Ft)
    Total soil loss =      0.22(In)
    Total soil loss =     0.177(Ac.Ft)
    Total rainfall =      0.95(In)
    Flood volume =       25832.4 Cubic Feet
    Total soil loss =        7716.2 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      4.822(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       0.0030      0.43  VQ        |         |         |         |
  0+10       0.0065      0.52  V Q       |         |         |         |
  0+15       0.0101      0.52  V Q       |         |         |         |
  0+20       0.0136      0.52  V Q       |         |         |         |
  0+25       0.0172      0.52  |VQ       |         |         |         |
  0+30       0.0213      0.60  |VQ       |         |         |         |
  0+35       0.0255      0.60  |VQ       |         |         |         |
  0+40       0.0297      0.60  | Q       |         |         |         |
  0+45       0.0338      0.60  | Q       |         |         |         |
  0+50       0.0380      0.60  | Q       |         |         |         |
  0+55       0.0421      0.60  | Q       |         |         |         |
  1+ 0       0.0468      0.69  | QV      |         |         |         |
  1+ 5       0.0516      0.69  | QV      |         |         |         |
  1+10       0.0563      0.69  | QV      |         |         |         |
  1+15       0.0611      0.69  | Q V     |         |         |         |
  1+20       0.0658      0.69  | Q V     |         |         |         |
  1+25       0.0706      0.69  | Q V     |         |         |         |
  1+30       0.0753      0.69  | Q  V    |         |         |         |
  1+35       0.0801      0.69  | Q  V    |         |         |         |
  1+40       0.0848      0.69  | Q  V    |         |         |         |
  1+45       0.0895      0.69  | Q   V   |         |         |         |
  1+50       0.0943      0.69  | Q   V   |         |         |         |
  1+55       0.0990      0.69  | Q   V   |         |         |         |
  2+ 0       0.1044      0.77  |  Q   V  |         |         |         |
  2+ 5       0.1091      0.69  | Q    V  |         |         |         |
  2+10       0.1145      0.77  |  Q   V  |         |         |         |
  2+15       0.1198      0.77  |  Q    V |         |         |         |
  2+20       0.1251      0.77  |  Q    V |         |         |         |
  2+25       0.1305      0.77  |  Q    V |         |         |         |
  2+30       0.1358      0.77  |  Q     V|         |         |         |
  2+35       0.1411      0.77  |  Q     V|         |         |         |
  2+40       0.1465      0.77  |  Q     V|         |         |         |
  2+45       0.1524      0.86  |  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 06/03/26 File: 19267p002AL242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	1.66	2.40

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	4.10	5.92

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.900	0.095	1.000	0.095
					Sum (F) =	0.095

Area averaged mean soil loss (F) (In/Hr) = 0.095
Minimum soil loss rate ((In/Hr)) = 0.048
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
			Sum = 100.000 Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.013	(0.169)	0.002	0.011
2	0.17	0.07	0.013	(0.168)	0.002	0.011
3	0.25	0.07	0.013	(0.167)	0.002	0.011
4	0.33	0.10	0.020	(0.167)	0.004	0.016
5	0.42	0.10	0.020	(0.166)	0.004	0.016
6	0.50	0.10	0.020	(0.165)	0.004	0.016
7	0.58	0.10	0.020	(0.165)	0.004	0.016
8	0.67	0.10	0.020	(0.164)	0.004	0.016
9	0.75	0.10	0.020	(0.163)	0.004	0.016
10	0.83	0.13	0.027	(0.163)	0.005	0.022
11	0.92	0.13	0.027	(0.162)	0.005	0.022

12	1.00	0.13	0.027	(0.162)	0.005	0.022
13	1.08	0.10	0.020	(0.161)	0.004	0.016
14	1.17	0.10	0.020	(0.160)	0.004	0.016
15	1.25	0.10	0.020	(0.160)	0.004	0.016
16	1.33	0.10	0.020	(0.159)	0.004	0.016
17	1.42	0.10	0.020	(0.158)	0.004	0.016
18	1.50	0.10	0.020	(0.158)	0.004	0.016
19	1.58	0.10	0.020	(0.157)	0.004	0.016
20	1.67	0.10	0.020	(0.156)	0.004	0.016
21	1.75	0.10	0.020	(0.156)	0.004	0.016
22	1.83	0.13	0.027	(0.155)	0.005	0.022
23	1.92	0.13	0.027	(0.155)	0.005	0.022
24	2.00	0.13	0.027	(0.154)	0.005	0.022
25	2.08	0.13	0.027	(0.153)	0.005	0.022
26	2.17	0.13	0.027	(0.153)	0.005	0.022
27	2.25	0.13	0.027	(0.152)	0.005	0.022
28	2.33	0.13	0.027	(0.151)	0.005	0.022
29	2.42	0.13	0.027	(0.151)	0.005	0.022
30	2.50	0.13	0.027	(0.150)	0.005	0.022
31	2.58	0.17	0.033	(0.150)	0.006	0.027
32	2.67	0.17	0.033	(0.149)	0.006	0.027
33	2.75	0.17	0.033	(0.148)	0.006	0.027
34	2.83	0.17	0.033	(0.148)	0.006	0.027
35	2.92	0.17	0.033	(0.147)	0.006	0.027
36	3.00	0.17	0.033	(0.147)	0.006	0.027
37	3.08	0.17	0.033	(0.146)	0.006	0.027
38	3.17	0.17	0.033	(0.145)	0.006	0.027
39	3.25	0.17	0.033	(0.145)	0.006	0.027
40	3.33	0.17	0.033	(0.144)	0.006	0.027
41	3.42	0.17	0.033	(0.144)	0.006	0.027
42	3.50	0.17	0.033	(0.143)	0.006	0.027
43	3.58	0.17	0.033	(0.142)	0.006	0.027
44	3.67	0.17	0.033	(0.142)	0.006	0.027
45	3.75	0.17	0.033	(0.141)	0.006	0.027
46	3.83	0.20	0.040	(0.141)	0.007	0.033
47	3.92	0.20	0.040	(0.140)	0.007	0.033
48	4.00	0.20	0.040	(0.139)	0.007	0.033
49	4.08	0.20	0.040	(0.139)	0.007	0.033
50	4.17	0.20	0.040	(0.138)	0.007	0.033
51	4.25	0.20	0.040	(0.138)	0.007	0.033
52	4.33	0.23	0.046	(0.137)	0.008	0.038
53	4.42	0.23	0.046	(0.136)	0.008	0.038
54	4.50	0.23	0.046	(0.136)	0.008	0.038
55	4.58	0.23	0.046	(0.135)	0.008	0.038
56	4.67	0.23	0.046	(0.135)	0.008	0.038
57	4.75	0.23	0.046	(0.134)	0.008	0.038
58	4.83	0.27	0.053	(0.134)	0.010	0.044
59	4.92	0.27	0.053	(0.133)	0.010	0.044
60	5.00	0.27	0.053	(0.132)	0.010	0.044
61	5.08	0.20	0.040	(0.132)	0.007	0.033
62	5.17	0.20	0.040	(0.131)	0.007	0.033
63	5.25	0.20	0.040	(0.131)	0.007	0.033
64	5.33	0.23	0.046	(0.130)	0.008	0.038
65	5.42	0.23	0.046	(0.129)	0.008	0.038
66	5.50	0.23	0.046	(0.129)	0.008	0.038
67	5.58	0.27	0.053	(0.128)	0.010	0.044
68	5.67	0.27	0.053	(0.128)	0.010	0.044

69	5.75	0.27	0.053	(0.127)	0.010	0.044
70	5.83	0.27	0.053	(0.127)	0.010	0.044
71	5.92	0.27	0.053	(0.126)	0.010	0.044
72	6.00	0.27	0.053	(0.126)	0.010	0.044
73	6.08	0.30	0.060	(0.125)	0.011	0.049
74	6.17	0.30	0.060	(0.124)	0.011	0.049
75	6.25	0.30	0.060	(0.124)	0.011	0.049
76	6.33	0.30	0.060	(0.123)	0.011	0.049
77	6.42	0.30	0.060	(0.123)	0.011	0.049
78	6.50	0.30	0.060	(0.122)	0.011	0.049
79	6.58	0.33	0.066	(0.122)	0.012	0.054
80	6.67	0.33	0.066	(0.121)	0.012	0.054
81	6.75	0.33	0.066	(0.121)	0.012	0.054
82	6.83	0.33	0.066	(0.120)	0.012	0.054
83	6.92	0.33	0.066	(0.119)	0.012	0.054
84	7.00	0.33	0.066	(0.119)	0.012	0.054
85	7.08	0.33	0.066	(0.118)	0.012	0.054
86	7.17	0.33	0.066	(0.118)	0.012	0.054
87	7.25	0.33	0.066	(0.117)	0.012	0.054
88	7.33	0.37	0.073	(0.117)	0.013	0.060
89	7.42	0.37	0.073	(0.116)	0.013	0.060
90	7.50	0.37	0.073	(0.116)	0.013	0.060
91	7.58	0.40	0.080	(0.115)	0.014	0.065
92	7.67	0.40	0.080	(0.115)	0.014	0.065
93	7.75	0.40	0.080	(0.114)	0.014	0.065
94	7.83	0.43	0.086	(0.114)	0.016	0.071
95	7.92	0.43	0.086	(0.113)	0.016	0.071
96	8.00	0.43	0.086	(0.113)	0.016	0.071
97	8.08	0.50	0.100	(0.112)	0.018	0.082
98	8.17	0.50	0.100	(0.112)	0.018	0.082
99	8.25	0.50	0.100	(0.111)	0.018	0.082
100	8.33	0.50	0.100	(0.110)	0.018	0.082
101	8.42	0.50	0.100	(0.110)	0.018	0.082
102	8.50	0.50	0.100	(0.109)	0.018	0.082
103	8.58	0.53	0.106	(0.109)	0.019	0.087
104	8.67	0.53	0.106	(0.108)	0.019	0.087
105	8.75	0.53	0.106	(0.108)	0.019	0.087
106	8.83	0.57	0.113	(0.107)	0.020	0.093
107	8.92	0.57	0.113	(0.107)	0.020	0.093
108	9.00	0.57	0.113	(0.106)	0.020	0.093
109	9.08	0.63	0.126	(0.106)	0.023	0.103
110	9.17	0.63	0.126	(0.105)	0.023	0.103
111	9.25	0.63	0.126	(0.105)	0.023	0.103
112	9.33	0.67	0.133	(0.104)	0.024	0.109
113	9.42	0.67	0.133	(0.104)	0.024	0.109
114	9.50	0.67	0.133	(0.103)	0.024	0.109
115	9.58	0.70	0.139	(0.103)	0.025	0.114
116	9.67	0.70	0.139	(0.102)	0.025	0.114
117	9.75	0.70	0.139	(0.102)	0.025	0.114
118	9.83	0.73	0.146	(0.101)	0.026	0.120
119	9.92	0.73	0.146	(0.101)	0.026	0.120
120	10.00	0.73	0.146	(0.100)	0.026	0.120
121	10.08	0.50	0.100	(0.100)	0.018	0.082
122	10.17	0.50	0.100	(0.099)	0.018	0.082
123	10.25	0.50	0.100	(0.099)	0.018	0.082
124	10.33	0.50	0.100	(0.099)	0.018	0.082
125	10.42	0.50	0.100	(0.098)	0.018	0.082

126	10.50	0.50	0.100	(0.098)	0.018	0.082
127	10.58	0.67	0.133	(0.097)	0.024	0.109
128	10.67	0.67	0.133	(0.097)	0.024	0.109
129	10.75	0.67	0.133	(0.096)	0.024	0.109
130	10.83	0.67	0.133	(0.096)	0.024	0.109
131	10.92	0.67	0.133	(0.095)	0.024	0.109
132	11.00	0.67	0.133	(0.095)	0.024	0.109
133	11.08	0.63	0.126	(0.094)	0.023	0.103
134	11.17	0.63	0.126	(0.094)	0.023	0.103
135	11.25	0.63	0.126	(0.093)	0.023	0.103
136	11.33	0.63	0.126	(0.093)	0.023	0.103
137	11.42	0.63	0.126	(0.092)	0.023	0.103
138	11.50	0.63	0.126	(0.092)	0.023	0.103
139	11.58	0.57	0.113	(0.091)	0.020	0.093
140	11.67	0.57	0.113	(0.091)	0.020	0.093
141	11.75	0.57	0.113	(0.091)	0.020	0.093
142	11.83	0.60	0.120	(0.090)	0.022	0.098
143	11.92	0.60	0.120	(0.090)	0.022	0.098
144	12.00	0.60	0.120	(0.089)	0.022	0.098
145	12.08	0.83	0.166	(0.089)	0.030	0.136
146	12.17	0.83	0.166	(0.088)	0.030	0.136
147	12.25	0.83	0.166	(0.088)	0.030	0.136
148	12.33	0.87	0.173	(0.087)	0.031	0.142
149	12.42	0.87	0.173	(0.087)	0.031	0.142
150	12.50	0.87	0.173	(0.087)	0.031	0.142
151	12.58	0.93	0.186	(0.086)	0.033	0.152
152	12.67	0.93	0.186	(0.086)	0.033	0.152
153	12.75	0.93	0.186	(0.085)	0.033	0.152
154	12.83	0.97	0.193	(0.085)	0.035	0.158
155	12.92	0.97	0.193	(0.084)	0.035	0.158
156	13.00	0.97	0.193	(0.084)	0.035	0.158
157	13.08	1.13	0.226	(0.084)	0.041	0.185
158	13.17	1.13	0.226	(0.083)	0.041	0.185
159	13.25	1.13	0.226	(0.083)	0.041	0.185
160	13.33	1.13	0.226	(0.082)	0.041	0.185
161	13.42	1.13	0.226	(0.082)	0.041	0.185
162	13.50	1.13	0.226	(0.081)	0.041	0.185
163	13.58	0.77	0.153	(0.081)	0.027	0.125
164	13.67	0.77	0.153	(0.081)	0.027	0.125
165	13.75	0.77	0.153	(0.080)	0.027	0.125
166	13.83	0.77	0.153	(0.080)	0.027	0.125
167	13.92	0.77	0.153	(0.079)	0.027	0.125
168	14.00	0.77	0.153	(0.079)	0.027	0.125
169	14.08	0.90	0.179	(0.079)	0.032	0.147
170	14.17	0.90	0.179	(0.078)	0.032	0.147
171	14.25	0.90	0.179	(0.078)	0.032	0.147
172	14.33	0.87	0.173	(0.077)	0.031	0.142
173	14.42	0.87	0.173	(0.077)	0.031	0.142
174	14.50	0.87	0.173	(0.077)	0.031	0.142
175	14.58	0.87	0.173	(0.076)	0.031	0.142
176	14.67	0.87	0.173	(0.076)	0.031	0.142
177	14.75	0.87	0.173	(0.075)	0.031	0.142
178	14.83	0.83	0.166	(0.075)	0.030	0.136
179	14.92	0.83	0.166	(0.075)	0.030	0.136
180	15.00	0.83	0.166	(0.074)	0.030	0.136
181	15.08	0.80	0.159	(0.074)	0.029	0.131
182	15.17	0.80	0.159	(0.074)	0.029	0.131

183	15.25	0.80	0.159	(0.073)	0.029	0.131
184	15.33	0.77	0.153	(0.073)	0.027	0.125
185	15.42	0.77	0.153	(0.072)	0.027	0.125
186	15.50	0.77	0.153	(0.072)	0.027	0.125
187	15.58	0.63	0.126	(0.072)	0.023	0.103
188	15.67	0.63	0.126	(0.071)	0.023	0.103
189	15.75	0.63	0.126	(0.071)	0.023	0.103
190	15.83	0.63	0.126	(0.071)	0.023	0.103
191	15.92	0.63	0.126	(0.070)	0.023	0.103
192	16.00	0.63	0.126	(0.070)	0.023	0.103
193	16.08	0.13	0.027	(0.069)	0.005	0.022
194	16.17	0.13	0.027	(0.069)	0.005	0.022
195	16.25	0.13	0.027	(0.069)	0.005	0.022
196	16.33	0.13	0.027	(0.068)	0.005	0.022
197	16.42	0.13	0.027	(0.068)	0.005	0.022
198	16.50	0.13	0.027	(0.068)	0.005	0.022
199	16.58	0.10	0.020	(0.067)	0.004	0.016
200	16.67	0.10	0.020	(0.067)	0.004	0.016
201	16.75	0.10	0.020	(0.067)	0.004	0.016
202	16.83	0.10	0.020	(0.066)	0.004	0.016
203	16.92	0.10	0.020	(0.066)	0.004	0.016
204	17.00	0.10	0.020	(0.066)	0.004	0.016
205	17.08	0.17	0.033	(0.065)	0.006	0.027
206	17.17	0.17	0.033	(0.065)	0.006	0.027
207	17.25	0.17	0.033	(0.065)	0.006	0.027
208	17.33	0.17	0.033	(0.064)	0.006	0.027
209	17.42	0.17	0.033	(0.064)	0.006	0.027
210	17.50	0.17	0.033	(0.064)	0.006	0.027
211	17.58	0.17	0.033	(0.063)	0.006	0.027
212	17.67	0.17	0.033	(0.063)	0.006	0.027
213	17.75	0.17	0.033	(0.063)	0.006	0.027
214	17.83	0.13	0.027	(0.062)	0.005	0.022
215	17.92	0.13	0.027	(0.062)	0.005	0.022
216	18.00	0.13	0.027	(0.062)	0.005	0.022
217	18.08	0.13	0.027	(0.062)	0.005	0.022
218	18.17	0.13	0.027	(0.061)	0.005	0.022
219	18.25	0.13	0.027	(0.061)	0.005	0.022
220	18.33	0.13	0.027	(0.061)	0.005	0.022
221	18.42	0.13	0.027	(0.060)	0.005	0.022
222	18.50	0.13	0.027	(0.060)	0.005	0.022
223	18.58	0.10	0.020	(0.060)	0.004	0.016
224	18.67	0.10	0.020	(0.059)	0.004	0.016
225	18.75	0.10	0.020	(0.059)	0.004	0.016
226	18.83	0.07	0.013	(0.059)	0.002	0.011
227	18.92	0.07	0.013	(0.059)	0.002	0.011
228	19.00	0.07	0.013	(0.058)	0.002	0.011
229	19.08	0.10	0.020	(0.058)	0.004	0.016
230	19.17	0.10	0.020	(0.058)	0.004	0.016
231	19.25	0.10	0.020	(0.058)	0.004	0.016
232	19.33	0.13	0.027	(0.057)	0.005	0.022
233	19.42	0.13	0.027	(0.057)	0.005	0.022
234	19.50	0.13	0.027	(0.057)	0.005	0.022
235	19.58	0.10	0.020	(0.056)	0.004	0.016
236	19.67	0.10	0.020	(0.056)	0.004	0.016
237	19.75	0.10	0.020	(0.056)	0.004	0.016
238	19.83	0.07	0.013	(0.056)	0.002	0.011
239	19.92	0.07	0.013	(0.055)	0.002	0.011

240	20.00	0.07	0.013	(0.055)	0.002	0.011
241	20.08	0.10	0.020	(0.055)	0.004	0.016
242	20.17	0.10	0.020	(0.055)	0.004	0.016
243	20.25	0.10	0.020	(0.055)	0.004	0.016
244	20.33	0.10	0.020	(0.054)	0.004	0.016
245	20.42	0.10	0.020	(0.054)	0.004	0.016
246	20.50	0.10	0.020	(0.054)	0.004	0.016
247	20.58	0.10	0.020	(0.054)	0.004	0.016
248	20.67	0.10	0.020	(0.053)	0.004	0.016
249	20.75	0.10	0.020	(0.053)	0.004	0.016
250	20.83	0.07	0.013	(0.053)	0.002	0.011
251	20.92	0.07	0.013	(0.053)	0.002	0.011
252	21.00	0.07	0.013	(0.052)	0.002	0.011
253	21.08	0.10	0.020	(0.052)	0.004	0.016
254	21.17	0.10	0.020	(0.052)	0.004	0.016
255	21.25	0.10	0.020	(0.052)	0.004	0.016
256	21.33	0.07	0.013	(0.052)	0.002	0.011
257	21.42	0.07	0.013	(0.051)	0.002	0.011
258	21.50	0.07	0.013	(0.051)	0.002	0.011
259	21.58	0.10	0.020	(0.051)	0.004	0.016
260	21.67	0.10	0.020	(0.051)	0.004	0.016
261	21.75	0.10	0.020	(0.051)	0.004	0.016
262	21.83	0.07	0.013	(0.051)	0.002	0.011
263	21.92	0.07	0.013	(0.050)	0.002	0.011
264	22.00	0.07	0.013	(0.050)	0.002	0.011
265	22.08	0.10	0.020	(0.050)	0.004	0.016
266	22.17	0.10	0.020	(0.050)	0.004	0.016
267	22.25	0.10	0.020	(0.050)	0.004	0.016
268	22.33	0.07	0.013	(0.050)	0.002	0.011
269	22.42	0.07	0.013	(0.049)	0.002	0.011
270	22.50	0.07	0.013	(0.049)	0.002	0.011
271	22.58	0.07	0.013	(0.049)	0.002	0.011
272	22.67	0.07	0.013	(0.049)	0.002	0.011
273	22.75	0.07	0.013	(0.049)	0.002	0.011
274	22.83	0.07	0.013	(0.049)	0.002	0.011
275	22.92	0.07	0.013	(0.049)	0.002	0.011
276	23.00	0.07	0.013	(0.048)	0.002	0.011
277	23.08	0.07	0.013	(0.048)	0.002	0.011
278	23.17	0.07	0.013	(0.048)	0.002	0.011
279	23.25	0.07	0.013	(0.048)	0.002	0.011
280	23.33	0.07	0.013	(0.048)	0.002	0.011
281	23.42	0.07	0.013	(0.048)	0.002	0.011
282	23.50	0.07	0.013	(0.048)	0.002	0.011
283	23.58	0.07	0.013	(0.048)	0.002	0.011
284	23.67	0.07	0.013	(0.048)	0.002	0.011
285	23.75	0.07	0.013	(0.048)	0.002	0.011
286	23.83	0.07	0.013	(0.048)	0.002	0.011
287	23.92	0.07	0.013	(0.048)	0.002	0.011
288	24.00	0.07	0.013	(0.048)	0.002	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 16.3

Flood volume = Effective rainfall 1.36(In)
times area 1.4(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.30(In)
Total soil loss = 0.036(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 7140.0 Cubic Feet

Total soil loss = 1567.3 Cubic Feet

Peak flow rate of this hydrograph = 0.270(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	0.0001	0.01	Q				
0+10	0.0002	0.02	Q				
0+15	0.0003	0.02	Q				
0+20	0.0005	0.02	Q				
0+25	0.0006	0.02	Q				
0+30	0.0008	0.02	Q				
0+35	0.0010	0.02	Q				
0+40	0.0011	0.02	Q				
0+45	0.0013	0.02	Q				
0+50	0.0015	0.03	Q				
0+55	0.0017	0.03	Q				
1+ 0	0.0019	0.03	Q				
1+ 5	0.0021	0.03	Q				
1+10	0.0023	0.02	Q				
1+15	0.0024	0.02	Q				
1+20	0.0026	0.02	Q				
1+25	0.0028	0.02	Q				
1+30	0.0029	0.02	Q				
1+35	0.0031	0.02	Q				
1+40	0.0032	0.02	Q				
1+45	0.0034	0.02	Q				
1+50	0.0036	0.03	Q				
1+55	0.0038	0.03	Q				
2+ 0	0.0041	0.03	Q				
2+ 5	0.0043	0.03	QV				
2+10	0.0045	0.03	QV				
2+15	0.0047	0.03	QV				
2+20	0.0049	0.03	QV				
2+25	0.0051	0.03	QV				
2+30	0.0054	0.03	QV				
2+35	0.0056	0.04	QV				
2+40	0.0059	0.04	QV				
2+45	0.0062	0.04	QV				
2+50	0.0064	0.04	QV				
2+55	0.0067	0.04	QV				
3+ 0	0.0070	0.04	QV				
3+ 5	0.0073	0.04	QV				
3+10	0.0075	0.04	QV				
3+15	0.0078	0.04	QV				
3+20	0.0081	0.04	QV				
3+25	0.0084	0.04	Q V				
3+30	0.0086	0.04	Q V				
3+35	0.0089	0.04	Q V				
3+40	0.0092	0.04	Q V				

3+45	0.0095	0.04	Q V	|	|	|	|
3+50	0.0098	0.05	Q V	|	|	|	|
3+55	0.0101	0.05	Q V	|	|	|	|
4+ 0	0.0104	0.05	Q V	|	|	|	|
4+ 5	0.0108	0.05	Q V	|	|	|	|
4+10	0.0111	0.05	Q V	|	|	|	|
4+15	0.0114	0.05	Q V	|	|	|	|
4+20	0.0118	0.05	Q V	|	|	|	|
4+25	0.0122	0.06	Q V	|	|	|	|
4+30	0.0125	0.06	Q V	|	|	|	|
4+35	0.0129	0.06	Q V	|	|	|	|
4+40	0.0133	0.06	Q V	|	|	|	|
4+45	0.0137	0.06	Q V	|	|	|	|
4+50	0.0141	0.06	Q V	|	|	|	|
4+55	0.0146	0.06	Q V	|	|	|	|
5+ 0	0.0150	0.06	Q V	|	|	|	|
5+ 5	0.0153	0.05	Q V	|	|	|	|
5+10	0.0157	0.05	Q V	|	|	|	|
5+15	0.0160	0.05	Q V	|	|	|	|
5+20	0.0164	0.05	Q V	|	|	|	|
5+25	0.0168	0.06	Q V	|	|	|	|
5+30	0.0171	0.06	Q V	|	|	|	|
5+35	0.0176	0.06	Q V	|	|	|	|
5+40	0.0180	0.06	Q V	|	|	|	|
5+45	0.0184	0.06	Q V	|	|	|	|
5+50	0.0189	0.06	Q V	|	|	|	|
5+55	0.0193	0.06	Q V	|	|	|	|
6+ 0	0.0197	0.06	Q V	|	|	|	|
6+ 5	0.0202	0.07	Q V	|	|	|	|
6+10	0.0207	0.07	Q V	|	|	|	|
6+15	0.0212	0.07	Q V	|	|	|	|
6+20	0.0217	0.07	Q V	|	|	|	|
6+25	0.0222	0.07	Q V	|	|	|	|
6+30	0.0227	0.07	Q V	|	|	|	|
6+35	0.0232	0.08	Q V	|	|	|	|
6+40	0.0238	0.08	Q V	|	|	|	|
6+45	0.0243	0.08	Q V	|	|	|	|
6+50	0.0249	0.08	Q V	|	|	|	|
6+55	0.0254	0.08	Q V	|	|	|	|
7+ 0	0.0260	0.08	Q V	|	|	|	|
7+ 5	0.0265	0.08	Q V	|	|	|	|
7+10	0.0270	0.08	Q V	|	|	|	|
7+15	0.0276	0.08	Q V	|	|	|	|
7+20	0.0282	0.09	Q V	|	|	|	|
7+25	0.0288	0.09	Q V	|	|	|	|
7+30	0.0294	0.09	Q V	|	|	|	|
7+35	0.0300	0.09	Q V	|	|	|	|
7+40	0.0307	0.10	Q V	|	|	|	|
7+45	0.0313	0.10	Q V	|	|	|	|
7+50	0.0320	0.10	Q V	|	|	|	|
7+55	0.0328	0.10	Q V	|	|	|	|
8+ 0	0.0335	0.10	Q V	|	|	|	|
8+ 5	0.0343	0.12	Q V	|	|	|	|
8+10	0.0351	0.12	Q V	|	|	|	|
8+15	0.0359	0.12	Q V	|	|	|	|
8+20	0.0367	0.12	Q V	|	|	|	|
8+25	0.0375	0.12	Q V	|	|	|	|

8+30	0.0384	0.12	Q	V|	|	|	|	|
8+35	0.0392	0.13	Q	V|	|	|	|	|
8+40	0.0401	0.13	Q	V|	|	|	|	|
8+45	0.0410	0.13	Q	V|	|	|	|	|
8+50	0.0419	0.13	Q	V	|	|	|	|
8+55	0.0428	0.13	Q	V	|	|	|	|
9+ 0	0.0437	0.13	Q	V	|	|	|	|
9+ 5	0.0448	0.15	Q	V	|	|	|	|
9+10	0.0458	0.15	Q	|V	|	|	|	|
9+15	0.0468	0.15	Q	|V	|	|	|	|
9+20	0.0479	0.16	Q	|V	|	|	|	|
9+25	0.0490	0.16	Q	|V	|	|	|	|
9+30	0.0501	0.16	Q	| V	|	|	|	|
9+35	0.0512	0.17	Q	| V	|	|	|	|
9+40	0.0524	0.17	Q	| V	|	|	|	|
9+45	0.0535	0.17	Q	| V	|	|	|	|
9+50	0.0547	0.17	Q	| V	|	|	|	|
9+55	0.0559	0.17	Q	| V	|	|	|	|
10+ 0	0.0571	0.17	Q	| V	|	|	|	|
10+ 5	0.0580	0.13	Q	| V	|	|	|	|
10+10	0.0588	0.12	Q	| V	|	|	|	|
10+15	0.0597	0.12	Q	| V	|	|	|	|
10+20	0.0605	0.12	Q	| V	|	|	|	|
10+25	0.0613	0.12	Q	| V	|	|	|	|
10+30	0.0621	0.12	Q	| V	|	|	|	|
10+35	0.0632	0.15	Q	| V	|	|	|	|
10+40	0.0643	0.16	Q	| V	|	|	|	|
10+45	0.0654	0.16	Q	| V	|	|	|	|
10+50	0.0664	0.16	Q	| V	|	|	|	|
10+55	0.0675	0.16	Q	| V	|	|	|	|
11+ 0	0.0686	0.16	Q	| V	|	|	|	|
11+ 5	0.0697	0.15	Q	| V	|	|	|	|
11+10	0.0707	0.15	Q	| V	|	|	|	|
11+15	0.0718	0.15	Q	| V	|	|	|	|
11+20	0.0728	0.15	Q	| V	|	|	|	|
11+25	0.0738	0.15	Q	| V	|	|	|	|
11+30	0.0749	0.15	Q	| V	|	|	|	|
11+35	0.0758	0.14	Q	| V	|	|	|	|
11+40	0.0767	0.13	Q	| V	|	|	|	|
11+45	0.0777	0.13	Q	| V	|	|	|	|
11+50	0.0787	0.14	Q	| V	|	|	|	|
11+55	0.0796	0.14	Q	| V	|	|	|	|
12+ 0	0.0806	0.14	Q	| V	|	|	|	|
12+ 5	0.0819	0.19	Q	| V	|	|	|	|
12+10	0.0833	0.20	Q	| V	|	|	|	|
12+15	0.0846	0.20	Q	| V	|	|	|	|
12+20	0.0861	0.20	Q	| V	|	|	|	|
12+25	0.0875	0.21	Q	| V	|	|	|	|
12+30	0.0889	0.21	Q	| V	|	|	|	|
12+35	0.0904	0.22	Q	| V	|	|	|	|
12+40	0.0919	0.22	Q	| V	|	|	|	|
12+45	0.0935	0.22	Q	| V	|	|	|	|
12+50	0.0950	0.23	Q	| V	|	|	|	|
12+55	0.0966	0.23	Q	| V	|	|	|	|
13+ 0	0.0982	0.23	Q	| V	|	|	|	|
13+ 5	0.1000	0.26	|Q	| V	|	|	|	|
13+10	0.1019	0.27	|Q	| V	|	|	|	|

13+15	0.1037	0.27	|Q	|	|	V	|	|
13+20	0.1056	0.27	|Q	|	|	V	|	|
13+25	0.1074	0.27	|Q	|	|	V	|	|
13+30	0.1093	0.27	|Q	|	|	V	|	|
13+35	0.1107	0.20	Q	|	|	V	|	|
13+40	0.1119	0.18	Q	|	|	V	|	|
13+45	0.1132	0.18	Q	|	|	V	|	|
13+50	0.1144	0.18	Q	|	|	V	|	|
13+55	0.1157	0.18	Q	|	|	V	|	|
14+ 0	0.1170	0.18	Q	|	|	V	|	|
14+ 5	0.1184	0.21	Q	|	|	V	|	|
14+10	0.1199	0.21	Q	|	|	V	|	|
14+15	0.1213	0.21	Q	|	|	V	|	|
14+20	0.1228	0.21	Q	|	|	V	|	|
14+25	0.1242	0.21	Q	|	|	V	|	|
14+30	0.1256	0.21	Q	|	|	V	|	|
14+35	0.1270	0.21	Q	|	|	V	|	|
14+40	0.1284	0.21	Q	|	|	|	V	|
14+45	0.1299	0.21	Q	|	|	|	V	|
14+50	0.1312	0.20	Q	|	|	|	V	|
14+55	0.1326	0.20	Q	|	|	|	V	|
15+ 0	0.1340	0.20	Q	|	|	|	V	|
15+ 5	0.1353	0.19	Q	|	|	|	V	|
15+10	0.1366	0.19	Q	|	|	|	V	|
15+15	0.1379	0.19	Q	|	|	|	V	|
15+20	0.1392	0.18	Q	|	|	|	V	|
15+25	0.1404	0.18	Q	|	|	|	V	|
15+30	0.1417	0.18	Q	|	|	|	V	|
15+35	0.1428	0.16	Q	|	|	|	V	|
15+40	0.1438	0.15	Q	|	|	|	V	|
15+45	0.1449	0.15	Q	|	|	|	V	|
15+50	0.1459	0.15	Q	|	|	|	V	|
15+55	0.1469	0.15	Q	|	|	|	V	|
16+ 0	0.1480	0.15	Q	|	|	|	V	|
16+ 5	0.1484	0.05	Q	|	|	|	V	|
16+10	0.1486	0.03	Q	|	|	|	V	|
16+15	0.1488	0.03	Q	|	|	|	V	|
16+20	0.1490	0.03	Q	|	|	|	V	|
16+25	0.1492	0.03	Q	|	|	|	V	|
16+30	0.1494	0.03	Q	|	|	|	V	|
16+35	0.1496	0.03	Q	|	|	|	V	|
16+40	0.1498	0.02	Q	|	|	|	V	|
16+45	0.1499	0.02	Q	|	|	|	V	|
16+50	0.1501	0.02	Q	|	|	|	V	|
16+55	0.1503	0.02	Q	|	|	|	V	|
17+ 0	0.1504	0.02	Q	|	|	|	V	|
17+ 5	0.1507	0.04	Q	|	|	|	V	|
17+10	0.1510	0.04	Q	|	|	|	V	|
17+15	0.1512	0.04	Q	|	|	|	V	|
17+20	0.1515	0.04	Q	|	|	|	V	|
17+25	0.1518	0.04	Q	|	|	|	V	|
17+30	0.1521	0.04	Q	|	|	|	V	|
17+35	0.1523	0.04	Q	|	|	|	V	|
17+40	0.1526	0.04	Q	|	|	|	V	|
17+45	0.1529	0.04	Q	|	|	|	V	|
17+50	0.1531	0.03	Q	|	|	|	V	|
17+55	0.1533	0.03	Q	|	|	|	V	|

18+ 0	0.1535	0.03	Q	|	|	|	V |
18+ 5	0.1538	0.03	Q	|	|	|	V |
18+10	0.1540	0.03	Q	|	|	|	V |
18+15	0.1542	0.03	Q	|	|	|	V |
18+20	0.1544	0.03	Q	|	|	|	V |
18+25	0.1546	0.03	Q	|	|	|	V |
18+30	0.1549	0.03	Q	|	|	|	V |
18+35	0.1550	0.03	Q	|	|	|	V |
18+40	0.1552	0.02	Q	|	|	|	V |
18+45	0.1554	0.02	Q	|	|	|	V |
18+50	0.1555	0.02	Q	|	|	|	V |
18+55	0.1556	0.02	Q	|	|	|	V |
19+ 0	0.1557	0.02	Q	|	|	|	V |
19+ 5	0.1558	0.02	Q	|	|	|	V |
19+10	0.1560	0.02	Q	|	|	|	V |
19+15	0.1562	0.02	Q	|	|	|	V |
19+20	0.1564	0.03	Q	|	|	|	V |
19+25	0.1566	0.03	Q	|	|	|	V |
19+30	0.1568	0.03	Q	|	|	|	V |
19+35	0.1570	0.03	Q	|	|	|	V |
19+40	0.1572	0.02	Q	|	|	|	V |
19+45	0.1573	0.02	Q	|	|	|	V |
19+50	0.1574	0.02	Q	|	|	|	V |
19+55	0.1576	0.02	Q	|	|	|	V |
20+ 0	0.1577	0.02	Q	|	|	|	V |
20+ 5	0.1578	0.02	Q	|	|	|	V |
20+10	0.1580	0.02	Q	|	|	|	V |
20+15	0.1581	0.02	Q	|	|	|	V |
20+20	0.1583	0.02	Q	|	|	|	V |
20+25	0.1585	0.02	Q	|	|	|	V |
20+30	0.1586	0.02	Q	|	|	|	V |
20+35	0.1588	0.02	Q	|	|	|	V |
20+40	0.1590	0.02	Q	|	|	|	V |
20+45	0.1591	0.02	Q	|	|	|	V |
20+50	0.1592	0.02	Q	|	|	|	V |
20+55	0.1594	0.02	Q	|	|	|	V |
21+ 0	0.1595	0.02	Q	|	|	|	V |
21+ 5	0.1596	0.02	Q	|	|	|	V |
21+10	0.1598	0.02	Q	|	|	|	V |
21+15	0.1599	0.02	Q	|	|	|	V|
21+20	0.1601	0.02	Q	|	|	|	V|
21+25	0.1602	0.02	Q	|	|	|	V|
21+30	0.1603	0.02	Q	|	|	|	V|
21+35	0.1604	0.02	Q	|	|	|	V|
21+40	0.1606	0.02	Q	|	|	|	V|
21+45	0.1608	0.02	Q	|	|	|	V|
21+50	0.1609	0.02	Q	|	|	|	V|
21+55	0.1610	0.02	Q	|	|	|	V|
22+ 0	0.1611	0.02	Q	|	|	|	V|
22+ 5	0.1613	0.02	Q	|	|	|	V|
22+10	0.1614	0.02	Q	|	|	|	V|
22+15	0.1616	0.02	Q	|	|	|	V|
22+20	0.1617	0.02	Q	|	|	|	V|
22+25	0.1618	0.02	Q	|	|	|	V|
22+30	0.1619	0.02	Q	|	|	|	V|
22+35	0.1620	0.02	Q	|	|	|	V|
22+40	0.1621	0.02	Q	|	|	|	V|

22+45	0.1623	0.02	Q	|	|	|	V|
22+50	0.1624	0.02	Q	|	|	|	V|
22+55	0.1625	0.02	Q	|	|	|	V|
23+ 0	0.1626	0.02	Q	|	|	|	V|
23+ 5	0.1627	0.02	Q	|	|	|	V|
23+10	0.1628	0.02	Q	|	|	|	V|
23+15	0.1629	0.02	Q	|	|	|	V|
23+20	0.1630	0.02	Q	|	|	|	V|
23+25	0.1631	0.02	Q	|	|	|	V|
23+30	0.1632	0.02	Q	|	|	|	V|
23+35	0.1633	0.02	Q	|	|	|	V|
23+40	0.1635	0.02	Q	|	|	|	V|
23+45	0.1636	0.02	Q	|	|	|	V|
23+50	0.1637	0.02	Q	|	|	|	V|
23+55	0.1638	0.02	Q	|	|	|	V|
24+ 0	0.1639	0.02	Q	|	|	|	V|
24+ 5	0.1639	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 06/03/26 File: 19267p002B242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-Year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	1.66	5.39

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.25	4.10	13.30

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.245	75.00	0.870

Total Area Entered = 3.25(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.870	0.109	1.000	0.109
					Sum (F) =	0.109

Area averaged mean soil loss (F) (In/Hr) = 0.109
Minimum soil loss rate ((In/Hr)) = 0.054
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	3.270
		Sum = 100.000	Sum= 3.270

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	0.013	(0.193)	0.003	0.011
2	0.17	0.07	0.013	(0.192)	0.003	0.011
3	0.25	0.07	0.013	(0.191)	0.003	0.011
4	0.33	0.10	0.020	(0.190)	0.004	0.016
5	0.42	0.10	0.020	(0.190)	0.004	0.016
6	0.50	0.10	0.020	(0.189)	0.004	0.016
7	0.58	0.10	0.020	(0.188)	0.004	0.016
8	0.67	0.10	0.020	(0.187)	0.004	0.016
9	0.75	0.10	0.020	(0.187)	0.004	0.016
10	0.83	0.13	0.027	(0.186)	0.005	0.021
11	0.92	0.13	0.027	(0.185)	0.005	0.021
12	1.00	0.13	0.027	(0.184)	0.005	0.021

13	1.08	0.10	0.020	(0.184)	0.004	0.016
14	1.17	0.10	0.020	(0.183)	0.004	0.016
15	1.25	0.10	0.020	(0.182)	0.004	0.016
16	1.33	0.10	0.020	(0.182)	0.004	0.016
17	1.42	0.10	0.020	(0.181)	0.004	0.016
18	1.50	0.10	0.020	(0.180)	0.004	0.016
19	1.58	0.10	0.020	(0.179)	0.004	0.016
20	1.67	0.10	0.020	(0.179)	0.004	0.016
21	1.75	0.10	0.020	(0.178)	0.004	0.016
22	1.83	0.13	0.027	(0.177)	0.005	0.021
23	1.92	0.13	0.027	(0.177)	0.005	0.021
24	2.00	0.13	0.027	(0.176)	0.005	0.021
25	2.08	0.13	0.027	(0.175)	0.005	0.021
26	2.17	0.13	0.027	(0.174)	0.005	0.021
27	2.25	0.13	0.027	(0.174)	0.005	0.021
28	2.33	0.13	0.027	(0.173)	0.005	0.021
29	2.42	0.13	0.027	(0.172)	0.005	0.021
30	2.50	0.13	0.027	(0.172)	0.005	0.021
31	2.58	0.17	0.033	(0.171)	0.007	0.027
32	2.67	0.17	0.033	(0.170)	0.007	0.027
33	2.75	0.17	0.033	(0.169)	0.007	0.027
34	2.83	0.17	0.033	(0.169)	0.007	0.027
35	2.92	0.17	0.033	(0.168)	0.007	0.027
36	3.00	0.17	0.033	(0.167)	0.007	0.027
37	3.08	0.17	0.033	(0.167)	0.007	0.027
38	3.17	0.17	0.033	(0.166)	0.007	0.027
39	3.25	0.17	0.033	(0.165)	0.007	0.027
40	3.33	0.17	0.033	(0.165)	0.007	0.027
41	3.42	0.17	0.033	(0.164)	0.007	0.027
42	3.50	0.17	0.033	(0.163)	0.007	0.027
43	3.58	0.17	0.033	(0.163)	0.007	0.027
44	3.67	0.17	0.033	(0.162)	0.007	0.027
45	3.75	0.17	0.033	(0.161)	0.007	0.027
46	3.83	0.20	0.040	(0.161)	0.008	0.032
47	3.92	0.20	0.040	(0.160)	0.008	0.032
48	4.00	0.20	0.040	(0.159)	0.008	0.032
49	4.08	0.20	0.040	(0.158)	0.008	0.032
50	4.17	0.20	0.040	(0.158)	0.008	0.032
51	4.25	0.20	0.040	(0.157)	0.008	0.032
52	4.33	0.23	0.046	(0.156)	0.009	0.037
53	4.42	0.23	0.046	(0.156)	0.009	0.037
54	4.50	0.23	0.046	(0.155)	0.009	0.037
55	4.58	0.23	0.046	(0.154)	0.009	0.037
56	4.67	0.23	0.046	(0.154)	0.009	0.037
57	4.75	0.23	0.046	(0.153)	0.009	0.037
58	4.83	0.27	0.053	(0.152)	0.011	0.042
59	4.92	0.27	0.053	(0.152)	0.011	0.042
60	5.00	0.27	0.053	(0.151)	0.011	0.042
61	5.08	0.20	0.040	(0.151)	0.008	0.032
62	5.17	0.20	0.040	(0.150)	0.008	0.032
63	5.25	0.20	0.040	(0.149)	0.008	0.032
64	5.33	0.23	0.046	(0.149)	0.009	0.037
65	5.42	0.23	0.046	(0.148)	0.009	0.037
66	5.50	0.23	0.046	(0.147)	0.009	0.037
67	5.58	0.27	0.053	(0.147)	0.011	0.042
68	5.67	0.27	0.053	(0.146)	0.011	0.042
69	5.75	0.27	0.053	(0.145)	0.011	0.042

70	5.83	0.27	0.053	(0.145)	0.011	0.042
71	5.92	0.27	0.053	(0.144)	0.011	0.042
72	6.00	0.27	0.053	(0.143)	0.011	0.042
73	6.08	0.30	0.060	(0.143)	0.012	0.048
74	6.17	0.30	0.060	(0.142)	0.012	0.048
75	6.25	0.30	0.060	(0.141)	0.012	0.048
76	6.33	0.30	0.060	(0.141)	0.012	0.048
77	6.42	0.30	0.060	(0.140)	0.012	0.048
78	6.50	0.30	0.060	(0.140)	0.012	0.048
79	6.58	0.33	0.066	(0.139)	0.013	0.053
80	6.67	0.33	0.066	(0.138)	0.013	0.053
81	6.75	0.33	0.066	(0.138)	0.013	0.053
82	6.83	0.33	0.066	(0.137)	0.013	0.053
83	6.92	0.33	0.066	(0.136)	0.013	0.053
84	7.00	0.33	0.066	(0.136)	0.013	0.053
85	7.08	0.33	0.066	(0.135)	0.013	0.053
86	7.17	0.33	0.066	(0.135)	0.013	0.053
87	7.25	0.33	0.066	(0.134)	0.013	0.053
88	7.33	0.37	0.073	(0.133)	0.015	0.058
89	7.42	0.37	0.073	(0.133)	0.015	0.058
90	7.50	0.37	0.073	(0.132)	0.015	0.058
91	7.58	0.40	0.080	(0.132)	0.016	0.064
92	7.67	0.40	0.080	(0.131)	0.016	0.064
93	7.75	0.40	0.080	(0.130)	0.016	0.064
94	7.83	0.43	0.086	(0.130)	0.017	0.069
95	7.92	0.43	0.086	(0.129)	0.017	0.069
96	8.00	0.43	0.086	(0.129)	0.017	0.069
97	8.08	0.50	0.100	(0.128)	0.020	0.080
98	8.17	0.50	0.100	(0.127)	0.020	0.080
99	8.25	0.50	0.100	(0.127)	0.020	0.080
100	8.33	0.50	0.100	(0.126)	0.020	0.080
101	8.42	0.50	0.100	(0.126)	0.020	0.080
102	8.50	0.50	0.100	(0.125)	0.020	0.080
103	8.58	0.53	0.106	(0.124)	0.021	0.085
104	8.67	0.53	0.106	(0.124)	0.021	0.085
105	8.75	0.53	0.106	(0.123)	0.021	0.085
106	8.83	0.57	0.113	(0.123)	0.023	0.090
107	8.92	0.57	0.113	(0.122)	0.023	0.090
108	9.00	0.57	0.113	(0.122)	0.023	0.090
109	9.08	0.63	0.126	(0.121)	0.025	0.101
110	9.17	0.63	0.126	(0.120)	0.025	0.101
111	9.25	0.63	0.126	(0.120)	0.025	0.101
112	9.33	0.67	0.133	(0.119)	0.027	0.106
113	9.42	0.67	0.133	(0.119)	0.027	0.106
114	9.50	0.67	0.133	(0.118)	0.027	0.106
115	9.58	0.70	0.139	(0.118)	0.028	0.112
116	9.67	0.70	0.139	(0.117)	0.028	0.112
117	9.75	0.70	0.139	(0.116)	0.028	0.112
118	9.83	0.73	0.146	(0.116)	0.029	0.117
119	9.92	0.73	0.146	(0.115)	0.029	0.117
120	10.00	0.73	0.146	(0.115)	0.029	0.117
121	10.08	0.50	0.100	(0.114)	0.020	0.080
122	10.17	0.50	0.100	(0.114)	0.020	0.080
123	10.25	0.50	0.100	(0.113)	0.020	0.080
124	10.33	0.50	0.100	(0.113)	0.020	0.080
125	10.42	0.50	0.100	(0.112)	0.020	0.080
126	10.50	0.50	0.100	(0.111)	0.020	0.080

127	10.58	0.67	0.133	(0.111)	0.027	0.106
128	10.67	0.67	0.133	(0.110)	0.027	0.106
129	10.75	0.67	0.133	(0.110)	0.027	0.106
130	10.83	0.67	0.133	(0.109)	0.027	0.106
131	10.92	0.67	0.133	(0.109)	0.027	0.106
132	11.00	0.67	0.133	(0.108)	0.027	0.106
133	11.08	0.63	0.126	(0.108)	0.025	0.101
134	11.17	0.63	0.126	(0.107)	0.025	0.101
135	11.25	0.63	0.126	(0.107)	0.025	0.101
136	11.33	0.63	0.126	(0.106)	0.025	0.101
137	11.42	0.63	0.126	(0.106)	0.025	0.101
138	11.50	0.63	0.126	(0.105)	0.025	0.101
139	11.58	0.57	0.113	(0.104)	0.023	0.090
140	11.67	0.57	0.113	(0.104)	0.023	0.090
141	11.75	0.57	0.113	(0.103)	0.023	0.090
142	11.83	0.60	0.120	(0.103)	0.024	0.096
143	11.92	0.60	0.120	(0.102)	0.024	0.096
144	12.00	0.60	0.120	(0.102)	0.024	0.096
145	12.08	0.83	0.166	(0.101)	0.033	0.133
146	12.17	0.83	0.166	(0.101)	0.033	0.133
147	12.25	0.83	0.166	(0.100)	0.033	0.133
148	12.33	0.87	0.173	(0.100)	0.035	0.138
149	12.42	0.87	0.173	(0.099)	0.035	0.138
150	12.50	0.87	0.173	(0.099)	0.035	0.138
151	12.58	0.93	0.186	(0.098)	0.037	0.149
152	12.67	0.93	0.186	(0.098)	0.037	0.149
153	12.75	0.93	0.186	(0.097)	0.037	0.149
154	12.83	0.97	0.193	(0.097)	0.039	0.154
155	12.92	0.97	0.193	(0.096)	0.039	0.154
156	13.00	0.97	0.193	(0.096)	0.039	0.154
157	13.08	1.13	0.226	(0.095)	0.045	0.181
158	13.17	1.13	0.226	(0.095)	0.045	0.181
159	13.25	1.13	0.226	(0.094)	0.045	0.181
160	13.33	1.13	0.226	(0.094)	0.045	0.181
161	13.42	1.13	0.226	(0.094)	0.045	0.181
162	13.50	1.13	0.226	(0.093)	0.045	0.181
163	13.58	0.77	0.153	(0.093)	0.031	0.122
164	13.67	0.77	0.153	(0.092)	0.031	0.122
165	13.75	0.77	0.153	(0.092)	0.031	0.122
166	13.83	0.77	0.153	(0.091)	0.031	0.122
167	13.92	0.77	0.153	(0.091)	0.031	0.122
168	14.00	0.77	0.153	(0.090)	0.031	0.122
169	14.08	0.90	0.179	(0.090)	0.036	0.143
170	14.17	0.90	0.179	(0.089)	0.036	0.143
171	14.25	0.90	0.179	(0.089)	0.036	0.143
172	14.33	0.87	0.173	(0.088)	0.035	0.138
173	14.42	0.87	0.173	(0.088)	0.035	0.138
174	14.50	0.87	0.173	(0.088)	0.035	0.138
175	14.58	0.87	0.173	(0.087)	0.035	0.138
176	14.67	0.87	0.173	(0.087)	0.035	0.138
177	14.75	0.87	0.173	(0.086)	0.035	0.138
178	14.83	0.83	0.166	(0.086)	0.033	0.133
179	14.92	0.83	0.166	(0.085)	0.033	0.133
180	15.00	0.83	0.166	(0.085)	0.033	0.133
181	15.08	0.80	0.159	(0.084)	0.032	0.127
182	15.17	0.80	0.159	(0.084)	0.032	0.127
183	15.25	0.80	0.159	(0.084)	0.032	0.127

184	15.33	0.77	0.153	(0.083)	0.031	0.122
185	15.42	0.77	0.153	(0.083)	0.031	0.122
186	15.50	0.77	0.153	(0.082)	0.031	0.122
187	15.58	0.63	0.126	(0.082)	0.025	0.101
188	15.67	0.63	0.126	(0.081)	0.025	0.101
189	15.75	0.63	0.126	(0.081)	0.025	0.101
190	15.83	0.63	0.126	(0.081)	0.025	0.101
191	15.92	0.63	0.126	(0.080)	0.025	0.101
192	16.00	0.63	0.126	(0.080)	0.025	0.101
193	16.08	0.13	0.027	(0.079)	0.005	0.021
194	16.17	0.13	0.027	(0.079)	0.005	0.021
195	16.25	0.13	0.027	(0.079)	0.005	0.021
196	16.33	0.13	0.027	(0.078)	0.005	0.021
197	16.42	0.13	0.027	(0.078)	0.005	0.021
198	16.50	0.13	0.027	(0.077)	0.005	0.021
199	16.58	0.10	0.020	(0.077)	0.004	0.016
200	16.67	0.10	0.020	(0.077)	0.004	0.016
201	16.75	0.10	0.020	(0.076)	0.004	0.016
202	16.83	0.10	0.020	(0.076)	0.004	0.016
203	16.92	0.10	0.020	(0.075)	0.004	0.016
204	17.00	0.10	0.020	(0.075)	0.004	0.016
205	17.08	0.17	0.033	(0.075)	0.007	0.027
206	17.17	0.17	0.033	(0.074)	0.007	0.027
207	17.25	0.17	0.033	(0.074)	0.007	0.027
208	17.33	0.17	0.033	(0.074)	0.007	0.027
209	17.42	0.17	0.033	(0.073)	0.007	0.027
210	17.50	0.17	0.033	(0.073)	0.007	0.027
211	17.58	0.17	0.033	(0.072)	0.007	0.027
212	17.67	0.17	0.033	(0.072)	0.007	0.027
213	17.75	0.17	0.033	(0.072)	0.007	0.027
214	17.83	0.13	0.027	(0.071)	0.005	0.021
215	17.92	0.13	0.027	(0.071)	0.005	0.021
216	18.00	0.13	0.027	(0.071)	0.005	0.021
217	18.08	0.13	0.027	(0.070)	0.005	0.021
218	18.17	0.13	0.027	(0.070)	0.005	0.021
219	18.25	0.13	0.027	(0.070)	0.005	0.021
220	18.33	0.13	0.027	(0.069)	0.005	0.021
221	18.42	0.13	0.027	(0.069)	0.005	0.021
222	18.50	0.13	0.027	(0.069)	0.005	0.021
223	18.58	0.10	0.020	(0.068)	0.004	0.016
224	18.67	0.10	0.020	(0.068)	0.004	0.016
225	18.75	0.10	0.020	(0.068)	0.004	0.016
226	18.83	0.07	0.013	(0.067)	0.003	0.011
227	18.92	0.07	0.013	(0.067)	0.003	0.011
228	19.00	0.07	0.013	(0.067)	0.003	0.011
229	19.08	0.10	0.020	(0.066)	0.004	0.016
230	19.17	0.10	0.020	(0.066)	0.004	0.016
231	19.25	0.10	0.020	(0.066)	0.004	0.016
232	19.33	0.13	0.027	(0.065)	0.005	0.021
233	19.42	0.13	0.027	(0.065)	0.005	0.021
234	19.50	0.13	0.027	(0.065)	0.005	0.021
235	19.58	0.10	0.020	(0.065)	0.004	0.016
236	19.67	0.10	0.020	(0.064)	0.004	0.016
237	19.75	0.10	0.020	(0.064)	0.004	0.016
238	19.83	0.07	0.013	(0.064)	0.003	0.011
239	19.92	0.07	0.013	(0.063)	0.003	0.011
240	20.00	0.07	0.013	(0.063)	0.003	0.011

241	20.08	0.10	0.020	(0.063)	0.004	0.016
242	20.17	0.10	0.020	(0.063)	0.004	0.016
243	20.25	0.10	0.020	(0.062)	0.004	0.016
244	20.33	0.10	0.020	(0.062)	0.004	0.016
245	20.42	0.10	0.020	(0.062)	0.004	0.016
246	20.50	0.10	0.020	(0.061)	0.004	0.016
247	20.58	0.10	0.020	(0.061)	0.004	0.016
248	20.67	0.10	0.020	(0.061)	0.004	0.016
249	20.75	0.10	0.020	(0.061)	0.004	0.016
250	20.83	0.07	0.013	(0.060)	0.003	0.011
251	20.92	0.07	0.013	(0.060)	0.003	0.011
252	21.00	0.07	0.013	(0.060)	0.003	0.011
253	21.08	0.10	0.020	(0.060)	0.004	0.016
254	21.17	0.10	0.020	(0.059)	0.004	0.016
255	21.25	0.10	0.020	(0.059)	0.004	0.016
256	21.33	0.07	0.013	(0.059)	0.003	0.011
257	21.42	0.07	0.013	(0.059)	0.003	0.011
258	21.50	0.07	0.013	(0.059)	0.003	0.011
259	21.58	0.10	0.020	(0.058)	0.004	0.016
260	21.67	0.10	0.020	(0.058)	0.004	0.016
261	21.75	0.10	0.020	(0.058)	0.004	0.016
262	21.83	0.07	0.013	(0.058)	0.003	0.011
263	21.92	0.07	0.013	(0.058)	0.003	0.011
264	22.00	0.07	0.013	(0.057)	0.003	0.011
265	22.08	0.10	0.020	(0.057)	0.004	0.016
266	22.17	0.10	0.020	(0.057)	0.004	0.016
267	22.25	0.10	0.020	(0.057)	0.004	0.016
268	22.33	0.07	0.013	(0.057)	0.003	0.011
269	22.42	0.07	0.013	(0.056)	0.003	0.011
270	22.50	0.07	0.013	(0.056)	0.003	0.011
271	22.58	0.07	0.013	(0.056)	0.003	0.011
272	22.67	0.07	0.013	(0.056)	0.003	0.011
273	22.75	0.07	0.013	(0.056)	0.003	0.011
274	22.83	0.07	0.013	(0.056)	0.003	0.011
275	22.92	0.07	0.013	(0.056)	0.003	0.011
276	23.00	0.07	0.013	(0.055)	0.003	0.011
277	23.08	0.07	0.013	(0.055)	0.003	0.011
278	23.17	0.07	0.013	(0.055)	0.003	0.011
279	23.25	0.07	0.013	(0.055)	0.003	0.011
280	23.33	0.07	0.013	(0.055)	0.003	0.011
281	23.42	0.07	0.013	(0.055)	0.003	0.011
282	23.50	0.07	0.013	(0.055)	0.003	0.011
283	23.58	0.07	0.013	(0.055)	0.003	0.011
284	23.67	0.07	0.013	(0.055)	0.003	0.011
285	23.75	0.07	0.013	(0.054)	0.003	0.011
286	23.83	0.07	0.013	(0.054)	0.003	0.011
287	23.92	0.07	0.013	(0.054)	0.003	0.011
288	24.00	0.07	0.013	(0.054)	0.003	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.9

Flood volume = Effective rainfall 1.33(In)
times area 3.2(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.33(In)
Total soil loss = 0.090(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 15642.9 Cubic Feet
Total soil loss = 3910.7 Cubic Feet

Peak flow rate of this hydrograph = 0.591(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.03	Q				
0+15	0.0007	0.03	Q				
0+20	0.0011	0.05	Q				
0+25	0.0014	0.05	Q				
0+30	0.0018	0.05	Q				
0+35	0.0022	0.05	Q				
0+40	0.0025	0.05	Q				
0+45	0.0029	0.05	Q				
0+50	0.0034	0.07	Q				
0+55	0.0038	0.07	Q				
1+ 0	0.0043	0.07	Q				
1+ 5	0.0047	0.05	Q				
1+10	0.0050	0.05	Q				
1+15	0.0054	0.05	Q				
1+20	0.0057	0.05	Q				
1+25	0.0061	0.05	Q				
1+30	0.0065	0.05	Q				
1+35	0.0068	0.05	Q				
1+40	0.0072	0.05	Q				
1+45	0.0075	0.05	Q				
1+50	0.0080	0.07	Q				
1+55	0.0085	0.07	Q				
2+ 0	0.0090	0.07	Q				
2+ 5	0.0095	0.07	QV				
2+10	0.0099	0.07	QV				
2+15	0.0104	0.07	QV				
2+20	0.0109	0.07	QV				
2+25	0.0114	0.07	QV				
2+30	0.0119	0.07	QV				
2+35	0.0124	0.09	QV				
2+40	0.0130	0.09	QV				
2+45	0.0136	0.09	QV				
2+50	0.0142	0.09	QV				
2+55	0.0148	0.09	QV				
3+ 0	0.0154	0.09	QV				
3+ 5	0.0160	0.09	QV				
3+10	0.0166	0.09	QV				
3+15	0.0172	0.09	QV				
3+20	0.0178	0.09	QV				
3+25	0.0184	0.09	Q V				
3+30	0.0190	0.09	Q V				
3+35	0.0196	0.09	Q V				
3+40	0.0202	0.09	Q V				
3+45	0.0208	0.09	Q V				

3+50	0.0215	0.10	Q V	|	|	|	|
3+55	0.0223	0.10	Q V	|	|	|	|
4+ 0	0.0230	0.10	Q V	|	|	|	|
4+ 5	0.0237	0.10	Q V	|	|	|	|
4+10	0.0244	0.10	Q V	|	|	|	|
4+15	0.0251	0.10	Q V	|	|	|	|
4+20	0.0260	0.12	Q V	|	|	|	|
4+25	0.0268	0.12	Q V	|	|	|	|
4+30	0.0277	0.12	Q V	|	|	|	|
4+35	0.0285	0.12	Q V	|	|	|	|
4+40	0.0293	0.12	Q V	|	|	|	|
4+45	0.0302	0.12	Q V	|	|	|	|
4+50	0.0311	0.14	Q V	|	|	|	|
4+55	0.0321	0.14	Q V	|	|	|	|
5+ 0	0.0330	0.14	Q V	|	|	|	|
5+ 5	0.0338	0.10	Q V	|	|	|	|
5+10	0.0345	0.10	Q V	|	|	|	|
5+15	0.0352	0.10	Q V	|	|	|	|
5+20	0.0360	0.12	Q V	|	|	|	|
5+25	0.0369	0.12	Q V	|	|	|	|
5+30	0.0377	0.12	Q V	|	|	|	|
5+35	0.0387	0.14	Q V	|	|	|	|
5+40	0.0396	0.14	Q V	|	|	|	|
5+45	0.0406	0.14	Q V	|	|	|	|
5+50	0.0415	0.14	Q V	|	|	|	|
5+55	0.0425	0.14	Q V	|	|	|	|
6+ 0	0.0435	0.14	Q V	|	|	|	|
6+ 5	0.0445	0.16	Q V	|	|	|	|
6+10	0.0456	0.16	Q V	|	|	|	|
6+15	0.0467	0.16	Q V	|	|	|	|
6+20	0.0478	0.16	Q V	|	|	|	|
6+25	0.0488	0.16	Q V	|	|	|	|
6+30	0.0499	0.16	Q V	|	|	|	|
6+35	0.0511	0.17	Q V	|	|	|	|
6+40	0.0523	0.17	Q V	|	|	|	|
6+45	0.0535	0.17	Q V	|	|	|	|
6+50	0.0547	0.17	Q V	|	|	|	|
6+55	0.0559	0.17	Q V	|	|	|	|
7+ 0	0.0571	0.17	Q V	|	|	|	|
7+ 5	0.0583	0.17	Q V	|	|	|	|
7+10	0.0595	0.17	Q V	|	|	|	|
7+15	0.0607	0.17	Q V	|	|	|	|
7+20	0.0620	0.19	Q V	|	|	|	|
7+25	0.0633	0.19	Q V	|	|	|	|
7+30	0.0646	0.19	Q V	|	|	|	|
7+35	0.0661	0.21	Q V	|	|	|	|
7+40	0.0675	0.21	Q V	|	|	|	|
7+45	0.0689	0.21	Q V	|	|	|	|
7+50	0.0705	0.23	Q V	|	|	|	|
7+55	0.0721	0.23	Q V	|	|	|	|
8+ 0	0.0736	0.23	Q V	|	|	|	|
8+ 5	0.0754	0.26	|Q V	|	|	|	|
8+10	0.0772	0.26	|Q V	|	|	|	|
8+15	0.0790	0.26	|Q V	|	|	|	|
8+20	0.0808	0.26	|Q V	|	|	|	|
8+25	0.0826	0.26	|Q V|	|	|	|	|
8+30	0.0844	0.26	|Q V|	|	|	|	|

8+35	0.0863	0.28	Q	V			
8+40	0.0882	0.28	Q	V			
8+45	0.0901	0.28	Q	V			
8+50	0.0922	0.30	Q	V			
8+55	0.0942	0.30	Q	V			
9+ 0	0.0962	0.30	Q	V			
9+ 5	0.0985	0.33	Q	V			
9+10	0.1008	0.33	Q	V			
9+15	0.1031	0.33	Q	V			
9+20	0.1055	0.35	Q	V			
9+25	0.1079	0.35	Q	V			
9+30	0.1102	0.35	Q	V			
9+35	0.1128	0.37	Q	V			
9+40	0.1153	0.37	Q	V			
9+45	0.1178	0.37	Q	V			
9+50	0.1204	0.38	Q	V			
9+55	0.1231	0.38	Q	V			
10+ 0	0.1257	0.38	Q	V			
10+ 5	0.1275	0.26	Q	V			
10+10	0.1293	0.26	Q	V			
10+15	0.1311	0.26	Q	V			
10+20	0.1329	0.26	Q	V			
10+25	0.1347	0.26	Q	V			
10+30	0.1365	0.26	Q	V			
10+35	0.1389	0.35	Q	V			
10+40	0.1413	0.35	Q	V			
10+45	0.1436	0.35	Q	V			
10+50	0.1460	0.35	Q	V			
10+55	0.1484	0.35	Q	V			
11+ 0	0.1508	0.35	Q	V			
11+ 5	0.1531	0.33	Q	V			
11+10	0.1554	0.33	Q	V			
11+15	0.1576	0.33	Q	V			
11+20	0.1599	0.33	Q	V			
11+25	0.1622	0.33	Q	V			
11+30	0.1645	0.33	Q	V			
11+35	0.1665	0.30	Q	V			
11+40	0.1685	0.30	Q	V			
11+45	0.1706	0.30	Q	V			
11+50	0.1727	0.31	Q	V			
11+55	0.1749	0.31	Q	V			
12+ 0	0.1770	0.31	Q	V			
12+ 5	0.1800	0.43	Q	V			
12+10	0.1830	0.43	Q	V			
12+15	0.1860	0.43	Q	V			
12+20	0.1891	0.45	Q	V			
12+25	0.1922	0.45	Q	V			
12+30	0.1954	0.45	Q	V			
12+35	0.1987	0.49	Q	V			
12+40	0.2021	0.49	Q	V			
12+45	0.2054	0.49	Q	V			
12+50	0.2089	0.50	Q	V			
12+55	0.2124	0.50	Q	V			
13+ 0	0.2158	0.50	Q	V			
13+ 5	0.2199	0.59	Q	V			
13+10	0.2240	0.59	Q	V			
13+15	0.2280	0.59	Q	V			

13+20	0.2321	0.59	| Q	|	|	V |	|
13+25	0.2362	0.59	| Q	|	|	V |	|
13+30	0.2402	0.59	| Q	|	|	V |	|
13+35	0.2430	0.40	|Q	|	|	V |	|
13+40	0.2458	0.40	|Q	|	|	V |	|
13+45	0.2485	0.40	|Q	|	|	V |	|
13+50	0.2513	0.40	|Q	|	|	V |	|
13+55	0.2540	0.40	|Q	|	|	V |	|
14+ 0	0.2568	0.40	|Q	|	|	V |	|
14+ 5	0.2600	0.47	|Q	|	|	V |	|
14+10	0.2632	0.47	|Q	|	|	V|	|
14+15	0.2665	0.47	|Q	|	|	V|	|
14+20	0.2696	0.45	|Q	|	|	V	|
14+25	0.2727	0.45	|Q	|	|	V	|
14+30	0.2758	0.45	|Q	|	|	V	|
14+35	0.2789	0.45	|Q	|	|	|V	|
14+40	0.2820	0.45	|Q	|	|	|V	|
14+45	0.2851	0.45	|Q	|	|	|V	|
14+50	0.2881	0.43	|Q	|	|	| V	|
14+55	0.2911	0.43	|Q	|	|	| V	|
15+ 0	0.2941	0.43	|Q	|	|	| V	|
15+ 5	0.2970	0.42	|Q	|	|	| V	|
15+10	0.2999	0.42	|Q	|	|	| V	|
15+15	0.3027	0.42	|Q	|	|	| V	|
15+20	0.3055	0.40	|Q	|	|	| V	|
15+25	0.3082	0.40	|Q	|	|	| V	|
15+30	0.3110	0.40	|Q	|	|	| V	|
15+35	0.3133	0.33	|Q	|	|	| V	|
15+40	0.3155	0.33	|Q	|	|	| V	|
15+45	0.3178	0.33	|Q	|	|	| V	|
15+50	0.3201	0.33	|Q	|	|	| V	|
15+55	0.3224	0.33	|Q	|	|	| V	|
16+ 0	0.3246	0.33	|Q	|	|	| V	|
16+ 5	0.3251	0.07	Q	|	|	| V	|
16+10	0.3256	0.07	Q	|	|	| V	|
16+15	0.3261	0.07	Q	|	|	| V	|
16+20	0.3266	0.07	Q	|	|	| V	|
16+25	0.3270	0.07	Q	|	|	| V	|
16+30	0.3275	0.07	Q	|	|	| V	|
16+35	0.3279	0.05	Q	|	|	| V	|
16+40	0.3282	0.05	Q	|	|	| V	|
16+45	0.3286	0.05	Q	|	|	| V	|
16+50	0.3289	0.05	Q	|	|	| V	|
16+55	0.3293	0.05	Q	|	|	| V	|
17+ 0	0.3297	0.05	Q	|	|	| V	|
17+ 5	0.3303	0.09	Q	|	|	| V	|
17+10	0.3309	0.09	Q	|	|	| V	|
17+15	0.3315	0.09	Q	|	|	| V	|
17+20	0.3321	0.09	Q	|	|	| V	|
17+25	0.3327	0.09	Q	|	|	| V	|
17+30	0.3333	0.09	Q	|	|	| V	|
17+35	0.3339	0.09	Q	|	|	| V	|
17+40	0.3345	0.09	Q	|	|	| V	|
17+45	0.3351	0.09	Q	|	|	| V	|
17+50	0.3355	0.07	Q	|	|	| V	|
17+55	0.3360	0.07	Q	|	|	| V	|
18+ 0	0.3365	0.07	Q	|	|	| V	|

18+ 5	0.3370	0.07	Q	|	|	|	V |
18+10	0.3374	0.07	Q	|	|	|	V |
18+15	0.3379	0.07	Q	|	|	|	V |
18+20	0.3384	0.07	Q	|	|	|	V |
18+25	0.3389	0.07	Q	|	|	|	V |
18+30	0.3394	0.07	Q	|	|	|	V |
18+35	0.3397	0.05	Q	|	|	|	V |
18+40	0.3401	0.05	Q	|	|	|	V |
18+45	0.3404	0.05	Q	|	|	|	V |
18+50	0.3407	0.03	Q	|	|	|	V |
18+55	0.3409	0.03	Q	|	|	|	V |
19+ 0	0.3412	0.03	Q	|	|	|	V |
19+ 5	0.3415	0.05	Q	|	|	|	V |
19+10	0.3419	0.05	Q	|	|	|	V |
19+15	0.3422	0.05	Q	|	|	|	V |
19+20	0.3427	0.07	Q	|	|	|	V |
19+25	0.3432	0.07	Q	|	|	|	V |
19+30	0.3437	0.07	Q	|	|	|	V |
19+35	0.3440	0.05	Q	|	|	|	V |
19+40	0.3444	0.05	Q	|	|	|	V |
19+45	0.3447	0.05	Q	|	|	|	V |
19+50	0.3450	0.03	Q	|	|	|	V |
19+55	0.3452	0.03	Q	|	|	|	V |
20+ 0	0.3455	0.03	Q	|	|	|	V |
20+ 5	0.3458	0.05	Q	|	|	|	V |
20+10	0.3462	0.05	Q	|	|	|	V |
20+15	0.3465	0.05	Q	|	|	|	V |
20+20	0.3469	0.05	Q	|	|	|	V |
20+25	0.3473	0.05	Q	|	|	|	V |
20+30	0.3476	0.05	Q	|	|	|	V |
20+35	0.3480	0.05	Q	|	|	|	V |
20+40	0.3483	0.05	Q	|	|	|	V |
20+45	0.3487	0.05	Q	|	|	|	V |
20+50	0.3489	0.03	Q	|	|	|	V |
20+55	0.3492	0.03	Q	|	|	|	V |
21+ 0	0.3494	0.03	Q	|	|	|	V |
21+ 5	0.3498	0.05	Q	|	|	|	V |
21+10	0.3501	0.05	Q	|	|	|	V |
21+15	0.3505	0.05	Q	|	|	|	V|
21+20	0.3507	0.03	Q	|	|	|	V|
21+25	0.3510	0.03	Q	|	|	|	V|
21+30	0.3512	0.03	Q	|	|	|	V|
21+35	0.3516	0.05	Q	|	|	|	V|
21+40	0.3519	0.05	Q	|	|	|	V|
21+45	0.3523	0.05	Q	|	|	|	V|
21+50	0.3525	0.03	Q	|	|	|	V|
21+55	0.3528	0.03	Q	|	|	|	V|
22+ 0	0.3530	0.03	Q	|	|	|	V|
22+ 5	0.3534	0.05	Q	|	|	|	V|
22+10	0.3537	0.05	Q	|	|	|	V|
22+15	0.3541	0.05	Q	|	|	|	V|
22+20	0.3543	0.03	Q	|	|	|	V|
22+25	0.3546	0.03	Q	|	|	|	V|
22+30	0.3548	0.03	Q	|	|	|	V|
22+35	0.3550	0.03	Q	|	|	|	V|
22+40	0.3553	0.03	Q	|	|	|	V|
22+45	0.3555	0.03	Q	|	|	|	V|

22+50	0.3558	0.03	Q	|	|	|	V|
22+55	0.3560	0.03	Q	|	|	|	V|
23+ 0	0.3562	0.03	Q	|	|	|	V|
23+ 5	0.3565	0.03	Q	|	|	|	V|
23+10	0.3567	0.03	Q	|	|	|	V|
23+15	0.3570	0.03	Q	|	|	|	V|
23+20	0.3572	0.03	Q	|	|	|	V|
23+25	0.3574	0.03	Q	|	|	|	V|
23+30	0.3577	0.03	Q	|	|	|	V|
23+35	0.3579	0.03	Q	|	|	|	V|
23+40	0.3582	0.03	Q	|	|	|	V|
23+45	0.3584	0.03	Q	|	|	|	V|
23+50	0.3586	0.03	Q	|	|	|	V|
23+55	0.3589	0.03	Q	|	|	|	V|
24+ 0	0.3591	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 06/03/26 File: 19267p002CD242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	1.66	2.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	4.10	5.14

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.254	75.00	0.790

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.790	0.145	1.000	0.145
					Sum (F) =	0.145

Area averaged mean soil loss (F) (In/Hr) = 0.145
Minimum soil loss rate ((In/Hr)) = 0.072
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1293.145	100.000	1.264
		Sum = 100.000	Sum= 1.264

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	0.013	(0.256)	0.004	0.010
2	0.17	0.07	0.013	(0.255)	0.004	0.010
3	0.25	0.07	0.013	(0.254)	0.004	0.010
4	0.33	0.10	0.020	(0.253)	0.005	0.015
5	0.42	0.10	0.020	(0.253)	0.005	0.015
6	0.50	0.10	0.020	(0.252)	0.005	0.015
7	0.58	0.10	0.020	(0.251)	0.005	0.015
8	0.67	0.10	0.020	(0.250)	0.005	0.015
9	0.75	0.10	0.020	(0.249)	0.005	0.015
10	0.83	0.13	0.027	(0.248)	0.007	0.019
11	0.92	0.13	0.027	(0.247)	0.007	0.019
12	1.00	0.13	0.027	(0.246)	0.007	0.019

13	1.08	0.10	0.020	(0.245)	0.005	0.015
14	1.17	0.10	0.020	(0.244)	0.005	0.015
15	1.25	0.10	0.020	(0.243)	0.005	0.015
16	1.33	0.10	0.020	(0.242)	0.005	0.015
17	1.42	0.10	0.020	(0.241)	0.005	0.015
18	1.50	0.10	0.020	(0.240)	0.005	0.015
19	1.58	0.10	0.020	(0.239)	0.005	0.015
20	1.67	0.10	0.020	(0.238)	0.005	0.015
21	1.75	0.10	0.020	(0.237)	0.005	0.015
22	1.83	0.13	0.027	(0.236)	0.007	0.019
23	1.92	0.13	0.027	(0.235)	0.007	0.019
24	2.00	0.13	0.027	(0.234)	0.007	0.019
25	2.08	0.13	0.027	(0.233)	0.007	0.019
26	2.17	0.13	0.027	(0.232)	0.007	0.019
27	2.25	0.13	0.027	(0.231)	0.007	0.019
28	2.33	0.13	0.027	(0.230)	0.007	0.019
29	2.42	0.13	0.027	(0.229)	0.007	0.019
30	2.50	0.13	0.027	(0.228)	0.007	0.019
31	2.58	0.17	0.033	(0.228)	0.009	0.024
32	2.67	0.17	0.033	(0.227)	0.009	0.024
33	2.75	0.17	0.033	(0.226)	0.009	0.024
34	2.83	0.17	0.033	(0.225)	0.009	0.024
35	2.92	0.17	0.033	(0.224)	0.009	0.024
36	3.00	0.17	0.033	(0.223)	0.009	0.024
37	3.08	0.17	0.033	(0.222)	0.009	0.024
38	3.17	0.17	0.033	(0.221)	0.009	0.024
39	3.25	0.17	0.033	(0.220)	0.009	0.024
40	3.33	0.17	0.033	(0.219)	0.009	0.024
41	3.42	0.17	0.033	(0.218)	0.009	0.024
42	3.50	0.17	0.033	(0.217)	0.009	0.024
43	3.58	0.17	0.033	(0.216)	0.009	0.024
44	3.67	0.17	0.033	(0.216)	0.009	0.024
45	3.75	0.17	0.033	(0.215)	0.009	0.024
46	3.83	0.20	0.040	(0.214)	0.011	0.029
47	3.92	0.20	0.040	(0.213)	0.011	0.029
48	4.00	0.20	0.040	(0.212)	0.011	0.029
49	4.08	0.20	0.040	(0.211)	0.011	0.029
50	4.17	0.20	0.040	(0.210)	0.011	0.029
51	4.25	0.20	0.040	(0.209)	0.011	0.029
52	4.33	0.23	0.046	(0.208)	0.013	0.034
53	4.42	0.23	0.046	(0.207)	0.013	0.034
54	4.50	0.23	0.046	(0.207)	0.013	0.034
55	4.58	0.23	0.046	(0.206)	0.013	0.034
56	4.67	0.23	0.046	(0.205)	0.013	0.034
57	4.75	0.23	0.046	(0.204)	0.013	0.034
58	4.83	0.27	0.053	(0.203)	0.014	0.039
59	4.92	0.27	0.053	(0.202)	0.014	0.039
60	5.00	0.27	0.053	(0.201)	0.014	0.039
61	5.08	0.20	0.040	(0.200)	0.011	0.029
62	5.17	0.20	0.040	(0.200)	0.011	0.029
63	5.25	0.20	0.040	(0.199)	0.011	0.029
64	5.33	0.23	0.046	(0.198)	0.013	0.034
65	5.42	0.23	0.046	(0.197)	0.013	0.034
66	5.50	0.23	0.046	(0.196)	0.013	0.034
67	5.58	0.27	0.053	(0.195)	0.014	0.039
68	5.67	0.27	0.053	(0.194)	0.014	0.039
69	5.75	0.27	0.053	(0.194)	0.014	0.039

70	5.83	0.27	0.053	(0.193)	0.014	0.039
71	5.92	0.27	0.053	(0.192)	0.014	0.039
72	6.00	0.27	0.053	(0.191)	0.014	0.039
73	6.08	0.30	0.060	(0.190)	0.016	0.044
74	6.17	0.30	0.060	(0.189)	0.016	0.044
75	6.25	0.30	0.060	(0.188)	0.016	0.044
76	6.33	0.30	0.060	(0.188)	0.016	0.044
77	6.42	0.30	0.060	(0.187)	0.016	0.044
78	6.50	0.30	0.060	(0.186)	0.016	0.044
79	6.58	0.33	0.066	(0.185)	0.018	0.048
80	6.67	0.33	0.066	(0.184)	0.018	0.048
81	6.75	0.33	0.066	(0.183)	0.018	0.048
82	6.83	0.33	0.066	(0.183)	0.018	0.048
83	6.92	0.33	0.066	(0.182)	0.018	0.048
84	7.00	0.33	0.066	(0.181)	0.018	0.048
85	7.08	0.33	0.066	(0.180)	0.018	0.048
86	7.17	0.33	0.066	(0.179)	0.018	0.048
87	7.25	0.33	0.066	(0.178)	0.018	0.048
88	7.33	0.37	0.073	(0.178)	0.020	0.053
89	7.42	0.37	0.073	(0.177)	0.020	0.053
90	7.50	0.37	0.073	(0.176)	0.020	0.053
91	7.58	0.40	0.080	(0.175)	0.022	0.058
92	7.67	0.40	0.080	(0.174)	0.022	0.058
93	7.75	0.40	0.080	(0.174)	0.022	0.058
94	7.83	0.43	0.086	(0.173)	0.023	0.063
95	7.92	0.43	0.086	(0.172)	0.023	0.063
96	8.00	0.43	0.086	(0.171)	0.023	0.063
97	8.08	0.50	0.100	(0.170)	0.027	0.073
98	8.17	0.50	0.100	(0.170)	0.027	0.073
99	8.25	0.50	0.100	(0.169)	0.027	0.073
100	8.33	0.50	0.100	(0.168)	0.027	0.073
101	8.42	0.50	0.100	(0.167)	0.027	0.073
102	8.50	0.50	0.100	(0.166)	0.027	0.073
103	8.58	0.53	0.106	(0.166)	0.029	0.078
104	8.67	0.53	0.106	(0.165)	0.029	0.078
105	8.75	0.53	0.106	(0.164)	0.029	0.078
106	8.83	0.57	0.113	(0.163)	0.030	0.082
107	8.92	0.57	0.113	(0.163)	0.030	0.082
108	9.00	0.57	0.113	(0.162)	0.030	0.082
109	9.08	0.63	0.126	(0.161)	0.034	0.092
110	9.17	0.63	0.126	(0.160)	0.034	0.092
111	9.25	0.63	0.126	(0.160)	0.034	0.092
112	9.33	0.67	0.133	(0.159)	0.036	0.097
113	9.42	0.67	0.133	(0.158)	0.036	0.097
114	9.50	0.67	0.133	(0.157)	0.036	0.097
115	9.58	0.70	0.139	(0.157)	0.038	0.102
116	9.67	0.70	0.139	(0.156)	0.038	0.102
117	9.75	0.70	0.139	(0.155)	0.038	0.102
118	9.83	0.73	0.146	(0.154)	0.039	0.107
119	9.92	0.73	0.146	(0.154)	0.039	0.107
120	10.00	0.73	0.146	(0.153)	0.039	0.107
121	10.08	0.50	0.100	(0.152)	0.027	0.073
122	10.17	0.50	0.100	(0.151)	0.027	0.073
123	10.25	0.50	0.100	(0.151)	0.027	0.073
124	10.33	0.50	0.100	(0.150)	0.027	0.073
125	10.42	0.50	0.100	(0.149)	0.027	0.073
126	10.50	0.50	0.100	(0.148)	0.027	0.073

127	10.58	0.67	0.133	(0.148)	0.036	0.097
128	10.67	0.67	0.133	(0.147)	0.036	0.097
129	10.75	0.67	0.133	(0.146)	0.036	0.097
130	10.83	0.67	0.133	(0.145)	0.036	0.097
131	10.92	0.67	0.133	(0.145)	0.036	0.097
132	11.00	0.67	0.133	(0.144)	0.036	0.097
133	11.08	0.63	0.126	(0.143)	0.034	0.092
134	11.17	0.63	0.126	(0.143)	0.034	0.092
135	11.25	0.63	0.126	(0.142)	0.034	0.092
136	11.33	0.63	0.126	(0.141)	0.034	0.092
137	11.42	0.63	0.126	(0.141)	0.034	0.092
138	11.50	0.63	0.126	(0.140)	0.034	0.092
139	11.58	0.57	0.113	(0.139)	0.030	0.082
140	11.67	0.57	0.113	(0.138)	0.030	0.082
141	11.75	0.57	0.113	(0.138)	0.030	0.082
142	11.83	0.60	0.120	(0.137)	0.032	0.087
143	11.92	0.60	0.120	(0.136)	0.032	0.087
144	12.00	0.60	0.120	(0.136)	0.032	0.087
145	12.08	0.83	0.166	(0.135)	0.045	0.121
146	12.17	0.83	0.166	(0.134)	0.045	0.121
147	12.25	0.83	0.166	(0.134)	0.045	0.121
148	12.33	0.87	0.173	(0.133)	0.047	0.126
149	12.42	0.87	0.173	(0.132)	0.047	0.126
150	12.50	0.87	0.173	(0.132)	0.047	0.126
151	12.58	0.93	0.186	(0.131)	0.050	0.136
152	12.67	0.93	0.186	(0.130)	0.050	0.136
153	12.75	0.93	0.186	(0.130)	0.050	0.136
154	12.83	0.97	0.193	(0.129)	0.052	0.141
155	12.92	0.97	0.193	(0.128)	0.052	0.141
156	13.00	0.97	0.193	(0.128)	0.052	0.141
157	13.08	1.13	0.226	(0.127)	0.061	0.165
158	13.17	1.13	0.226	(0.126)	0.061	0.165
159	13.25	1.13	0.226	(0.126)	0.061	0.165
160	13.33	1.13	0.226	(0.125)	0.061	0.165
161	13.42	1.13	0.226	(0.125)	0.061	0.165
162	13.50	1.13	0.226	(0.124)	0.061	0.165
163	13.58	0.77	0.153	(0.123)	0.041	0.111
164	13.67	0.77	0.153	(0.123)	0.041	0.111
165	13.75	0.77	0.153	(0.122)	0.041	0.111
166	13.83	0.77	0.153	(0.121)	0.041	0.111
167	13.92	0.77	0.153	(0.121)	0.041	0.111
168	14.00	0.77	0.153	(0.120)	0.041	0.111
169	14.08	0.90	0.179	(0.120)	0.048	0.131
170	14.17	0.90	0.179	(0.119)	0.048	0.131
171	14.25	0.90	0.179	(0.118)	0.048	0.131
172	14.33	0.87	0.173	(0.118)	0.047	0.126
173	14.42	0.87	0.173	(0.117)	0.047	0.126
174	14.50	0.87	0.173	(0.117)	0.047	0.126
175	14.58	0.87	0.173	(0.116)	0.047	0.126
176	14.67	0.87	0.173	(0.115)	0.047	0.126
177	14.75	0.87	0.173	(0.115)	0.047	0.126
178	14.83	0.83	0.166	(0.114)	0.045	0.121
179	14.92	0.83	0.166	(0.114)	0.045	0.121
180	15.00	0.83	0.166	(0.113)	0.045	0.121
181	15.08	0.80	0.159	(0.112)	0.043	0.116
182	15.17	0.80	0.159	(0.112)	0.043	0.116
183	15.25	0.80	0.159	(0.111)	0.043	0.116

184	15.33	0.77	0.153	(0.111)	0.041	0.111
185	15.42	0.77	0.153	(0.110)	0.041	0.111
186	15.50	0.77	0.153	(0.110)	0.041	0.111
187	15.58	0.63	0.126	(0.109)	0.034	0.092
188	15.67	0.63	0.126	(0.108)	0.034	0.092
189	15.75	0.63	0.126	(0.108)	0.034	0.092
190	15.83	0.63	0.126	(0.107)	0.034	0.092
191	15.92	0.63	0.126	(0.107)	0.034	0.092
192	16.00	0.63	0.126	(0.106)	0.034	0.092
193	16.08	0.13	0.027	(0.106)	0.007	0.019
194	16.17	0.13	0.027	(0.105)	0.007	0.019
195	16.25	0.13	0.027	(0.105)	0.007	0.019
196	16.33	0.13	0.027	(0.104)	0.007	0.019
197	16.42	0.13	0.027	(0.104)	0.007	0.019
198	16.50	0.13	0.027	(0.103)	0.007	0.019
199	16.58	0.10	0.020	(0.103)	0.005	0.015
200	16.67	0.10	0.020	(0.102)	0.005	0.015
201	16.75	0.10	0.020	(0.101)	0.005	0.015
202	16.83	0.10	0.020	(0.101)	0.005	0.015
203	16.92	0.10	0.020	(0.100)	0.005	0.015
204	17.00	0.10	0.020	(0.100)	0.005	0.015
205	17.08	0.17	0.033	(0.099)	0.009	0.024
206	17.17	0.17	0.033	(0.099)	0.009	0.024
207	17.25	0.17	0.033	(0.098)	0.009	0.024
208	17.33	0.17	0.033	(0.098)	0.009	0.024
209	17.42	0.17	0.033	(0.097)	0.009	0.024
210	17.50	0.17	0.033	(0.097)	0.009	0.024
211	17.58	0.17	0.033	(0.096)	0.009	0.024
212	17.67	0.17	0.033	(0.096)	0.009	0.024
213	17.75	0.17	0.033	(0.096)	0.009	0.024
214	17.83	0.13	0.027	(0.095)	0.007	0.019
215	17.92	0.13	0.027	(0.095)	0.007	0.019
216	18.00	0.13	0.027	(0.094)	0.007	0.019
217	18.08	0.13	0.027	(0.094)	0.007	0.019
218	18.17	0.13	0.027	(0.093)	0.007	0.019
219	18.25	0.13	0.027	(0.093)	0.007	0.019
220	18.33	0.13	0.027	(0.092)	0.007	0.019
221	18.42	0.13	0.027	(0.092)	0.007	0.019
222	18.50	0.13	0.027	(0.091)	0.007	0.019
223	18.58	0.10	0.020	(0.091)	0.005	0.015
224	18.67	0.10	0.020	(0.090)	0.005	0.015
225	18.75	0.10	0.020	(0.090)	0.005	0.015
226	18.83	0.07	0.013	(0.090)	0.004	0.010
227	18.92	0.07	0.013	(0.089)	0.004	0.010
228	19.00	0.07	0.013	(0.089)	0.004	0.010
229	19.08	0.10	0.020	(0.088)	0.005	0.015
230	19.17	0.10	0.020	(0.088)	0.005	0.015
231	19.25	0.10	0.020	(0.088)	0.005	0.015
232	19.33	0.13	0.027	(0.087)	0.007	0.019
233	19.42	0.13	0.027	(0.087)	0.007	0.019
234	19.50	0.13	0.027	(0.086)	0.007	0.019
235	19.58	0.10	0.020	(0.086)	0.005	0.015
236	19.67	0.10	0.020	(0.086)	0.005	0.015
237	19.75	0.10	0.020	(0.085)	0.005	0.015
238	19.83	0.07	0.013	(0.085)	0.004	0.010
239	19.92	0.07	0.013	(0.084)	0.004	0.010
240	20.00	0.07	0.013	(0.084)	0.004	0.010

241	20.08	0.10	0.020	(0.084)	0.005	0.015
242	20.17	0.10	0.020	(0.083)	0.005	0.015
243	20.25	0.10	0.020	(0.083)	0.005	0.015
244	20.33	0.10	0.020	(0.083)	0.005	0.015
245	20.42	0.10	0.020	(0.082)	0.005	0.015
246	20.50	0.10	0.020	(0.082)	0.005	0.015
247	20.58	0.10	0.020	(0.082)	0.005	0.015
248	20.67	0.10	0.020	(0.081)	0.005	0.015
249	20.75	0.10	0.020	(0.081)	0.005	0.015
250	20.83	0.07	0.013	(0.080)	0.004	0.010
251	20.92	0.07	0.013	(0.080)	0.004	0.010
252	21.00	0.07	0.013	(0.080)	0.004	0.010
253	21.08	0.10	0.020	(0.080)	0.005	0.015
254	21.17	0.10	0.020	(0.079)	0.005	0.015
255	21.25	0.10	0.020	(0.079)	0.005	0.015
256	21.33	0.07	0.013	(0.079)	0.004	0.010
257	21.42	0.07	0.013	(0.078)	0.004	0.010
258	21.50	0.07	0.013	(0.078)	0.004	0.010
259	21.58	0.10	0.020	(0.078)	0.005	0.015
260	21.67	0.10	0.020	(0.077)	0.005	0.015
261	21.75	0.10	0.020	(0.077)	0.005	0.015
262	21.83	0.07	0.013	(0.077)	0.004	0.010
263	21.92	0.07	0.013	(0.077)	0.004	0.010
264	22.00	0.07	0.013	(0.076)	0.004	0.010
265	22.08	0.10	0.020	(0.076)	0.005	0.015
266	22.17	0.10	0.020	(0.076)	0.005	0.015
267	22.25	0.10	0.020	(0.076)	0.005	0.015
268	22.33	0.07	0.013	(0.075)	0.004	0.010
269	22.42	0.07	0.013	(0.075)	0.004	0.010
270	22.50	0.07	0.013	(0.075)	0.004	0.010
271	22.58	0.07	0.013	(0.075)	0.004	0.010
272	22.67	0.07	0.013	(0.075)	0.004	0.010
273	22.75	0.07	0.013	(0.074)	0.004	0.010
274	22.83	0.07	0.013	(0.074)	0.004	0.010
275	22.92	0.07	0.013	(0.074)	0.004	0.010
276	23.00	0.07	0.013	(0.074)	0.004	0.010
277	23.08	0.07	0.013	(0.074)	0.004	0.010
278	23.17	0.07	0.013	(0.073)	0.004	0.010
279	23.25	0.07	0.013	(0.073)	0.004	0.010
280	23.33	0.07	0.013	(0.073)	0.004	0.010
281	23.42	0.07	0.013	(0.073)	0.004	0.010
282	23.50	0.07	0.013	(0.073)	0.004	0.010
283	23.58	0.07	0.013	(0.073)	0.004	0.010
284	23.67	0.07	0.013	(0.073)	0.004	0.010
285	23.75	0.07	0.013	(0.073)	0.004	0.010
286	23.83	0.07	0.013	(0.072)	0.004	0.010
287	23.92	0.07	0.013	(0.072)	0.004	0.010
288	24.00	0.07	0.013	(0.072)	0.004	0.010
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	14.5

Flood volume = Effective rainfall 1.21(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.45(In)
Total soil loss = 0.047(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 5516.1 Cubic Feet
Total soil loss = 2040.2 Cubic Feet

Peak flow rate of this hydrograph = 0.208(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0002	0.01	Q				
0+15	0.0003	0.01	Q				
0+20	0.0004	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0006	0.02	Q				
0+35	0.0008	0.02	Q				
0+40	0.0009	0.02	Q				
0+45	0.0010	0.02	Q				
0+50	0.0012	0.02	Q				
0+55	0.0014	0.02	Q				
1+ 0	0.0015	0.02	Q				
1+ 5	0.0016	0.02	Q				
1+10	0.0018	0.02	Q				
1+15	0.0019	0.02	Q				
1+20	0.0020	0.02	Q				
1+25	0.0022	0.02	Q				
1+30	0.0023	0.02	Q				
1+35	0.0024	0.02	Q				
1+40	0.0025	0.02	Q				
1+45	0.0027	0.02	Q				
1+50	0.0028	0.02	Q				
1+55	0.0030	0.02	Q				
2+ 0	0.0032	0.02	QV				
2+ 5	0.0033	0.02	QV				
2+10	0.0035	0.02	QV				
2+15	0.0037	0.02	QV				
2+20	0.0038	0.02	QV				
2+25	0.0040	0.02	QV				
2+30	0.0042	0.02	QV				
2+35	0.0044	0.03	QV				
2+40	0.0046	0.03	QV				
2+45	0.0048	0.03	QV				
2+50	0.0050	0.03	QV				
2+55	0.0052	0.03	QV				
3+ 0	0.0054	0.03	QV				
3+ 5	0.0057	0.03	QV				
3+10	0.0059	0.03	QV				
3+15	0.0061	0.03	QV				
3+20	0.0063	0.03	QV				
3+25	0.0065	0.03	Q V				
3+30	0.0067	0.03	Q V				
3+35	0.0069	0.03	Q V				
3+40	0.0071	0.03	Q V				
3+45	0.0073	0.03	Q V				

3+50	0.0076	0.04	Q V	|	|	|	|
3+55	0.0079	0.04	Q V	|	|	|	|
4+ 0	0.0081	0.04	Q V	|	|	|	|
4+ 5	0.0084	0.04	Q V	|	|	|	|
4+10	0.0086	0.04	Q V	|	|	|	|
4+15	0.0089	0.04	Q V	|	|	|	|
4+20	0.0092	0.04	Q V	|	|	|	|
4+25	0.0095	0.04	Q V	|	|	|	|
4+30	0.0098	0.04	Q V	|	|	|	|
4+35	0.0100	0.04	Q V	|	|	|	|
4+40	0.0103	0.04	Q V	|	|	|	|
4+45	0.0106	0.04	Q V	|	|	|	|
4+50	0.0110	0.05	Q V	|	|	|	|
4+55	0.0113	0.05	Q V	|	|	|	|
5+ 0	0.0117	0.05	Q V	|	|	|	|
5+ 5	0.0119	0.04	Q V	|	|	|	|
5+10	0.0122	0.04	Q V	|	|	|	|
5+15	0.0124	0.04	Q V	|	|	|	|
5+20	0.0127	0.04	Q V	|	|	|	|
5+25	0.0130	0.04	Q V	|	|	|	|
5+30	0.0133	0.04	Q V	|	|	|	|
5+35	0.0136	0.05	Q V	|	|	|	|
5+40	0.0140	0.05	Q V	|	|	|	|
5+45	0.0143	0.05	Q V	|	|	|	|
5+50	0.0146	0.05	Q V	|	|	|	|
5+55	0.0150	0.05	Q V	|	|	|	|
6+ 0	0.0153	0.05	Q V	|	|	|	|
6+ 5	0.0157	0.06	Q V	|	|	|	|
6+10	0.0161	0.06	Q V	|	|	|	|
6+15	0.0165	0.06	Q V	|	|	|	|
6+20	0.0168	0.06	Q V	|	|	|	|
6+25	0.0172	0.06	Q V	|	|	|	|
6+30	0.0176	0.06	Q V	|	|	|	|
6+35	0.0180	0.06	Q V	|	|	|	|
6+40	0.0184	0.06	Q V	|	|	|	|
6+45	0.0189	0.06	Q V	|	|	|	|
6+50	0.0193	0.06	Q V	|	|	|	|
6+55	0.0197	0.06	Q V	|	|	|	|
7+ 0	0.0201	0.06	Q V	|	|	|	|
7+ 5	0.0206	0.06	Q V	|	|	|	|
7+10	0.0210	0.06	Q V	|	|	|	|
7+15	0.0214	0.06	Q V	|	|	|	|
7+20	0.0219	0.07	Q V	|	|	|	|
7+25	0.0223	0.07	Q V	|	|	|	|
7+30	0.0228	0.07	Q V	|	|	|	|
7+35	0.0233	0.07	Q V	|	|	|	|
7+40	0.0238	0.07	Q V	|	|	|	|
7+45	0.0243	0.07	Q V	|	|	|	|
7+50	0.0249	0.08	Q V	|	|	|	|
7+55	0.0254	0.08	Q V	|	|	|	|
8+ 0	0.0260	0.08	Q V	|	|	|	|
8+ 5	0.0266	0.09	Q V	|	|	|	|
8+10	0.0272	0.09	Q V	|	|	|	|
8+15	0.0279	0.09	Q V	|	|	|	|
8+20	0.0285	0.09	Q V	|	|	|	|
8+25	0.0291	0.09	Q V	|	|	|	|
8+30	0.0298	0.09	Q V	|	|	|	|

8+35	0.0304	0.10	Q	V|				
8+40	0.0311	0.10	Q	V|				
8+45	0.0318	0.10	Q	V				
8+50	0.0325	0.10	Q	V				
8+55	0.0332	0.10	Q	V				
9+ 0	0.0339	0.10	Q	V				
9+ 5	0.0347	0.12	Q	V				
9+10	0.0355	0.12	Q	|V				
9+15	0.0363	0.12	Q	|V				
9+20	0.0372	0.12	Q	|V				
9+25	0.0380	0.12	Q	| V				
9+30	0.0389	0.12	Q	| V				
9+35	0.0398	0.13	Q	| V				
9+40	0.0406	0.13	Q	| V				
9+45	0.0415	0.13	Q	| V				
9+50	0.0425	0.13	Q	| V				
9+55	0.0434	0.13	Q	| V				
10+ 0	0.0443	0.13	Q	| V				
10+ 5	0.0450	0.09	Q	| V				
10+10	0.0456	0.09	Q	| V				
10+15	0.0462	0.09	Q	| V				
10+20	0.0469	0.09	Q	| V				
10+25	0.0475	0.09	Q	| V |				
10+30	0.0481	0.09	Q	| V |				
10+35	0.0490	0.12	Q	| V |				
10+40	0.0498	0.12	Q	| V |				
10+45	0.0507	0.12	Q	| V |				
10+50	0.0515	0.12	Q	| V |				
10+55	0.0523	0.12	Q	| V |				
11+ 0	0.0532	0.12	Q	| V |				
11+ 5	0.0540	0.12	Q	| V |				
11+10	0.0548	0.12	Q	| V |				
11+15	0.0556	0.12	Q	| V |				
11+20	0.0564	0.12	Q	| V |				
11+25	0.0572	0.12	Q	| V |				
11+30	0.0580	0.12	Q	| V |				
11+35	0.0587	0.10	Q	| V |				
11+40	0.0594	0.10	Q	| V |				
11+45	0.0602	0.10	Q	| V|				
11+50	0.0609	0.11	Q	| V|				
11+55	0.0617	0.11	Q	| V|				
12+ 0	0.0624	0.11	Q	| V|				
12+ 5	0.0635	0.15	Q	| V				
12+10	0.0645	0.15	Q	| V				
12+15	0.0656	0.15	Q	| V				
12+20	0.0667	0.16	Q	| |V				
12+25	0.0678	0.16	Q	| |V				
12+30	0.0689	0.16	Q	| |V				
12+35	0.0701	0.17	Q	| | V				
12+40	0.0713	0.17	Q	| | V				
12+45	0.0724	0.17	Q	| | V				
12+50	0.0737	0.18	Q	| | V				
12+55	0.0749	0.18	Q	| | V				
13+ 0	0.0761	0.18	Q	| | V				
13+ 5	0.0775	0.21	Q	| | V				
13+10	0.0790	0.21	Q	| | V				
13+15	0.0804	0.21	Q	| | V |				

13+20	0.0818	0.21	Q	|	|	V |	|	|
13+25	0.0833	0.21	Q	|	|	V |	|	|
13+30	0.0847	0.21	Q	|	|	V |	|	|
13+35	0.0857	0.14	Q	|	|	V |	|	|
13+40	0.0867	0.14	Q	|	|	V |	|	|
13+45	0.0876	0.14	Q	|	|	V |	|	|
13+50	0.0886	0.14	Q	|	|	V |	|	|
13+55	0.0896	0.14	Q	|	|	V |	|	|
14+ 0	0.0905	0.14	Q	|	|	V |	|	|
14+ 5	0.0917	0.17	Q	|	|	V |	|	|
14+10	0.0928	0.17	Q	|	|	V|	|	|
14+15	0.0940	0.17	Q	|	|	V|	|	|
14+20	0.0951	0.16	Q	|	|	V |	|	|
14+25	0.0962	0.16	Q	|	|	V |	|	|
14+30	0.0973	0.16	Q	|	|	V |	|	|
14+35	0.0984	0.16	Q	|	|	|V |	|	|
14+40	0.0994	0.16	Q	|	|	|V |	|	|
14+45	0.1005	0.16	Q	|	|	|V |	|	|
14+50	0.1016	0.15	Q	|	|	| V |	|	|
14+55	0.1027	0.15	Q	|	|	| V |	|	|
15+ 0	0.1037	0.15	Q	|	|	| V |	|	|
15+ 5	0.1047	0.15	Q	|	|	| V |	|	|
15+10	0.1057	0.15	Q	|	|	| V |	|	|
15+15	0.1068	0.15	Q	|	|	| V |	|	|
15+20	0.1077	0.14	Q	|	|	| V |	|	|
15+25	0.1087	0.14	Q	|	|	| V |	|	|
15+30	0.1097	0.14	Q	|	|	| V |	|	|
15+35	0.1105	0.12	Q	|	|	| V |	|	|
15+40	0.1113	0.12	Q	|	|	| V |	|	|
15+45	0.1121	0.12	Q	|	|	| V |	|	|
15+50	0.1129	0.12	Q	|	|	| V |	|	|
15+55	0.1137	0.12	Q	|	|	| V |	|	|
16+ 0	0.1145	0.12	Q	|	|	| V |	|	|
16+ 5	0.1146	0.02	Q	|	|	| V |	|	|
16+10	0.1148	0.02	Q	|	|	| V |	|	|
16+15	0.1150	0.02	Q	|	|	| V |	|	|
16+20	0.1152	0.02	Q	|	|	| V |	|	|
16+25	0.1153	0.02	Q	|	|	| V |	|	|
16+30	0.1155	0.02	Q	|	|	| V |	|	|
16+35	0.1156	0.02	Q	|	|	| V |	|	|
16+40	0.1157	0.02	Q	|	|	| V |	|	|
16+45	0.1159	0.02	Q	|	|	| V |	|	|
16+50	0.1160	0.02	Q	|	|	| V |	|	|
16+55	0.1161	0.02	Q	|	|	| V |	|	|
17+ 0	0.1162	0.02	Q	|	|	| V |	|	|
17+ 5	0.1165	0.03	Q	|	|	| V |	|	|
17+10	0.1167	0.03	Q	|	|	| V |	|	|
17+15	0.1169	0.03	Q	|	|	| V |	|	|
17+20	0.1171	0.03	Q	|	|	| V |	|	|
17+25	0.1173	0.03	Q	|	|	| V |	|	|
17+30	0.1175	0.03	Q	|	|	| V |	|	|
17+35	0.1177	0.03	Q	|	|	| V |	|	|
17+40	0.1179	0.03	Q	|	|	| V |	|	|
17+45	0.1181	0.03	Q	|	|	| V |	|	|
17+50	0.1183	0.02	Q	|	|	| V |	|	|
17+55	0.1185	0.02	Q	|	|	| V |	|	|
18+ 0	0.1187	0.02	Q	|	|	| V |	|	|

18+ 5	0.1188	0.02	Q	|	|	|	V |
18+10	0.1190	0.02	Q	|	|	|	V |
18+15	0.1192	0.02	Q	|	|	|	V |
18+20	0.1193	0.02	Q	|	|	|	V |
18+25	0.1195	0.02	Q	|	|	|	V |
18+30	0.1197	0.02	Q	|	|	|	V |
18+35	0.1198	0.02	Q	|	|	|	V |
18+40	0.1199	0.02	Q	|	|	|	V |
18+45	0.1200	0.02	Q	|	|	|	V |
18+50	0.1201	0.01	Q	|	|	|	V |
18+55	0.1202	0.01	Q	|	|	|	V |
19+ 0	0.1203	0.01	Q	|	|	|	V |
19+ 5	0.1204	0.02	Q	|	|	|	V |
19+10	0.1206	0.02	Q	|	|	|	V |
19+15	0.1207	0.02	Q	|	|	|	V |
19+20	0.1208	0.02	Q	|	|	|	V |
19+25	0.1210	0.02	Q	|	|	|	V |
19+30	0.1212	0.02	Q	|	|	|	V |
19+35	0.1213	0.02	Q	|	|	|	V |
19+40	0.1214	0.02	Q	|	|	|	V |
19+45	0.1216	0.02	Q	|	|	|	V |
19+50	0.1217	0.01	Q	|	|	|	V |
19+55	0.1217	0.01	Q	|	|	|	V |
20+ 0	0.1218	0.01	Q	|	|	|	V |
20+ 5	0.1219	0.02	Q	|	|	|	V |
20+10	0.1221	0.02	Q	|	|	|	V |
20+15	0.1222	0.02	Q	|	|	|	V |
20+20	0.1223	0.02	Q	|	|	|	V |
20+25	0.1225	0.02	Q	|	|	|	V |
20+30	0.1226	0.02	Q	|	|	|	V |
20+35	0.1227	0.02	Q	|	|	|	V |
20+40	0.1228	0.02	Q	|	|	|	V |
20+45	0.1230	0.02	Q	|	|	|	V |
20+50	0.1230	0.01	Q	|	|	|	V |
20+55	0.1231	0.01	Q	|	|	|	V |
21+ 0	0.1232	0.01	Q	|	|	|	V |
21+ 5	0.1233	0.02	Q	|	|	|	V |
21+10	0.1235	0.02	Q	|	|	|	V|
21+15	0.1236	0.02	Q	|	|	|	V|
21+20	0.1237	0.01	Q	|	|	|	V|
21+25	0.1238	0.01	Q	|	|	|	V|
21+30	0.1238	0.01	Q	|	|	|	V|
21+35	0.1240	0.02	Q	|	|	|	V|
21+40	0.1241	0.02	Q	|	|	|	V|
21+45	0.1242	0.02	Q	|	|	|	V|
21+50	0.1243	0.01	Q	|	|	|	V|
21+55	0.1244	0.01	Q	|	|	|	V|
22+ 0	0.1245	0.01	Q	|	|	|	V|
22+ 5	0.1246	0.02	Q	|	|	|	V|
22+10	0.1247	0.02	Q	|	|	|	V|
22+15	0.1249	0.02	Q	|	|	|	V|
22+20	0.1249	0.01	Q	|	|	|	V|
22+25	0.1250	0.01	Q	|	|	|	V|
22+30	0.1251	0.01	Q	|	|	|	V|
22+35	0.1252	0.01	Q	|	|	|	V|
22+40	0.1253	0.01	Q	|	|	|	V|
22+45	0.1254	0.01	Q	|	|	|	V|

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   22+50       0.1255      0.01  Q          |          |          |         V|
   22+55       0.1255      0.01  Q          |          |          |         V|
   23+ 0       0.1256      0.01  Q          |          |          |         V|
   23+ 5       0.1257      0.01  Q          |          |          |         V|
   23+10       0.1258      0.01  Q          |          |          |         V|
   23+15       0.1259      0.01  Q          |          |          |         V|
   23+20       0.1260      0.01  Q          |          |          |         V|
   23+25       0.1260      0.01  Q          |          |          |         V|
   23+30       0.1261      0.01  Q          |          |          |         V|
   23+35       0.1262      0.01  Q          |          |          |         V|
   23+40       0.1263      0.01  Q          |          |          |         V|
   23+45       0.1264      0.01  Q          |          |          |         V|
   23+50       0.1265      0.01  Q          |          |          |         V|
   23+55       0.1265      0.01  Q          |          |          |         V|
   24+ 0       0.1266      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 06/03/26 File: 19267p002EK242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	1.66	0.55

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	4.10	1.36

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.332	75.00	0.880

Total Area Entered = 0.33(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.880	0.104	1.000	0.104
					Sum (F) =	0.104

Area averaged mean soil loss (F) (In/Hr) = 0.104
Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	78.557	0.263
2	0.167	21.443	0.072
	Sum =	100.000 Sum=	0.335

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	0.013	(0.185)	0.003	0.011
2	0.17	0.07	0.013	(0.184)	0.003	0.011
3	0.25	0.07	0.013	(0.183)	0.003	0.011
4	0.33	0.10	0.020	(0.182)	0.004	0.016
5	0.42	0.10	0.020	(0.182)	0.004	0.016
6	0.50	0.10	0.020	(0.181)	0.004	0.016
7	0.58	0.10	0.020	(0.180)	0.004	0.016
8	0.67	0.10	0.020	(0.180)	0.004	0.016
9	0.75	0.10	0.020	(0.179)	0.004	0.016
10	0.83	0.13	0.027	(0.178)	0.005	0.021
11	0.92	0.13	0.027	(0.178)	0.005	0.021

12	1.00	0.13	0.027	(0.177)	0.005	0.021
13	1.08	0.10	0.020	(0.176)	0.004	0.016
14	1.17	0.10	0.020	(0.175)	0.004	0.016
15	1.25	0.10	0.020	(0.175)	0.004	0.016
16	1.33	0.10	0.020	(0.174)	0.004	0.016
17	1.42	0.10	0.020	(0.173)	0.004	0.016
18	1.50	0.10	0.020	(0.173)	0.004	0.016
19	1.58	0.10	0.020	(0.172)	0.004	0.016
20	1.67	0.10	0.020	(0.171)	0.004	0.016
21	1.75	0.10	0.020	(0.171)	0.004	0.016
22	1.83	0.13	0.027	(0.170)	0.005	0.021
23	1.92	0.13	0.027	(0.169)	0.005	0.021
24	2.00	0.13	0.027	(0.169)	0.005	0.021
25	2.08	0.13	0.027	(0.168)	0.005	0.021
26	2.17	0.13	0.027	(0.167)	0.005	0.021
27	2.25	0.13	0.027	(0.166)	0.005	0.021
28	2.33	0.13	0.027	(0.166)	0.005	0.021
29	2.42	0.13	0.027	(0.165)	0.005	0.021
30	2.50	0.13	0.027	(0.164)	0.005	0.021
31	2.58	0.17	0.033	(0.164)	0.007	0.027
32	2.67	0.17	0.033	(0.163)	0.007	0.027
33	2.75	0.17	0.033	(0.162)	0.007	0.027
34	2.83	0.17	0.033	(0.162)	0.007	0.027
35	2.92	0.17	0.033	(0.161)	0.007	0.027
36	3.00	0.17	0.033	(0.160)	0.007	0.027
37	3.08	0.17	0.033	(0.160)	0.007	0.027
38	3.17	0.17	0.033	(0.159)	0.007	0.027
39	3.25	0.17	0.033	(0.158)	0.007	0.027
40	3.33	0.17	0.033	(0.158)	0.007	0.027
41	3.42	0.17	0.033	(0.157)	0.007	0.027
42	3.50	0.17	0.033	(0.156)	0.007	0.027
43	3.58	0.17	0.033	(0.156)	0.007	0.027
44	3.67	0.17	0.033	(0.155)	0.007	0.027
45	3.75	0.17	0.033	(0.155)	0.007	0.027
46	3.83	0.20	0.040	(0.154)	0.008	0.032
47	3.92	0.20	0.040	(0.153)	0.008	0.032
48	4.00	0.20	0.040	(0.153)	0.008	0.032
49	4.08	0.20	0.040	(0.152)	0.008	0.032
50	4.17	0.20	0.040	(0.151)	0.008	0.032
51	4.25	0.20	0.040	(0.151)	0.008	0.032
52	4.33	0.23	0.046	(0.150)	0.009	0.037
53	4.42	0.23	0.046	(0.149)	0.009	0.037
54	4.50	0.23	0.046	(0.149)	0.009	0.037
55	4.58	0.23	0.046	(0.148)	0.009	0.037
56	4.67	0.23	0.046	(0.147)	0.009	0.037
57	4.75	0.23	0.046	(0.147)	0.009	0.037
58	4.83	0.27	0.053	(0.146)	0.011	0.042
59	4.92	0.27	0.053	(0.146)	0.011	0.042
60	5.00	0.27	0.053	(0.145)	0.011	0.042
61	5.08	0.20	0.040	(0.144)	0.008	0.032
62	5.17	0.20	0.040	(0.144)	0.008	0.032
63	5.25	0.20	0.040	(0.143)	0.008	0.032
64	5.33	0.23	0.046	(0.142)	0.009	0.037
65	5.42	0.23	0.046	(0.142)	0.009	0.037
66	5.50	0.23	0.046	(0.141)	0.009	0.037
67	5.58	0.27	0.053	(0.141)	0.011	0.042
68	5.67	0.27	0.053	(0.140)	0.011	0.042

69	5.75	0.27	0.053	(0.139)	0.011	0.042
70	5.83	0.27	0.053	(0.139)	0.011	0.042
71	5.92	0.27	0.053	(0.138)	0.011	0.042
72	6.00	0.27	0.053	(0.137)	0.011	0.042
73	6.08	0.30	0.060	(0.137)	0.012	0.048
74	6.17	0.30	0.060	(0.136)	0.012	0.048
75	6.25	0.30	0.060	(0.136)	0.012	0.048
76	6.33	0.30	0.060	(0.135)	0.012	0.048
77	6.42	0.30	0.060	(0.134)	0.012	0.048
78	6.50	0.30	0.060	(0.134)	0.012	0.048
79	6.58	0.33	0.066	(0.133)	0.013	0.053
80	6.67	0.33	0.066	(0.133)	0.013	0.053
81	6.75	0.33	0.066	(0.132)	0.013	0.053
82	6.83	0.33	0.066	(0.131)	0.013	0.053
83	6.92	0.33	0.066	(0.131)	0.013	0.053
84	7.00	0.33	0.066	(0.130)	0.013	0.053
85	7.08	0.33	0.066	(0.130)	0.013	0.053
86	7.17	0.33	0.066	(0.129)	0.013	0.053
87	7.25	0.33	0.066	(0.128)	0.013	0.053
88	7.33	0.37	0.073	(0.128)	0.015	0.058
89	7.42	0.37	0.073	(0.127)	0.015	0.058
90	7.50	0.37	0.073	(0.127)	0.015	0.058
91	7.58	0.40	0.080	(0.126)	0.016	0.064
92	7.67	0.40	0.080	(0.126)	0.016	0.064
93	7.75	0.40	0.080	(0.125)	0.016	0.064
94	7.83	0.43	0.086	(0.124)	0.017	0.069
95	7.92	0.43	0.086	(0.124)	0.017	0.069
96	8.00	0.43	0.086	(0.123)	0.017	0.069
97	8.08	0.50	0.100	(0.123)	0.020	0.080
98	8.17	0.50	0.100	(0.122)	0.020	0.080
99	8.25	0.50	0.100	(0.122)	0.020	0.080
100	8.33	0.50	0.100	(0.121)	0.020	0.080
101	8.42	0.50	0.100	(0.120)	0.020	0.080
102	8.50	0.50	0.100	(0.120)	0.020	0.080
103	8.58	0.53	0.106	(0.119)	0.021	0.085
104	8.67	0.53	0.106	(0.119)	0.021	0.085
105	8.75	0.53	0.106	(0.118)	0.021	0.085
106	8.83	0.57	0.113	(0.118)	0.023	0.090
107	8.92	0.57	0.113	(0.117)	0.023	0.090
108	9.00	0.57	0.113	(0.116)	0.023	0.090
109	9.08	0.63	0.126	(0.116)	0.025	0.101
110	9.17	0.63	0.126	(0.115)	0.025	0.101
111	9.25	0.63	0.126	(0.115)	0.025	0.101
112	9.33	0.67	0.133	(0.114)	0.027	0.106
113	9.42	0.67	0.133	(0.114)	0.027	0.106
114	9.50	0.67	0.133	(0.113)	0.027	0.106
115	9.58	0.70	0.139	(0.113)	0.028	0.112
116	9.67	0.70	0.139	(0.112)	0.028	0.112
117	9.75	0.70	0.139	(0.112)	0.028	0.112
118	9.83	0.73	0.146	(0.111)	0.029	0.117
119	9.92	0.73	0.146	(0.110)	0.029	0.117
120	10.00	0.73	0.146	(0.110)	0.029	0.117
121	10.08	0.50	0.100	(0.109)	0.020	0.080
122	10.17	0.50	0.100	(0.109)	0.020	0.080
123	10.25	0.50	0.100	(0.108)	0.020	0.080
124	10.33	0.50	0.100	(0.108)	0.020	0.080
125	10.42	0.50	0.100	(0.107)	0.020	0.080

126	10.50	0.50	0.100	(0.107)	0.020	0.080
127	10.58	0.67	0.133	(0.106)	0.027	0.106
128	10.67	0.67	0.133	(0.106)	0.027	0.106
129	10.75	0.67	0.133	(0.105)	0.027	0.106
130	10.83	0.67	0.133	(0.105)	0.027	0.106
131	10.92	0.67	0.133	(0.104)	0.027	0.106
132	11.00	0.67	0.133	(0.104)	0.027	0.106
133	11.08	0.63	0.126	(0.103)	0.025	0.101
134	11.17	0.63	0.126	(0.103)	0.025	0.101
135	11.25	0.63	0.126	(0.102)	0.025	0.101
136	11.33	0.63	0.126	(0.102)	0.025	0.101
137	11.42	0.63	0.126	(0.101)	0.025	0.101
138	11.50	0.63	0.126	(0.101)	0.025	0.101
139	11.58	0.57	0.113	(0.100)	0.023	0.090
140	11.67	0.57	0.113	(0.100)	0.023	0.090
141	11.75	0.57	0.113	(0.099)	0.023	0.090
142	11.83	0.60	0.120	(0.099)	0.024	0.096
143	11.92	0.60	0.120	(0.098)	0.024	0.096
144	12.00	0.60	0.120	(0.098)	0.024	0.096
145	12.08	0.83	0.166	(0.097)	0.033	0.133
146	12.17	0.83	0.166	(0.097)	0.033	0.133
147	12.25	0.83	0.166	(0.096)	0.033	0.133
148	12.33	0.87	0.173	(0.096)	0.035	0.138
149	12.42	0.87	0.173	(0.095)	0.035	0.138
150	12.50	0.87	0.173	(0.095)	0.035	0.138
151	12.58	0.93	0.186	(0.094)	0.037	0.149
152	12.67	0.93	0.186	(0.094)	0.037	0.149
153	12.75	0.93	0.186	(0.093)	0.037	0.149
154	12.83	0.97	0.193	(0.093)	0.039	0.154
155	12.92	0.97	0.193	(0.092)	0.039	0.154
156	13.00	0.97	0.193	(0.092)	0.039	0.154
157	13.08	1.13	0.226	(0.091)	0.045	0.181
158	13.17	1.13	0.226	(0.091)	0.045	0.181
159	13.25	1.13	0.226	(0.091)	0.045	0.181
160	13.33	1.13	0.226	(0.090)	0.045	0.181
161	13.42	1.13	0.226	(0.090)	0.045	0.181
162	13.50	1.13	0.226	(0.089)	0.045	0.181
163	13.58	0.77	0.153	(0.089)	0.031	0.122
164	13.67	0.77	0.153	(0.088)	0.031	0.122
165	13.75	0.77	0.153	(0.088)	0.031	0.122
166	13.83	0.77	0.153	(0.087)	0.031	0.122
167	13.92	0.77	0.153	(0.087)	0.031	0.122
168	14.00	0.77	0.153	(0.086)	0.031	0.122
169	14.08	0.90	0.179	(0.086)	0.036	0.143
170	14.17	0.90	0.179	(0.086)	0.036	0.143
171	14.25	0.90	0.179	(0.085)	0.036	0.143
172	14.33	0.87	0.173	(0.085)	0.035	0.138
173	14.42	0.87	0.173	(0.084)	0.035	0.138
174	14.50	0.87	0.173	(0.084)	0.035	0.138
175	14.58	0.87	0.173	(0.083)	0.035	0.138
176	14.67	0.87	0.173	(0.083)	0.035	0.138
177	14.75	0.87	0.173	(0.083)	0.035	0.138
178	14.83	0.83	0.166	(0.082)	0.033	0.133
179	14.92	0.83	0.166	(0.082)	0.033	0.133
180	15.00	0.83	0.166	(0.081)	0.033	0.133
181	15.08	0.80	0.159	(0.081)	0.032	0.127
182	15.17	0.80	0.159	(0.080)	0.032	0.127

183	15.25	0.80	0.159	(0.080)	0.032	0.127
184	15.33	0.77	0.153	(0.080)	0.031	0.122
185	15.42	0.77	0.153	(0.079)	0.031	0.122
186	15.50	0.77	0.153	(0.079)	0.031	0.122
187	15.58	0.63	0.126	(0.078)	0.025	0.101
188	15.67	0.63	0.126	(0.078)	0.025	0.101
189	15.75	0.63	0.126	(0.078)	0.025	0.101
190	15.83	0.63	0.126	(0.077)	0.025	0.101
191	15.92	0.63	0.126	(0.077)	0.025	0.101
192	16.00	0.63	0.126	(0.076)	0.025	0.101
193	16.08	0.13	0.027	(0.076)	0.005	0.021
194	16.17	0.13	0.027	(0.076)	0.005	0.021
195	16.25	0.13	0.027	(0.075)	0.005	0.021
196	16.33	0.13	0.027	(0.075)	0.005	0.021
197	16.42	0.13	0.027	(0.075)	0.005	0.021
198	16.50	0.13	0.027	(0.074)	0.005	0.021
199	16.58	0.10	0.020	(0.074)	0.004	0.016
200	16.67	0.10	0.020	(0.073)	0.004	0.016
201	16.75	0.10	0.020	(0.073)	0.004	0.016
202	16.83	0.10	0.020	(0.073)	0.004	0.016
203	16.92	0.10	0.020	(0.072)	0.004	0.016
204	17.00	0.10	0.020	(0.072)	0.004	0.016
205	17.08	0.17	0.033	(0.072)	0.007	0.027
206	17.17	0.17	0.033	(0.071)	0.007	0.027
207	17.25	0.17	0.033	(0.071)	0.007	0.027
208	17.33	0.17	0.033	(0.070)	0.007	0.027
209	17.42	0.17	0.033	(0.070)	0.007	0.027
210	17.50	0.17	0.033	(0.070)	0.007	0.027
211	17.58	0.17	0.033	(0.069)	0.007	0.027
212	17.67	0.17	0.033	(0.069)	0.007	0.027
213	17.75	0.17	0.033	(0.069)	0.007	0.027
214	17.83	0.13	0.027	(0.068)	0.005	0.021
215	17.92	0.13	0.027	(0.068)	0.005	0.021
216	18.00	0.13	0.027	(0.068)	0.005	0.021
217	18.08	0.13	0.027	(0.067)	0.005	0.021
218	18.17	0.13	0.027	(0.067)	0.005	0.021
219	18.25	0.13	0.027	(0.067)	0.005	0.021
220	18.33	0.13	0.027	(0.066)	0.005	0.021
221	18.42	0.13	0.027	(0.066)	0.005	0.021
222	18.50	0.13	0.027	(0.066)	0.005	0.021
223	18.58	0.10	0.020	(0.065)	0.004	0.016
224	18.67	0.10	0.020	(0.065)	0.004	0.016
225	18.75	0.10	0.020	(0.065)	0.004	0.016
226	18.83	0.07	0.013	(0.065)	0.003	0.011
227	18.92	0.07	0.013	(0.064)	0.003	0.011
228	19.00	0.07	0.013	(0.064)	0.003	0.011
229	19.08	0.10	0.020	(0.064)	0.004	0.016
230	19.17	0.10	0.020	(0.063)	0.004	0.016
231	19.25	0.10	0.020	(0.063)	0.004	0.016
232	19.33	0.13	0.027	(0.063)	0.005	0.021
233	19.42	0.13	0.027	(0.062)	0.005	0.021
234	19.50	0.13	0.027	(0.062)	0.005	0.021
235	19.58	0.10	0.020	(0.062)	0.004	0.016
236	19.67	0.10	0.020	(0.062)	0.004	0.016
237	19.75	0.10	0.020	(0.061)	0.004	0.016
238	19.83	0.07	0.013	(0.061)	0.003	0.011
239	19.92	0.07	0.013	(0.061)	0.003	0.011

240	20.00	0.07	0.013	(0.060)	0.003	0.011
241	20.08	0.10	0.020	(0.060)	0.004	0.016
242	20.17	0.10	0.020	(0.060)	0.004	0.016
243	20.25	0.10	0.020	(0.060)	0.004	0.016
244	20.33	0.10	0.020	(0.059)	0.004	0.016
245	20.42	0.10	0.020	(0.059)	0.004	0.016
246	20.50	0.10	0.020	(0.059)	0.004	0.016
247	20.58	0.10	0.020	(0.059)	0.004	0.016
248	20.67	0.10	0.020	(0.058)	0.004	0.016
249	20.75	0.10	0.020	(0.058)	0.004	0.016
250	20.83	0.07	0.013	(0.058)	0.003	0.011
251	20.92	0.07	0.013	(0.058)	0.003	0.011
252	21.00	0.07	0.013	(0.057)	0.003	0.011
253	21.08	0.10	0.020	(0.057)	0.004	0.016
254	21.17	0.10	0.020	(0.057)	0.004	0.016
255	21.25	0.10	0.020	(0.057)	0.004	0.016
256	21.33	0.07	0.013	(0.057)	0.003	0.011
257	21.42	0.07	0.013	(0.056)	0.003	0.011
258	21.50	0.07	0.013	(0.056)	0.003	0.011
259	21.58	0.10	0.020	(0.056)	0.004	0.016
260	21.67	0.10	0.020	(0.056)	0.004	0.016
261	21.75	0.10	0.020	(0.056)	0.004	0.016
262	21.83	0.07	0.013	(0.055)	0.003	0.011
263	21.92	0.07	0.013	(0.055)	0.003	0.011
264	22.00	0.07	0.013	(0.055)	0.003	0.011
265	22.08	0.10	0.020	(0.055)	0.004	0.016
266	22.17	0.10	0.020	(0.055)	0.004	0.016
267	22.25	0.10	0.020	(0.054)	0.004	0.016
268	22.33	0.07	0.013	(0.054)	0.003	0.011
269	22.42	0.07	0.013	(0.054)	0.003	0.011
270	22.50	0.07	0.013	(0.054)	0.003	0.011
271	22.58	0.07	0.013	(0.054)	0.003	0.011
272	22.67	0.07	0.013	(0.054)	0.003	0.011
273	22.75	0.07	0.013	(0.053)	0.003	0.011
274	22.83	0.07	0.013	(0.053)	0.003	0.011
275	22.92	0.07	0.013	(0.053)	0.003	0.011
276	23.00	0.07	0.013	(0.053)	0.003	0.011
277	23.08	0.07	0.013	(0.053)	0.003	0.011
278	23.17	0.07	0.013	(0.053)	0.003	0.011
279	23.25	0.07	0.013	(0.053)	0.003	0.011
280	23.33	0.07	0.013	(0.053)	0.003	0.011
281	23.42	0.07	0.013	(0.053)	0.003	0.011
282	23.50	0.07	0.013	(0.052)	0.003	0.011
283	23.58	0.07	0.013	(0.052)	0.003	0.011
284	23.67	0.07	0.013	(0.052)	0.003	0.011
285	23.75	0.07	0.013	(0.052)	0.003	0.011
286	23.83	0.07	0.013	(0.052)	0.003	0.011
287	23.92	0.07	0.013	(0.052)	0.003	0.011
288	24.00	0.07	0.013	(0.052)	0.003	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.9

Flood volume = Effective rainfall 1.33(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.33(In)
Total soil loss = 0.009(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 1600.5 Cubic Feet

Total soil loss = 400.1 Cubic Feet

Peak flow rate of this hydrograph = 0.060(CFS)

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24 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0002	0.01	Q				
0+40	0.0002	0.01	Q				
0+45	0.0003	0.01	Q				
0+50	0.0003	0.01	Q				
0+55	0.0004	0.01	Q				
1+ 0	0.0004	0.01	Q				
1+ 5	0.0005	0.01	Q				
1+10	0.0005	0.01	Q				
1+15	0.0005	0.01	Q				
1+20	0.0006	0.01	Q				
1+25	0.0006	0.01	Q				
1+30	0.0007	0.01	Q				
1+35	0.0007	0.01	Q				
1+40	0.0007	0.01	Q				
1+45	0.0008	0.01	Q				
1+50	0.0008	0.01	Q				
1+55	0.0009	0.01	Q				
2+ 0	0.0009	0.01	Q				
2+ 5	0.0010	0.01	QV				
2+10	0.0010	0.01	QV				
2+15	0.0011	0.01	QV				
2+20	0.0011	0.01	QV				
2+25	0.0012	0.01	QV				
2+30	0.0012	0.01	QV				
2+35	0.0013	0.01	QV				
2+40	0.0013	0.01	QV				
2+45	0.0014	0.01	QV				
2+50	0.0014	0.01	QV				
2+55	0.0015	0.01	QV				
3+ 0	0.0016	0.01	QV				
3+ 5	0.0016	0.01	QV				
3+10	0.0017	0.01	QV				
3+15	0.0018	0.01	QV				
3+20	0.0018	0.01	QV				
3+25	0.0019	0.01	Q V				
3+30	0.0019	0.01	Q V				
3+35	0.0020	0.01	Q V				
3+40	0.0021	0.01	Q V				

3+45	0.0021	0.01	Q V	|	|	|	|
3+50	0.0022	0.01	Q V	|	|	|	|
3+55	0.0023	0.01	Q V	|	|	|	|
4+ 0	0.0023	0.01	Q V	|	|	|	|
4+ 5	0.0024	0.01	Q V	|	|	|	|
4+10	0.0025	0.01	Q V	|	|	|	|
4+15	0.0026	0.01	Q V	|	|	|	|
4+20	0.0026	0.01	Q V	|	|	|	|
4+25	0.0027	0.01	Q V	|	|	|	|
4+30	0.0028	0.01	Q V	|	|	|	|
4+35	0.0029	0.01	Q V	|	|	|	|
4+40	0.0030	0.01	Q V	|	|	|	|
4+45	0.0031	0.01	Q V	|	|	|	|
4+50	0.0032	0.01	Q V	|	|	|	|
4+55	0.0033	0.01	Q V	|	|	|	|
5+ 0	0.0034	0.01	Q V	|	|	|	|
5+ 5	0.0034	0.01	Q V	|	|	|	|
5+10	0.0035	0.01	Q V	|	|	|	|
5+15	0.0036	0.01	Q V	|	|	|	|
5+20	0.0037	0.01	Q V	|	|	|	|
5+25	0.0038	0.01	Q V	|	|	|	|
5+30	0.0038	0.01	Q V	|	|	|	|
5+35	0.0039	0.01	Q V	|	|	|	|
5+40	0.0040	0.01	Q V	|	|	|	|
5+45	0.0041	0.01	Q V	|	|	|	|
5+50	0.0042	0.01	Q V	|	|	|	|
5+55	0.0043	0.01	Q V	|	|	|	|
6+ 0	0.0044	0.01	Q V	|	|	|	|
6+ 5	0.0045	0.02	Q V	|	|	|	|
6+10	0.0046	0.02	Q V	|	|	|	|
6+15	0.0048	0.02	Q V	|	|	|	|
6+20	0.0049	0.02	Q V	|	|	|	|
6+25	0.0050	0.02	Q V	|	|	|	|
6+30	0.0051	0.02	Q V	|	|	|	|
6+35	0.0052	0.02	Q V	|	|	|	|
6+40	0.0053	0.02	Q V	|	|	|	|
6+45	0.0054	0.02	Q V	|	|	|	|
6+50	0.0056	0.02	Q V	|	|	|	|
6+55	0.0057	0.02	Q V	|	|	|	|
7+ 0	0.0058	0.02	Q V	|	|	|	|
7+ 5	0.0059	0.02	Q V	|	|	|	|
7+10	0.0061	0.02	Q V	|	|	|	|
7+15	0.0062	0.02	Q V	|	|	|	|
7+20	0.0063	0.02	Q V	|	|	|	|
7+25	0.0064	0.02	Q V	|	|	|	|
7+30	0.0066	0.02	Q V	|	|	|	|
7+35	0.0067	0.02	Q V	|	|	|	|
7+40	0.0069	0.02	Q V	|	|	|	|
7+45	0.0070	0.02	Q V	|	|	|	|
7+50	0.0072	0.02	Q V	|	|	|	|
7+55	0.0073	0.02	Q V	|	|	|	|
8+ 0	0.0075	0.02	Q V	|	|	|	|
8+ 5	0.0077	0.03	Q V	|	|	|	|
8+10	0.0079	0.03	Q V	|	|	|	|
8+15	0.0080	0.03	Q V	|	|	|	|
8+20	0.0082	0.03	Q V	|	|	|	|
8+25	0.0084	0.03	Q V	|	|	|	|

8+30	0.0086	0.03	Q	V| | | |
8+35	0.0088	0.03	Q	V| | | |
8+40	0.0090	0.03	Q	V| | | |
8+45	0.0092	0.03	Q	V| | | |
8+50	0.0094	0.03	Q	V | | |
8+55	0.0096	0.03	Q	V | | |
9+ 0	0.0098	0.03	Q	V | | |
9+ 5	0.0100	0.03	Q	V | | |
9+10	0.0103	0.03	Q	|V | | |
9+15	0.0105	0.03	Q	|V | | |
9+20	0.0107	0.04	Q	|V | | |
9+25	0.0110	0.04	Q	|V | | |
9+30	0.0112	0.04	Q	| V | | |
9+35	0.0115	0.04	Q	| V | | |
9+40	0.0117	0.04	Q	| V | | |
9+45	0.0120	0.04	Q	| V | | |
9+50	0.0123	0.04	Q	| V | | |
9+55	0.0125	0.04	Q	| V | | |
10+ 0	0.0128	0.04	Q	| V | | |
10+ 5	0.0130	0.03	Q	| V | | |
10+10	0.0132	0.03	Q	| V | | |
10+15	0.0134	0.03	Q	| V | | |
10+20	0.0136	0.03	Q	| V | | |
10+25	0.0137	0.03	Q	| V | | |
10+30	0.0139	0.03	Q	| V | | |
10+35	0.0142	0.03	Q	| V | | |
10+40	0.0144	0.04	Q	| V | | |
10+45	0.0146	0.04	Q	| V | | |
10+50	0.0149	0.04	Q	| V | | |
10+55	0.0151	0.04	Q	| V | | |
11+ 0	0.0154	0.04	Q	| V | | |
11+ 5	0.0156	0.03	Q	| V | | |
11+10	0.0158	0.03	Q	| V | | |
11+15	0.0161	0.03	Q	| V | | |
11+20	0.0163	0.03	Q	| V | | |
11+25	0.0165	0.03	Q	| V | | |
11+30	0.0168	0.03	Q	| V | | |
11+35	0.0170	0.03	Q	| V | | |
11+40	0.0172	0.03	Q	| V | | |
11+45	0.0174	0.03	Q	| V | | |
11+50	0.0176	0.03	Q	| V| | |
11+55	0.0178	0.03	Q	| V| | |
12+ 0	0.0181	0.03	Q	| V| | |
12+ 5	0.0184	0.04	Q	| V| | |
12+10	0.0187	0.04	Q	| V | |
12+15	0.0190	0.04	Q	| V | |
12+20	0.0193	0.05	Q	| V | |
12+25	0.0196	0.05	Q	| |V | |
12+30	0.0199	0.05	Q	| |V | |
12+35	0.0203	0.05	Q	| | V | |
12+40	0.0206	0.05	Q	| | V | |
12+45	0.0209	0.05	Q	| | V | |
12+50	0.0213	0.05	Q	| | | V | |
12+55	0.0217	0.05	Q	| | | V | |
13+ 0	0.0220	0.05	Q	| | | V | |
13+ 5	0.0224	0.06	Q	| | | V | |
13+10	0.0228	0.06	Q	| | | V | |

13+15	0.0232	0.06	Q	|	|	V	|	|
13+20	0.0237	0.06	Q	|	|	V	|	|
13+25	0.0241	0.06	Q	|	|	V	|	|
13+30	0.0245	0.06	Q	|	|	V	|	|
13+35	0.0248	0.05	Q	|	|	V	|	|
13+40	0.0251	0.04	Q	|	|	V	|	|
13+45	0.0254	0.04	Q	|	|	V	|	|
13+50	0.0256	0.04	Q	|	|	V	|	|
13+55	0.0259	0.04	Q	|	|	V	|	|
14+ 0	0.0262	0.04	Q	|	|	V	|	|
14+ 5	0.0265	0.05	Q	|	|	V	|	|
14+10	0.0269	0.05	Q	|	|	V	|	|
14+15	0.0272	0.05	Q	|	|	V	|	|
14+20	0.0275	0.05	Q	|	|	V	|	|
14+25	0.0278	0.05	Q	|	|	V	|	|
14+30	0.0281	0.05	Q	|	|	V	|	|
14+35	0.0285	0.05	Q	|	|	V	|	|
14+40	0.0288	0.05	Q	|	|	V	|	|
14+45	0.0291	0.05	Q	|	|	V	|	|
14+50	0.0294	0.04	Q	|	|	V	|	|
14+55	0.0297	0.04	Q	|	|	V	|	|
15+ 0	0.0300	0.04	Q	|	|	V	|	|
15+ 5	0.0303	0.04	Q	|	|	V	|	|
15+10	0.0306	0.04	Q	|	|	V	|	|
15+15	0.0309	0.04	Q	|	|	V	|	|
15+20	0.0312	0.04	Q	|	|	V	|	|
15+25	0.0315	0.04	Q	|	|	V	|	|
15+30	0.0318	0.04	Q	|	|	V	|	|
15+35	0.0320	0.04	Q	|	|	V	|	|
15+40	0.0322	0.03	Q	|	|	V	|	|
15+45	0.0325	0.03	Q	|	|	V	|	|
15+50	0.0327	0.03	Q	|	|	V	|	|
15+55	0.0329	0.03	Q	|	|	V	|	|
16+ 0	0.0332	0.03	Q	|	|	V	|	|
16+ 5	0.0333	0.01	Q	|	|	V	|	|
16+10	0.0333	0.01	Q	|	|	V	|	|
16+15	0.0334	0.01	Q	|	|	V	|	|
16+20	0.0334	0.01	Q	|	|	V	|	|
16+25	0.0334	0.01	Q	|	|	V	|	|
16+30	0.0335	0.01	Q	|	|	V	|	|
16+35	0.0335	0.01	Q	|	|	V	|	|
16+40	0.0336	0.01	Q	|	|	V	|	|
16+45	0.0336	0.01	Q	|	|	V	|	|
16+50	0.0336	0.01	Q	|	|	V	|	|
16+55	0.0337	0.01	Q	|	|	V	|	|
17+ 0	0.0337	0.01	Q	|	|	V	|	|
17+ 5	0.0338	0.01	Q	|	|	V	|	|
17+10	0.0338	0.01	Q	|	|	V	|	|
17+15	0.0339	0.01	Q	|	|	V	|	|
17+20	0.0340	0.01	Q	|	|	V	|	|
17+25	0.0340	0.01	Q	|	|	V	|	|
17+30	0.0341	0.01	Q	|	|	V	|	|
17+35	0.0341	0.01	Q	|	|	V	|	|
17+40	0.0342	0.01	Q	|	|	V	|	|
17+45	0.0343	0.01	Q	|	|	V	|	|
17+50	0.0343	0.01	Q	|	|	V	|	|
17+55	0.0344	0.01	Q	|	|	V	|	|

18+ 0	0.0344	0.01	Q	|	|	|	V |
18+ 5	0.0345	0.01	Q	|	|	|	V |
18+10	0.0345	0.01	Q	|	|	|	V |
18+15	0.0346	0.01	Q	|	|	|	V |
18+20	0.0346	0.01	Q	|	|	|	V |
18+25	0.0347	0.01	Q	|	|	|	V |
18+30	0.0347	0.01	Q	|	|	|	V |
18+35	0.0347	0.01	Q	|	|	|	V |
18+40	0.0348	0.01	Q	|	|	|	V |
18+45	0.0348	0.01	Q	|	|	|	V |
18+50	0.0349	0.00	Q	|	|	|	V |
18+55	0.0349	0.00	Q	|	|	|	V |
19+ 0	0.0349	0.00	Q	|	|	|	V |
19+ 5	0.0349	0.00	Q	|	|	|	V |
19+10	0.0350	0.01	Q	|	|	|	V |
19+15	0.0350	0.01	Q	|	|	|	V |
19+20	0.0351	0.01	Q	|	|	|	V |
19+25	0.0351	0.01	Q	|	|	|	V |
19+30	0.0352	0.01	Q	|	|	|	V |
19+35	0.0352	0.01	Q	|	|	|	V |
19+40	0.0352	0.01	Q	|	|	|	V |
19+45	0.0353	0.01	Q	|	|	|	V |
19+50	0.0353	0.00	Q	|	|	|	V |
19+55	0.0353	0.00	Q	|	|	|	V |
20+ 0	0.0353	0.00	Q	|	|	|	V |
20+ 5	0.0354	0.00	Q	|	|	|	V |
20+10	0.0354	0.01	Q	|	|	|	V |
20+15	0.0354	0.01	Q	|	|	|	V |
20+20	0.0355	0.01	Q	|	|	|	V |
20+25	0.0355	0.01	Q	|	|	|	V |
20+30	0.0356	0.01	Q	|	|	|	V |
20+35	0.0356	0.01	Q	|	|	|	V |
20+40	0.0356	0.01	Q	|	|	|	V |
20+45	0.0357	0.01	Q	|	|	|	V |
20+50	0.0357	0.00	Q	|	|	|	V |
20+55	0.0357	0.00	Q	|	|	|	V |
21+ 0	0.0357	0.00	Q	|	|	|	V |
21+ 5	0.0358	0.00	Q	|	|	|	V |
21+10	0.0358	0.01	Q	|	|	|	V |
21+15	0.0359	0.01	Q	|	|	|	V|
21+20	0.0359	0.00	Q	|	|	|	V|
21+25	0.0359	0.00	Q	|	|	|	V|
21+30	0.0359	0.00	Q	|	|	|	V|
21+35	0.0360	0.00	Q	|	|	|	V|
21+40	0.0360	0.01	Q	|	|	|	V|
21+45	0.0360	0.01	Q	|	|	|	V|
21+50	0.0361	0.00	Q	|	|	|	V|
21+55	0.0361	0.00	Q	|	|	|	V|
22+ 0	0.0361	0.00	Q	|	|	|	V|
22+ 5	0.0361	0.00	Q	|	|	|	V|
22+10	0.0362	0.01	Q	|	|	|	V|
22+15	0.0362	0.01	Q	|	|	|	V|
22+20	0.0362	0.00	Q	|	|	|	V|
22+25	0.0363	0.00	Q	|	|	|	V|
22+30	0.0363	0.00	Q	|	|	|	V|
22+35	0.0363	0.00	Q	|	|	|	V|
22+40	0.0363	0.00	Q	|	|	|	V|

22+45	0.0364	0.00	Q				V|
22+50	0.0364	0.00	Q				V|
22+55	0.0364	0.00	Q				V|
23+ 0	0.0364	0.00	Q				V|
23+ 5	0.0365	0.00	Q				V|
23+10	0.0365	0.00	Q				V|
23+15	0.0365	0.00	Q				V|
23+20	0.0365	0.00	Q				V|
23+25	0.0366	0.00	Q				V|
23+30	0.0366	0.00	Q				V|
23+35	0.0366	0.00	Q				V|
23+40	0.0366	0.00	Q				V|
23+45	0.0367	0.00	Q				V|
23+50	0.0367	0.00	Q				V|
23+55	0.0367	0.00	Q				V|
24+ 0	0.0367	0.00	Q				V|
24+ 5	0.0367	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 06/03/26 File: 19267p002F242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	1.66	0.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.38	4.10	1.57

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.382	75.00	0.880

Total Area Entered = 0.38(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.880	0.104	1.000	0.104
					Sum (F) =	0.104

Area averaged mean soil loss (F) (In/Hr) = 0.104
Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1040.009	100.000	0.385
		Sum = 100.000	Sum=	0.385

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	0.013	(0.185)	0.003	0.011
2	0.17	0.07	0.013	(0.184)	0.003	0.011
3	0.25	0.07	0.013	(0.183)	0.003	0.011
4	0.33	0.10	0.020	(0.182)	0.004	0.016
5	0.42	0.10	0.020	(0.182)	0.004	0.016
6	0.50	0.10	0.020	(0.181)	0.004	0.016
7	0.58	0.10	0.020	(0.180)	0.004	0.016
8	0.67	0.10	0.020	(0.180)	0.004	0.016
9	0.75	0.10	0.020	(0.179)	0.004	0.016
10	0.83	0.13	0.027	(0.178)	0.005	0.021
11	0.92	0.13	0.027	(0.178)	0.005	0.021
12	1.00	0.13	0.027	(0.177)	0.005	0.021

13	1.08	0.10	0.020	(0.176)	0.004	0.016
14	1.17	0.10	0.020	(0.175)	0.004	0.016
15	1.25	0.10	0.020	(0.175)	0.004	0.016
16	1.33	0.10	0.020	(0.174)	0.004	0.016
17	1.42	0.10	0.020	(0.173)	0.004	0.016
18	1.50	0.10	0.020	(0.173)	0.004	0.016
19	1.58	0.10	0.020	(0.172)	0.004	0.016
20	1.67	0.10	0.020	(0.171)	0.004	0.016
21	1.75	0.10	0.020	(0.171)	0.004	0.016
22	1.83	0.13	0.027	(0.170)	0.005	0.021
23	1.92	0.13	0.027	(0.169)	0.005	0.021
24	2.00	0.13	0.027	(0.169)	0.005	0.021
25	2.08	0.13	0.027	(0.168)	0.005	0.021
26	2.17	0.13	0.027	(0.167)	0.005	0.021
27	2.25	0.13	0.027	(0.166)	0.005	0.021
28	2.33	0.13	0.027	(0.166)	0.005	0.021
29	2.42	0.13	0.027	(0.165)	0.005	0.021
30	2.50	0.13	0.027	(0.164)	0.005	0.021
31	2.58	0.17	0.033	(0.164)	0.007	0.027
32	2.67	0.17	0.033	(0.163)	0.007	0.027
33	2.75	0.17	0.033	(0.162)	0.007	0.027
34	2.83	0.17	0.033	(0.162)	0.007	0.027
35	2.92	0.17	0.033	(0.161)	0.007	0.027
36	3.00	0.17	0.033	(0.160)	0.007	0.027
37	3.08	0.17	0.033	(0.160)	0.007	0.027
38	3.17	0.17	0.033	(0.159)	0.007	0.027
39	3.25	0.17	0.033	(0.158)	0.007	0.027
40	3.33	0.17	0.033	(0.158)	0.007	0.027
41	3.42	0.17	0.033	(0.157)	0.007	0.027
42	3.50	0.17	0.033	(0.156)	0.007	0.027
43	3.58	0.17	0.033	(0.156)	0.007	0.027
44	3.67	0.17	0.033	(0.155)	0.007	0.027
45	3.75	0.17	0.033	(0.155)	0.007	0.027
46	3.83	0.20	0.040	(0.154)	0.008	0.032
47	3.92	0.20	0.040	(0.153)	0.008	0.032
48	4.00	0.20	0.040	(0.153)	0.008	0.032
49	4.08	0.20	0.040	(0.152)	0.008	0.032
50	4.17	0.20	0.040	(0.151)	0.008	0.032
51	4.25	0.20	0.040	(0.151)	0.008	0.032
52	4.33	0.23	0.046	(0.150)	0.009	0.037
53	4.42	0.23	0.046	(0.149)	0.009	0.037
54	4.50	0.23	0.046	(0.149)	0.009	0.037
55	4.58	0.23	0.046	(0.148)	0.009	0.037
56	4.67	0.23	0.046	(0.147)	0.009	0.037
57	4.75	0.23	0.046	(0.147)	0.009	0.037
58	4.83	0.27	0.053	(0.146)	0.011	0.042
59	4.92	0.27	0.053	(0.146)	0.011	0.042
60	5.00	0.27	0.053	(0.145)	0.011	0.042
61	5.08	0.20	0.040	(0.144)	0.008	0.032
62	5.17	0.20	0.040	(0.144)	0.008	0.032
63	5.25	0.20	0.040	(0.143)	0.008	0.032
64	5.33	0.23	0.046	(0.142)	0.009	0.037
65	5.42	0.23	0.046	(0.142)	0.009	0.037
66	5.50	0.23	0.046	(0.141)	0.009	0.037
67	5.58	0.27	0.053	(0.141)	0.011	0.042
68	5.67	0.27	0.053	(0.140)	0.011	0.042
69	5.75	0.27	0.053	(0.139)	0.011	0.042

70	5.83	0.27	0.053	(0.139)	0.011	0.042
71	5.92	0.27	0.053	(0.138)	0.011	0.042
72	6.00	0.27	0.053	(0.137)	0.011	0.042
73	6.08	0.30	0.060	(0.137)	0.012	0.048
74	6.17	0.30	0.060	(0.136)	0.012	0.048
75	6.25	0.30	0.060	(0.136)	0.012	0.048
76	6.33	0.30	0.060	(0.135)	0.012	0.048
77	6.42	0.30	0.060	(0.134)	0.012	0.048
78	6.50	0.30	0.060	(0.134)	0.012	0.048
79	6.58	0.33	0.066	(0.133)	0.013	0.053
80	6.67	0.33	0.066	(0.133)	0.013	0.053
81	6.75	0.33	0.066	(0.132)	0.013	0.053
82	6.83	0.33	0.066	(0.131)	0.013	0.053
83	6.92	0.33	0.066	(0.131)	0.013	0.053
84	7.00	0.33	0.066	(0.130)	0.013	0.053
85	7.08	0.33	0.066	(0.130)	0.013	0.053
86	7.17	0.33	0.066	(0.129)	0.013	0.053
87	7.25	0.33	0.066	(0.128)	0.013	0.053
88	7.33	0.37	0.073	(0.128)	0.015	0.058
89	7.42	0.37	0.073	(0.127)	0.015	0.058
90	7.50	0.37	0.073	(0.127)	0.015	0.058
91	7.58	0.40	0.080	(0.126)	0.016	0.064
92	7.67	0.40	0.080	(0.126)	0.016	0.064
93	7.75	0.40	0.080	(0.125)	0.016	0.064
94	7.83	0.43	0.086	(0.124)	0.017	0.069
95	7.92	0.43	0.086	(0.124)	0.017	0.069
96	8.00	0.43	0.086	(0.123)	0.017	0.069
97	8.08	0.50	0.100	(0.123)	0.020	0.080
98	8.17	0.50	0.100	(0.122)	0.020	0.080
99	8.25	0.50	0.100	(0.122)	0.020	0.080
100	8.33	0.50	0.100	(0.121)	0.020	0.080
101	8.42	0.50	0.100	(0.120)	0.020	0.080
102	8.50	0.50	0.100	(0.120)	0.020	0.080
103	8.58	0.53	0.106	(0.119)	0.021	0.085
104	8.67	0.53	0.106	(0.119)	0.021	0.085
105	8.75	0.53	0.106	(0.118)	0.021	0.085
106	8.83	0.57	0.113	(0.118)	0.023	0.090
107	8.92	0.57	0.113	(0.117)	0.023	0.090
108	9.00	0.57	0.113	(0.116)	0.023	0.090
109	9.08	0.63	0.126	(0.116)	0.025	0.101
110	9.17	0.63	0.126	(0.115)	0.025	0.101
111	9.25	0.63	0.126	(0.115)	0.025	0.101
112	9.33	0.67	0.133	(0.114)	0.027	0.106
113	9.42	0.67	0.133	(0.114)	0.027	0.106
114	9.50	0.67	0.133	(0.113)	0.027	0.106
115	9.58	0.70	0.139	(0.113)	0.028	0.112
116	9.67	0.70	0.139	(0.112)	0.028	0.112
117	9.75	0.70	0.139	(0.112)	0.028	0.112
118	9.83	0.73	0.146	(0.111)	0.029	0.117
119	9.92	0.73	0.146	(0.110)	0.029	0.117
120	10.00	0.73	0.146	(0.110)	0.029	0.117
121	10.08	0.50	0.100	(0.109)	0.020	0.080
122	10.17	0.50	0.100	(0.109)	0.020	0.080
123	10.25	0.50	0.100	(0.108)	0.020	0.080
124	10.33	0.50	0.100	(0.108)	0.020	0.080
125	10.42	0.50	0.100	(0.107)	0.020	0.080
126	10.50	0.50	0.100	(0.107)	0.020	0.080

127	10.58	0.67	0.133	(0.106)	0.027	0.106
128	10.67	0.67	0.133	(0.106)	0.027	0.106
129	10.75	0.67	0.133	(0.105)	0.027	0.106
130	10.83	0.67	0.133	(0.105)	0.027	0.106
131	10.92	0.67	0.133	(0.104)	0.027	0.106
132	11.00	0.67	0.133	(0.104)	0.027	0.106
133	11.08	0.63	0.126	(0.103)	0.025	0.101
134	11.17	0.63	0.126	(0.103)	0.025	0.101
135	11.25	0.63	0.126	(0.102)	0.025	0.101
136	11.33	0.63	0.126	(0.102)	0.025	0.101
137	11.42	0.63	0.126	(0.101)	0.025	0.101
138	11.50	0.63	0.126	(0.101)	0.025	0.101
139	11.58	0.57	0.113	(0.100)	0.023	0.090
140	11.67	0.57	0.113	(0.100)	0.023	0.090
141	11.75	0.57	0.113	(0.099)	0.023	0.090
142	11.83	0.60	0.120	(0.099)	0.024	0.096
143	11.92	0.60	0.120	(0.098)	0.024	0.096
144	12.00	0.60	0.120	(0.098)	0.024	0.096
145	12.08	0.83	0.166	(0.097)	0.033	0.133
146	12.17	0.83	0.166	(0.097)	0.033	0.133
147	12.25	0.83	0.166	(0.096)	0.033	0.133
148	12.33	0.87	0.173	(0.096)	0.035	0.138
149	12.42	0.87	0.173	(0.095)	0.035	0.138
150	12.50	0.87	0.173	(0.095)	0.035	0.138
151	12.58	0.93	0.186	(0.094)	0.037	0.149
152	12.67	0.93	0.186	(0.094)	0.037	0.149
153	12.75	0.93	0.186	(0.093)	0.037	0.149
154	12.83	0.97	0.193	(0.093)	0.039	0.154
155	12.92	0.97	0.193	(0.092)	0.039	0.154
156	13.00	0.97	0.193	(0.092)	0.039	0.154
157	13.08	1.13	0.226	(0.091)	0.045	0.181
158	13.17	1.13	0.226	(0.091)	0.045	0.181
159	13.25	1.13	0.226	(0.091)	0.045	0.181
160	13.33	1.13	0.226	(0.090)	0.045	0.181
161	13.42	1.13	0.226	(0.090)	0.045	0.181
162	13.50	1.13	0.226	(0.089)	0.045	0.181
163	13.58	0.77	0.153	(0.089)	0.031	0.122
164	13.67	0.77	0.153	(0.088)	0.031	0.122
165	13.75	0.77	0.153	(0.088)	0.031	0.122
166	13.83	0.77	0.153	(0.087)	0.031	0.122
167	13.92	0.77	0.153	(0.087)	0.031	0.122
168	14.00	0.77	0.153	(0.086)	0.031	0.122
169	14.08	0.90	0.179	(0.086)	0.036	0.143
170	14.17	0.90	0.179	(0.086)	0.036	0.143
171	14.25	0.90	0.179	(0.085)	0.036	0.143
172	14.33	0.87	0.173	(0.085)	0.035	0.138
173	14.42	0.87	0.173	(0.084)	0.035	0.138
174	14.50	0.87	0.173	(0.084)	0.035	0.138
175	14.58	0.87	0.173	(0.083)	0.035	0.138
176	14.67	0.87	0.173	(0.083)	0.035	0.138
177	14.75	0.87	0.173	(0.083)	0.035	0.138
178	14.83	0.83	0.166	(0.082)	0.033	0.133
179	14.92	0.83	0.166	(0.082)	0.033	0.133
180	15.00	0.83	0.166	(0.081)	0.033	0.133
181	15.08	0.80	0.159	(0.081)	0.032	0.127
182	15.17	0.80	0.159	(0.080)	0.032	0.127
183	15.25	0.80	0.159	(0.080)	0.032	0.127

184	15.33	0.77	0.153	(0.080)	0.031	0.122
185	15.42	0.77	0.153	(0.079)	0.031	0.122
186	15.50	0.77	0.153	(0.079)	0.031	0.122
187	15.58	0.63	0.126	(0.078)	0.025	0.101
188	15.67	0.63	0.126	(0.078)	0.025	0.101
189	15.75	0.63	0.126	(0.078)	0.025	0.101
190	15.83	0.63	0.126	(0.077)	0.025	0.101
191	15.92	0.63	0.126	(0.077)	0.025	0.101
192	16.00	0.63	0.126	(0.076)	0.025	0.101
193	16.08	0.13	0.027	(0.076)	0.005	0.021
194	16.17	0.13	0.027	(0.076)	0.005	0.021
195	16.25	0.13	0.027	(0.075)	0.005	0.021
196	16.33	0.13	0.027	(0.075)	0.005	0.021
197	16.42	0.13	0.027	(0.075)	0.005	0.021
198	16.50	0.13	0.027	(0.074)	0.005	0.021
199	16.58	0.10	0.020	(0.074)	0.004	0.016
200	16.67	0.10	0.020	(0.073)	0.004	0.016
201	16.75	0.10	0.020	(0.073)	0.004	0.016
202	16.83	0.10	0.020	(0.073)	0.004	0.016
203	16.92	0.10	0.020	(0.072)	0.004	0.016
204	17.00	0.10	0.020	(0.072)	0.004	0.016
205	17.08	0.17	0.033	(0.072)	0.007	0.027
206	17.17	0.17	0.033	(0.071)	0.007	0.027
207	17.25	0.17	0.033	(0.071)	0.007	0.027
208	17.33	0.17	0.033	(0.070)	0.007	0.027
209	17.42	0.17	0.033	(0.070)	0.007	0.027
210	17.50	0.17	0.033	(0.070)	0.007	0.027
211	17.58	0.17	0.033	(0.069)	0.007	0.027
212	17.67	0.17	0.033	(0.069)	0.007	0.027
213	17.75	0.17	0.033	(0.069)	0.007	0.027
214	17.83	0.13	0.027	(0.068)	0.005	0.021
215	17.92	0.13	0.027	(0.068)	0.005	0.021
216	18.00	0.13	0.027	(0.068)	0.005	0.021
217	18.08	0.13	0.027	(0.067)	0.005	0.021
218	18.17	0.13	0.027	(0.067)	0.005	0.021
219	18.25	0.13	0.027	(0.067)	0.005	0.021
220	18.33	0.13	0.027	(0.066)	0.005	0.021
221	18.42	0.13	0.027	(0.066)	0.005	0.021
222	18.50	0.13	0.027	(0.066)	0.005	0.021
223	18.58	0.10	0.020	(0.065)	0.004	0.016
224	18.67	0.10	0.020	(0.065)	0.004	0.016
225	18.75	0.10	0.020	(0.065)	0.004	0.016
226	18.83	0.07	0.013	(0.065)	0.003	0.011
227	18.92	0.07	0.013	(0.064)	0.003	0.011
228	19.00	0.07	0.013	(0.064)	0.003	0.011
229	19.08	0.10	0.020	(0.064)	0.004	0.016
230	19.17	0.10	0.020	(0.063)	0.004	0.016
231	19.25	0.10	0.020	(0.063)	0.004	0.016
232	19.33	0.13	0.027	(0.063)	0.005	0.021
233	19.42	0.13	0.027	(0.062)	0.005	0.021
234	19.50	0.13	0.027	(0.062)	0.005	0.021
235	19.58	0.10	0.020	(0.062)	0.004	0.016
236	19.67	0.10	0.020	(0.062)	0.004	0.016
237	19.75	0.10	0.020	(0.061)	0.004	0.016
238	19.83	0.07	0.013	(0.061)	0.003	0.011
239	19.92	0.07	0.013	(0.061)	0.003	0.011
240	20.00	0.07	0.013	(0.060)	0.003	0.011

241	20.08	0.10	0.020	(0.060)	0.004	0.016
242	20.17	0.10	0.020	(0.060)	0.004	0.016
243	20.25	0.10	0.020	(0.060)	0.004	0.016
244	20.33	0.10	0.020	(0.059)	0.004	0.016
245	20.42	0.10	0.020	(0.059)	0.004	0.016
246	20.50	0.10	0.020	(0.059)	0.004	0.016
247	20.58	0.10	0.020	(0.059)	0.004	0.016
248	20.67	0.10	0.020	(0.058)	0.004	0.016
249	20.75	0.10	0.020	(0.058)	0.004	0.016
250	20.83	0.07	0.013	(0.058)	0.003	0.011
251	20.92	0.07	0.013	(0.058)	0.003	0.011
252	21.00	0.07	0.013	(0.057)	0.003	0.011
253	21.08	0.10	0.020	(0.057)	0.004	0.016
254	21.17	0.10	0.020	(0.057)	0.004	0.016
255	21.25	0.10	0.020	(0.057)	0.004	0.016
256	21.33	0.07	0.013	(0.057)	0.003	0.011
257	21.42	0.07	0.013	(0.056)	0.003	0.011
258	21.50	0.07	0.013	(0.056)	0.003	0.011
259	21.58	0.10	0.020	(0.056)	0.004	0.016
260	21.67	0.10	0.020	(0.056)	0.004	0.016
261	21.75	0.10	0.020	(0.056)	0.004	0.016
262	21.83	0.07	0.013	(0.055)	0.003	0.011
263	21.92	0.07	0.013	(0.055)	0.003	0.011
264	22.00	0.07	0.013	(0.055)	0.003	0.011
265	22.08	0.10	0.020	(0.055)	0.004	0.016
266	22.17	0.10	0.020	(0.055)	0.004	0.016
267	22.25	0.10	0.020	(0.054)	0.004	0.016
268	22.33	0.07	0.013	(0.054)	0.003	0.011
269	22.42	0.07	0.013	(0.054)	0.003	0.011
270	22.50	0.07	0.013	(0.054)	0.003	0.011
271	22.58	0.07	0.013	(0.054)	0.003	0.011
272	22.67	0.07	0.013	(0.054)	0.003	0.011
273	22.75	0.07	0.013	(0.053)	0.003	0.011
274	22.83	0.07	0.013	(0.053)	0.003	0.011
275	22.92	0.07	0.013	(0.053)	0.003	0.011
276	23.00	0.07	0.013	(0.053)	0.003	0.011
277	23.08	0.07	0.013	(0.053)	0.003	0.011
278	23.17	0.07	0.013	(0.053)	0.003	0.011
279	23.25	0.07	0.013	(0.053)	0.003	0.011
280	23.33	0.07	0.013	(0.053)	0.003	0.011
281	23.42	0.07	0.013	(0.053)	0.003	0.011
282	23.50	0.07	0.013	(0.052)	0.003	0.011
283	23.58	0.07	0.013	(0.052)	0.003	0.011
284	23.67	0.07	0.013	(0.052)	0.003	0.011
285	23.75	0.07	0.013	(0.052)	0.003	0.011
286	23.83	0.07	0.013	(0.052)	0.003	0.011
287	23.92	0.07	0.013	(0.052)	0.003	0.011
288	24.00	0.07	0.013	(0.052)	0.003	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.9

Flood volume = Effective rainfall 1.33(In)
times area 0.4(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.33(In)
Total soil loss = 0.011(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 1841.5 Cubic Feet
Total soil loss = 460.4 Cubic Feet

Peak flow rate of this hydrograph = 0.070(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0003	0.01	Q				
0+45	0.0003	0.01	Q				
0+50	0.0004	0.01	Q				
0+55	0.0005	0.01	Q				
1+ 0	0.0005	0.01	Q				
1+ 5	0.0005	0.01	Q				
1+10	0.0006	0.01	Q				
1+15	0.0006	0.01	Q				
1+20	0.0007	0.01	Q				
1+25	0.0007	0.01	Q				
1+30	0.0008	0.01	Q				
1+35	0.0008	0.01	Q				
1+40	0.0008	0.01	Q				
1+45	0.0009	0.01	Q				
1+50	0.0009	0.01	Q				
1+55	0.0010	0.01	Q				
2+ 0	0.0011	0.01	Q				
2+ 5	0.0011	0.01	QV				
2+10	0.0012	0.01	QV				
2+15	0.0012	0.01	QV				
2+20	0.0013	0.01	QV				
2+25	0.0013	0.01	QV				
2+30	0.0014	0.01	QV				
2+35	0.0015	0.01	QV				
2+40	0.0015	0.01	QV				
2+45	0.0016	0.01	QV				
2+50	0.0017	0.01	QV				
2+55	0.0017	0.01	QV				
3+ 0	0.0018	0.01	QV				
3+ 5	0.0019	0.01	QV				
3+10	0.0020	0.01	QV				
3+15	0.0020	0.01	QV				
3+20	0.0021	0.01	QV				
3+25	0.0022	0.01	Q V				
3+30	0.0022	0.01	Q V				
3+35	0.0023	0.01	Q V				
3+40	0.0024	0.01	Q V				
3+45	0.0025	0.01	Q V				

3+50	0.0025	0.01	Q V	|	|	|	|
3+55	0.0026	0.01	Q V	|	|	|	|
4+ 0	0.0027	0.01	Q V	|	|	|	|
4+ 5	0.0028	0.01	Q V	|	|	|	|
4+10	0.0029	0.01	Q V	|	|	|	|
4+15	0.0030	0.01	Q V	|	|	|	|
4+20	0.0031	0.01	Q V	|	|	|	|
4+25	0.0032	0.01	Q V	|	|	|	|
4+30	0.0033	0.01	Q V	|	|	|	|
4+35	0.0034	0.01	Q V	|	|	|	|
4+40	0.0035	0.01	Q V	|	|	|	|
4+45	0.0036	0.01	Q V	|	|	|	|
4+50	0.0037	0.02	Q V	|	|	|	|
4+55	0.0038	0.02	Q V	|	|	|	|
5+ 0	0.0039	0.02	Q V	|	|	|	|
5+ 5	0.0040	0.01	Q V	|	|	|	|
5+10	0.0041	0.01	Q V	|	|	|	|
5+15	0.0041	0.01	Q V	|	|	|	|
5+20	0.0042	0.01	Q V	|	|	|	|
5+25	0.0043	0.01	Q V	|	|	|	|
5+30	0.0044	0.01	Q V	|	|	|	|
5+35	0.0046	0.02	Q V	|	|	|	|
5+40	0.0047	0.02	Q V	|	|	|	|
5+45	0.0048	0.02	Q V	|	|	|	|
5+50	0.0049	0.02	Q V	|	|	|	|
5+55	0.0050	0.02	Q V	|	|	|	|
6+ 0	0.0051	0.02	Q V	|	|	|	|
6+ 5	0.0052	0.02	Q V	|	|	|	|
6+10	0.0054	0.02	Q V	|	|	|	|
6+15	0.0055	0.02	Q V	|	|	|	|
6+20	0.0056	0.02	Q V	|	|	|	|
6+25	0.0057	0.02	Q V	|	|	|	|
6+30	0.0059	0.02	Q V	|	|	|	|
6+35	0.0060	0.02	Q V	|	|	|	|
6+40	0.0062	0.02	Q V	|	|	|	|
6+45	0.0063	0.02	Q V	|	|	|	|
6+50	0.0064	0.02	Q V	|	|	|	|
6+55	0.0066	0.02	Q V	|	|	|	|
7+ 0	0.0067	0.02	Q V	|	|	|	|
7+ 5	0.0069	0.02	Q V	|	|	|	|
7+10	0.0070	0.02	Q V	|	|	|	|
7+15	0.0071	0.02	Q V	|	|	|	|
7+20	0.0073	0.02	Q V	|	|	|	|
7+25	0.0075	0.02	Q V	|	|	|	|
7+30	0.0076	0.02	Q V	|	|	|	|
7+35	0.0078	0.02	Q V	|	|	|	|
7+40	0.0079	0.02	Q V	|	|	|	|
7+45	0.0081	0.02	Q V	|	|	|	|
7+50	0.0083	0.03	Q V	|	|	|	|
7+55	0.0085	0.03	Q V	|	|	|	|
8+ 0	0.0087	0.03	Q V	|	|	|	|
8+ 5	0.0089	0.03	Q V	|	|	|	|
8+10	0.0091	0.03	Q V	|	|	|	|
8+15	0.0093	0.03	Q V	|	|	|	|
8+20	0.0095	0.03	Q V	|	|	|	|
8+25	0.0097	0.03	Q V	|	|	|	|
8+30	0.0099	0.03	Q V	|	|	|	|

8+35	0.0102	0.03	Q	V|				
8+40	0.0104	0.03	Q	V|				
8+45	0.0106	0.03	Q	V				
8+50	0.0109	0.03	Q	V				
8+55	0.0111	0.03	Q	V				
9+ 0	0.0113	0.03	Q	V				
9+ 5	0.0116	0.04	Q	V				
9+10	0.0119	0.04	Q	|V				
9+15	0.0121	0.04	Q	|V				
9+20	0.0124	0.04	Q	|V				
9+25	0.0127	0.04	Q	| V				
9+30	0.0130	0.04	Q	| V				
9+35	0.0133	0.04	Q	| V				
9+40	0.0136	0.04	Q	| V				
9+45	0.0139	0.04	Q	| V				
9+50	0.0142	0.05	Q	| V				
9+55	0.0145	0.05	Q	| V				
10+ 0	0.0148	0.05	Q	| V				
10+ 5	0.0150	0.03	Q	| V				
10+10	0.0152	0.03	Q	| V				
10+15	0.0154	0.03	Q	| V				
10+20	0.0156	0.03	Q	| V				
10+25	0.0159	0.03	Q	| V				
10+30	0.0161	0.03	Q	| V				
10+35	0.0163	0.04	Q	| V				
10+40	0.0166	0.04	Q	| V				
10+45	0.0169	0.04	Q	| V				
10+50	0.0172	0.04	Q	| V				
10+55	0.0175	0.04	Q	| V				
11+ 0	0.0178	0.04	Q	| V				
11+ 5	0.0180	0.04	Q	| V				
11+10	0.0183	0.04	Q	| V				
11+15	0.0186	0.04	Q	| V				
11+20	0.0188	0.04	Q	| V				
11+25	0.0191	0.04	Q	| V				
11+30	0.0194	0.04	Q	| V				
11+35	0.0196	0.03	Q	| V				
11+40	0.0198	0.03	Q	| V				
11+45	0.0201	0.03	Q	| V				
11+50	0.0203	0.04	Q	| V				
11+55	0.0206	0.04	Q	| V				
12+ 0	0.0208	0.04	Q	| V				
12+ 5	0.0212	0.05	Q	| V				
12+10	0.0215	0.05	Q	| V				
12+15	0.0219	0.05	Q	| V				
12+20	0.0223	0.05	Q	| V				
12+25	0.0226	0.05	Q	| V				
12+30	0.0230	0.05	Q	| V				
12+35	0.0234	0.06	Q	| V				
12+40	0.0238	0.06	Q	| V				
12+45	0.0242	0.06	Q	| V				
12+50	0.0246	0.06	Q	| V				
12+55	0.0250	0.06	Q	| V				
13+ 0	0.0254	0.06	Q	| V				
13+ 5	0.0259	0.07	Q	| V				
13+10	0.0264	0.07	Q	| V				
13+15	0.0268	0.07	Q	| V				

13+20	0.0273	0.07	Q	|	| V |		|
13+25	0.0278	0.07	Q	|	| V |		|
13+30	0.0283	0.07	Q	|	| V |		|
13+35	0.0286	0.05	Q	|	| V |		|
13+40	0.0289	0.05	Q	|	| V |		|
13+45	0.0293	0.05	Q	|	| V |		|
13+50	0.0296	0.05	Q	|	| V |		|
13+55	0.0299	0.05	Q	|	| V |		|
14+ 0	0.0302	0.05	Q	|	| V |		|
14+ 5	0.0306	0.06	Q	|	| V |		|
14+10	0.0310	0.06	Q	|	| V|		|
14+15	0.0314	0.06	Q	|	| V|		|
14+20	0.0317	0.05	Q	|	| V		|
14+25	0.0321	0.05	Q	|	| V		|
14+30	0.0325	0.05	Q	|	| V		|
14+35	0.0328	0.05	Q	|	| |V		|
14+40	0.0332	0.05	Q	|	| |V		|
14+45	0.0336	0.05	Q	|	| |V		|
14+50	0.0339	0.05	Q	|	| | V		|
14+55	0.0343	0.05	Q	|	| | V		|
15+ 0	0.0346	0.05	Q	|	| | V		|
15+ 5	0.0350	0.05	Q	|	| | V		|
15+10	0.0353	0.05	Q	|	| | V		|
15+15	0.0356	0.05	Q	|	| | V		|
15+20	0.0360	0.05	Q	|	| | V		|
15+25	0.0363	0.05	Q	|	| | V		|
15+30	0.0366	0.05	Q	|	| | V		|
15+35	0.0369	0.04	Q	|	| | V		|
15+40	0.0371	0.04	Q	|	| | V		|
15+45	0.0374	0.04	Q	|	| | V		|
15+50	0.0377	0.04	Q	|	| | V		|
15+55	0.0379	0.04	Q	|	| | V		|
16+ 0	0.0382	0.04	Q	|	| | V		|
16+ 5	0.0383	0.01	Q	|	| | V		|
16+10	0.0383	0.01	Q	|	| | V		|
16+15	0.0384	0.01	Q	|	| | V		|
16+20	0.0384	0.01	Q	|	| | V		|
16+25	0.0385	0.01	Q	|	| | V		|
16+30	0.0386	0.01	Q	|	| | V		|
16+35	0.0386	0.01	Q	|	| | V		|
16+40	0.0386	0.01	Q	|	| | V		|
16+45	0.0387	0.01	Q	|	| | V		|
16+50	0.0387	0.01	Q	|	| | V		|
16+55	0.0388	0.01	Q	|	| | V		|
17+ 0	0.0388	0.01	Q	|	| | V		|
17+ 5	0.0389	0.01	Q	|	| | V		|
17+10	0.0389	0.01	Q	|	| | V		|
17+15	0.0390	0.01	Q	|	| | V		|
17+20	0.0391	0.01	Q	|	| | V		|
17+25	0.0392	0.01	Q	|	| | V		|
17+30	0.0392	0.01	Q	|	| | V		|
17+35	0.0393	0.01	Q	|	| | V		|
17+40	0.0394	0.01	Q	|	| | V		|
17+45	0.0394	0.01	Q	|	| | V		|
17+50	0.0395	0.01	Q	|	| | V		|
17+55	0.0396	0.01	Q	|	| | V		|
18+ 0	0.0396	0.01	Q	|	| | V		|

18+ 5	0.0397	0.01	Q	|	|	|	V |
18+10	0.0397	0.01	Q	|	|	|	V |
18+15	0.0398	0.01	Q	|	|	|	V |
18+20	0.0398	0.01	Q	|	|	|	V |
18+25	0.0399	0.01	Q	|	|	|	V |
18+30	0.0399	0.01	Q	|	|	|	V |
18+35	0.0400	0.01	Q	|	|	|	V |
18+40	0.0400	0.01	Q	|	|	|	V |
18+45	0.0401	0.01	Q	|	|	|	V |
18+50	0.0401	0.00	Q	|	|	|	V |
18+55	0.0401	0.00	Q	|	|	|	V |
19+ 0	0.0402	0.00	Q	|	|	|	V |
19+ 5	0.0402	0.01	Q	|	|	|	V |
19+10	0.0402	0.01	Q	|	|	|	V |
19+15	0.0403	0.01	Q	|	|	|	V |
19+20	0.0403	0.01	Q	|	|	|	V |
19+25	0.0404	0.01	Q	|	|	|	V |
19+30	0.0405	0.01	Q	|	|	|	V |
19+35	0.0405	0.01	Q	|	|	|	V |
19+40	0.0405	0.01	Q	|	|	|	V |
19+45	0.0406	0.01	Q	|	|	|	V |
19+50	0.0406	0.00	Q	|	|	|	V |
19+55	0.0406	0.00	Q	|	|	|	V |
20+ 0	0.0407	0.00	Q	|	|	|	V |
20+ 5	0.0407	0.01	Q	|	|	|	V |
20+10	0.0408	0.01	Q	|	|	|	V |
20+15	0.0408	0.01	Q	|	|	|	V |
20+20	0.0408	0.01	Q	|	|	|	V |
20+25	0.0409	0.01	Q	|	|	|	V |
20+30	0.0409	0.01	Q	|	|	|	V |
20+35	0.0410	0.01	Q	|	|	|	V |
20+40	0.0410	0.01	Q	|	|	|	V |
20+45	0.0410	0.01	Q	|	|	|	V |
20+50	0.0411	0.00	Q	|	|	|	V |
20+55	0.0411	0.00	Q	|	|	|	V |
21+ 0	0.0411	0.00	Q	|	|	|	V |
21+ 5	0.0412	0.01	Q	|	|	|	V |
21+10	0.0412	0.01	Q	|	|	|	V |
21+15	0.0413	0.01	Q	|	|	|	V|
21+20	0.0413	0.00	Q	|	|	|	V|
21+25	0.0413	0.00	Q	|	|	|	V|
21+30	0.0413	0.00	Q	|	|	|	V|
21+35	0.0414	0.01	Q	|	|	|	V|
21+40	0.0414	0.01	Q	|	|	|	V|
21+45	0.0415	0.01	Q	|	|	|	V|
21+50	0.0415	0.00	Q	|	|	|	V|
21+55	0.0415	0.00	Q	|	|	|	V|
22+ 0	0.0416	0.00	Q	|	|	|	V|
22+ 5	0.0416	0.01	Q	|	|	|	V|
22+10	0.0416	0.01	Q	|	|	|	V|
22+15	0.0417	0.01	Q	|	|	|	V|
22+20	0.0417	0.00	Q	|	|	|	V|
22+25	0.0417	0.00	Q	|	|	|	V|
22+30	0.0418	0.00	Q	|	|	|	V|
22+35	0.0418	0.00	Q	|	|	|	V|
22+40	0.0418	0.00	Q	|	|	|	V|
22+45	0.0419	0.00	Q	|	|	|	V|

22+50	0.0419	0.00	Q	|	|	|	V|
22+55	0.0419	0.00	Q	|	|	|	V|
23+ 0	0.0419	0.00	Q	|	|	|	V|
23+ 5	0.0420	0.00	Q	|	|	|	V|
23+10	0.0420	0.00	Q	|	|	|	V|
23+15	0.0420	0.00	Q	|	|	|	V|
23+20	0.0420	0.00	Q	|	|	|	V|
23+25	0.0421	0.00	Q	|	|	|	V|
23+30	0.0421	0.00	Q	|	|	|	V|
23+35	0.0421	0.00	Q	|	|	|	V|
23+40	0.0422	0.00	Q	|	|	|	V|
23+45	0.0422	0.00	Q	|	|	|	V|
23+50	0.0422	0.00	Q	|	|	|	V|
23+55	0.0422	0.00	Q	|	|	|	V|
24+ 0	0.0423	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 06/03/26 File: 19267p002GH242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	1.66	1.83

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	4.10	4.53

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.105	75.00	0.840

Total Area Entered = 1.11(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.840	0.122	1.000	0.122
					Sum (F) =	0.122

Area averaged mean soil loss (F) (In/Hr) = 0.122
Minimum soil loss rate ((In/Hr)) = 0.061
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1261.013	100.000	1.114
		Sum = 100.000	Sum=	1.114

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	0.013	(0.217)	0.003	0.010
2	0.17	0.07	0.013	(0.216)	0.003	0.010
3	0.25	0.07	0.013	(0.215)	0.003	0.010
4	0.33	0.10	0.020	(0.214)	0.005	0.015
5	0.42	0.10	0.020	(0.213)	0.005	0.015
6	0.50	0.10	0.020	(0.212)	0.005	0.015
7	0.58	0.10	0.020	(0.212)	0.005	0.015
8	0.67	0.10	0.020	(0.211)	0.005	0.015
9	0.75	0.10	0.020	(0.210)	0.005	0.015
10	0.83	0.13	0.027	(0.209)	0.006	0.020
11	0.92	0.13	0.027	(0.208)	0.006	0.020
12	1.00	0.13	0.027	(0.207)	0.006	0.020

13	1.08	0.10	0.020	(0.207)	0.005	0.015
14	1.17	0.10	0.020	(0.206)	0.005	0.015
15	1.25	0.10	0.020	(0.205)	0.005	0.015
16	1.33	0.10	0.020	(0.204)	0.005	0.015
17	1.42	0.10	0.020	(0.203)	0.005	0.015
18	1.50	0.10	0.020	(0.203)	0.005	0.015
19	1.58	0.10	0.020	(0.202)	0.005	0.015
20	1.67	0.10	0.020	(0.201)	0.005	0.015
21	1.75	0.10	0.020	(0.200)	0.005	0.015
22	1.83	0.13	0.027	(0.199)	0.006	0.020
23	1.92	0.13	0.027	(0.198)	0.006	0.020
24	2.00	0.13	0.027	(0.198)	0.006	0.020
25	2.08	0.13	0.027	(0.197)	0.006	0.020
26	2.17	0.13	0.027	(0.196)	0.006	0.020
27	2.25	0.13	0.027	(0.195)	0.006	0.020
28	2.33	0.13	0.027	(0.194)	0.006	0.020
29	2.42	0.13	0.027	(0.194)	0.006	0.020
30	2.50	0.13	0.027	(0.193)	0.006	0.020
31	2.58	0.17	0.033	(0.192)	0.008	0.026
32	2.67	0.17	0.033	(0.191)	0.008	0.026
33	2.75	0.17	0.033	(0.191)	0.008	0.026
34	2.83	0.17	0.033	(0.190)	0.008	0.026
35	2.92	0.17	0.033	(0.189)	0.008	0.026
36	3.00	0.17	0.033	(0.188)	0.008	0.026
37	3.08	0.17	0.033	(0.187)	0.008	0.026
38	3.17	0.17	0.033	(0.187)	0.008	0.026
39	3.25	0.17	0.033	(0.186)	0.008	0.026
40	3.33	0.17	0.033	(0.185)	0.008	0.026
41	3.42	0.17	0.033	(0.184)	0.008	0.026
42	3.50	0.17	0.033	(0.184)	0.008	0.026
43	3.58	0.17	0.033	(0.183)	0.008	0.026
44	3.67	0.17	0.033	(0.182)	0.008	0.026
45	3.75	0.17	0.033	(0.181)	0.008	0.026
46	3.83	0.20	0.040	(0.180)	0.009	0.031
47	3.92	0.20	0.040	(0.180)	0.009	0.031
48	4.00	0.20	0.040	(0.179)	0.009	0.031
49	4.08	0.20	0.040	(0.178)	0.009	0.031
50	4.17	0.20	0.040	(0.177)	0.009	0.031
51	4.25	0.20	0.040	(0.177)	0.009	0.031
52	4.33	0.23	0.046	(0.176)	0.011	0.036
53	4.42	0.23	0.046	(0.175)	0.011	0.036
54	4.50	0.23	0.046	(0.174)	0.011	0.036
55	4.58	0.23	0.046	(0.174)	0.011	0.036
56	4.67	0.23	0.046	(0.173)	0.011	0.036
57	4.75	0.23	0.046	(0.172)	0.011	0.036
58	4.83	0.27	0.053	(0.171)	0.012	0.041
59	4.92	0.27	0.053	(0.171)	0.012	0.041
60	5.00	0.27	0.053	(0.170)	0.012	0.041
61	5.08	0.20	0.040	(0.169)	0.009	0.031
62	5.17	0.20	0.040	(0.168)	0.009	0.031
63	5.25	0.20	0.040	(0.168)	0.009	0.031
64	5.33	0.23	0.046	(0.167)	0.011	0.036
65	5.42	0.23	0.046	(0.166)	0.011	0.036
66	5.50	0.23	0.046	(0.166)	0.011	0.036
67	5.58	0.27	0.053	(0.165)	0.012	0.041
68	5.67	0.27	0.053	(0.164)	0.012	0.041
69	5.75	0.27	0.053	(0.163)	0.012	0.041

70	5.83	0.27	0.053	(0.163)	0.012	0.041
71	5.92	0.27	0.053	(0.162)	0.012	0.041
72	6.00	0.27	0.053	(0.161)	0.012	0.041
73	6.08	0.30	0.060	(0.161)	0.014	0.046
74	6.17	0.30	0.060	(0.160)	0.014	0.046
75	6.25	0.30	0.060	(0.159)	0.014	0.046
76	6.33	0.30	0.060	(0.158)	0.014	0.046
77	6.42	0.30	0.060	(0.158)	0.014	0.046
78	6.50	0.30	0.060	(0.157)	0.014	0.046
79	6.58	0.33	0.066	(0.156)	0.015	0.051
80	6.67	0.33	0.066	(0.156)	0.015	0.051
81	6.75	0.33	0.066	(0.155)	0.015	0.051
82	6.83	0.33	0.066	(0.154)	0.015	0.051
83	6.92	0.33	0.066	(0.153)	0.015	0.051
84	7.00	0.33	0.066	(0.153)	0.015	0.051
85	7.08	0.33	0.066	(0.152)	0.015	0.051
86	7.17	0.33	0.066	(0.151)	0.015	0.051
87	7.25	0.33	0.066	(0.151)	0.015	0.051
88	7.33	0.37	0.073	(0.150)	0.017	0.056
89	7.42	0.37	0.073	(0.149)	0.017	0.056
90	7.50	0.37	0.073	(0.149)	0.017	0.056
91	7.58	0.40	0.080	(0.148)	0.018	0.061
92	7.67	0.40	0.080	(0.147)	0.018	0.061
93	7.75	0.40	0.080	(0.147)	0.018	0.061
94	7.83	0.43	0.086	(0.146)	0.020	0.066
95	7.92	0.43	0.086	(0.145)	0.020	0.066
96	8.00	0.43	0.086	(0.145)	0.020	0.066
97	8.08	0.50	0.100	(0.144)	0.023	0.077
98	8.17	0.50	0.100	(0.143)	0.023	0.077
99	8.25	0.50	0.100	(0.143)	0.023	0.077
100	8.33	0.50	0.100	(0.142)	0.023	0.077
101	8.42	0.50	0.100	(0.141)	0.023	0.077
102	8.50	0.50	0.100	(0.141)	0.023	0.077
103	8.58	0.53	0.106	(0.140)	0.024	0.082
104	8.67	0.53	0.106	(0.139)	0.024	0.082
105	8.75	0.53	0.106	(0.139)	0.024	0.082
106	8.83	0.57	0.113	(0.138)	0.026	0.087
107	8.92	0.57	0.113	(0.137)	0.026	0.087
108	9.00	0.57	0.113	(0.137)	0.026	0.087
109	9.08	0.63	0.126	(0.136)	0.029	0.097
110	9.17	0.63	0.126	(0.135)	0.029	0.097
111	9.25	0.63	0.126	(0.135)	0.029	0.097
112	9.33	0.67	0.133	(0.134)	0.031	0.102
113	9.42	0.67	0.133	(0.133)	0.031	0.102
114	9.50	0.67	0.133	(0.133)	0.031	0.102
115	9.58	0.70	0.139	(0.132)	0.032	0.107
116	9.67	0.70	0.139	(0.132)	0.032	0.107
117	9.75	0.70	0.139	(0.131)	0.032	0.107
118	9.83	0.73	0.146	(0.130)	0.034	0.112
119	9.92	0.73	0.146	(0.130)	0.034	0.112
120	10.00	0.73	0.146	(0.129)	0.034	0.112
121	10.08	0.50	0.100	(0.128)	0.023	0.077
122	10.17	0.50	0.100	(0.128)	0.023	0.077
123	10.25	0.50	0.100	(0.127)	0.023	0.077
124	10.33	0.50	0.100	(0.127)	0.023	0.077
125	10.42	0.50	0.100	(0.126)	0.023	0.077
126	10.50	0.50	0.100	(0.125)	0.023	0.077

127	10.58	0.67	0.133	(0.125)	0.031	0.102
128	10.67	0.67	0.133	(0.124)	0.031	0.102
129	10.75	0.67	0.133	(0.123)	0.031	0.102
130	10.83	0.67	0.133	(0.123)	0.031	0.102
131	10.92	0.67	0.133	(0.122)	0.031	0.102
132	11.00	0.67	0.133	(0.122)	0.031	0.102
133	11.08	0.63	0.126	(0.121)	0.029	0.097
134	11.17	0.63	0.126	(0.120)	0.029	0.097
135	11.25	0.63	0.126	(0.120)	0.029	0.097
136	11.33	0.63	0.126	(0.119)	0.029	0.097
137	11.42	0.63	0.126	(0.119)	0.029	0.097
138	11.50	0.63	0.126	(0.118)	0.029	0.097
139	11.58	0.57	0.113	(0.117)	0.026	0.087
140	11.67	0.57	0.113	(0.117)	0.026	0.087
141	11.75	0.57	0.113	(0.116)	0.026	0.087
142	11.83	0.60	0.120	(0.116)	0.027	0.092
143	11.92	0.60	0.120	(0.115)	0.027	0.092
144	12.00	0.60	0.120	(0.115)	0.027	0.092
145	12.08	0.83	0.166	(0.114)	0.038	0.128
146	12.17	0.83	0.166	(0.113)	0.038	0.128
147	12.25	0.83	0.166	(0.113)	0.038	0.128
148	12.33	0.87	0.173	(0.112)	0.040	0.133
149	12.42	0.87	0.173	(0.112)	0.040	0.133
150	12.50	0.87	0.173	(0.111)	0.040	0.133
151	12.58	0.93	0.186	(0.111)	0.043	0.143
152	12.67	0.93	0.186	(0.110)	0.043	0.143
153	12.75	0.93	0.186	(0.110)	0.043	0.143
154	12.83	0.97	0.193	(0.109)	0.044	0.148
155	12.92	0.97	0.193	(0.108)	0.044	0.148
156	13.00	0.97	0.193	(0.108)	0.044	0.148
157	13.08	1.13	0.226	(0.107)	0.052	0.174
158	13.17	1.13	0.226	(0.107)	0.052	0.174
159	13.25	1.13	0.226	(0.106)	0.052	0.174
160	13.33	1.13	0.226	(0.106)	0.052	0.174
161	13.42	1.13	0.226	(0.105)	0.052	0.174
162	13.50	1.13	0.226	(0.105)	0.052	0.174
163	13.58	0.77	0.153	(0.104)	0.035	0.118
164	13.67	0.77	0.153	(0.104)	0.035	0.118
165	13.75	0.77	0.153	(0.103)	0.035	0.118
166	13.83	0.77	0.153	(0.103)	0.035	0.118
167	13.92	0.77	0.153	(0.102)	0.035	0.118
168	14.00	0.77	0.153	(0.101)	0.035	0.118
169	14.08	0.90	0.179	(0.101)	0.041	0.138
170	14.17	0.90	0.179	(0.100)	0.041	0.138
171	14.25	0.90	0.179	(0.100)	0.041	0.138
172	14.33	0.87	0.173	(0.099)	0.040	0.133
173	14.42	0.87	0.173	(0.099)	0.040	0.133
174	14.50	0.87	0.173	(0.098)	0.040	0.133
175	14.58	0.87	0.173	(0.098)	0.040	0.133
176	14.67	0.87	0.173	(0.097)	0.040	0.133
177	14.75	0.87	0.173	(0.097)	0.040	0.133
178	14.83	0.83	0.166	(0.096)	0.038	0.128
179	14.92	0.83	0.166	(0.096)	0.038	0.128
180	15.00	0.83	0.166	(0.095)	0.038	0.128
181	15.08	0.80	0.159	(0.095)	0.037	0.123
182	15.17	0.80	0.159	(0.094)	0.037	0.123
183	15.25	0.80	0.159	(0.094)	0.037	0.123

184	15.33	0.77	0.153	(0.093)	0.035	0.118
185	15.42	0.77	0.153	(0.093)	0.035	0.118
186	15.50	0.77	0.153	(0.093)	0.035	0.118
187	15.58	0.63	0.126	(0.092)	0.029	0.097
188	15.67	0.63	0.126	(0.092)	0.029	0.097
189	15.75	0.63	0.126	(0.091)	0.029	0.097
190	15.83	0.63	0.126	(0.091)	0.029	0.097
191	15.92	0.63	0.126	(0.090)	0.029	0.097
192	16.00	0.63	0.126	(0.090)	0.029	0.097
193	16.08	0.13	0.027	(0.089)	0.006	0.020
194	16.17	0.13	0.027	(0.089)	0.006	0.020
195	16.25	0.13	0.027	(0.088)	0.006	0.020
196	16.33	0.13	0.027	(0.088)	0.006	0.020
197	16.42	0.13	0.027	(0.087)	0.006	0.020
198	16.50	0.13	0.027	(0.087)	0.006	0.020
199	16.58	0.10	0.020	(0.087)	0.005	0.015
200	16.67	0.10	0.020	(0.086)	0.005	0.015
201	16.75	0.10	0.020	(0.086)	0.005	0.015
202	16.83	0.10	0.020	(0.085)	0.005	0.015
203	16.92	0.10	0.020	(0.085)	0.005	0.015
204	17.00	0.10	0.020	(0.084)	0.005	0.015
205	17.08	0.17	0.033	(0.084)	0.008	0.026
206	17.17	0.17	0.033	(0.084)	0.008	0.026
207	17.25	0.17	0.033	(0.083)	0.008	0.026
208	17.33	0.17	0.033	(0.083)	0.008	0.026
209	17.42	0.17	0.033	(0.082)	0.008	0.026
210	17.50	0.17	0.033	(0.082)	0.008	0.026
211	17.58	0.17	0.033	(0.081)	0.008	0.026
212	17.67	0.17	0.033	(0.081)	0.008	0.026
213	17.75	0.17	0.033	(0.081)	0.008	0.026
214	17.83	0.13	0.027	(0.080)	0.006	0.020
215	17.92	0.13	0.027	(0.080)	0.006	0.020
216	18.00	0.13	0.027	(0.079)	0.006	0.020
217	18.08	0.13	0.027	(0.079)	0.006	0.020
218	18.17	0.13	0.027	(0.079)	0.006	0.020
219	18.25	0.13	0.027	(0.078)	0.006	0.020
220	18.33	0.13	0.027	(0.078)	0.006	0.020
221	18.42	0.13	0.027	(0.078)	0.006	0.020
222	18.50	0.13	0.027	(0.077)	0.006	0.020
223	18.58	0.10	0.020	(0.077)	0.005	0.015
224	18.67	0.10	0.020	(0.076)	0.005	0.015
225	18.75	0.10	0.020	(0.076)	0.005	0.015
226	18.83	0.07	0.013	(0.076)	0.003	0.010
227	18.92	0.07	0.013	(0.075)	0.003	0.010
228	19.00	0.07	0.013	(0.075)	0.003	0.010
229	19.08	0.10	0.020	(0.075)	0.005	0.015
230	19.17	0.10	0.020	(0.074)	0.005	0.015
231	19.25	0.10	0.020	(0.074)	0.005	0.015
232	19.33	0.13	0.027	(0.074)	0.006	0.020
233	19.42	0.13	0.027	(0.073)	0.006	0.020
234	19.50	0.13	0.027	(0.073)	0.006	0.020
235	19.58	0.10	0.020	(0.073)	0.005	0.015
236	19.67	0.10	0.020	(0.072)	0.005	0.015
237	19.75	0.10	0.020	(0.072)	0.005	0.015
238	19.83	0.07	0.013	(0.072)	0.003	0.010
239	19.92	0.07	0.013	(0.071)	0.003	0.010
240	20.00	0.07	0.013	(0.071)	0.003	0.010

241	20.08	0.10	0.020	(0.071)	0.005	0.015
242	20.17	0.10	0.020	(0.070)	0.005	0.015
243	20.25	0.10	0.020	(0.070)	0.005	0.015
244	20.33	0.10	0.020	(0.070)	0.005	0.015
245	20.42	0.10	0.020	(0.069)	0.005	0.015
246	20.50	0.10	0.020	(0.069)	0.005	0.015
247	20.58	0.10	0.020	(0.069)	0.005	0.015
248	20.67	0.10	0.020	(0.069)	0.005	0.015
249	20.75	0.10	0.020	(0.068)	0.005	0.015
250	20.83	0.07	0.013	(0.068)	0.003	0.010
251	20.92	0.07	0.013	(0.068)	0.003	0.010
252	21.00	0.07	0.013	(0.067)	0.003	0.010
253	21.08	0.10	0.020	(0.067)	0.005	0.015
254	21.17	0.10	0.020	(0.067)	0.005	0.015
255	21.25	0.10	0.020	(0.067)	0.005	0.015
256	21.33	0.07	0.013	(0.066)	0.003	0.010
257	21.42	0.07	0.013	(0.066)	0.003	0.010
258	21.50	0.07	0.013	(0.066)	0.003	0.010
259	21.58	0.10	0.020	(0.066)	0.005	0.015
260	21.67	0.10	0.020	(0.065)	0.005	0.015
261	21.75	0.10	0.020	(0.065)	0.005	0.015
262	21.83	0.07	0.013	(0.065)	0.003	0.010
263	21.92	0.07	0.013	(0.065)	0.003	0.010
264	22.00	0.07	0.013	(0.064)	0.003	0.010
265	22.08	0.10	0.020	(0.064)	0.005	0.015
266	22.17	0.10	0.020	(0.064)	0.005	0.015
267	22.25	0.10	0.020	(0.064)	0.005	0.015
268	22.33	0.07	0.013	(0.064)	0.003	0.010
269	22.42	0.07	0.013	(0.063)	0.003	0.010
270	22.50	0.07	0.013	(0.063)	0.003	0.010
271	22.58	0.07	0.013	(0.063)	0.003	0.010
272	22.67	0.07	0.013	(0.063)	0.003	0.010
273	22.75	0.07	0.013	(0.063)	0.003	0.010
274	22.83	0.07	0.013	(0.063)	0.003	0.010
275	22.92	0.07	0.013	(0.062)	0.003	0.010
276	23.00	0.07	0.013	(0.062)	0.003	0.010
277	23.08	0.07	0.013	(0.062)	0.003	0.010
278	23.17	0.07	0.013	(0.062)	0.003	0.010
279	23.25	0.07	0.013	(0.062)	0.003	0.010
280	23.33	0.07	0.013	(0.062)	0.003	0.010
281	23.42	0.07	0.013	(0.062)	0.003	0.010
282	23.50	0.07	0.013	(0.062)	0.003	0.010
283	23.58	0.07	0.013	(0.061)	0.003	0.010
284	23.67	0.07	0.013	(0.061)	0.003	0.010
285	23.75	0.07	0.013	(0.061)	0.003	0.010
286	23.83	0.07	0.013	(0.061)	0.003	0.010
287	23.92	0.07	0.013	(0.061)	0.003	0.010
288	24.00	0.07	0.013	(0.061)	0.003	0.010

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.3

Flood volume = Effective rainfall 1.28(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.38(In)
Total soil loss = 0.035(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 5127.0 Cubic Feet
Total soil loss = 1531.5 Cubic Feet

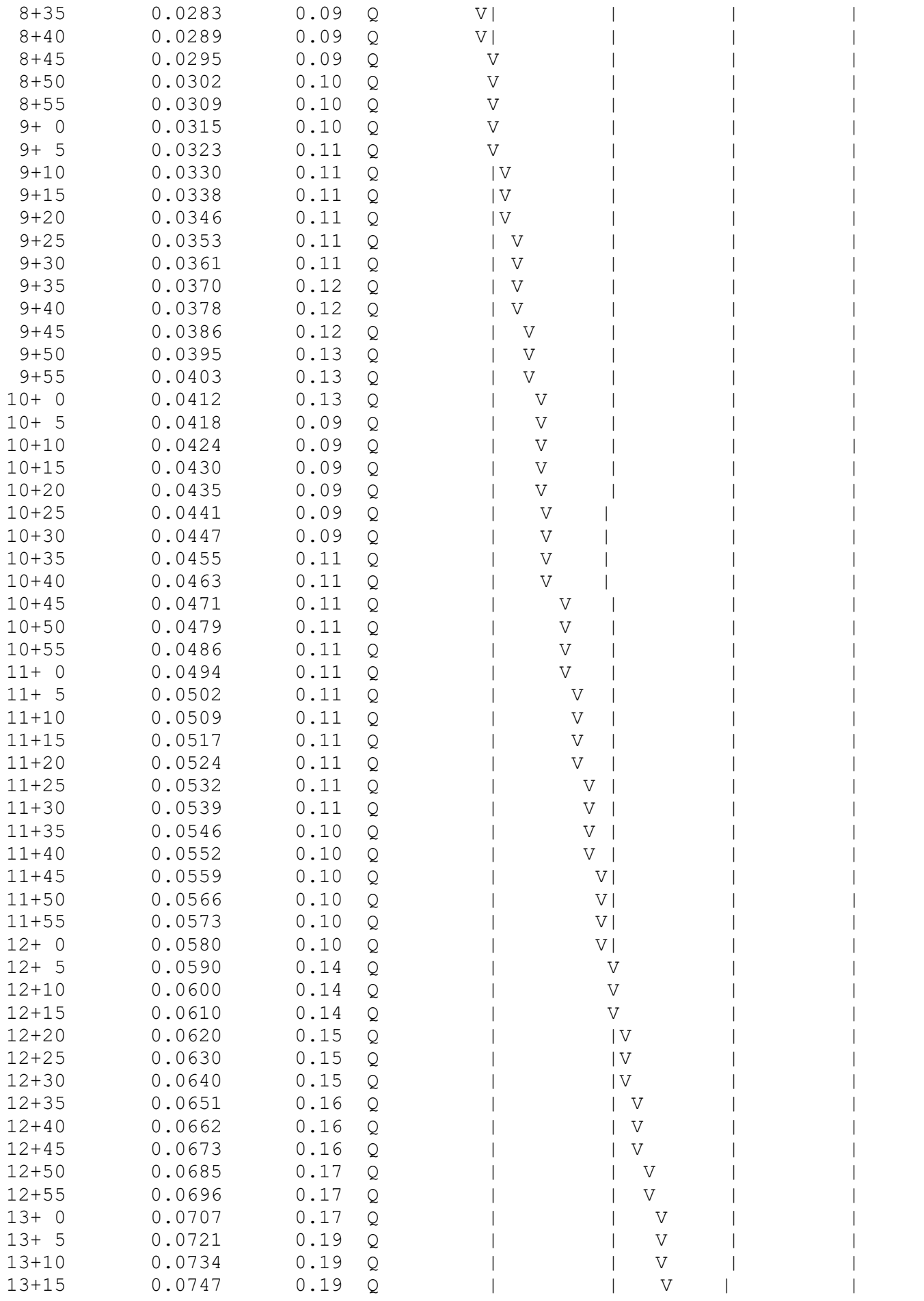
Peak flow rate of this hydrograph = 0.194(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0002	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0004	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0006	0.02	Q				
0+35	0.0007	0.02	Q				
0+40	0.0008	0.02	Q				
0+45	0.0009	0.02	Q				
0+50	0.0011	0.02	Q				
0+55	0.0013	0.02	Q				
1+ 0	0.0014	0.02	Q				
1+ 5	0.0015	0.02	Q				
1+10	0.0016	0.02	Q				
1+15	0.0018	0.02	Q				
1+20	0.0019	0.02	Q				
1+25	0.0020	0.02	Q				
1+30	0.0021	0.02	Q				
1+35	0.0022	0.02	Q				
1+40	0.0024	0.02	Q				
1+45	0.0025	0.02	Q				
1+50	0.0026	0.02	Q				
1+55	0.0028	0.02	Q				
2+ 0	0.0029	0.02	Q				
2+ 5	0.0031	0.02	QV				
2+10	0.0033	0.02	QV				
2+15	0.0034	0.02	QV				
2+20	0.0036	0.02	QV				
2+25	0.0037	0.02	QV				
2+30	0.0039	0.02	QV				
2+35	0.0041	0.03	QV				
2+40	0.0043	0.03	QV				
2+45	0.0045	0.03	QV				
2+50	0.0047	0.03	QV				
2+55	0.0049	0.03	QV				
3+ 0	0.0051	0.03	QV				
3+ 5	0.0053	0.03	QV				
3+10	0.0055	0.03	QV				
3+15	0.0056	0.03	QV				
3+20	0.0058	0.03	QV				
3+25	0.0060	0.03	Q V				
3+30	0.0062	0.03	Q V				
3+35	0.0064	0.03	Q V				
3+40	0.0066	0.03	Q V				
3+45	0.0068	0.03	Q V				

3+50	0.0071	0.03	Q V	|	|	|	|
3+55	0.0073	0.03	Q V	|	|	|	|
4+ 0	0.0075	0.03	Q V	|	|	|	|
4+ 5	0.0078	0.03	Q V	|	|	|	|
4+10	0.0080	0.03	Q V	|	|	|	|
4+15	0.0082	0.03	Q V	|	|	|	|
4+20	0.0085	0.04	Q V	|	|	|	|
4+25	0.0088	0.04	Q V	|	|	|	|
4+30	0.0091	0.04	Q V	|	|	|	|
4+35	0.0093	0.04	Q V	|	|	|	|
4+40	0.0096	0.04	Q V	|	|	|	|
4+45	0.0099	0.04	Q V	|	|	|	|
4+50	0.0102	0.05	Q V	|	|	|	|
4+55	0.0105	0.05	Q V	|	|	|	|
5+ 0	0.0108	0.05	Q V	|	|	|	|
5+ 5	0.0111	0.03	Q V	|	|	|	|
5+10	0.0113	0.03	Q V	|	|	|	|
5+15	0.0115	0.03	Q V	|	|	|	|
5+20	0.0118	0.04	Q V	|	|	|	|
5+25	0.0121	0.04	Q V	|	|	|	|
5+30	0.0124	0.04	Q V	|	|	|	|
5+35	0.0127	0.05	Q V	|	|	|	|
5+40	0.0130	0.05	Q V	|	|	|	|
5+45	0.0133	0.05	Q V	|	|	|	|
5+50	0.0136	0.05	Q V	|	|	|	|
5+55	0.0139	0.05	Q V	|	|	|	|
6+ 0	0.0142	0.05	Q V	|	|	|	|
6+ 5	0.0146	0.05	Q V	|	|	|	|
6+10	0.0149	0.05	Q V	|	|	|	|
6+15	0.0153	0.05	Q V	|	|	|	|
6+20	0.0157	0.05	Q V	|	|	|	|
6+25	0.0160	0.05	Q V	|	|	|	|
6+30	0.0164	0.05	Q V	|	|	|	|
6+35	0.0168	0.06	Q V	|	|	|	|
6+40	0.0171	0.06	Q V	|	|	|	|
6+45	0.0175	0.06	Q V	|	|	|	|
6+50	0.0179	0.06	Q V	|	|	|	|
6+55	0.0183	0.06	Q V	|	|	|	|
7+ 0	0.0187	0.06	Q V	|	|	|	|
7+ 5	0.0191	0.06	Q V	|	|	|	|
7+10	0.0195	0.06	Q V	|	|	|	|
7+15	0.0199	0.06	Q V	|	|	|	|
7+20	0.0203	0.06	Q V	|	|	|	|
7+25	0.0208	0.06	Q V	|	|	|	|
7+30	0.0212	0.06	Q V	|	|	|	|
7+35	0.0217	0.07	Q V	|	|	|	|
7+40	0.0221	0.07	Q V	|	|	|	|
7+45	0.0226	0.07	Q V	|	|	|	|
7+50	0.0231	0.07	Q V	|	|	|	|
7+55	0.0236	0.07	Q V	|	|	|	|
8+ 0	0.0241	0.07	Q V	|	|	|	|
8+ 5	0.0247	0.09	Q V	|	|	|	|
8+10	0.0253	0.09	Q V	|	|	|	|
8+15	0.0259	0.09	Q V	|	|	|	|
8+20	0.0265	0.09	Q V	|	|	|	|
8+25	0.0271	0.09	Q V	|	|	|	|
8+30	0.0277	0.09	Q V	|	|	|	|



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13+20       0.0761      0.19  Q         |          |    V     |          |
13+25       0.0774      0.19  Q         |          |      V   |          |
13+30       0.0787      0.19  Q         |          |      V   |          |
13+35       0.0796      0.13  Q         |          |       V  |          |
13+40       0.0805      0.13  Q         |          |       V  |          |
13+45       0.0814      0.13  Q         |          |       V  |          |
13+50       0.0824      0.13  Q         |          |       V  |          |
13+55       0.0833      0.13  Q         |          |        V |          |
14+ 0       0.0842      0.13  Q         |          |        V |          |
14+ 5       0.0852      0.15  Q         |          |        V |          |
14+10       0.0863      0.15  Q         |          |         V|          |
14+15       0.0873      0.15  Q         |          |         V|          |
14+20       0.0884      0.15  Q         |          |          V          |
14+25       0.0894      0.15  Q         |          |          V          |
14+30       0.0904      0.15  Q         |          |          V          |
14+35       0.0914      0.15  Q         |          |          |V         |
14+40       0.0924      0.15  Q         |          |          |V         |
14+45       0.0935      0.15  Q         |          |          |V         |
14+50       0.0944      0.14  Q         |          |          | V        |
14+55       0.0954      0.14  Q         |          |          | V        |
15+ 0       0.0964      0.14  Q         |          |          | V        |
15+ 5       0.0973      0.14  Q         |          |          |  V       |
15+10       0.0983      0.14  Q         |          |          |  V       |
15+15       0.0992      0.14  Q         |          |          |  V       |
15+20       0.1001      0.13  Q         |          |          |   V      |
15+25       0.1010      0.13  Q         |          |          |   V      |
15+30       0.1019      0.13  Q         |          |          |   V      |
15+35       0.1027      0.11  Q         |          |          |   V      |
15+40       0.1034      0.11  Q         |          |          |    V     |
15+45       0.1042      0.11  Q         |          |          |    V     |
15+50       0.1049      0.11  Q         |          |          |    V     |
15+55       0.1057      0.11  Q         |          |          |    V     |
16+ 0       0.1064      0.11  Q         |          |          |     V    |
16+ 5       0.1066      0.02  Q         |          |          |     V    |
16+10       0.1067      0.02  Q         |          |          |     V    |
16+15       0.1069      0.02  Q         |          |          |     V    |
16+20       0.1070      0.02  Q         |          |          |     V    |
16+25       0.1072      0.02  Q         |          |          |     V    |
16+30       0.1073      0.02  Q         |          |          |     V    |
16+35       0.1075      0.02  Q         |          |          |     V    |
16+40       0.1076      0.02  Q         |          |          |     V    |
16+45       0.1077      0.02  Q         |          |          |     V    |
16+50       0.1078      0.02  Q         |          |          |     V    |
16+55       0.1079      0.02  Q         |          |          |     V    |
17+ 0       0.1080      0.02  Q         |          |          |     V    |
17+ 5       0.1082      0.03  Q         |          |          |     V    |
17+10       0.1084      0.03  Q         |          |          |     V    |
17+15       0.1086      0.03  Q         |          |          |     V    |
17+20       0.1088      0.03  Q         |          |          |     V    |
17+25       0.1090      0.03  Q         |          |          |      V   |
17+30       0.1092      0.03  Q         |          |          |      V   |
17+35       0.1094      0.03  Q         |          |          |      V   |
17+40       0.1096      0.03  Q         |          |          |      V   |
17+45       0.1098      0.03  Q         |          |          |      V   |
17+50       0.1100      0.02  Q         |          |          |      V   |
17+55       0.1101      0.02  Q         |          |          |      V   |
18+ 0       0.1103      0.02  Q         |          |          |      V   |
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18+ 5	0.1104	0.02	Q	|	|	|	V |
18+10	0.1106	0.02	Q	|	|	|	V |
18+15	0.1108	0.02	Q	|	|	|	V |
18+20	0.1109	0.02	Q	|	|	|	V |
18+25	0.1111	0.02	Q	|	|	|	V |
18+30	0.1112	0.02	Q	|	|	|	V |
18+35	0.1113	0.02	Q	|	|	|	V |
18+40	0.1115	0.02	Q	|	|	|	V |
18+45	0.1116	0.02	Q	|	|	|	V |
18+50	0.1117	0.01	Q	|	|	|	V |
18+55	0.1117	0.01	Q	|	|	|	V |
19+ 0	0.1118	0.01	Q	|	|	|	V |
19+ 5	0.1119	0.02	Q	|	|	|	V |
19+10	0.1121	0.02	Q	|	|	|	V |
19+15	0.1122	0.02	Q	|	|	|	V |
19+20	0.1123	0.02	Q	|	|	|	V |
19+25	0.1125	0.02	Q	|	|	|	V |
19+30	0.1126	0.02	Q	|	|	|	V |
19+35	0.1128	0.02	Q	|	|	|	V |
19+40	0.1129	0.02	Q	|	|	|	V |
19+45	0.1130	0.02	Q	|	|	|	V |
19+50	0.1131	0.01	Q	|	|	|	V |
19+55	0.1131	0.01	Q	|	|	|	V |
20+ 0	0.1132	0.01	Q	|	|	|	V |
20+ 5	0.1133	0.02	Q	|	|	|	V |
20+10	0.1135	0.02	Q	|	|	|	V |
20+15	0.1136	0.02	Q	|	|	|	V |
20+20	0.1137	0.02	Q	|	|	|	V |
20+25	0.1138	0.02	Q	|	|	|	V |
20+30	0.1139	0.02	Q	|	|	|	V |
20+35	0.1141	0.02	Q	|	|	|	V |
20+40	0.1142	0.02	Q	|	|	|	V |
20+45	0.1143	0.02	Q	|	|	|	V |
20+50	0.1144	0.01	Q	|	|	|	V |
20+55	0.1144	0.01	Q	|	|	|	V |
21+ 0	0.1145	0.01	Q	|	|	|	V |
21+ 5	0.1146	0.02	Q	|	|	|	V |
21+10	0.1148	0.02	Q	|	|	|	V |
21+15	0.1149	0.02	Q	|	|	|	V|
21+20	0.1150	0.01	Q	|	|	|	V|
21+25	0.1150	0.01	Q	|	|	|	V|
21+30	0.1151	0.01	Q	|	|	|	V|
21+35	0.1152	0.02	Q	|	|	|	V|
21+40	0.1153	0.02	Q	|	|	|	V|
21+45	0.1155	0.02	Q	|	|	|	V|
21+50	0.1155	0.01	Q	|	|	|	V|
21+55	0.1156	0.01	Q	|	|	|	V|
22+ 0	0.1157	0.01	Q	|	|	|	V|
22+ 5	0.1158	0.02	Q	|	|	|	V|
22+10	0.1159	0.02	Q	|	|	|	V|
22+15	0.1161	0.02	Q	|	|	|	V|
22+20	0.1161	0.01	Q	|	|	|	V|
22+25	0.1162	0.01	Q	|	|	|	V|
22+30	0.1163	0.01	Q	|	|	|	V|
22+35	0.1164	0.01	Q	|	|	|	V|
22+40	0.1164	0.01	Q	|	|	|	V|
22+45	0.1165	0.01	Q	|	|	|	V|

22+50	0.1166	0.01	Q	|	|	|	V|
22+55	0.1167	0.01	Q	|	|	|	V|
23+ 0	0.1168	0.01	Q	|	|	|	V|
23+ 5	0.1168	0.01	Q	|	|	|	V|
23+10	0.1169	0.01	Q	|	|	|	V|
23+15	0.1170	0.01	Q	|	|	|	V|
23+20	0.1171	0.01	Q	|	|	|	V|
23+25	0.1172	0.01	Q	|	|	|	V|
23+30	0.1172	0.01	Q	|	|	|	V|
23+35	0.1173	0.01	Q	|	|	|	V|
23+40	0.1174	0.01	Q	|	|	|	V|
23+45	0.1175	0.01	Q	|	|	|	V|
23+50	0.1175	0.01	Q	|	|	|	V|
23+55	0.1176	0.01	Q	|	|	|	V|
24+ 0	0.1177	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 06/03/26 File: 19267p002I242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	1.66	1.49

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.90	4.10	3.69

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.830	0.127	1.000	0.127
					Sum (F) =	0.127

Area averaged mean soil loss (F) (In/Hr) = 0.127
Minimum soil loss rate ((In/Hr)) = 0.063
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
			Sum = 100.000 Sum=	0.907

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	0.013	(0.225)	0.003	0.010
2	0.17	0.07	0.013	(0.224)	0.003	0.010
3	0.25	0.07	0.013	(0.223)	0.003	0.010
4	0.33	0.10	0.020	(0.222)	0.005	0.015
5	0.42	0.10	0.020	(0.221)	0.005	0.015
6	0.50	0.10	0.020	(0.220)	0.005	0.015
7	0.58	0.10	0.020	(0.219)	0.005	0.015
8	0.67	0.10	0.020	(0.218)	0.005	0.015
9	0.75	0.10	0.020	(0.218)	0.005	0.015
10	0.83	0.13	0.027	(0.217)	0.006	0.020
11	0.92	0.13	0.027	(0.216)	0.006	0.020

12	1.00	0.13	0.027	(0.215)	0.006	0.020
13	1.08	0.10	0.020	(0.214)	0.005	0.015
14	1.17	0.10	0.020	(0.213)	0.005	0.015
15	1.25	0.10	0.020	(0.213)	0.005	0.015
16	1.33	0.10	0.020	(0.212)	0.005	0.015
17	1.42	0.10	0.020	(0.211)	0.005	0.015
18	1.50	0.10	0.020	(0.210)	0.005	0.015
19	1.58	0.10	0.020	(0.209)	0.005	0.015
20	1.67	0.10	0.020	(0.208)	0.005	0.015
21	1.75	0.10	0.020	(0.207)	0.005	0.015
22	1.83	0.13	0.027	(0.207)	0.006	0.020
23	1.92	0.13	0.027	(0.206)	0.006	0.020
24	2.00	0.13	0.027	(0.205)	0.006	0.020
25	2.08	0.13	0.027	(0.204)	0.006	0.020
26	2.17	0.13	0.027	(0.203)	0.006	0.020
27	2.25	0.13	0.027	(0.202)	0.006	0.020
28	2.33	0.13	0.027	(0.202)	0.006	0.020
29	2.42	0.13	0.027	(0.201)	0.006	0.020
30	2.50	0.13	0.027	(0.200)	0.006	0.020
31	2.58	0.17	0.033	(0.199)	0.008	0.025
32	2.67	0.17	0.033	(0.198)	0.008	0.025
33	2.75	0.17	0.033	(0.198)	0.008	0.025
34	2.83	0.17	0.033	(0.197)	0.008	0.025
35	2.92	0.17	0.033	(0.196)	0.008	0.025
36	3.00	0.17	0.033	(0.195)	0.008	0.025
37	3.08	0.17	0.033	(0.194)	0.008	0.025
38	3.17	0.17	0.033	(0.194)	0.008	0.025
39	3.25	0.17	0.033	(0.193)	0.008	0.025
40	3.33	0.17	0.033	(0.192)	0.008	0.025
41	3.42	0.17	0.033	(0.191)	0.008	0.025
42	3.50	0.17	0.033	(0.190)	0.008	0.025
43	3.58	0.17	0.033	(0.190)	0.008	0.025
44	3.67	0.17	0.033	(0.189)	0.008	0.025
45	3.75	0.17	0.033	(0.188)	0.008	0.025
46	3.83	0.20	0.040	(0.187)	0.010	0.030
47	3.92	0.20	0.040	(0.186)	0.010	0.030
48	4.00	0.20	0.040	(0.186)	0.010	0.030
49	4.08	0.20	0.040	(0.185)	0.010	0.030
50	4.17	0.20	0.040	(0.184)	0.010	0.030
51	4.25	0.20	0.040	(0.183)	0.010	0.030
52	4.33	0.23	0.046	(0.182)	0.011	0.035
53	4.42	0.23	0.046	(0.182)	0.011	0.035
54	4.50	0.23	0.046	(0.181)	0.011	0.035
55	4.58	0.23	0.046	(0.180)	0.011	0.035
56	4.67	0.23	0.046	(0.179)	0.011	0.035
57	4.75	0.23	0.046	(0.179)	0.011	0.035
58	4.83	0.27	0.053	(0.178)	0.013	0.040
59	4.92	0.27	0.053	(0.177)	0.013	0.040
60	5.00	0.27	0.053	(0.176)	0.013	0.040
61	5.08	0.20	0.040	(0.175)	0.010	0.030
62	5.17	0.20	0.040	(0.175)	0.010	0.030
63	5.25	0.20	0.040	(0.174)	0.010	0.030
64	5.33	0.23	0.046	(0.173)	0.011	0.035
65	5.42	0.23	0.046	(0.172)	0.011	0.035
66	5.50	0.23	0.046	(0.172)	0.011	0.035
67	5.58	0.27	0.053	(0.171)	0.013	0.040
68	5.67	0.27	0.053	(0.170)	0.013	0.040

69	5.75	0.27	0.053	(0.169)	0.013	0.040
70	5.83	0.27	0.053	(0.169)	0.013	0.040
71	5.92	0.27	0.053	(0.168)	0.013	0.040
72	6.00	0.27	0.053	(0.167)	0.013	0.040
73	6.08	0.30	0.060	(0.166)	0.014	0.045
74	6.17	0.30	0.060	(0.166)	0.014	0.045
75	6.25	0.30	0.060	(0.165)	0.014	0.045
76	6.33	0.30	0.060	(0.164)	0.014	0.045
77	6.42	0.30	0.060	(0.163)	0.014	0.045
78	6.50	0.30	0.060	(0.163)	0.014	0.045
79	6.58	0.33	0.066	(0.162)	0.016	0.050
80	6.67	0.33	0.066	(0.161)	0.016	0.050
81	6.75	0.33	0.066	(0.161)	0.016	0.050
82	6.83	0.33	0.066	(0.160)	0.016	0.050
83	6.92	0.33	0.066	(0.159)	0.016	0.050
84	7.00	0.33	0.066	(0.158)	0.016	0.050
85	7.08	0.33	0.066	(0.158)	0.016	0.050
86	7.17	0.33	0.066	(0.157)	0.016	0.050
87	7.25	0.33	0.066	(0.156)	0.016	0.050
88	7.33	0.37	0.073	(0.156)	0.018	0.056
89	7.42	0.37	0.073	(0.155)	0.018	0.056
90	7.50	0.37	0.073	(0.154)	0.018	0.056
91	7.58	0.40	0.080	(0.153)	0.019	0.061
92	7.67	0.40	0.080	(0.153)	0.019	0.061
93	7.75	0.40	0.080	(0.152)	0.019	0.061
94	7.83	0.43	0.086	(0.151)	0.021	0.066
95	7.92	0.43	0.086	(0.151)	0.021	0.066
96	8.00	0.43	0.086	(0.150)	0.021	0.066
97	8.08	0.50	0.100	(0.149)	0.024	0.076
98	8.17	0.50	0.100	(0.148)	0.024	0.076
99	8.25	0.50	0.100	(0.148)	0.024	0.076
100	8.33	0.50	0.100	(0.147)	0.024	0.076
101	8.42	0.50	0.100	(0.146)	0.024	0.076
102	8.50	0.50	0.100	(0.146)	0.024	0.076
103	8.58	0.53	0.106	(0.145)	0.025	0.081
104	8.67	0.53	0.106	(0.144)	0.025	0.081
105	8.75	0.53	0.106	(0.144)	0.025	0.081
106	8.83	0.57	0.113	(0.143)	0.027	0.086
107	8.92	0.57	0.113	(0.142)	0.027	0.086
108	9.00	0.57	0.113	(0.142)	0.027	0.086
109	9.08	0.63	0.126	(0.141)	0.030	0.096
110	9.17	0.63	0.126	(0.140)	0.030	0.096
111	9.25	0.63	0.126	(0.140)	0.030	0.096
112	9.33	0.67	0.133	(0.139)	0.032	0.101
113	9.42	0.67	0.133	(0.138)	0.032	0.101
114	9.50	0.67	0.133	(0.138)	0.032	0.101
115	9.58	0.70	0.139	(0.137)	0.033	0.106
116	9.67	0.70	0.139	(0.136)	0.033	0.106
117	9.75	0.70	0.139	(0.136)	0.033	0.106
118	9.83	0.73	0.146	(0.135)	0.035	0.111
119	9.92	0.73	0.146	(0.134)	0.035	0.111
120	10.00	0.73	0.146	(0.134)	0.035	0.111
121	10.08	0.50	0.100	(0.133)	0.024	0.076
122	10.17	0.50	0.100	(0.132)	0.024	0.076
123	10.25	0.50	0.100	(0.132)	0.024	0.076
124	10.33	0.50	0.100	(0.131)	0.024	0.076
125	10.42	0.50	0.100	(0.131)	0.024	0.076

126	10.50	0.50	0.100	(0.130)	0.024	0.076
127	10.58	0.67	0.133	(0.129)	0.032	0.101
128	10.67	0.67	0.133	(0.129)	0.032	0.101
129	10.75	0.67	0.133	(0.128)	0.032	0.101
130	10.83	0.67	0.133	(0.127)	0.032	0.101
131	10.92	0.67	0.133	(0.127)	0.032	0.101
132	11.00	0.67	0.133	(0.126)	0.032	0.101
133	11.08	0.63	0.126	(0.126)	0.030	0.096
134	11.17	0.63	0.126	(0.125)	0.030	0.096
135	11.25	0.63	0.126	(0.124)	0.030	0.096
136	11.33	0.63	0.126	(0.124)	0.030	0.096
137	11.42	0.63	0.126	(0.123)	0.030	0.096
138	11.50	0.63	0.126	(0.122)	0.030	0.096
139	11.58	0.57	0.113	(0.122)	0.027	0.086
140	11.67	0.57	0.113	(0.121)	0.027	0.086
141	11.75	0.57	0.113	(0.121)	0.027	0.086
142	11.83	0.60	0.120	(0.120)	0.029	0.091
143	11.92	0.60	0.120	(0.119)	0.029	0.091
144	12.00	0.60	0.120	(0.119)	0.029	0.091
145	12.08	0.83	0.166	(0.118)	0.040	0.126
146	12.17	0.83	0.166	(0.118)	0.040	0.126
147	12.25	0.83	0.166	(0.117)	0.040	0.126
148	12.33	0.87	0.173	(0.116)	0.041	0.131
149	12.42	0.87	0.173	(0.116)	0.041	0.131
150	12.50	0.87	0.173	(0.115)	0.041	0.131
151	12.58	0.93	0.186	(0.115)	0.045	0.141
152	12.67	0.93	0.186	(0.114)	0.045	0.141
153	12.75	0.93	0.186	(0.114)	0.045	0.141
154	12.83	0.97	0.193	(0.113)	0.046	0.146
155	12.92	0.97	0.193	(0.112)	0.046	0.146
156	13.00	0.97	0.193	(0.112)	0.046	0.146
157	13.08	1.13	0.226	(0.111)	0.054	0.172
158	13.17	1.13	0.226	(0.111)	0.054	0.172
159	13.25	1.13	0.226	(0.110)	0.054	0.172
160	13.33	1.13	0.226	(0.110)	0.054	0.172
161	13.42	1.13	0.226	(0.109)	0.054	0.172
162	13.50	1.13	0.226	(0.108)	0.054	0.172
163	13.58	0.77	0.153	(0.108)	0.037	0.116
164	13.67	0.77	0.153	(0.107)	0.037	0.116
165	13.75	0.77	0.153	(0.107)	0.037	0.116
166	13.83	0.77	0.153	(0.106)	0.037	0.116
167	13.92	0.77	0.153	(0.106)	0.037	0.116
168	14.00	0.77	0.153	(0.105)	0.037	0.116
169	14.08	0.90	0.179	(0.105)	0.043	0.136
170	14.17	0.90	0.179	(0.104)	0.043	0.136
171	14.25	0.90	0.179	(0.104)	0.043	0.136
172	14.33	0.87	0.173	(0.103)	0.041	0.131
173	14.42	0.87	0.173	(0.103)	0.041	0.131
174	14.50	0.87	0.173	(0.102)	0.041	0.131
175	14.58	0.87	0.173	(0.101)	0.041	0.131
176	14.67	0.87	0.173	(0.101)	0.041	0.131
177	14.75	0.87	0.173	(0.100)	0.041	0.131
178	14.83	0.83	0.166	(0.100)	0.040	0.126
179	14.92	0.83	0.166	(0.099)	0.040	0.126
180	15.00	0.83	0.166	(0.099)	0.040	0.126
181	15.08	0.80	0.159	(0.098)	0.038	0.121
182	15.17	0.80	0.159	(0.098)	0.038	0.121

183	15.25	0.80	0.159	(0.097)	0.038	0.121
184	15.33	0.77	0.153	(0.097)	0.037	0.116
185	15.42	0.77	0.153	(0.096)	0.037	0.116
186	15.50	0.77	0.153	(0.096)	0.037	0.116
187	15.58	0.63	0.126	(0.095)	0.030	0.096
188	15.67	0.63	0.126	(0.095)	0.030	0.096
189	15.75	0.63	0.126	(0.094)	0.030	0.096
190	15.83	0.63	0.126	(0.094)	0.030	0.096
191	15.92	0.63	0.126	(0.093)	0.030	0.096
192	16.00	0.63	0.126	(0.093)	0.030	0.096
193	16.08	0.13	0.027	(0.093)	0.006	0.020
194	16.17	0.13	0.027	(0.092)	0.006	0.020
195	16.25	0.13	0.027	(0.092)	0.006	0.020
196	16.33	0.13	0.027	(0.091)	0.006	0.020
197	16.42	0.13	0.027	(0.091)	0.006	0.020
198	16.50	0.13	0.027	(0.090)	0.006	0.020
199	16.58	0.10	0.020	(0.090)	0.005	0.015
200	16.67	0.10	0.020	(0.089)	0.005	0.015
201	16.75	0.10	0.020	(0.089)	0.005	0.015
202	16.83	0.10	0.020	(0.088)	0.005	0.015
203	16.92	0.10	0.020	(0.088)	0.005	0.015
204	17.00	0.10	0.020	(0.087)	0.005	0.015
205	17.08	0.17	0.033	(0.087)	0.008	0.025
206	17.17	0.17	0.033	(0.087)	0.008	0.025
207	17.25	0.17	0.033	(0.086)	0.008	0.025
208	17.33	0.17	0.033	(0.086)	0.008	0.025
209	17.42	0.17	0.033	(0.085)	0.008	0.025
210	17.50	0.17	0.033	(0.085)	0.008	0.025
211	17.58	0.17	0.033	(0.084)	0.008	0.025
212	17.67	0.17	0.033	(0.084)	0.008	0.025
213	17.75	0.17	0.033	(0.084)	0.008	0.025
214	17.83	0.13	0.027	(0.083)	0.006	0.020
215	17.92	0.13	0.027	(0.083)	0.006	0.020
216	18.00	0.13	0.027	(0.082)	0.006	0.020
217	18.08	0.13	0.027	(0.082)	0.006	0.020
218	18.17	0.13	0.027	(0.082)	0.006	0.020
219	18.25	0.13	0.027	(0.081)	0.006	0.020
220	18.33	0.13	0.027	(0.081)	0.006	0.020
221	18.42	0.13	0.027	(0.080)	0.006	0.020
222	18.50	0.13	0.027	(0.080)	0.006	0.020
223	18.58	0.10	0.020	(0.080)	0.005	0.015
224	18.67	0.10	0.020	(0.079)	0.005	0.015
225	18.75	0.10	0.020	(0.079)	0.005	0.015
226	18.83	0.07	0.013	(0.078)	0.003	0.010
227	18.92	0.07	0.013	(0.078)	0.003	0.010
228	19.00	0.07	0.013	(0.078)	0.003	0.010
229	19.08	0.10	0.020	(0.077)	0.005	0.015
230	19.17	0.10	0.020	(0.077)	0.005	0.015
231	19.25	0.10	0.020	(0.077)	0.005	0.015
232	19.33	0.13	0.027	(0.076)	0.006	0.020
233	19.42	0.13	0.027	(0.076)	0.006	0.020
234	19.50	0.13	0.027	(0.076)	0.006	0.020
235	19.58	0.10	0.020	(0.075)	0.005	0.015
236	19.67	0.10	0.020	(0.075)	0.005	0.015
237	19.75	0.10	0.020	(0.075)	0.005	0.015
238	19.83	0.07	0.013	(0.074)	0.003	0.010
239	19.92	0.07	0.013	(0.074)	0.003	0.010

240	20.00	0.07	0.013	(0.074)	0.003	0.010
241	20.08	0.10	0.020	(0.073)	0.005	0.015
242	20.17	0.10	0.020	(0.073)	0.005	0.015
243	20.25	0.10	0.020	(0.073)	0.005	0.015
244	20.33	0.10	0.020	(0.072)	0.005	0.015
245	20.42	0.10	0.020	(0.072)	0.005	0.015
246	20.50	0.10	0.020	(0.072)	0.005	0.015
247	20.58	0.10	0.020	(0.071)	0.005	0.015
248	20.67	0.10	0.020	(0.071)	0.005	0.015
249	20.75	0.10	0.020	(0.071)	0.005	0.015
250	20.83	0.07	0.013	(0.070)	0.003	0.010
251	20.92	0.07	0.013	(0.070)	0.003	0.010
252	21.00	0.07	0.013	(0.070)	0.003	0.010
253	21.08	0.10	0.020	(0.070)	0.005	0.015
254	21.17	0.10	0.020	(0.069)	0.005	0.015
255	21.25	0.10	0.020	(0.069)	0.005	0.015
256	21.33	0.07	0.013	(0.069)	0.003	0.010
257	21.42	0.07	0.013	(0.069)	0.003	0.010
258	21.50	0.07	0.013	(0.068)	0.003	0.010
259	21.58	0.10	0.020	(0.068)	0.005	0.015
260	21.67	0.10	0.020	(0.068)	0.005	0.015
261	21.75	0.10	0.020	(0.068)	0.005	0.015
262	21.83	0.07	0.013	(0.067)	0.003	0.010
263	21.92	0.07	0.013	(0.067)	0.003	0.010
264	22.00	0.07	0.013	(0.067)	0.003	0.010
265	22.08	0.10	0.020	(0.067)	0.005	0.015
266	22.17	0.10	0.020	(0.066)	0.005	0.015
267	22.25	0.10	0.020	(0.066)	0.005	0.015
268	22.33	0.07	0.013	(0.066)	0.003	0.010
269	22.42	0.07	0.013	(0.066)	0.003	0.010
270	22.50	0.07	0.013	(0.066)	0.003	0.010
271	22.58	0.07	0.013	(0.065)	0.003	0.010
272	22.67	0.07	0.013	(0.065)	0.003	0.010
273	22.75	0.07	0.013	(0.065)	0.003	0.010
274	22.83	0.07	0.013	(0.065)	0.003	0.010
275	22.92	0.07	0.013	(0.065)	0.003	0.010
276	23.00	0.07	0.013	(0.065)	0.003	0.010
277	23.08	0.07	0.013	(0.064)	0.003	0.010
278	23.17	0.07	0.013	(0.064)	0.003	0.010
279	23.25	0.07	0.013	(0.064)	0.003	0.010
280	23.33	0.07	0.013	(0.064)	0.003	0.010
281	23.42	0.07	0.013	(0.064)	0.003	0.010
282	23.50	0.07	0.013	(0.064)	0.003	0.010
283	23.58	0.07	0.013	(0.064)	0.003	0.010
284	23.67	0.07	0.013	(0.064)	0.003	0.010
285	23.75	0.07	0.013	(0.063)	0.003	0.010
286	23.83	0.07	0.013	(0.063)	0.003	0.010
287	23.92	0.07	0.013	(0.063)	0.003	0.010
288	24.00	0.07	0.013	(0.063)	0.003	0.010

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.1

Flood volume = Effective rainfall 1.26(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.40(In)
Total soil loss = 0.030(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 4121.6 Cubic Feet

Total soil loss = 1301.6 Cubic Feet

Peak flow rate of this hydrograph = 0.156(CFS)

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24 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0003	0.01	Q				
0+25	0.0004	0.01	Q				
0+30	0.0005	0.01	Q				
0+35	0.0005	0.01	Q				
0+40	0.0006	0.01	Q				
0+45	0.0007	0.01	Q				
0+50	0.0009	0.02	Q				
0+55	0.0010	0.02	Q				
1+ 0	0.0011	0.02	Q				
1+ 5	0.0012	0.01	Q				
1+10	0.0013	0.01	Q				
1+15	0.0014	0.01	Q				
1+20	0.0015	0.01	Q				
1+25	0.0016	0.01	Q				
1+30	0.0017	0.01	Q				
1+35	0.0018	0.01	Q				
1+40	0.0019	0.01	Q				
1+45	0.0020	0.01	Q				
1+50	0.0021	0.02	Q				
1+55	0.0022	0.02	Q				
2+ 0	0.0023	0.02	Q				
2+ 5	0.0025	0.02	QV				
2+10	0.0026	0.02	QV				
2+15	0.0027	0.02	QV				
2+20	0.0028	0.02	QV				
2+25	0.0030	0.02	QV				
2+30	0.0031	0.02	QV				
2+35	0.0032	0.02	QV				
2+40	0.0034	0.02	QV				
2+45	0.0036	0.02	QV				
2+50	0.0037	0.02	QV				
2+55	0.0039	0.02	QV				
3+ 0	0.0040	0.02	QV				
3+ 5	0.0042	0.02	QV				
3+10	0.0043	0.02	QV				
3+15	0.0045	0.02	QV				
3+20	0.0047	0.02	QV				
3+25	0.0048	0.02	Q V				
3+30	0.0050	0.02	Q V				
3+35	0.0051	0.02	Q V				
3+40	0.0053	0.02	Q V				

3+45	0.0055	0.02	Q V	|	|	|	|
3+50	0.0056	0.03	Q V	|	|	|	|
3+55	0.0058	0.03	Q V	|	|	|	|
4+ 0	0.0060	0.03	Q V	|	|	|	|
4+ 5	0.0062	0.03	Q V	|	|	|	|
4+10	0.0064	0.03	Q V	|	|	|	|
4+15	0.0066	0.03	Q V	|	|	|	|
4+20	0.0068	0.03	Q V	|	|	|	|
4+25	0.0070	0.03	Q V	|	|	|	|
4+30	0.0072	0.03	Q V	|	|	|	|
4+35	0.0075	0.03	Q V	|	|	|	|
4+40	0.0077	0.03	Q V	|	|	|	|
4+45	0.0079	0.03	Q V	|	|	|	|
4+50	0.0081	0.04	Q V	|	|	|	|
4+55	0.0084	0.04	Q V	|	|	|	|
5+ 0	0.0086	0.04	Q V	|	|	|	|
5+ 5	0.0088	0.03	Q V	|	|	|	|
5+10	0.0090	0.03	Q V	|	|	|	|
5+15	0.0092	0.03	Q V	|	|	|	|
5+20	0.0094	0.03	Q V	|	|	|	|
5+25	0.0097	0.03	Q V	|	|	|	|
5+30	0.0099	0.03	Q V	|	|	|	|
5+35	0.0101	0.04	Q V	|	|	|	|
5+40	0.0104	0.04	Q V	|	|	|	|
5+45	0.0106	0.04	Q V	|	|	|	|
5+50	0.0109	0.04	Q V	|	|	|	|
5+55	0.0111	0.04	Q V	|	|	|	|
6+ 0	0.0114	0.04	Q V	|	|	|	|
6+ 5	0.0117	0.04	Q V	|	|	|	|
6+10	0.0119	0.04	Q V	|	|	|	|
6+15	0.0122	0.04	Q V	|	|	|	|
6+20	0.0125	0.04	Q V	|	|	|	|
6+25	0.0128	0.04	Q V	|	|	|	|
6+30	0.0131	0.04	Q V	|	|	|	|
6+35	0.0134	0.04	Q V	|	|	|	|
6+40	0.0137	0.05	Q V	|	|	|	|
6+45	0.0140	0.05	Q V	|	|	|	|
6+50	0.0143	0.05	Q V	|	|	|	|
6+55	0.0147	0.05	Q V	|	|	|	|
7+ 0	0.0150	0.05	Q V	|	|	|	|
7+ 5	0.0153	0.05	Q V	|	|	|	|
7+10	0.0156	0.05	Q V	|	|	|	|
7+15	0.0159	0.05	Q V	|	|	|	|
7+20	0.0163	0.05	Q V	|	|	|	|
7+25	0.0166	0.05	Q V	|	|	|	|
7+30	0.0169	0.05	Q V	|	|	|	|
7+35	0.0173	0.05	Q V	|	|	|	|
7+40	0.0177	0.05	Q V	|	|	|	|
7+45	0.0181	0.05	Q V	|	|	|	|
7+50	0.0185	0.06	Q V	|	|	|	|
7+55	0.0189	0.06	Q V	|	|	|	|
8+ 0	0.0193	0.06	Q V	|	|	|	|
8+ 5	0.0198	0.07	Q V	|	|	|	|
8+10	0.0202	0.07	Q V	|	|	|	|
8+15	0.0207	0.07	Q V	|	|	|	|
8+20	0.0212	0.07	Q V	|	|	|	|
8+25	0.0217	0.07	Q V	|	|	|	|

8+30	0.0221	0.07	Q	V| | | |
8+35	0.0226	0.07	Q	V| | | |
8+40	0.0231	0.07	Q	V| | | |
8+45	0.0236	0.07	Q	V| | | |
8+50	0.0242	0.08	Q	V | | |
8+55	0.0247	0.08	Q	V | | |
9+ 0	0.0252	0.08	Q	V | | |
9+ 5	0.0258	0.08	Q	V | | |
9+10	0.0264	0.09	Q	|V | | |
9+15	0.0270	0.09	Q	|V | | |
9+20	0.0276	0.09	Q	|V | | |
9+25	0.0283	0.09	Q	|V | | |
9+30	0.0289	0.09	Q	| V | | |
9+35	0.0296	0.10	Q	| V | | |
9+40	0.0302	0.10	Q	| V | | |
9+45	0.0309	0.10	Q	| V | | |
9+50	0.0316	0.10	Q	| V | | |
9+55	0.0323	0.10	Q	| V | | |
10+ 0	0.0330	0.10	Q	| V | | |
10+ 5	0.0335	0.08	Q	| V | | |
10+10	0.0340	0.07	Q	| V | | |
10+15	0.0344	0.07	Q	| V | | |
10+20	0.0349	0.07	Q	| V | | |
10+25	0.0354	0.07	Q	| V | | |
10+30	0.0358	0.07	Q	| V | | |
10+35	0.0364	0.09	Q	| V | | |
10+40	0.0371	0.09	Q	| V | | |
10+45	0.0377	0.09	Q	| V | | |
10+50	0.0383	0.09	Q	| V | | |
10+55	0.0390	0.09	Q	| V | | |
11+ 0	0.0396	0.09	Q	| V | | |
11+ 5	0.0402	0.09	Q	| V | | |
11+10	0.0408	0.09	Q	| V | | |
11+15	0.0414	0.09	Q	| V | | |
11+20	0.0420	0.09	Q	| V | | |
11+25	0.0426	0.09	Q	| V | | |
11+30	0.0432	0.09	Q	| V | | |
11+35	0.0437	0.08	Q	| V | | |
11+40	0.0443	0.08	Q	| V | | |
11+45	0.0448	0.08	Q	| V | | |
11+50	0.0454	0.08	Q	| V| | |
11+55	0.0459	0.08	Q	| V| | |
12+ 0	0.0465	0.08	Q	| V| | |
12+ 5	0.0473	0.11	Q	| V| | |
12+10	0.0480	0.11	Q	| V | |
12+15	0.0488	0.11	Q	| V | |
12+20	0.0496	0.12	Q	| V | |
12+25	0.0505	0.12	Q	| |V | |
12+30	0.0513	0.12	Q	| |V | |
12+35	0.0521	0.13	Q	| | V | |
12+40	0.0530	0.13	Q	| | V | |
12+45	0.0539	0.13	Q	| | V | |
12+50	0.0548	0.13	Q	| | V | |
12+55	0.0557	0.13	Q	| | V | |
13+ 0	0.0567	0.13	Q	| | V | |
13+ 5	0.0577	0.15	Q	| | V | |
13+10	0.0588	0.16	Q	| | V | |

13+15	0.0598	0.16	Q	|	|	V	|	|
13+20	0.0609	0.16	Q	|	|	V	|	|
13+25	0.0620	0.16	Q	|	|	V	|	|
13+30	0.0630	0.16	Q	|	|	V	|	|
13+35	0.0639	0.12	Q	|	|	V	|	|
13+40	0.0646	0.11	Q	|	|	V	|	|
13+45	0.0653	0.11	Q	|	|	V	|	|
13+50	0.0660	0.11	Q	|	|	V	|	|
13+55	0.0668	0.11	Q	|	|	V	|	|
14+ 0	0.0675	0.11	Q	|	|	V	|	|
14+ 5	0.0683	0.12	Q	|	|	V	|	|
14+10	0.0692	0.12	Q	|	|	V	|	|
14+15	0.0700	0.12	Q	|	|	V	|	|
14+20	0.0708	0.12	Q	|	|	V	|	|
14+25	0.0717	0.12	Q	|	|	V	|	|
14+30	0.0725	0.12	Q	|	|	V	|	|
14+35	0.0733	0.12	Q	|	|	V	|	|
14+40	0.0741	0.12	Q	|	|	V	|	|
14+45	0.0749	0.12	Q	|	|	V	|	|
14+50	0.0757	0.12	Q	|	|	V	|	|
14+55	0.0765	0.11	Q	|	|	V	|	|
15+ 0	0.0773	0.11	Q	|	|	V	|	|
15+ 5	0.0781	0.11	Q	|	|	V	|	|
15+10	0.0788	0.11	Q	|	|	V	|	|
15+15	0.0796	0.11	Q	|	|	V	|	|
15+20	0.0803	0.11	Q	|	|	V	|	|
15+25	0.0810	0.11	Q	|	|	V	|	|
15+30	0.0818	0.11	Q	|	|	V	|	|
15+35	0.0824	0.09	Q	|	|	V	|	|
15+40	0.0830	0.09	Q	|	|	V	|	|
15+45	0.0836	0.09	Q	|	|	V	|	|
15+50	0.0842	0.09	Q	|	|	V	|	|
15+55	0.0848	0.09	Q	|	|	V	|	|
16+ 0	0.0854	0.09	Q	|	|	V	|	|
16+ 5	0.0856	0.03	Q	|	|	V	|	|
16+10	0.0858	0.02	Q	|	|	V	|	|
16+15	0.0859	0.02	Q	|	|	V	|	|
16+20	0.0860	0.02	Q	|	|	V	|	|
16+25	0.0861	0.02	Q	|	|	V	|	|
16+30	0.0863	0.02	Q	|	|	V	|	|
16+35	0.0864	0.01	Q	|	|	V	|	|
16+40	0.0865	0.01	Q	|	|	V	|	|
16+45	0.0866	0.01	Q	|	|	V	|	|
16+50	0.0866	0.01	Q	|	|	V	|	|
16+55	0.0867	0.01	Q	|	|	V	|	|
17+ 0	0.0868	0.01	Q	|	|	V	|	|
17+ 5	0.0870	0.02	Q	|	|	V	|	|
17+10	0.0871	0.02	Q	|	|	V	|	|
17+15	0.0873	0.02	Q	|	|	V	|	|
17+20	0.0875	0.02	Q	|	|	V	|	|
17+25	0.0876	0.02	Q	|	|	V	|	|
17+30	0.0878	0.02	Q	|	|	V	|	|
17+35	0.0879	0.02	Q	|	|	V	|	|
17+40	0.0881	0.02	Q	|	|	V	|	|
17+45	0.0882	0.02	Q	|	|	V	|	|
17+50	0.0884	0.02	Q	|	|	V	|	|
17+55	0.0885	0.02	Q	|	|	V	|	|

18+ 0	0.0886	0.02	Q	|	|	|	V |
18+ 5	0.0888	0.02	Q	|	|	|	V |
18+10	0.0889	0.02	Q	|	|	|	V |
18+15	0.0890	0.02	Q	|	|	|	V |
18+20	0.0891	0.02	Q	|	|	|	V |
18+25	0.0893	0.02	Q	|	|	|	V |
18+30	0.0894	0.02	Q	|	|	|	V |
18+35	0.0895	0.01	Q	|	|	|	V |
18+40	0.0896	0.01	Q	|	|	|	V |
18+45	0.0897	0.01	Q	|	|	|	V |
18+50	0.0897	0.01	Q	|	|	|	V |
18+55	0.0898	0.01	Q	|	|	|	V |
19+ 0	0.0899	0.01	Q	|	|	|	V |
19+ 5	0.0900	0.01	Q	|	|	|	V |
19+10	0.0901	0.01	Q	|	|	|	V |
19+15	0.0902	0.01	Q	|	|	|	V |
19+20	0.0903	0.02	Q	|	|	|	V |
19+25	0.0904	0.02	Q	|	|	|	V |
19+30	0.0905	0.02	Q	|	|	|	V |
19+35	0.0906	0.01	Q	|	|	|	V |
19+40	0.0907	0.01	Q	|	|	|	V |
19+45	0.0908	0.01	Q	|	|	|	V |
19+50	0.0909	0.01	Q	|	|	|	V |
19+55	0.0909	0.01	Q	|	|	|	V |
20+ 0	0.0910	0.01	Q	|	|	|	V |
20+ 5	0.0911	0.01	Q	|	|	|	V |
20+10	0.0912	0.01	Q	|	|	|	V |
20+15	0.0913	0.01	Q	|	|	|	V |
20+20	0.0914	0.01	Q	|	|	|	V |
20+25	0.0915	0.01	Q	|	|	|	V |
20+30	0.0916	0.01	Q	|	|	|	V |
20+35	0.0917	0.01	Q	|	|	|	V |
20+40	0.0918	0.01	Q	|	|	|	V |
20+45	0.0919	0.01	Q	|	|	|	V |
20+50	0.0919	0.01	Q	|	|	|	V |
20+55	0.0920	0.01	Q	|	|	|	V |
21+ 0	0.0921	0.01	Q	|	|	|	V |
21+ 5	0.0921	0.01	Q	|	|	|	V |
21+10	0.0922	0.01	Q	|	|	|	V |
21+15	0.0923	0.01	Q	|	|	|	V|
21+20	0.0924	0.01	Q	|	|	|	V|
21+25	0.0925	0.01	Q	|	|	|	V|
21+30	0.0925	0.01	Q	|	|	|	V|
21+35	0.0926	0.01	Q	|	|	|	V|
21+40	0.0927	0.01	Q	|	|	|	V|
21+45	0.0928	0.01	Q	|	|	|	V|
21+50	0.0929	0.01	Q	|	|	|	V|
21+55	0.0929	0.01	Q	|	|	|	V|
22+ 0	0.0930	0.01	Q	|	|	|	V|
22+ 5	0.0931	0.01	Q	|	|	|	V|
22+10	0.0932	0.01	Q	|	|	|	V|
22+15	0.0933	0.01	Q	|	|	|	V|
22+20	0.0933	0.01	Q	|	|	|	V|
22+25	0.0934	0.01	Q	|	|	|	V|
22+30	0.0935	0.01	Q	|	|	|	V|
22+35	0.0935	0.01	Q	|	|	|	V|
22+40	0.0936	0.01	Q	|	|	|	V|

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  22+45       0.0937      0.01  Q          |          |          |         V|
  22+50       0.0937      0.01  Q          |          |          |         V|
  22+55       0.0938      0.01  Q          |          |          |         V|
  23+ 0       0.0938      0.01  Q          |          |          |         V|
  23+ 5       0.0939      0.01  Q          |          |          |         V|
  23+10       0.0940      0.01  Q          |          |          |         V|
  23+15       0.0940      0.01  Q          |          |          |         V|
  23+20       0.0941      0.01  Q          |          |          |         V|
  23+25       0.0942      0.01  Q          |          |          |         V|
  23+30       0.0942      0.01  Q          |          |          |         V|
  23+35       0.0943      0.01  Q          |          |          |         V|
  23+40       0.0944      0.01  Q          |          |          |         V|
  23+45       0.0944      0.01  Q          |          |          |         V|
  23+50       0.0945      0.01  Q          |          |          |         V|
  23+55       0.0945      0.01  Q          |          |          |         V|
  24+ 0       0.0946      0.01  Q          |          |          |         V|
  24+ 5       0.0946      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 06/03/26 File: 19267p002J242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	1.66	0.56

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.34	4.10	1.39

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.340	75.00	0.860

Total Area Entered = 0.34(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.860	0.113	1.000	0.113
					Sum (F) =	0.113

Area averaged mean soil loss (F) (In/Hr) = 0.113
Minimum soil loss rate ((In/Hr)) = 0.057
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.210

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1304.735	100.000	0.343
		Sum = 100.000	Sum=	0.343

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	0.013	(0.201)	0.003	0.010
2	0.17	0.07	0.013	(0.200)	0.003	0.010
3	0.25	0.07	0.013	(0.199)	0.003	0.010
4	0.33	0.10	0.020	(0.198)	0.004	0.016
5	0.42	0.10	0.020	(0.197)	0.004	0.016
6	0.50	0.10	0.020	(0.197)	0.004	0.016
7	0.58	0.10	0.020	(0.196)	0.004	0.016
8	0.67	0.10	0.020	(0.195)	0.004	0.016
9	0.75	0.10	0.020	(0.194)	0.004	0.016
10	0.83	0.13	0.027	(0.194)	0.006	0.021
11	0.92	0.13	0.027	(0.193)	0.006	0.021
12	1.00	0.13	0.027	(0.192)	0.006	0.021

13	1.08	0.10	0.020	(0.191)	0.004	0.016
14	1.17	0.10	0.020	(0.191)	0.004	0.016
15	1.25	0.10	0.020	(0.190)	0.004	0.016
16	1.33	0.10	0.020	(0.189)	0.004	0.016
17	1.42	0.10	0.020	(0.188)	0.004	0.016
18	1.50	0.10	0.020	(0.188)	0.004	0.016
19	1.58	0.10	0.020	(0.187)	0.004	0.016
20	1.67	0.10	0.020	(0.186)	0.004	0.016
21	1.75	0.10	0.020	(0.185)	0.004	0.016
22	1.83	0.13	0.027	(0.185)	0.006	0.021
23	1.92	0.13	0.027	(0.184)	0.006	0.021
24	2.00	0.13	0.027	(0.183)	0.006	0.021
25	2.08	0.13	0.027	(0.182)	0.006	0.021
26	2.17	0.13	0.027	(0.182)	0.006	0.021
27	2.25	0.13	0.027	(0.181)	0.006	0.021
28	2.33	0.13	0.027	(0.180)	0.006	0.021
29	2.42	0.13	0.027	(0.179)	0.006	0.021
30	2.50	0.13	0.027	(0.179)	0.006	0.021
31	2.58	0.17	0.033	(0.178)	0.007	0.026
32	2.67	0.17	0.033	(0.177)	0.007	0.026
33	2.75	0.17	0.033	(0.176)	0.007	0.026
34	2.83	0.17	0.033	(0.176)	0.007	0.026
35	2.92	0.17	0.033	(0.175)	0.007	0.026
36	3.00	0.17	0.033	(0.174)	0.007	0.026
37	3.08	0.17	0.033	(0.174)	0.007	0.026
38	3.17	0.17	0.033	(0.173)	0.007	0.026
39	3.25	0.17	0.033	(0.172)	0.007	0.026
40	3.33	0.17	0.033	(0.171)	0.007	0.026
41	3.42	0.17	0.033	(0.171)	0.007	0.026
42	3.50	0.17	0.033	(0.170)	0.007	0.026
43	3.58	0.17	0.033	(0.169)	0.007	0.026
44	3.67	0.17	0.033	(0.169)	0.007	0.026
45	3.75	0.17	0.033	(0.168)	0.007	0.026
46	3.83	0.20	0.040	(0.167)	0.008	0.031
47	3.92	0.20	0.040	(0.166)	0.008	0.031
48	4.00	0.20	0.040	(0.166)	0.008	0.031
49	4.08	0.20	0.040	(0.165)	0.008	0.031
50	4.17	0.20	0.040	(0.164)	0.008	0.031
51	4.25	0.20	0.040	(0.164)	0.008	0.031
52	4.33	0.23	0.046	(0.163)	0.010	0.037
53	4.42	0.23	0.046	(0.162)	0.010	0.037
54	4.50	0.23	0.046	(0.162)	0.010	0.037
55	4.58	0.23	0.046	(0.161)	0.010	0.037
56	4.67	0.23	0.046	(0.160)	0.010	0.037
57	4.75	0.23	0.046	(0.159)	0.010	0.037
58	4.83	0.27	0.053	(0.159)	0.011	0.042
59	4.92	0.27	0.053	(0.158)	0.011	0.042
60	5.00	0.27	0.053	(0.157)	0.011	0.042
61	5.08	0.20	0.040	(0.157)	0.008	0.031
62	5.17	0.20	0.040	(0.156)	0.008	0.031
63	5.25	0.20	0.040	(0.155)	0.008	0.031
64	5.33	0.23	0.046	(0.155)	0.010	0.037
65	5.42	0.23	0.046	(0.154)	0.010	0.037
66	5.50	0.23	0.046	(0.153)	0.010	0.037
67	5.58	0.27	0.053	(0.153)	0.011	0.042
68	5.67	0.27	0.053	(0.152)	0.011	0.042
69	5.75	0.27	0.053	(0.151)	0.011	0.042

70	5.83	0.27	0.053	(0.151)	0.011	0.042
71	5.92	0.27	0.053	(0.150)	0.011	0.042
72	6.00	0.27	0.053	(0.149)	0.011	0.042
73	6.08	0.30	0.060	(0.149)	0.013	0.047
74	6.17	0.30	0.060	(0.148)	0.013	0.047
75	6.25	0.30	0.060	(0.147)	0.013	0.047
76	6.33	0.30	0.060	(0.147)	0.013	0.047
77	6.42	0.30	0.060	(0.146)	0.013	0.047
78	6.50	0.30	0.060	(0.145)	0.013	0.047
79	6.58	0.33	0.066	(0.145)	0.014	0.052
80	6.67	0.33	0.066	(0.144)	0.014	0.052
81	6.75	0.33	0.066	(0.143)	0.014	0.052
82	6.83	0.33	0.066	(0.143)	0.014	0.052
83	6.92	0.33	0.066	(0.142)	0.014	0.052
84	7.00	0.33	0.066	(0.141)	0.014	0.052
85	7.08	0.33	0.066	(0.141)	0.014	0.052
86	7.17	0.33	0.066	(0.140)	0.014	0.052
87	7.25	0.33	0.066	(0.140)	0.014	0.052
88	7.33	0.37	0.073	(0.139)	0.015	0.058
89	7.42	0.37	0.073	(0.138)	0.015	0.058
90	7.50	0.37	0.073	(0.138)	0.015	0.058
91	7.58	0.40	0.080	(0.137)	0.017	0.063
92	7.67	0.40	0.080	(0.136)	0.017	0.063
93	7.75	0.40	0.080	(0.136)	0.017	0.063
94	7.83	0.43	0.086	(0.135)	0.018	0.068
95	7.92	0.43	0.086	(0.135)	0.018	0.068
96	8.00	0.43	0.086	(0.134)	0.018	0.068
97	8.08	0.50	0.100	(0.133)	0.021	0.079
98	8.17	0.50	0.100	(0.133)	0.021	0.079
99	8.25	0.50	0.100	(0.132)	0.021	0.079
100	8.33	0.50	0.100	(0.131)	0.021	0.079
101	8.42	0.50	0.100	(0.131)	0.021	0.079
102	8.50	0.50	0.100	(0.130)	0.021	0.079
103	8.58	0.53	0.106	(0.130)	0.022	0.084
104	8.67	0.53	0.106	(0.129)	0.022	0.084
105	8.75	0.53	0.106	(0.128)	0.022	0.084
106	8.83	0.57	0.113	(0.128)	0.024	0.089
107	8.92	0.57	0.113	(0.127)	0.024	0.089
108	9.00	0.57	0.113	(0.127)	0.024	0.089
109	9.08	0.63	0.126	(0.126)	0.026	0.100
110	9.17	0.63	0.126	(0.125)	0.026	0.100
111	9.25	0.63	0.126	(0.125)	0.026	0.100
112	9.33	0.67	0.133	(0.124)	0.028	0.105
113	9.42	0.67	0.133	(0.124)	0.028	0.105
114	9.50	0.67	0.133	(0.123)	0.028	0.105
115	9.58	0.70	0.139	(0.122)	0.029	0.110
116	9.67	0.70	0.139	(0.122)	0.029	0.110
117	9.75	0.70	0.139	(0.121)	0.029	0.110
118	9.83	0.73	0.146	(0.121)	0.031	0.115
119	9.92	0.73	0.146	(0.120)	0.031	0.115
120	10.00	0.73	0.146	(0.119)	0.031	0.115
121	10.08	0.50	0.100	(0.119)	0.021	0.079
122	10.17	0.50	0.100	(0.118)	0.021	0.079
123	10.25	0.50	0.100	(0.118)	0.021	0.079
124	10.33	0.50	0.100	(0.117)	0.021	0.079
125	10.42	0.50	0.100	(0.117)	0.021	0.079
126	10.50	0.50	0.100	(0.116)	0.021	0.079

127	10.58	0.67	0.133	(0.115)	0.028	0.105
128	10.67	0.67	0.133	(0.115)	0.028	0.105
129	10.75	0.67	0.133	(0.114)	0.028	0.105
130	10.83	0.67	0.133	(0.114)	0.028	0.105
131	10.92	0.67	0.133	(0.113)	0.028	0.105
132	11.00	0.67	0.133	(0.113)	0.028	0.105
133	11.08	0.63	0.126	(0.112)	0.026	0.100
134	11.17	0.63	0.126	(0.112)	0.026	0.100
135	11.25	0.63	0.126	(0.111)	0.026	0.100
136	11.33	0.63	0.126	(0.110)	0.026	0.100
137	11.42	0.63	0.126	(0.110)	0.026	0.100
138	11.50	0.63	0.126	(0.109)	0.026	0.100
139	11.58	0.57	0.113	(0.109)	0.024	0.089
140	11.67	0.57	0.113	(0.108)	0.024	0.089
141	11.75	0.57	0.113	(0.108)	0.024	0.089
142	11.83	0.60	0.120	(0.107)	0.025	0.094
143	11.92	0.60	0.120	(0.107)	0.025	0.094
144	12.00	0.60	0.120	(0.106)	0.025	0.094
145	12.08	0.83	0.166	(0.106)	0.035	0.131
146	12.17	0.83	0.166	(0.105)	0.035	0.131
147	12.25	0.83	0.166	(0.105)	0.035	0.131
148	12.33	0.87	0.173	(0.104)	0.036	0.136
149	12.42	0.87	0.173	(0.104)	0.036	0.136
150	12.50	0.87	0.173	(0.103)	0.036	0.136
151	12.58	0.93	0.186	(0.102)	0.039	0.147
152	12.67	0.93	0.186	(0.102)	0.039	0.147
153	12.75	0.93	0.186	(0.101)	0.039	0.147
154	12.83	0.97	0.193	(0.101)	0.040	0.152
155	12.92	0.97	0.193	(0.100)	0.040	0.152
156	13.00	0.97	0.193	(0.100)	0.040	0.152
157	13.08	1.13	0.226	(0.099)	0.047	0.178
158	13.17	1.13	0.226	(0.099)	0.047	0.178
159	13.25	1.13	0.226	(0.098)	0.047	0.178
160	13.33	1.13	0.226	(0.098)	0.047	0.178
161	13.42	1.13	0.226	(0.097)	0.047	0.178
162	13.50	1.13	0.226	(0.097)	0.047	0.178
163	13.58	0.77	0.153	(0.096)	0.032	0.121
164	13.67	0.77	0.153	(0.096)	0.032	0.121
165	13.75	0.77	0.153	(0.095)	0.032	0.121
166	13.83	0.77	0.153	(0.095)	0.032	0.121
167	13.92	0.77	0.153	(0.094)	0.032	0.121
168	14.00	0.77	0.153	(0.094)	0.032	0.121
169	14.08	0.90	0.179	(0.093)	0.038	0.142
170	14.17	0.90	0.179	(0.093)	0.038	0.142
171	14.25	0.90	0.179	(0.093)	0.038	0.142
172	14.33	0.87	0.173	(0.092)	0.036	0.136
173	14.42	0.87	0.173	(0.092)	0.036	0.136
174	14.50	0.87	0.173	(0.091)	0.036	0.136
175	14.58	0.87	0.173	(0.091)	0.036	0.136
176	14.67	0.87	0.173	(0.090)	0.036	0.136
177	14.75	0.87	0.173	(0.090)	0.036	0.136
178	14.83	0.83	0.166	(0.089)	0.035	0.131
179	14.92	0.83	0.166	(0.089)	0.035	0.131
180	15.00	0.83	0.166	(0.088)	0.035	0.131
181	15.08	0.80	0.159	(0.088)	0.033	0.126
182	15.17	0.80	0.159	(0.087)	0.033	0.126
183	15.25	0.80	0.159	(0.087)	0.033	0.126

184	15.33	0.77	0.153	(0.087)	0.032	0.121
185	15.42	0.77	0.153	(0.086)	0.032	0.121
186	15.50	0.77	0.153	(0.086)	0.032	0.121
187	15.58	0.63	0.126	(0.085)	0.026	0.100
188	15.67	0.63	0.126	(0.085)	0.026	0.100
189	15.75	0.63	0.126	(0.084)	0.026	0.100
190	15.83	0.63	0.126	(0.084)	0.026	0.100
191	15.92	0.63	0.126	(0.084)	0.026	0.100
192	16.00	0.63	0.126	(0.083)	0.026	0.100
193	16.08	0.13	0.027	(0.083)	0.006	0.021
194	16.17	0.13	0.027	(0.082)	0.006	0.021
195	16.25	0.13	0.027	(0.082)	0.006	0.021
196	16.33	0.13	0.027	(0.081)	0.006	0.021
197	16.42	0.13	0.027	(0.081)	0.006	0.021
198	16.50	0.13	0.027	(0.081)	0.006	0.021
199	16.58	0.10	0.020	(0.080)	0.004	0.016
200	16.67	0.10	0.020	(0.080)	0.004	0.016
201	16.75	0.10	0.020	(0.079)	0.004	0.016
202	16.83	0.10	0.020	(0.079)	0.004	0.016
203	16.92	0.10	0.020	(0.079)	0.004	0.016
204	17.00	0.10	0.020	(0.078)	0.004	0.016
205	17.08	0.17	0.033	(0.078)	0.007	0.026
206	17.17	0.17	0.033	(0.077)	0.007	0.026
207	17.25	0.17	0.033	(0.077)	0.007	0.026
208	17.33	0.17	0.033	(0.077)	0.007	0.026
209	17.42	0.17	0.033	(0.076)	0.007	0.026
210	17.50	0.17	0.033	(0.076)	0.007	0.026
211	17.58	0.17	0.033	(0.075)	0.007	0.026
212	17.67	0.17	0.033	(0.075)	0.007	0.026
213	17.75	0.17	0.033	(0.075)	0.007	0.026
214	17.83	0.13	0.027	(0.074)	0.006	0.021
215	17.92	0.13	0.027	(0.074)	0.006	0.021
216	18.00	0.13	0.027	(0.074)	0.006	0.021
217	18.08	0.13	0.027	(0.073)	0.006	0.021
218	18.17	0.13	0.027	(0.073)	0.006	0.021
219	18.25	0.13	0.027	(0.073)	0.006	0.021
220	18.33	0.13	0.027	(0.072)	0.006	0.021
221	18.42	0.13	0.027	(0.072)	0.006	0.021
222	18.50	0.13	0.027	(0.071)	0.006	0.021
223	18.58	0.10	0.020	(0.071)	0.004	0.016
224	18.67	0.10	0.020	(0.071)	0.004	0.016
225	18.75	0.10	0.020	(0.070)	0.004	0.016
226	18.83	0.07	0.013	(0.070)	0.003	0.010
227	18.92	0.07	0.013	(0.070)	0.003	0.010
228	19.00	0.07	0.013	(0.069)	0.003	0.010
229	19.08	0.10	0.020	(0.069)	0.004	0.016
230	19.17	0.10	0.020	(0.069)	0.004	0.016
231	19.25	0.10	0.020	(0.068)	0.004	0.016
232	19.33	0.13	0.027	(0.068)	0.006	0.021
233	19.42	0.13	0.027	(0.068)	0.006	0.021
234	19.50	0.13	0.027	(0.068)	0.006	0.021
235	19.58	0.10	0.020	(0.067)	0.004	0.016
236	19.67	0.10	0.020	(0.067)	0.004	0.016
237	19.75	0.10	0.020	(0.067)	0.004	0.016
238	19.83	0.07	0.013	(0.066)	0.003	0.010
239	19.92	0.07	0.013	(0.066)	0.003	0.010
240	20.00	0.07	0.013	(0.066)	0.003	0.010

241	20.08	0.10	0.020	(0.065)	0.004	0.016
242	20.17	0.10	0.020	(0.065)	0.004	0.016
243	20.25	0.10	0.020	(0.065)	0.004	0.016
244	20.33	0.10	0.020	(0.065)	0.004	0.016
245	20.42	0.10	0.020	(0.064)	0.004	0.016
246	20.50	0.10	0.020	(0.064)	0.004	0.016
247	20.58	0.10	0.020	(0.064)	0.004	0.016
248	20.67	0.10	0.020	(0.063)	0.004	0.016
249	20.75	0.10	0.020	(0.063)	0.004	0.016
250	20.83	0.07	0.013	(0.063)	0.003	0.010
251	20.92	0.07	0.013	(0.063)	0.003	0.010
252	21.00	0.07	0.013	(0.062)	0.003	0.010
253	21.08	0.10	0.020	(0.062)	0.004	0.016
254	21.17	0.10	0.020	(0.062)	0.004	0.016
255	21.25	0.10	0.020	(0.062)	0.004	0.016
256	21.33	0.07	0.013	(0.061)	0.003	0.010
257	21.42	0.07	0.013	(0.061)	0.003	0.010
258	21.50	0.07	0.013	(0.061)	0.003	0.010
259	21.58	0.10	0.020	(0.061)	0.004	0.016
260	21.67	0.10	0.020	(0.061)	0.004	0.016
261	21.75	0.10	0.020	(0.060)	0.004	0.016
262	21.83	0.07	0.013	(0.060)	0.003	0.010
263	21.92	0.07	0.013	(0.060)	0.003	0.010
264	22.00	0.07	0.013	(0.060)	0.003	0.010
265	22.08	0.10	0.020	(0.060)	0.004	0.016
266	22.17	0.10	0.020	(0.059)	0.004	0.016
267	22.25	0.10	0.020	(0.059)	0.004	0.016
268	22.33	0.07	0.013	(0.059)	0.003	0.010
269	22.42	0.07	0.013	(0.059)	0.003	0.010
270	22.50	0.07	0.013	(0.059)	0.003	0.010
271	22.58	0.07	0.013	(0.058)	0.003	0.010
272	22.67	0.07	0.013	(0.058)	0.003	0.010
273	22.75	0.07	0.013	(0.058)	0.003	0.010
274	22.83	0.07	0.013	(0.058)	0.003	0.010
275	22.92	0.07	0.013	(0.058)	0.003	0.010
276	23.00	0.07	0.013	(0.058)	0.003	0.010
277	23.08	0.07	0.013	(0.058)	0.003	0.010
278	23.17	0.07	0.013	(0.057)	0.003	0.010
279	23.25	0.07	0.013	(0.057)	0.003	0.010
280	23.33	0.07	0.013	(0.057)	0.003	0.010
281	23.42	0.07	0.013	(0.057)	0.003	0.010
282	23.50	0.07	0.013	(0.057)	0.003	0.010
283	23.58	0.07	0.013	(0.057)	0.003	0.010
284	23.67	0.07	0.013	(0.057)	0.003	0.010
285	23.75	0.07	0.013	(0.057)	0.003	0.010
286	23.83	0.07	0.013	(0.057)	0.003	0.010
287	23.92	0.07	0.013	(0.057)	0.003	0.010
288	24.00	0.07	0.013	(0.057)	0.003	0.010

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.7

Flood volume = Effective rainfall 1.31(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.35(In)
Total soil loss = 0.010(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 1618.5 Cubic Feet
Total soil loss = 430.2 Cubic Feet

Peak flow rate of this hydrograph = 0.061(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	0.0000	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0001	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0002	0.01	Q				
0+40	0.0003	0.01	Q				
0+45	0.0003	0.01	Q				
0+50	0.0003	0.01	Q				
0+55	0.0004	0.01	Q				
1+ 0	0.0004	0.01	Q				
1+ 5	0.0005	0.01	Q				
1+10	0.0005	0.01	Q				
1+15	0.0006	0.01	Q				
1+20	0.0006	0.01	Q				
1+25	0.0006	0.01	Q				
1+30	0.0007	0.01	Q				
1+35	0.0007	0.01	Q				
1+40	0.0007	0.01	Q				
1+45	0.0008	0.01	Q				
1+50	0.0008	0.01	Q				
1+55	0.0009	0.01	Q				
2+ 0	0.0009	0.01	Q				
2+ 5	0.0010	0.01	QV				
2+10	0.0010	0.01	QV				
2+15	0.0011	0.01	QV				
2+20	0.0011	0.01	QV				
2+25	0.0012	0.01	QV				
2+30	0.0012	0.01	QV				
2+35	0.0013	0.01	QV				
2+40	0.0014	0.01	QV				
2+45	0.0014	0.01	QV				
2+50	0.0015	0.01	QV				
2+55	0.0015	0.01	QV				
3+ 0	0.0016	0.01	QV				
3+ 5	0.0017	0.01	QV				
3+10	0.0017	0.01	QV				
3+15	0.0018	0.01	QV				
3+20	0.0018	0.01	QV				
3+25	0.0019	0.01	Q V				
3+30	0.0020	0.01	Q V				
3+35	0.0020	0.01	Q V				
3+40	0.0021	0.01	Q V				
3+45	0.0022	0.01	Q V				

3+50	0.0022	0.01	Q V	|	|	|	|
3+55	0.0023	0.01	Q V	|	|	|	|
4+ 0	0.0024	0.01	Q V	|	|	|	|
4+ 5	0.0025	0.01	Q V	|	|	|	|
4+10	0.0025	0.01	Q V	|	|	|	|
4+15	0.0026	0.01	Q V	|	|	|	|
4+20	0.0027	0.01	Q V	|	|	|	|
4+25	0.0028	0.01	Q V	|	|	|	|
4+30	0.0029	0.01	Q V	|	|	|	|
4+35	0.0029	0.01	Q V	|	|	|	|
4+40	0.0030	0.01	Q V	|	|	|	|
4+45	0.0031	0.01	Q V	|	|	|	|
4+50	0.0032	0.01	Q V	|	|	|	|
4+55	0.0033	0.01	Q V	|	|	|	|
5+ 0	0.0034	0.01	Q V	|	|	|	|
5+ 5	0.0035	0.01	Q V	|	|	|	|
5+10	0.0036	0.01	Q V	|	|	|	|
5+15	0.0036	0.01	Q V	|	|	|	|
5+20	0.0037	0.01	Q V	|	|	|	|
5+25	0.0038	0.01	Q V	|	|	|	|
5+30	0.0039	0.01	Q V	|	|	|	|
5+35	0.0040	0.01	Q V	|	|	|	|
5+40	0.0041	0.01	Q V	|	|	|	|
5+45	0.0042	0.01	Q V	|	|	|	|
5+50	0.0043	0.01	Q V	|	|	|	|
5+55	0.0044	0.01	Q V	|	|	|	|
6+ 0	0.0045	0.01	Q V	|	|	|	|
6+ 5	0.0046	0.02	Q V	|	|	|	|
6+10	0.0047	0.02	Q V	|	|	|	|
6+15	0.0048	0.02	Q V	|	|	|	|
6+20	0.0049	0.02	Q V	|	|	|	|
6+25	0.0051	0.02	Q V	|	|	|	|
6+30	0.0052	0.02	Q V	|	|	|	|
6+35	0.0053	0.02	Q V	|	|	|	|
6+40	0.0054	0.02	Q V	|	|	|	|
6+45	0.0055	0.02	Q V	|	|	|	|
6+50	0.0057	0.02	Q V	|	|	|	|
6+55	0.0058	0.02	Q V	|	|	|	|
7+ 0	0.0059	0.02	Q V	|	|	|	|
7+ 5	0.0060	0.02	Q V	|	|	|	|
7+10	0.0062	0.02	Q V	|	|	|	|
7+15	0.0063	0.02	Q V	|	|	|	|
7+20	0.0064	0.02	Q V	|	|	|	|
7+25	0.0066	0.02	Q V	|	|	|	|
7+30	0.0067	0.02	Q V	|	|	|	|
7+35	0.0068	0.02	Q V	|	|	|	|
7+40	0.0070	0.02	Q V	|	|	|	|
7+45	0.0071	0.02	Q V	|	|	|	|
7+50	0.0073	0.02	Q V	|	|	|	|
7+55	0.0075	0.02	Q V	|	|	|	|
8+ 0	0.0076	0.02	Q V	|	|	|	|
8+ 5	0.0078	0.03	Q V	|	|	|	|
8+10	0.0080	0.03	Q V	|	|	|	|
8+15	0.0082	0.03	Q V	|	|	|	|
8+20	0.0084	0.03	Q V	|	|	|	|
8+25	0.0085	0.03	Q V	|	|	|	|
8+30	0.0087	0.03	Q V	|	|	|	|

8+35	0.0089	0.03	Q	V|				
8+40	0.0091	0.03	Q	V|				
8+45	0.0093	0.03	Q	V				
8+50	0.0095	0.03	Q	V				
8+55	0.0097	0.03	Q	V				
9+ 0	0.0100	0.03	Q	V				
9+ 5	0.0102	0.03	Q	V				
9+10	0.0104	0.03	Q	|V				
9+15	0.0107	0.03	Q	|V				
9+20	0.0109	0.04	Q	|V				
9+25	0.0112	0.04	Q	| V				
9+30	0.0114	0.04	Q	| V				
9+35	0.0117	0.04	Q	| V				
9+40	0.0119	0.04	Q	| V				
9+45	0.0122	0.04	Q	| V				
9+50	0.0125	0.04	Q	| V				
9+55	0.0127	0.04	Q	| V				
10+ 0	0.0130	0.04	Q	| V				
10+ 5	0.0132	0.03	Q	| V				
10+10	0.0134	0.03	Q	| V				
10+15	0.0136	0.03	Q	| V				
10+20	0.0137	0.03	Q	| V				
10+25	0.0139	0.03	Q	| V				
10+30	0.0141	0.03	Q	| V |				
10+35	0.0144	0.04	Q	| V |				
10+40	0.0146	0.04	Q	| V |				
10+45	0.0149	0.04	Q	| V |				
10+50	0.0151	0.04	Q	| V |				
10+55	0.0154	0.04	Q	| V |				
11+ 0	0.0156	0.04	Q	| V |				
11+ 5	0.0158	0.03	Q	| V |				
11+10	0.0161	0.03	Q	| V |				
11+15	0.0163	0.03	Q	| V |				
11+20	0.0165	0.03	Q	| V |				
11+25	0.0168	0.03	Q	| V |				
11+30	0.0170	0.03	Q	| V |				
11+35	0.0172	0.03	Q	| V |				
11+40	0.0174	0.03	Q	| V |				
11+45	0.0176	0.03	Q	| V |				
11+50	0.0179	0.03	Q	| V|				
11+55	0.0181	0.03	Q	| V|				
12+ 0	0.0183	0.03	Q	| V|				
12+ 5	0.0186	0.04	Q	| V				
12+10	0.0189	0.04	Q	| V				
12+15	0.0192	0.04	Q	| V				
12+20	0.0196	0.05	Q	| |V				
12+25	0.0199	0.05	Q	| |V				
12+30	0.0202	0.05	Q	| |V				
12+35	0.0206	0.05	Q	| | V				
12+40	0.0209	0.05	Q	| | V				
12+45	0.0213	0.05	Q	| | V				
12+50	0.0216	0.05	Q	| | V				
12+55	0.0220	0.05	Q	| | V				
13+ 0	0.0223	0.05	Q	| | V				
13+ 5	0.0228	0.06	Q	| | V				
13+10	0.0232	0.06	Q	| | V				
13+15	0.0236	0.06	Q	| | V |				

13+20	0.0240	0.06	Q			V	
13+25	0.0244	0.06	Q			V	
13+30	0.0249	0.06	Q			V	
13+35	0.0251	0.04	Q			V	
13+40	0.0254	0.04	Q			V	
13+45	0.0257	0.04	Q			V	
13+50	0.0260	0.04	Q			V	
13+55	0.0263	0.04	Q			V	
14+ 0	0.0266	0.04	Q			V	
14+ 5	0.0269	0.05	Q			V	
14+10	0.0272	0.05	Q			V	
14+15	0.0276	0.05	Q			V	
14+20	0.0279	0.05	Q			V	
14+25	0.0282	0.05	Q			V	
14+30	0.0285	0.05	Q			V	
14+35	0.0289	0.05	Q			V	
14+40	0.0292	0.05	Q			V	
14+45	0.0295	0.05	Q			V	
14+50	0.0298	0.04	Q			V	
14+55	0.0301	0.04	Q			V	
15+ 0	0.0304	0.04	Q			V	
15+ 5	0.0307	0.04	Q			V	
15+10	0.0310	0.04	Q			V	
15+15	0.0313	0.04	Q			V	
15+20	0.0316	0.04	Q			V	
15+25	0.0319	0.04	Q			V	
15+30	0.0322	0.04	Q			V	
15+35	0.0324	0.03	Q			V	
15+40	0.0326	0.03	Q			V	
15+45	0.0329	0.03	Q			V	
15+50	0.0331	0.03	Q			V	
15+55	0.0334	0.03	Q			V	
16+ 0	0.0336	0.03	Q			V	
16+ 5	0.0336	0.01	Q			V	
16+10	0.0337	0.01	Q			V	
16+15	0.0337	0.01	Q			V	
16+20	0.0338	0.01	Q			V	
16+25	0.0338	0.01	Q			V	
16+30	0.0339	0.01	Q			V	
16+35	0.0339	0.01	Q			V	
16+40	0.0340	0.01	Q			V	
16+45	0.0340	0.01	Q			V	
16+50	0.0340	0.01	Q			V	
16+55	0.0341	0.01	Q			V	
17+ 0	0.0341	0.01	Q			V	
17+ 5	0.0342	0.01	Q			V	
17+10	0.0342	0.01	Q			V	
17+15	0.0343	0.01	Q			V	
17+20	0.0344	0.01	Q			V	
17+25	0.0344	0.01	Q			V	
17+30	0.0345	0.01	Q			V	
17+35	0.0345	0.01	Q			V	
17+40	0.0346	0.01	Q			V	
17+45	0.0347	0.01	Q			V	
17+50	0.0347	0.01	Q			V	
17+55	0.0348	0.01	Q			V	
18+ 0	0.0348	0.01	Q			V	

18+ 5	0.0349	0.01	Q	|	|	|	V |
18+10	0.0349	0.01	Q	|	|	|	V |
18+15	0.0350	0.01	Q	|	|	|	V |
18+20	0.0350	0.01	Q	|	|	|	V |
18+25	0.0351	0.01	Q	|	|	|	V |
18+30	0.0351	0.01	Q	|	|	|	V |
18+35	0.0351	0.01	Q	|	|	|	V |
18+40	0.0352	0.01	Q	|	|	|	V |
18+45	0.0352	0.01	Q	|	|	|	V |
18+50	0.0352	0.00	Q	|	|	|	V |
18+55	0.0353	0.00	Q	|	|	|	V |
19+ 0	0.0353	0.00	Q	|	|	|	V |
19+ 5	0.0353	0.01	Q	|	|	|	V |
19+10	0.0354	0.01	Q	|	|	|	V |
19+15	0.0354	0.01	Q	|	|	|	V |
19+20	0.0355	0.01	Q	|	|	|	V |
19+25	0.0355	0.01	Q	|	|	|	V |
19+30	0.0356	0.01	Q	|	|	|	V |
19+35	0.0356	0.01	Q	|	|	|	V |
19+40	0.0356	0.01	Q	|	|	|	V |
19+45	0.0357	0.01	Q	|	|	|	V |
19+50	0.0357	0.00	Q	|	|	|	V |
19+55	0.0357	0.00	Q	|	|	|	V |
20+ 0	0.0357	0.00	Q	|	|	|	V |
20+ 5	0.0358	0.01	Q	|	|	|	V |
20+10	0.0358	0.01	Q	|	|	|	V |
20+15	0.0359	0.01	Q	|	|	|	V |
20+20	0.0359	0.01	Q	|	|	|	V |
20+25	0.0359	0.01	Q	|	|	|	V |
20+30	0.0360	0.01	Q	|	|	|	V |
20+35	0.0360	0.01	Q	|	|	|	V |
20+40	0.0360	0.01	Q	|	|	|	V |
20+45	0.0361	0.01	Q	|	|	|	V |
20+50	0.0361	0.00	Q	|	|	|	V |
20+55	0.0361	0.00	Q	|	|	|	V |
21+ 0	0.0362	0.00	Q	|	|	|	V |
21+ 5	0.0362	0.01	Q	|	|	|	V |
21+10	0.0362	0.01	Q	|	|	|	V |
21+15	0.0363	0.01	Q	|	|	|	V|
21+20	0.0363	0.00	Q	|	|	|	V|
21+25	0.0363	0.00	Q	|	|	|	V|
21+30	0.0363	0.00	Q	|	|	|	V|
21+35	0.0364	0.01	Q	|	|	|	V|
21+40	0.0364	0.01	Q	|	|	|	V|
21+45	0.0365	0.01	Q	|	|	|	V|
21+50	0.0365	0.00	Q	|	|	|	V|
21+55	0.0365	0.00	Q	|	|	|	V|
22+ 0	0.0365	0.00	Q	|	|	|	V|
22+ 5	0.0366	0.01	Q	|	|	|	V|
22+10	0.0366	0.01	Q	|	|	|	V|
22+15	0.0366	0.01	Q	|	|	|	V|
22+20	0.0367	0.00	Q	|	|	|	V|
22+25	0.0367	0.00	Q	|	|	|	V|
22+30	0.0367	0.00	Q	|	|	|	V|
22+35	0.0367	0.00	Q	|	|	|	V|
22+40	0.0368	0.00	Q	|	|	|	V|
22+45	0.0368	0.00	Q	|	|	|	V|

22+50	0.0368	0.00	Q	|	|	|	V|
22+55	0.0368	0.00	Q	|	|	|	V|
23+ 0	0.0369	0.00	Q	|	|	|	V|
23+ 5	0.0369	0.00	Q	|	|	|	V|
23+10	0.0369	0.00	Q	|	|	|	V|
23+15	0.0369	0.00	Q	|	|	|	V|
23+20	0.0370	0.00	Q	|	|	|	V|
23+25	0.0370	0.00	Q	|	|	|	V|
23+30	0.0370	0.00	Q	|	|	|	V|
23+35	0.0370	0.00	Q	|	|	|	V|
23+40	0.0371	0.00	Q	|	|	|	V|
23+45	0.0371	0.00	Q	|	|	|	V|
23+50	0.0371	0.00	Q	|	|	|	V|
23+55	0.0371	0.00	Q	|	|	|	V|
24+ 0	0.0372	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 06/03/26 File: 19267p002S242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	1.66	1.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	4.10	2.81

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
			Sum = 100.000 Sum=	0.690

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	0.013	(0.240)	0.003	0.010
2	0.17	0.07	0.013	(0.240)	0.003	0.010
3	0.25	0.07	0.013	(0.239)	0.003	0.010
4	0.33	0.10	0.020	(0.238)	0.005	0.015
5	0.42	0.10	0.020	(0.237)	0.005	0.015
6	0.50	0.10	0.020	(0.236)	0.005	0.015
7	0.58	0.10	0.020	(0.235)	0.005	0.015
8	0.67	0.10	0.020	(0.234)	0.005	0.015
9	0.75	0.10	0.020	(0.233)	0.005	0.015

10	0.83	0.13	0.027	(0.232)	0.007	0.020
11	0.92	0.13	0.027	(0.231)	0.007	0.020
12	1.00	0.13	0.027	(0.230)	0.007	0.020
13	1.08	0.10	0.020	(0.229)	0.005	0.015
14	1.17	0.10	0.020	(0.229)	0.005	0.015
15	1.25	0.10	0.020	(0.228)	0.005	0.015
16	1.33	0.10	0.020	(0.227)	0.005	0.015
17	1.42	0.10	0.020	(0.226)	0.005	0.015
18	1.50	0.10	0.020	(0.225)	0.005	0.015
19	1.58	0.10	0.020	(0.224)	0.005	0.015
20	1.67	0.10	0.020	(0.223)	0.005	0.015
21	1.75	0.10	0.020	(0.222)	0.005	0.015
22	1.83	0.13	0.027	(0.221)	0.007	0.020
23	1.92	0.13	0.027	(0.220)	0.007	0.020
24	2.00	0.13	0.027	(0.220)	0.007	0.020
25	2.08	0.13	0.027	(0.219)	0.007	0.020
26	2.17	0.13	0.027	(0.218)	0.007	0.020
27	2.25	0.13	0.027	(0.217)	0.007	0.020
28	2.33	0.13	0.027	(0.216)	0.007	0.020
29	2.42	0.13	0.027	(0.215)	0.007	0.020
30	2.50	0.13	0.027	(0.214)	0.007	0.020
31	2.58	0.17	0.033	(0.213)	0.008	0.025
32	2.67	0.17	0.033	(0.213)	0.008	0.025
33	2.75	0.17	0.033	(0.212)	0.008	0.025
34	2.83	0.17	0.033	(0.211)	0.008	0.025
35	2.92	0.17	0.033	(0.210)	0.008	0.025
36	3.00	0.17	0.033	(0.209)	0.008	0.025
37	3.08	0.17	0.033	(0.208)	0.008	0.025
38	3.17	0.17	0.033	(0.207)	0.008	0.025
39	3.25	0.17	0.033	(0.206)	0.008	0.025
40	3.33	0.17	0.033	(0.206)	0.008	0.025
41	3.42	0.17	0.033	(0.205)	0.008	0.025
42	3.50	0.17	0.033	(0.204)	0.008	0.025
43	3.58	0.17	0.033	(0.203)	0.008	0.025
44	3.67	0.17	0.033	(0.202)	0.008	0.025
45	3.75	0.17	0.033	(0.201)	0.008	0.025
46	3.83	0.20	0.040	(0.200)	0.010	0.030
47	3.92	0.20	0.040	(0.200)	0.010	0.030
48	4.00	0.20	0.040	(0.199)	0.010	0.030
49	4.08	0.20	0.040	(0.198)	0.010	0.030
50	4.17	0.20	0.040	(0.197)	0.010	0.030
51	4.25	0.20	0.040	(0.196)	0.010	0.030
52	4.33	0.23	0.046	(0.195)	0.012	0.035
53	4.42	0.23	0.046	(0.195)	0.012	0.035
54	4.50	0.23	0.046	(0.194)	0.012	0.035
55	4.58	0.23	0.046	(0.193)	0.012	0.035
56	4.67	0.23	0.046	(0.192)	0.012	0.035
57	4.75	0.23	0.046	(0.191)	0.012	0.035
58	4.83	0.27	0.053	(0.190)	0.013	0.040
59	4.92	0.27	0.053	(0.190)	0.013	0.040
60	5.00	0.27	0.053	(0.189)	0.013	0.040
61	5.08	0.20	0.040	(0.188)	0.010	0.030
62	5.17	0.20	0.040	(0.187)	0.010	0.030
63	5.25	0.20	0.040	(0.186)	0.010	0.030
64	5.33	0.23	0.046	(0.186)	0.012	0.035
65	5.42	0.23	0.046	(0.185)	0.012	0.035
66	5.50	0.23	0.046	(0.184)	0.012	0.035

67	5.58	0.27	0.053	(0.183)	0.013	0.040
68	5.67	0.27	0.053	(0.182)	0.013	0.040
69	5.75	0.27	0.053	(0.181)	0.013	0.040
70	5.83	0.27	0.053	(0.181)	0.013	0.040
71	5.92	0.27	0.053	(0.180)	0.013	0.040
72	6.00	0.27	0.053	(0.179)	0.013	0.040
73	6.08	0.30	0.060	(0.178)	0.015	0.045
74	6.17	0.30	0.060	(0.177)	0.015	0.045
75	6.25	0.30	0.060	(0.177)	0.015	0.045
76	6.33	0.30	0.060	(0.176)	0.015	0.045
77	6.42	0.30	0.060	(0.175)	0.015	0.045
78	6.50	0.30	0.060	(0.174)	0.015	0.045
79	6.58	0.33	0.066	(0.174)	0.017	0.050
80	6.67	0.33	0.066	(0.173)	0.017	0.050
81	6.75	0.33	0.066	(0.172)	0.017	0.050
82	6.83	0.33	0.066	(0.171)	0.017	0.050
83	6.92	0.33	0.066	(0.170)	0.017	0.050
84	7.00	0.33	0.066	(0.170)	0.017	0.050
85	7.08	0.33	0.066	(0.169)	0.017	0.050
86	7.17	0.33	0.066	(0.168)	0.017	0.050
87	7.25	0.33	0.066	(0.167)	0.017	0.050
88	7.33	0.37	0.073	(0.167)	0.018	0.055
89	7.42	0.37	0.073	(0.166)	0.018	0.055
90	7.50	0.37	0.073	(0.165)	0.018	0.055
91	7.58	0.40	0.080	(0.164)	0.020	0.060
92	7.67	0.40	0.080	(0.164)	0.020	0.060
93	7.75	0.40	0.080	(0.163)	0.020	0.060
94	7.83	0.43	0.086	(0.162)	0.022	0.065
95	7.92	0.43	0.086	(0.161)	0.022	0.065
96	8.00	0.43	0.086	(0.161)	0.022	0.065
97	8.08	0.50	0.100	(0.160)	0.025	0.075
98	8.17	0.50	0.100	(0.159)	0.025	0.075
99	8.25	0.50	0.100	(0.158)	0.025	0.075
100	8.33	0.50	0.100	(0.158)	0.025	0.075
101	8.42	0.50	0.100	(0.157)	0.025	0.075
102	8.50	0.50	0.100	(0.156)	0.025	0.075
103	8.58	0.53	0.106	(0.155)	0.027	0.080
104	8.67	0.53	0.106	(0.155)	0.027	0.080
105	8.75	0.53	0.106	(0.154)	0.027	0.080
106	8.83	0.57	0.113	(0.153)	0.028	0.085
107	8.92	0.57	0.113	(0.152)	0.028	0.085
108	9.00	0.57	0.113	(0.152)	0.028	0.085
109	9.08	0.63	0.126	(0.151)	0.032	0.095
110	9.17	0.63	0.126	(0.150)	0.032	0.095
111	9.25	0.63	0.126	(0.150)	0.032	0.095
112	9.33	0.67	0.133	(0.149)	0.033	0.100
113	9.42	0.67	0.133	(0.148)	0.033	0.100
114	9.50	0.67	0.133	(0.147)	0.033	0.100
115	9.58	0.70	0.139	(0.147)	0.035	0.105
116	9.67	0.70	0.139	(0.146)	0.035	0.105
117	9.75	0.70	0.139	(0.145)	0.035	0.105
118	9.83	0.73	0.146	(0.145)	0.037	0.110
119	9.92	0.73	0.146	(0.144)	0.037	0.110
120	10.00	0.73	0.146	(0.143)	0.037	0.110
121	10.08	0.50	0.100	(0.143)	0.025	0.075
122	10.17	0.50	0.100	(0.142)	0.025	0.075
123	10.25	0.50	0.100	(0.141)	0.025	0.075

124	10.33	0.50	0.100	(0.141)	0.025	0.075
125	10.42	0.50	0.100	(0.140)	0.025	0.075
126	10.50	0.50	0.100	(0.139)	0.025	0.075
127	10.58	0.67	0.133	(0.138)	0.033	0.100
128	10.67	0.67	0.133	(0.138)	0.033	0.100
129	10.75	0.67	0.133	(0.137)	0.033	0.100
130	10.83	0.67	0.133	(0.136)	0.033	0.100
131	10.92	0.67	0.133	(0.136)	0.033	0.100
132	11.00	0.67	0.133	(0.135)	0.033	0.100
133	11.08	0.63	0.126	(0.134)	0.032	0.095
134	11.17	0.63	0.126	(0.134)	0.032	0.095
135	11.25	0.63	0.126	(0.133)	0.032	0.095
136	11.33	0.63	0.126	(0.132)	0.032	0.095
137	11.42	0.63	0.126	(0.132)	0.032	0.095
138	11.50	0.63	0.126	(0.131)	0.032	0.095
139	11.58	0.57	0.113	(0.130)	0.028	0.085
140	11.67	0.57	0.113	(0.130)	0.028	0.085
141	11.75	0.57	0.113	(0.129)	0.028	0.085
142	11.83	0.60	0.120	(0.129)	0.030	0.090
143	11.92	0.60	0.120	(0.128)	0.030	0.090
144	12.00	0.60	0.120	(0.127)	0.030	0.090
145	12.08	0.83	0.166	(0.127)	0.041	0.124
146	12.17	0.83	0.166	(0.126)	0.041	0.124
147	12.25	0.83	0.166	(0.125)	0.041	0.124
148	12.33	0.87	0.173	(0.125)	0.043	0.129
149	12.42	0.87	0.173	(0.124)	0.043	0.129
150	12.50	0.87	0.173	(0.123)	0.043	0.129
151	12.58	0.93	0.186	(0.123)	0.046	0.139
152	12.67	0.93	0.186	(0.122)	0.046	0.139
153	12.75	0.93	0.186	(0.122)	0.046	0.139
154	12.83	0.97	0.193	(0.121)	0.048	0.144
155	12.92	0.97	0.193	(0.120)	0.048	0.144
156	13.00	0.97	0.193	(0.120)	0.048	0.144
157	13.08	1.13	0.226	(0.119)	0.056	0.169
158	13.17	1.13	0.226	(0.119)	0.056	0.169
159	13.25	1.13	0.226	(0.118)	0.056	0.169
160	13.33	1.13	0.226	(0.117)	0.056	0.169
161	13.42	1.13	0.226	(0.117)	0.056	0.169
162	13.50	1.13	0.226	(0.116)	0.056	0.169
163	13.58	0.77	0.153	(0.116)	0.038	0.115
164	13.67	0.77	0.153	(0.115)	0.038	0.115
165	13.75	0.77	0.153	(0.114)	0.038	0.115
166	13.83	0.77	0.153	(0.114)	0.038	0.115
167	13.92	0.77	0.153	(0.113)	0.038	0.115
168	14.00	0.77	0.153	(0.113)	0.038	0.115
169	14.08	0.90	0.179	(0.112)	0.045	0.134
170	14.17	0.90	0.179	(0.112)	0.045	0.134
171	14.25	0.90	0.179	(0.111)	0.045	0.134
172	14.33	0.87	0.173	(0.110)	0.043	0.129
173	14.42	0.87	0.173	(0.110)	0.043	0.129
174	14.50	0.87	0.173	(0.109)	0.043	0.129
175	14.58	0.87	0.173	(0.109)	0.043	0.129
176	14.67	0.87	0.173	(0.108)	0.043	0.129
177	14.75	0.87	0.173	(0.108)	0.043	0.129
178	14.83	0.83	0.166	(0.107)	0.041	0.124
179	14.92	0.83	0.166	(0.107)	0.041	0.124
180	15.00	0.83	0.166	(0.106)	0.041	0.124

181	15.08	0.80	0.159	(0.105)	0.040	0.120
182	15.17	0.80	0.159	(0.105)	0.040	0.120
183	15.25	0.80	0.159	(0.104)	0.040	0.120
184	15.33	0.77	0.153	(0.104)	0.038	0.115
185	15.42	0.77	0.153	(0.103)	0.038	0.115
186	15.50	0.77	0.153	(0.103)	0.038	0.115
187	15.58	0.63	0.126	(0.102)	0.032	0.095
188	15.67	0.63	0.126	(0.102)	0.032	0.095
189	15.75	0.63	0.126	(0.101)	0.032	0.095
190	15.83	0.63	0.126	(0.101)	0.032	0.095
191	15.92	0.63	0.126	(0.100)	0.032	0.095
192	16.00	0.63	0.126	(0.100)	0.032	0.095
193	16.08	0.13	0.027	(0.099)	0.007	0.020
194	16.17	0.13	0.027	(0.099)	0.007	0.020
195	16.25	0.13	0.027	(0.098)	0.007	0.020
196	16.33	0.13	0.027	(0.098)	0.007	0.020
197	16.42	0.13	0.027	(0.097)	0.007	0.020
198	16.50	0.13	0.027	(0.097)	0.007	0.020
199	16.58	0.10	0.020	(0.096)	0.005	0.015
200	16.67	0.10	0.020	(0.096)	0.005	0.015
201	16.75	0.10	0.020	(0.095)	0.005	0.015
202	16.83	0.10	0.020	(0.095)	0.005	0.015
203	16.92	0.10	0.020	(0.094)	0.005	0.015
204	17.00	0.10	0.020	(0.094)	0.005	0.015
205	17.08	0.17	0.033	(0.093)	0.008	0.025
206	17.17	0.17	0.033	(0.093)	0.008	0.025
207	17.25	0.17	0.033	(0.092)	0.008	0.025
208	17.33	0.17	0.033	(0.092)	0.008	0.025
209	17.42	0.17	0.033	(0.091)	0.008	0.025
210	17.50	0.17	0.033	(0.091)	0.008	0.025
211	17.58	0.17	0.033	(0.090)	0.008	0.025
212	17.67	0.17	0.033	(0.090)	0.008	0.025
213	17.75	0.17	0.033	(0.090)	0.008	0.025
214	17.83	0.13	0.027	(0.089)	0.007	0.020
215	17.92	0.13	0.027	(0.089)	0.007	0.020
216	18.00	0.13	0.027	(0.088)	0.007	0.020
217	18.08	0.13	0.027	(0.088)	0.007	0.020
218	18.17	0.13	0.027	(0.087)	0.007	0.020
219	18.25	0.13	0.027	(0.087)	0.007	0.020
220	18.33	0.13	0.027	(0.087)	0.007	0.020
221	18.42	0.13	0.027	(0.086)	0.007	0.020
222	18.50	0.13	0.027	(0.086)	0.007	0.020
223	18.58	0.10	0.020	(0.085)	0.005	0.015
224	18.67	0.10	0.020	(0.085)	0.005	0.015
225	18.75	0.10	0.020	(0.084)	0.005	0.015
226	18.83	0.07	0.013	(0.084)	0.003	0.010
227	18.92	0.07	0.013	(0.084)	0.003	0.010
228	19.00	0.07	0.013	(0.083)	0.003	0.010
229	19.08	0.10	0.020	(0.083)	0.005	0.015
230	19.17	0.10	0.020	(0.082)	0.005	0.015
231	19.25	0.10	0.020	(0.082)	0.005	0.015
232	19.33	0.13	0.027	(0.082)	0.007	0.020
233	19.42	0.13	0.027	(0.081)	0.007	0.020
234	19.50	0.13	0.027	(0.081)	0.007	0.020
235	19.58	0.10	0.020	(0.081)	0.005	0.015
236	19.67	0.10	0.020	(0.080)	0.005	0.015
237	19.75	0.10	0.020	(0.080)	0.005	0.015

238	19.83	0.07	0.013	(0.079)	0.003	0.010
239	19.92	0.07	0.013	(0.079)	0.003	0.010
240	20.00	0.07	0.013	(0.079)	0.003	0.010
241	20.08	0.10	0.020	(0.078)	0.005	0.015
242	20.17	0.10	0.020	(0.078)	0.005	0.015
243	20.25	0.10	0.020	(0.078)	0.005	0.015
244	20.33	0.10	0.020	(0.077)	0.005	0.015
245	20.42	0.10	0.020	(0.077)	0.005	0.015
246	20.50	0.10	0.020	(0.077)	0.005	0.015
247	20.58	0.10	0.020	(0.076)	0.005	0.015
248	20.67	0.10	0.020	(0.076)	0.005	0.015
249	20.75	0.10	0.020	(0.076)	0.005	0.015
250	20.83	0.07	0.013	(0.075)	0.003	0.010
251	20.92	0.07	0.013	(0.075)	0.003	0.010
252	21.00	0.07	0.013	(0.075)	0.003	0.010
253	21.08	0.10	0.020	(0.075)	0.005	0.015
254	21.17	0.10	0.020	(0.074)	0.005	0.015
255	21.25	0.10	0.020	(0.074)	0.005	0.015
256	21.33	0.07	0.013	(0.074)	0.003	0.010
257	21.42	0.07	0.013	(0.073)	0.003	0.010
258	21.50	0.07	0.013	(0.073)	0.003	0.010
259	21.58	0.10	0.020	(0.073)	0.005	0.015
260	21.67	0.10	0.020	(0.073)	0.005	0.015
261	21.75	0.10	0.020	(0.072)	0.005	0.015
262	21.83	0.07	0.013	(0.072)	0.003	0.010
263	21.92	0.07	0.013	(0.072)	0.003	0.010
264	22.00	0.07	0.013	(0.072)	0.003	0.010
265	22.08	0.10	0.020	(0.071)	0.005	0.015
266	22.17	0.10	0.020	(0.071)	0.005	0.015
267	22.25	0.10	0.020	(0.071)	0.005	0.015
268	22.33	0.07	0.013	(0.071)	0.003	0.010
269	22.42	0.07	0.013	(0.070)	0.003	0.010
270	22.50	0.07	0.013	(0.070)	0.003	0.010
271	22.58	0.07	0.013	(0.070)	0.003	0.010
272	22.67	0.07	0.013	(0.070)	0.003	0.010
273	22.75	0.07	0.013	(0.070)	0.003	0.010
274	22.83	0.07	0.013	(0.070)	0.003	0.010
275	22.92	0.07	0.013	(0.069)	0.003	0.010
276	23.00	0.07	0.013	(0.069)	0.003	0.010
277	23.08	0.07	0.013	(0.069)	0.003	0.010
278	23.17	0.07	0.013	(0.069)	0.003	0.010
279	23.25	0.07	0.013	(0.069)	0.003	0.010
280	23.33	0.07	0.013	(0.069)	0.003	0.010
281	23.42	0.07	0.013	(0.068)	0.003	0.010
282	23.50	0.07	0.013	(0.068)	0.003	0.010
283	23.58	0.07	0.013	(0.068)	0.003	0.010
284	23.67	0.07	0.013	(0.068)	0.003	0.010
285	23.75	0.07	0.013	(0.068)	0.003	0.010
286	23.83	0.07	0.013	(0.068)	0.003	0.010
287	23.92	0.07	0.013	(0.068)	0.003	0.010
288	24.00	0.07	0.013	(0.068)	0.003	0.010

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.9

Flood volume = Effective rainfall 1.24(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.41(In)
Total soil loss = 0.024(Ac.Ft)

Total rainfall = 1.66(In)
Flood volume = 3095.8 Cubic Feet
Total soil loss = 1031.9 Cubic Feet

Peak flow rate of this hydrograph = 0.117(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0004	0.01	Q				
0+40	0.0005	0.01	Q				
0+45	0.0005	0.01	Q				
0+50	0.0006	0.01	Q				
0+55	0.0007	0.01	Q				
1+ 0	0.0008	0.01	Q				
1+ 5	0.0009	0.01	Q				
1+10	0.0010	0.01	Q				
1+15	0.0010	0.01	Q				
1+20	0.0011	0.01	Q				
1+25	0.0012	0.01	Q				
1+30	0.0012	0.01	Q				
1+35	0.0013	0.01	Q				
1+40	0.0014	0.01	Q				
1+45	0.0014	0.01	Q				
1+50	0.0015	0.01	Q				
1+55	0.0016	0.01	Q				
2+ 0	0.0017	0.01	Q				
2+ 5	0.0018	0.01	QV				
2+10	0.0019	0.01	QV				
2+15	0.0020	0.01	QV				
2+20	0.0021	0.01	QV				
2+25	0.0022	0.01	QV				
2+30	0.0023	0.01	QV				
2+35	0.0024	0.02	QV				
2+40	0.0025	0.02	QV				
2+45	0.0026	0.02	QV				
2+50	0.0027	0.02	QV				
2+55	0.0029	0.02	QV				
3+ 0	0.0030	0.02	QV				
3+ 5	0.0031	0.02	QV				
3+10	0.0032	0.02	QV				
3+15	0.0033	0.02	QV				
3+20	0.0035	0.02	QV				
3+25	0.0036	0.02	Q V				
3+30	0.0037	0.02	Q V				

3+35	0.0038	0.02	Q V	|	|	|	|
3+40	0.0039	0.02	Q V	|	|	|	|
3+45	0.0040	0.02	Q V	|	|	|	|
3+50	0.0042	0.02	Q V	|	|	|	|
3+55	0.0043	0.02	Q V	|	|	|	|
4+ 0	0.0045	0.02	Q V	|	|	|	|
4+ 5	0.0046	0.02	Q V	|	|	|	|
4+10	0.0047	0.02	Q V	|	|	|	|
4+15	0.0049	0.02	Q V	|	|	|	|
4+20	0.0050	0.02	Q V	|	|	|	|
4+25	0.0052	0.02	Q V	|	|	|	|
4+30	0.0054	0.02	Q V	|	|	|	|
4+35	0.0055	0.02	Q V	|	|	|	|
4+40	0.0057	0.02	Q V	|	|	|	|
4+45	0.0059	0.02	Q V	|	|	|	|
4+50	0.0060	0.03	Q V	|	|	|	|
4+55	0.0062	0.03	Q V	|	|	|	|
5+ 0	0.0064	0.03	Q V	|	|	|	|
5+ 5	0.0066	0.02	Q V	|	|	|	|
5+10	0.0067	0.02	Q V	|	|	|	|
5+15	0.0069	0.02	Q V	|	|	|	|
5+20	0.0070	0.02	Q V	|	|	|	|
5+25	0.0072	0.02	Q V	|	|	|	|
5+30	0.0074	0.02	Q V	|	|	|	|
5+35	0.0075	0.03	Q V	|	|	|	|
5+40	0.0077	0.03	Q V	|	|	|	|
5+45	0.0079	0.03	Q V	|	|	|	|
5+50	0.0081	0.03	Q V	|	|	|	|
5+55	0.0083	0.03	Q V	|	|	|	|
6+ 0	0.0085	0.03	Q V	|	|	|	|
6+ 5	0.0087	0.03	Q V	|	|	|	|
6+10	0.0089	0.03	Q V	|	|	|	|
6+15	0.0091	0.03	Q V	|	|	|	|
6+20	0.0093	0.03	Q V	|	|	|	|
6+25	0.0095	0.03	Q V	|	|	|	|
6+30	0.0097	0.03	Q V	|	|	|	|
6+35	0.0100	0.03	Q V	|	|	|	|
6+40	0.0102	0.03	Q V	|	|	|	|
6+45	0.0104	0.03	Q V	|	|	|	|
6+50	0.0107	0.03	Q V	|	|	|	|
6+55	0.0109	0.03	Q V	|	|	|	|
7+ 0	0.0112	0.03	Q V	|	|	|	|
7+ 5	0.0114	0.03	Q V	|	|	|	|
7+10	0.0116	0.03	Q V	|	|	|	|
7+15	0.0119	0.03	Q V	|	|	|	|
7+20	0.0121	0.04	Q V	|	|	|	|
7+25	0.0124	0.04	Q V	|	|	|	|
7+30	0.0126	0.04	Q V	|	|	|	|
7+35	0.0129	0.04	Q V	|	|	|	|
7+40	0.0132	0.04	Q V	|	|	|	|
7+45	0.0135	0.04	Q V	|	|	|	|
7+50	0.0138	0.04	Q V	|	|	|	|
7+55	0.0141	0.04	Q V	|	|	|	|
8+ 0	0.0144	0.04	Q V	|	|	|	|
8+ 5	0.0147	0.05	Q V	|	|	|	|
8+10	0.0151	0.05	Q V	|	|	|	|
8+15	0.0154	0.05	Q V	|	|	|	|

8+20	0.0158	0.05	Q	V	|	|	|
8+25	0.0161	0.05	Q	V	|	|	|
8+30	0.0165	0.05	Q	V	|	|	|
8+35	0.0169	0.05	Q	V	|	|	|
8+40	0.0172	0.05	Q	V	|	|	|
8+45	0.0176	0.05	Q	V	|	|	|
8+50	0.0180	0.06	Q	V	|	|	|
8+55	0.0184	0.06	Q	V	|	|	|
9+ 0	0.0188	0.06	Q	V	|	|	|
9+ 5	0.0192	0.06	Q	V	|	|	|
9+10	0.0197	0.06	Q	|	V	|	|
9+15	0.0201	0.07	Q	|	V	|	|
9+20	0.0206	0.07	Q	|	V	|	|
9+25	0.0211	0.07	Q	|	V	|	|
9+30	0.0215	0.07	Q	|	V	|	|
9+35	0.0220	0.07	Q	|	V	|	|
9+40	0.0225	0.07	Q	|	V	|	|
9+45	0.0230	0.07	Q	|	V	|	|
9+50	0.0235	0.07	Q	|	V	|	|
9+55	0.0240	0.08	Q	|	V	|	|
10+ 0	0.0246	0.08	Q	|	V	|	|
10+ 5	0.0250	0.06	Q	|	V	|	|
10+10	0.0254	0.05	Q	|	V	|	|
10+15	0.0257	0.05	Q	|	V	|	|
10+20	0.0261	0.05	Q	|	V	|	|
10+25	0.0264	0.05	Q	|	V	|	|
10+30	0.0268	0.05	Q	|	V	|	|
10+35	0.0272	0.06	Q	|	V	|	|
10+40	0.0277	0.07	Q	|	V	|	|
10+45	0.0281	0.07	Q	|	V	|	|
10+50	0.0286	0.07	Q	|	V	|	|
10+55	0.0291	0.07	Q	|	V	|	|
11+ 0	0.0296	0.07	Q	|	V	|	|
11+ 5	0.0300	0.07	Q	|	V	|	|
11+10	0.0305	0.07	Q	|	V	|	|
11+15	0.0309	0.07	Q	|	V	|	|
11+20	0.0314	0.07	Q	|	V	|	|
11+25	0.0318	0.07	Q	|	V	|	|
11+30	0.0323	0.07	Q	|	V	|	|
11+35	0.0327	0.06	Q	|	V	|	|
11+40	0.0331	0.06	Q	|	V	|	|
11+45	0.0335	0.06	Q	|	V	|	|
11+50	0.0339	0.06	Q	|	V	|	|
11+55	0.0344	0.06	Q	|	V	|	|
12+ 0	0.0348	0.06	Q	|	V	|	|
12+ 5	0.0353	0.07	Q	|	V	|	|
12+10	0.0359	0.08	Q	|	V	|	|
12+15	0.0365	0.09	Q	|	V	|	|
12+20	0.0371	0.09	Q	|	V	|	|
12+25	0.0377	0.09	Q	|	V	|	|
12+30	0.0383	0.09	Q	|	V	|	|
12+35	0.0389	0.09	Q	|	V	|	|
12+40	0.0396	0.10	Q	|	V	|	|
12+45	0.0402	0.10	Q	|	V	|	|
12+50	0.0409	0.10	Q	|	V	|	|
12+55	0.0416	0.10	Q	|	V	|	|
13+ 0	0.0423	0.10	Q	|	V	|	|

13+ 5	0.0430	0.11	Q	|	|	V |	|	|
13+10	0.0438	0.12	Q	|	|	V |	|	|
13+15	0.0446	0.12	Q	|	|	V |	|	|
13+20	0.0454	0.12	Q	|	|	V |	|	|
13+25	0.0462	0.12	Q	|	|	V |	|	|
13+30	0.0471	0.12	Q	|	|	V |	|	|
13+35	0.0477	0.10	Q	|	|	V |	|	|
13+40	0.0483	0.08	Q	|	|	V |	|	|
13+45	0.0488	0.08	Q	|	|	V |	|	|
13+50	0.0494	0.08	Q	|	|	V |	|	|
13+55	0.0499	0.08	Q	|	|	V |	|	|
14+ 0	0.0505	0.08	Q	|	|	V |	|	|
14+ 5	0.0511	0.09	Q	|	|	V |	|	|
14+10	0.0517	0.09	Q	|	|	V|	|	|
14+15	0.0523	0.09	Q	|	|	V|	|	|
14+20	0.0530	0.09	Q	|	|	V|	|	|
14+25	0.0536	0.09	Q	|	|	V |	|	|
14+30	0.0542	0.09	Q	|	|	V |	|	|
14+35	0.0548	0.09	Q	|	|	V |	|	|
14+40	0.0554	0.09	Q	|	|	|V |	|	|
14+45	0.0561	0.09	Q	|	|	|V |	|	|
14+50	0.0567	0.09	Q	|	|	|V |	|	|
14+55	0.0573	0.09	Q	|	|	| V |	|	|
15+ 0	0.0578	0.09	Q	|	|	| V |	|	|
15+ 5	0.0584	0.08	Q	|	|	| V |	|	|
15+10	0.0590	0.08	Q	|	|	| V |	|	|
15+15	0.0596	0.08	Q	|	|	| V |	|	|
15+20	0.0601	0.08	Q	|	|	| V |	|	|
15+25	0.0607	0.08	Q	|	|	| V |	|	|
15+30	0.0612	0.08	Q	|	|	| V |	|	|
15+35	0.0617	0.07	Q	|	|	| V |	|	|
15+40	0.0622	0.07	Q	|	|	| V |	|	|
15+45	0.0626	0.07	Q	|	|	| V |	|	|
15+50	0.0631	0.07	Q	|	|	| V |	|	|
15+55	0.0635	0.07	Q	|	|	| V |	|	|
16+ 0	0.0640	0.07	Q	|	|	| V |	|	|
16+ 5	0.0642	0.04	Q	|	|	| V |	|	|
16+10	0.0644	0.02	Q	|	|	| V |	|	|
16+15	0.0645	0.01	Q	|	|	| V |	|	|
16+20	0.0646	0.01	Q	|	|	| V |	|	|
16+25	0.0647	0.01	Q	|	|	| V |	|	|
16+30	0.0648	0.01	Q	|	|	| V |	|	|
16+35	0.0648	0.01	Q	|	|	| V |	|	|
16+40	0.0649	0.01	Q	|	|	| V |	|	|
16+45	0.0650	0.01	Q	|	|	| V |	|	|
16+50	0.0651	0.01	Q	|	|	| V |	|	|
16+55	0.0651	0.01	Q	|	|	| V |	|	|
17+ 0	0.0652	0.01	Q	|	|	| V |	|	|
17+ 5	0.0653	0.01	Q	|	|	| V |	|	|
17+10	0.0654	0.02	Q	|	|	| V |	|	|
17+15	0.0655	0.02	Q	|	|	| V |	|	|
17+20	0.0656	0.02	Q	|	|	| V |	|	|
17+25	0.0658	0.02	Q	|	|	| V |	|	|
17+30	0.0659	0.02	Q	|	|	| V |	|	|
17+35	0.0660	0.02	Q	|	|	| V |	|	|
17+40	0.0661	0.02	Q	|	|	| V |	|	|
17+45	0.0662	0.02	Q	|	|	| V |	|	|

17+50	0.0663	0.02	Q	|	|	|	V |
17+55	0.0664	0.01	Q	|	|	|	V |
18+ 0	0.0665	0.01	Q	|	|	|	V |
18+ 5	0.0666	0.01	Q	|	|	|	V |
18+10	0.0667	0.01	Q	|	|	|	V |
18+15	0.0668	0.01	Q	|	|	|	V |
18+20	0.0669	0.01	Q	|	|	|	V |
18+25	0.0670	0.01	Q	|	|	|	V |
18+30	0.0671	0.01	Q	|	|	|	V |
18+35	0.0672	0.01	Q	|	|	|	V |
18+40	0.0673	0.01	Q	|	|	|	V |
18+45	0.0673	0.01	Q	|	|	|	V |
18+50	0.0674	0.01	Q	|	|	|	V |
18+55	0.0674	0.01	Q	|	|	|	V |
19+ 0	0.0675	0.01	Q	|	|	|	V |
19+ 5	0.0675	0.01	Q	|	|	|	V |
19+10	0.0676	0.01	Q	|	|	|	V |
19+15	0.0677	0.01	Q	|	|	|	V |
19+20	0.0678	0.01	Q	|	|	|	V |
19+25	0.0679	0.01	Q	|	|	|	V |
19+30	0.0680	0.01	Q	|	|	|	V |
19+35	0.0680	0.01	Q	|	|	|	V |
19+40	0.0681	0.01	Q	|	|	|	V |
19+45	0.0682	0.01	Q	|	|	|	V |
19+50	0.0682	0.01	Q	|	|	|	V |
19+55	0.0683	0.01	Q	|	|	|	V |
20+ 0	0.0683	0.01	Q	|	|	|	V |
20+ 5	0.0684	0.01	Q	|	|	|	V |
20+10	0.0685	0.01	Q	|	|	|	V |
20+15	0.0685	0.01	Q	|	|	|	V |
20+20	0.0686	0.01	Q	|	|	|	V |
20+25	0.0687	0.01	Q	|	|	|	V |
20+30	0.0688	0.01	Q	|	|	|	V |
20+35	0.0688	0.01	Q	|	|	|	V |
20+40	0.0689	0.01	Q	|	|	|	V |
20+45	0.0690	0.01	Q	|	|	|	V |
20+50	0.0690	0.01	Q	|	|	|	V |
20+55	0.0691	0.01	Q	|	|	|	V |
21+ 0	0.0691	0.01	Q	|	|	|	V |
21+ 5	0.0692	0.01	Q	|	|	|	V |
21+10	0.0692	0.01	Q	|	|	|	V |
21+15	0.0693	0.01	Q	|	|	|	V|
21+20	0.0694	0.01	Q	|	|	|	V|
21+25	0.0694	0.01	Q	|	|	|	V|
21+30	0.0695	0.01	Q	|	|	|	V|
21+35	0.0695	0.01	Q	|	|	|	V|
21+40	0.0696	0.01	Q	|	|	|	V|
21+45	0.0697	0.01	Q	|	|	|	V|
21+50	0.0697	0.01	Q	|	|	|	V|
21+55	0.0698	0.01	Q	|	|	|	V|
22+ 0	0.0698	0.01	Q	|	|	|	V|
22+ 5	0.0699	0.01	Q	|	|	|	V|
22+10	0.0700	0.01	Q	|	|	|	V|
22+15	0.0700	0.01	Q	|	|	|	V|
22+20	0.0701	0.01	Q	|	|	|	V|
22+25	0.0701	0.01	Q	|	|	|	V|
22+30	0.0702	0.01	Q	|	|	|	V|

22+35	0.0702	0.01	Q	|	|	|	V|
22+40	0.0703	0.01	Q	|	|	|	V|
22+45	0.0703	0.01	Q	|	|	|	V|
22+50	0.0704	0.01	Q	|	|	|	V|
22+55	0.0704	0.01	Q	|	|	|	V|
23+ 0	0.0705	0.01	Q	|	|	|	V|
23+ 5	0.0705	0.01	Q	|	|	|	V|
23+10	0.0706	0.01	Q	|	|	|	V|
23+15	0.0706	0.01	Q	|	|	|	V|
23+20	0.0707	0.01	Q	|	|	|	V|
23+25	0.0707	0.01	Q	|	|	|	V|
23+30	0.0708	0.01	Q	|	|	|	V|
23+35	0.0708	0.01	Q	|	|	|	V|
23+40	0.0709	0.01	Q	|	|	|	V|
23+45	0.0709	0.01	Q	|	|	|	V|
23+50	0.0709	0.01	Q	|	|	|	V|
23+55	0.0710	0.01	Q	|	|	|	V|
24+ 0	0.0710	0.01	Q	|	|	|	V|
24+ 5	0.0711	0.00	Q	|	|	|	V|
24+10	0.0711	0.00	Q	|	|	|	V|
24+15	0.0711	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 06/03/26 File: 19267p002site242.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
2-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	1.66	16.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	4.10	39.72

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 1.660(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.660(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	75.00	0.640

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.640	0.212	1.000	0.212
					Sum (F) =	0.212

Area averaged mean soil loss (F) (In/Hr) = 0.212
Minimum soil loss rate ((In/Hr)) = 0.106
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	9.764
		Sum = 100.000	Sum= 9.764

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	0.013	(0.376)	0.003	0.010
2	0.17	0.07	0.013	(0.375)	0.003	0.010
3	0.25	0.07	0.013	(0.373)	0.003	0.010
4	0.33	0.10	0.020	(0.372)	0.005	0.015
5	0.42	0.10	0.020	(0.370)	0.005	0.015
6	0.50	0.10	0.020	(0.369)	0.005	0.015
7	0.58	0.10	0.020	(0.368)	0.005	0.015
8	0.67	0.10	0.020	(0.366)	0.005	0.015
9	0.75	0.10	0.020	(0.365)	0.005	0.015
10	0.83	0.13	0.027	(0.363)	0.006	0.020
11	0.92	0.13	0.027	(0.362)	0.006	0.020
12	1.00	0.13	0.027	(0.360)	0.006	0.020

13	1.08	0.10	0.020	(0.359)	0.005	0.015
14	1.17	0.10	0.020	(0.358)	0.005	0.015
15	1.25	0.10	0.020	(0.356)	0.005	0.015
16	1.33	0.10	0.020	(0.355)	0.005	0.015
17	1.42	0.10	0.020	(0.353)	0.005	0.015
18	1.50	0.10	0.020	(0.352)	0.005	0.015
19	1.58	0.10	0.020	(0.351)	0.005	0.015
20	1.67	0.10	0.020	(0.349)	0.005	0.015
21	1.75	0.10	0.020	(0.348)	0.005	0.015
22	1.83	0.13	0.027	(0.346)	0.006	0.020
23	1.92	0.13	0.027	(0.345)	0.006	0.020
24	2.00	0.13	0.027	(0.344)	0.006	0.020
25	2.08	0.13	0.027	(0.342)	0.006	0.020
26	2.17	0.13	0.027	(0.341)	0.006	0.020
27	2.25	0.13	0.027	(0.339)	0.006	0.020
28	2.33	0.13	0.027	(0.338)	0.006	0.020
29	2.42	0.13	0.027	(0.337)	0.006	0.020
30	2.50	0.13	0.027	(0.335)	0.006	0.020
31	2.58	0.17	0.033	(0.334)	0.008	0.026
32	2.67	0.17	0.033	(0.332)	0.008	0.026
33	2.75	0.17	0.033	(0.331)	0.008	0.026
34	2.83	0.17	0.033	(0.330)	0.008	0.026
35	2.92	0.17	0.033	(0.328)	0.008	0.026
36	3.00	0.17	0.033	(0.327)	0.008	0.026
37	3.08	0.17	0.033	(0.326)	0.008	0.026
38	3.17	0.17	0.033	(0.324)	0.008	0.026
39	3.25	0.17	0.033	(0.323)	0.008	0.026
40	3.33	0.17	0.033	(0.322)	0.008	0.026
41	3.42	0.17	0.033	(0.320)	0.008	0.026
42	3.50	0.17	0.033	(0.319)	0.008	0.026
43	3.58	0.17	0.033	(0.318)	0.008	0.026
44	3.67	0.17	0.033	(0.316)	0.008	0.026
45	3.75	0.17	0.033	(0.315)	0.008	0.026
46	3.83	0.20	0.040	(0.314)	0.009	0.031
47	3.92	0.20	0.040	(0.312)	0.009	0.031
48	4.00	0.20	0.040	(0.311)	0.009	0.031
49	4.08	0.20	0.040	(0.310)	0.009	0.031
50	4.17	0.20	0.040	(0.308)	0.009	0.031
51	4.25	0.20	0.040	(0.307)	0.009	0.031
52	4.33	0.23	0.046	(0.306)	0.011	0.036
53	4.42	0.23	0.046	(0.304)	0.011	0.036
54	4.50	0.23	0.046	(0.303)	0.011	0.036
55	4.58	0.23	0.046	(0.302)	0.011	0.036
56	4.67	0.23	0.046	(0.301)	0.011	0.036
57	4.75	0.23	0.046	(0.299)	0.011	0.036
58	4.83	0.27	0.053	(0.298)	0.012	0.041
59	4.92	0.27	0.053	(0.297)	0.012	0.041
60	5.00	0.27	0.053	(0.295)	0.012	0.041
61	5.08	0.20	0.040	(0.294)	0.009	0.031
62	5.17	0.20	0.040	(0.293)	0.009	0.031
63	5.25	0.20	0.040	(0.292)	0.009	0.031
64	5.33	0.23	0.046	(0.290)	0.011	0.036
65	5.42	0.23	0.046	(0.289)	0.011	0.036
66	5.50	0.23	0.046	(0.288)	0.011	0.036
67	5.58	0.27	0.053	(0.286)	0.012	0.041
68	5.67	0.27	0.053	(0.285)	0.012	0.041
69	5.75	0.27	0.053	(0.284)	0.012	0.041

70	5.83	0.27	0.053	(0.283)	0.012	0.041
71	5.92	0.27	0.053	(0.281)	0.012	0.041
72	6.00	0.27	0.053	(0.280)	0.012	0.041
73	6.08	0.30	0.060	(0.279)	0.014	0.046
74	6.17	0.30	0.060	(0.278)	0.014	0.046
75	6.25	0.30	0.060	(0.276)	0.014	0.046
76	6.33	0.30	0.060	(0.275)	0.014	0.046
77	6.42	0.30	0.060	(0.274)	0.014	0.046
78	6.50	0.30	0.060	(0.273)	0.014	0.046
79	6.58	0.33	0.066	(0.272)	0.015	0.051
80	6.67	0.33	0.066	(0.270)	0.015	0.051
81	6.75	0.33	0.066	(0.269)	0.015	0.051
82	6.83	0.33	0.066	(0.268)	0.015	0.051
83	6.92	0.33	0.066	(0.267)	0.015	0.051
84	7.00	0.33	0.066	(0.265)	0.015	0.051
85	7.08	0.33	0.066	(0.264)	0.015	0.051
86	7.17	0.33	0.066	(0.263)	0.015	0.051
87	7.25	0.33	0.066	(0.262)	0.015	0.051
88	7.33	0.37	0.073	(0.261)	0.017	0.056
89	7.42	0.37	0.073	(0.259)	0.017	0.056
90	7.50	0.37	0.073	(0.258)	0.017	0.056
91	7.58	0.40	0.080	(0.257)	0.018	0.061
92	7.67	0.40	0.080	(0.256)	0.018	0.061
93	7.75	0.40	0.080	(0.255)	0.018	0.061
94	7.83	0.43	0.086	(0.254)	0.020	0.066
95	7.92	0.43	0.086	(0.252)	0.020	0.066
96	8.00	0.43	0.086	(0.251)	0.020	0.066
97	8.08	0.50	0.100	(0.250)	0.023	0.077
98	8.17	0.50	0.100	(0.249)	0.023	0.077
99	8.25	0.50	0.100	(0.248)	0.023	0.077
100	8.33	0.50	0.100	(0.247)	0.023	0.077
101	8.42	0.50	0.100	(0.245)	0.023	0.077
102	8.50	0.50	0.100	(0.244)	0.023	0.077
103	8.58	0.53	0.106	(0.243)	0.024	0.082
104	8.67	0.53	0.106	(0.242)	0.024	0.082
105	8.75	0.53	0.106	(0.241)	0.024	0.082
106	8.83	0.57	0.113	(0.240)	0.026	0.087
107	8.92	0.57	0.113	(0.239)	0.026	0.087
108	9.00	0.57	0.113	(0.237)	0.026	0.087
109	9.08	0.63	0.126	(0.236)	0.029	0.097
110	9.17	0.63	0.126	(0.235)	0.029	0.097
111	9.25	0.63	0.126	(0.234)	0.029	0.097
112	9.33	0.67	0.133	(0.233)	0.031	0.102
113	9.42	0.67	0.133	(0.232)	0.031	0.102
114	9.50	0.67	0.133	(0.231)	0.031	0.102
115	9.58	0.70	0.139	(0.230)	0.032	0.107
116	9.67	0.70	0.139	(0.229)	0.032	0.107
117	9.75	0.70	0.139	(0.227)	0.032	0.107
118	9.83	0.73	0.146	(0.226)	0.034	0.112
119	9.92	0.73	0.146	(0.225)	0.034	0.112
120	10.00	0.73	0.146	(0.224)	0.034	0.112
121	10.08	0.50	0.100	(0.223)	0.023	0.077
122	10.17	0.50	0.100	(0.222)	0.023	0.077
123	10.25	0.50	0.100	(0.221)	0.023	0.077
124	10.33	0.50	0.100	(0.220)	0.023	0.077
125	10.42	0.50	0.100	(0.219)	0.023	0.077
126	10.50	0.50	0.100	(0.218)	0.023	0.077

127	10.58	0.67	0.133	(0.217)	0.031	0.102
128	10.67	0.67	0.133	(0.216)	0.031	0.102
129	10.75	0.67	0.133	(0.215)	0.031	0.102
130	10.83	0.67	0.133	(0.213)	0.031	0.102
131	10.92	0.67	0.133	(0.212)	0.031	0.102
132	11.00	0.67	0.133	(0.211)	0.031	0.102
133	11.08	0.63	0.126	(0.210)	0.029	0.097
134	11.17	0.63	0.126	(0.209)	0.029	0.097
135	11.25	0.63	0.126	(0.208)	0.029	0.097
136	11.33	0.63	0.126	(0.207)	0.029	0.097
137	11.42	0.63	0.126	(0.206)	0.029	0.097
138	11.50	0.63	0.126	(0.205)	0.029	0.097
139	11.58	0.57	0.113	(0.204)	0.026	0.087
140	11.67	0.57	0.113	(0.203)	0.026	0.087
141	11.75	0.57	0.113	(0.202)	0.026	0.087
142	11.83	0.60	0.120	(0.201)	0.027	0.092
143	11.92	0.60	0.120	(0.200)	0.027	0.092
144	12.00	0.60	0.120	(0.199)	0.027	0.092
145	12.08	0.83	0.166	(0.198)	0.038	0.128
146	12.17	0.83	0.166	(0.197)	0.038	0.128
147	12.25	0.83	0.166	(0.196)	0.038	0.128
148	12.33	0.87	0.173	(0.195)	0.040	0.133
149	12.42	0.87	0.173	(0.194)	0.040	0.133
150	12.50	0.87	0.173	(0.193)	0.040	0.133
151	12.58	0.93	0.186	(0.192)	0.043	0.143
152	12.67	0.93	0.186	(0.191)	0.043	0.143
153	12.75	0.93	0.186	(0.190)	0.043	0.143
154	12.83	0.97	0.193	(0.189)	0.044	0.148
155	12.92	0.97	0.193	(0.188)	0.044	0.148
156	13.00	0.97	0.193	(0.187)	0.044	0.148
157	13.08	1.13	0.226	(0.186)	0.052	0.174
158	13.17	1.13	0.226	(0.186)	0.052	0.174
159	13.25	1.13	0.226	(0.185)	0.052	0.174
160	13.33	1.13	0.226	(0.184)	0.052	0.174
161	13.42	1.13	0.226	(0.183)	0.052	0.174
162	13.50	1.13	0.226	(0.182)	0.052	0.174
163	13.58	0.77	0.153	(0.181)	0.035	0.118
164	13.67	0.77	0.153	(0.180)	0.035	0.118
165	13.75	0.77	0.153	(0.179)	0.035	0.118
166	13.83	0.77	0.153	(0.178)	0.035	0.118
167	13.92	0.77	0.153	(0.177)	0.035	0.118
168	14.00	0.77	0.153	(0.176)	0.035	0.118
169	14.08	0.90	0.179	(0.175)	0.041	0.138
170	14.17	0.90	0.179	(0.175)	0.041	0.138
171	14.25	0.90	0.179	(0.174)	0.041	0.138
172	14.33	0.87	0.173	(0.173)	0.040	0.133
173	14.42	0.87	0.173	(0.172)	0.040	0.133
174	14.50	0.87	0.173	(0.171)	0.040	0.133
175	14.58	0.87	0.173	(0.170)	0.040	0.133
176	14.67	0.87	0.173	(0.169)	0.040	0.133
177	14.75	0.87	0.173	(0.168)	0.040	0.133
178	14.83	0.83	0.166	(0.167)	0.038	0.128
179	14.92	0.83	0.166	(0.167)	0.038	0.128
180	15.00	0.83	0.166	(0.166)	0.038	0.128
181	15.08	0.80	0.159	(0.165)	0.037	0.123
182	15.17	0.80	0.159	(0.164)	0.037	0.123
183	15.25	0.80	0.159	(0.163)	0.037	0.123

184	15.33	0.77	0.153	(0.162)	0.035	0.118
185	15.42	0.77	0.153	(0.162)	0.035	0.118
186	15.50	0.77	0.153	(0.161)	0.035	0.118
187	15.58	0.63	0.126	(0.160)	0.029	0.097
188	15.67	0.63	0.126	(0.159)	0.029	0.097
189	15.75	0.63	0.126	(0.158)	0.029	0.097
190	15.83	0.63	0.126	(0.157)	0.029	0.097
191	15.92	0.63	0.126	(0.157)	0.029	0.097
192	16.00	0.63	0.126	(0.156)	0.029	0.097
193	16.08	0.13	0.027	(0.155)	0.006	0.020
194	16.17	0.13	0.027	(0.154)	0.006	0.020
195	16.25	0.13	0.027	(0.153)	0.006	0.020
196	16.33	0.13	0.027	(0.153)	0.006	0.020
197	16.42	0.13	0.027	(0.152)	0.006	0.020
198	16.50	0.13	0.027	(0.151)	0.006	0.020
199	16.58	0.10	0.020	(0.150)	0.005	0.015
200	16.67	0.10	0.020	(0.150)	0.005	0.015
201	16.75	0.10	0.020	(0.149)	0.005	0.015
202	16.83	0.10	0.020	(0.148)	0.005	0.015
203	16.92	0.10	0.020	(0.147)	0.005	0.015
204	17.00	0.10	0.020	(0.147)	0.005	0.015
205	17.08	0.17	0.033	(0.146)	0.008	0.026
206	17.17	0.17	0.033	(0.145)	0.008	0.026
207	17.25	0.17	0.033	(0.144)	0.008	0.026
208	17.33	0.17	0.033	(0.144)	0.008	0.026
209	17.42	0.17	0.033	(0.143)	0.008	0.026
210	17.50	0.17	0.033	(0.142)	0.008	0.026
211	17.58	0.17	0.033	(0.142)	0.008	0.026
212	17.67	0.17	0.033	(0.141)	0.008	0.026
213	17.75	0.17	0.033	(0.140)	0.008	0.026
214	17.83	0.13	0.027	(0.139)	0.006	0.020
215	17.92	0.13	0.027	(0.139)	0.006	0.020
216	18.00	0.13	0.027	(0.138)	0.006	0.020
217	18.08	0.13	0.027	(0.137)	0.006	0.020
218	18.17	0.13	0.027	(0.137)	0.006	0.020
219	18.25	0.13	0.027	(0.136)	0.006	0.020
220	18.33	0.13	0.027	(0.135)	0.006	0.020
221	18.42	0.13	0.027	(0.135)	0.006	0.020
222	18.50	0.13	0.027	(0.134)	0.006	0.020
223	18.58	0.10	0.020	(0.133)	0.005	0.015
224	18.67	0.10	0.020	(0.133)	0.005	0.015
225	18.75	0.10	0.020	(0.132)	0.005	0.015
226	18.83	0.07	0.013	(0.131)	0.003	0.010
227	18.92	0.07	0.013	(0.131)	0.003	0.010
228	19.00	0.07	0.013	(0.130)	0.003	0.010
229	19.08	0.10	0.020	(0.130)	0.005	0.015
230	19.17	0.10	0.020	(0.129)	0.005	0.015
231	19.25	0.10	0.020	(0.128)	0.005	0.015
232	19.33	0.13	0.027	(0.128)	0.006	0.020
233	19.42	0.13	0.027	(0.127)	0.006	0.020
234	19.50	0.13	0.027	(0.127)	0.006	0.020
235	19.58	0.10	0.020	(0.126)	0.005	0.015
236	19.67	0.10	0.020	(0.125)	0.005	0.015
237	19.75	0.10	0.020	(0.125)	0.005	0.015
238	19.83	0.07	0.013	(0.124)	0.003	0.010
239	19.92	0.07	0.013	(0.124)	0.003	0.010
240	20.00	0.07	0.013	(0.123)	0.003	0.010

241	20.08	0.10	0.020	(0.123)	0.005	0.015
242	20.17	0.10	0.020	(0.122)	0.005	0.015
243	20.25	0.10	0.020	(0.122)	0.005	0.015
244	20.33	0.10	0.020	(0.121)	0.005	0.015
245	20.42	0.10	0.020	(0.121)	0.005	0.015
246	20.50	0.10	0.020	(0.120)	0.005	0.015
247	20.58	0.10	0.020	(0.120)	0.005	0.015
248	20.67	0.10	0.020	(0.119)	0.005	0.015
249	20.75	0.10	0.020	(0.119)	0.005	0.015
250	20.83	0.07	0.013	(0.118)	0.003	0.010
251	20.92	0.07	0.013	(0.118)	0.003	0.010
252	21.00	0.07	0.013	(0.117)	0.003	0.010
253	21.08	0.10	0.020	(0.117)	0.005	0.015
254	21.17	0.10	0.020	(0.116)	0.005	0.015
255	21.25	0.10	0.020	(0.116)	0.005	0.015
256	21.33	0.07	0.013	(0.115)	0.003	0.010
257	21.42	0.07	0.013	(0.115)	0.003	0.010
258	21.50	0.07	0.013	(0.114)	0.003	0.010
259	21.58	0.10	0.020	(0.114)	0.005	0.015
260	21.67	0.10	0.020	(0.114)	0.005	0.015
261	21.75	0.10	0.020	(0.113)	0.005	0.015
262	21.83	0.07	0.013	(0.113)	0.003	0.010
263	21.92	0.07	0.013	(0.112)	0.003	0.010
264	22.00	0.07	0.013	(0.112)	0.003	0.010
265	22.08	0.10	0.020	(0.112)	0.005	0.015
266	22.17	0.10	0.020	(0.111)	0.005	0.015
267	22.25	0.10	0.020	(0.111)	0.005	0.015
268	22.33	0.07	0.013	(0.111)	0.003	0.010
269	22.42	0.07	0.013	(0.110)	0.003	0.010
270	22.50	0.07	0.013	(0.110)	0.003	0.010
271	22.58	0.07	0.013	(0.110)	0.003	0.010
272	22.67	0.07	0.013	(0.109)	0.003	0.010
273	22.75	0.07	0.013	(0.109)	0.003	0.010
274	22.83	0.07	0.013	(0.109)	0.003	0.010
275	22.92	0.07	0.013	(0.108)	0.003	0.010
276	23.00	0.07	0.013	(0.108)	0.003	0.010
277	23.08	0.07	0.013	(0.108)	0.003	0.010
278	23.17	0.07	0.013	(0.108)	0.003	0.010
279	23.25	0.07	0.013	(0.107)	0.003	0.010
280	23.33	0.07	0.013	(0.107)	0.003	0.010
281	23.42	0.07	0.013	(0.107)	0.003	0.010
282	23.50	0.07	0.013	(0.107)	0.003	0.010
283	23.58	0.07	0.013	(0.107)	0.003	0.010
284	23.67	0.07	0.013	(0.107)	0.003	0.010
285	23.75	0.07	0.013	(0.106)	0.003	0.010
286	23.83	0.07	0.013	(0.106)	0.003	0.010
287	23.92	0.07	0.013	(0.106)	0.003	0.010
288	24.00	0.07	0.013	(0.106)	0.003	0.010
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	15.3

Flood volume = Effective rainfall 1.28(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.38(In)
Total soil loss = 0.308(Ac.Ft)
Total rainfall = 1.66(In)
Flood volume = 44950.2 Cubic Feet
Total soil loss = 13426.7 Cubic Feet

Peak flow rate of this hydrograph = 1.698(CFS)

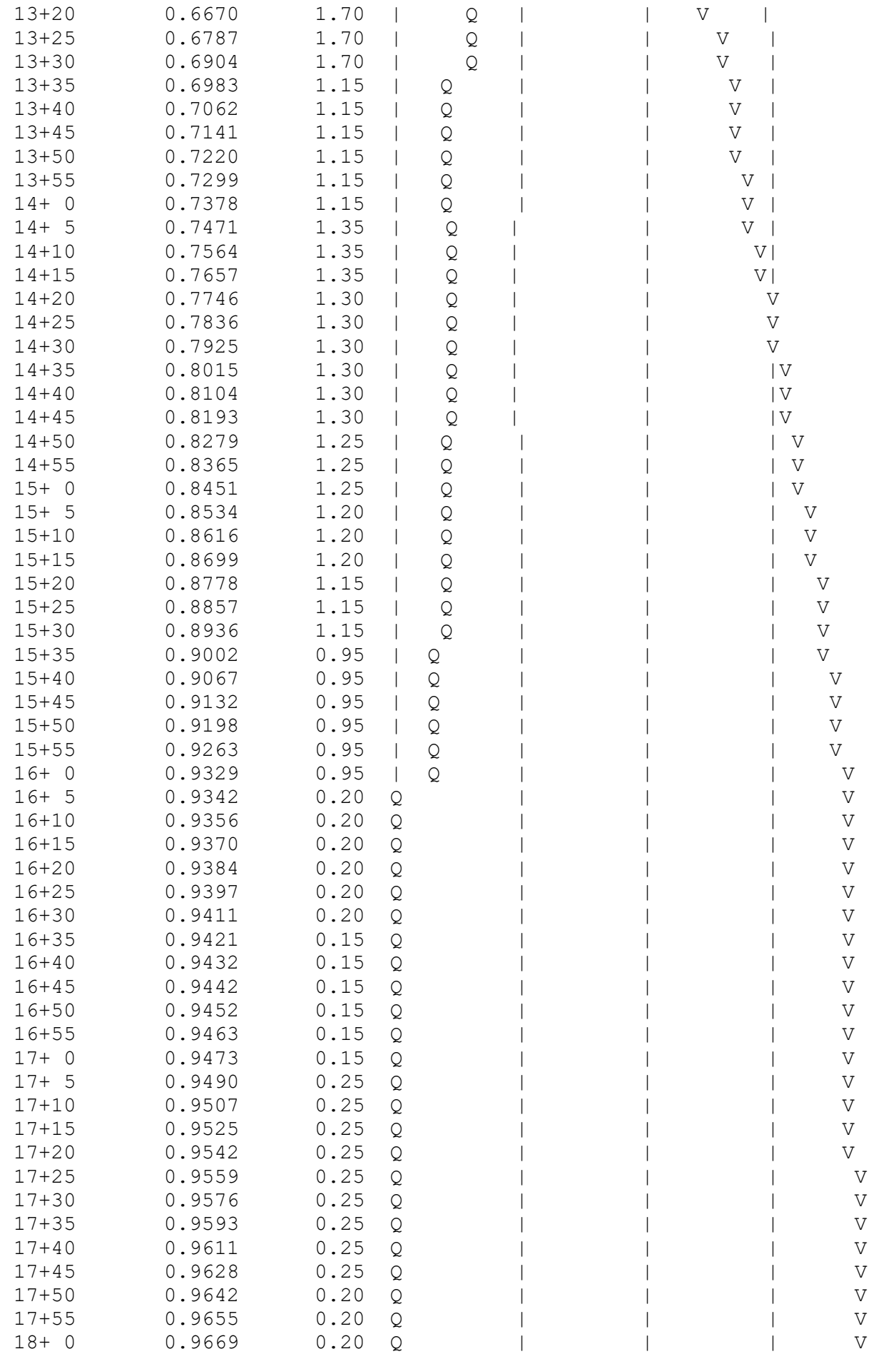
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0007	0.10	Q				
0+10	0.0014	0.10	Q				
0+15	0.0021	0.10	Q				
0+20	0.0031	0.15	Q				
0+25	0.0041	0.15	Q				
0+30	0.0052	0.15	Q				
0+35	0.0062	0.15	Q				
0+40	0.0072	0.15	Q				
0+45	0.0083	0.15	Q				
0+50	0.0096	0.20	Q				
0+55	0.0110	0.20	Q				
1+ 0	0.0124	0.20	Q				
1+ 5	0.0134	0.15	Q				
1+10	0.0144	0.15	Q				
1+15	0.0155	0.15	Q				
1+20	0.0165	0.15	Q				
1+25	0.0175	0.15	Q				
1+30	0.0186	0.15	Q				
1+35	0.0196	0.15	Q				
1+40	0.0206	0.15	Q				
1+45	0.0217	0.15	Q				
1+50	0.0230	0.20	Q				
1+55	0.0244	0.20	Q				
2+ 0	0.0258	0.20	QV				
2+ 5	0.0272	0.20	QV				
2+10	0.0285	0.20	QV				
2+15	0.0299	0.20	QV				
2+20	0.0313	0.20	QV				
2+25	0.0327	0.20	QV				
2+30	0.0341	0.20	QV				
2+35	0.0358	0.25	QV				
2+40	0.0375	0.25	QV				
2+45	0.0392	0.25	QV				
2+50	0.0409	0.25	QV				
2+55	0.0427	0.25	QV				
3+ 0	0.0444	0.25	QV				
3+ 5	0.0461	0.25	QV				
3+10	0.0478	0.25	QV				
3+15	0.0495	0.25	QV				
3+20	0.0513	0.25	QV				
3+25	0.0530	0.25	Q V				
3+30	0.0547	0.25	Q V				
3+35	0.0564	0.25	Q V				
3+40	0.0581	0.25	Q V				
3+45	0.0599	0.25	Q V				

3+50	0.0619	0.30	|QV |	|	|	|
3+55	0.0640	0.30	|QV |	|	|	|
4+ 0	0.0660	0.30	|QV |	|	|	|
4+ 5	0.0681	0.30	|QV |	|	|	|
4+10	0.0702	0.30	|QV |	|	|	|
4+15	0.0722	0.30	|QV |	|	|	|
4+20	0.0746	0.35	|QV |	|	|	|
4+25	0.0770	0.35	|QV |	|	|	|
4+30	0.0795	0.35	|Q V |	|	|	|
4+35	0.0819	0.35	|Q V |	|	|	|
4+40	0.0843	0.35	|Q V |	|	|	|
4+45	0.0867	0.35	|Q V |	|	|	|
4+50	0.0894	0.40	|Q V |	|	|	|
4+55	0.0922	0.40	|Q V |	|	|	|
5+ 0	0.0949	0.40	|Q V |	|	|	|
5+ 5	0.0970	0.30	|Q V |	|	|	|
5+10	0.0991	0.30	|Q V |	|	|	|
5+15	0.1011	0.30	|Q V |	|	|	|
5+20	0.1035	0.35	|Q V |	|	|	|
5+25	0.1059	0.35	|Q V |	|	|	|
5+30	0.1084	0.35	|Q V |	|	|	|
5+35	0.1111	0.40	|Q V |	|	|	|
5+40	0.1139	0.40	|Q V |	|	|	|
5+45	0.1166	0.40	|Q V |	|	|	|
5+50	0.1194	0.40	|Q V |	|	|	|
5+55	0.1221	0.40	|Q V |	|	|	|
6+ 0	0.1249	0.40	|Q V |	|	|	|
6+ 5	0.1280	0.45	|Q V |	|	|	|
6+10	0.1311	0.45	|Q V |	|	|	|
6+15	0.1341	0.45	|Q V |	|	|	|
6+20	0.1372	0.45	|Q V |	|	|	|
6+25	0.1403	0.45	|Q V |	|	|	|
6+30	0.1434	0.45	|Q V |	|	|	|
6+35	0.1469	0.50	|Q V |	|	|	|
6+40	0.1503	0.50	|Q V |	|	|	|
6+45	0.1538	0.50	|Q V |	|	|	|
6+50	0.1572	0.50	|Q V |	|	|	|
6+55	0.1606	0.50	|Q V |	|	|	|
7+ 0	0.1641	0.50	|Q V |	|	|	|
7+ 5	0.1675	0.50	|Q V |	|	|	|
7+10	0.1710	0.50	|Q V |	|	|	|
7+15	0.1744	0.50	|Q V |	|	|	|
7+20	0.1782	0.55	| Q V |	|	|	|
7+25	0.1820	0.55	| Q V |	|	|	|
7+30	0.1857	0.55	| Q V |	|	|	|
7+35	0.1899	0.60	| Q V |	|	|	|
7+40	0.1940	0.60	| Q V |	|	|	|
7+45	0.1981	0.60	| Q V |	|	|	|
7+50	0.2026	0.65	| Q V |	|	|	|
7+55	0.2071	0.65	| Q V |	|	|	|
8+ 0	0.2115	0.65	| Q V |	|	|	|
8+ 5	0.2167	0.75	| Q V |	|	|	|
8+10	0.2219	0.75	| Q V |	|	|	|
8+15	0.2270	0.75	| Q V |	|	|	|
8+20	0.2322	0.75	| Q V|	|	|	|
8+25	0.2373	0.75	| Q V|	|	|	|
8+30	0.2425	0.75	| Q V|	|	|	|

8+35	0.2480	0.80	Q	V			
8+40	0.2535	0.80	Q	V			
8+45	0.2590	0.80	Q	V			
8+50	0.2649	0.85	Q	V			
8+55	0.2707	0.85	Q	V			
9+ 0	0.2766	0.85	Q	V			
9+ 5	0.2831	0.95	Q	V			
9+10	0.2896	0.95	Q	V			
9+15	0.2962	0.95	Q	V			
9+20	0.3030	1.00	Q	V			
9+25	0.3099	1.00	Q	V			
9+30	0.3168	1.00	Q	V			
9+35	0.3240	1.05	Q	V			
9+40	0.3312	1.05	Q	V			
9+45	0.3385	1.05	Q	V			
9+50	0.3460	1.10	Q	V			
9+55	0.3536	1.10	Q	V			
10+ 0	0.3612	1.10	Q	V			
10+ 5	0.3663	0.75	Q	V			
10+10	0.3715	0.75	Q	V			
10+15	0.3766	0.75	Q	V			
10+20	0.3818	0.75	Q	V			
10+25	0.3870	0.75	Q	V			
10+30	0.3921	0.75	Q	V			
10+35	0.3990	1.00	Q	V			
10+40	0.4059	1.00	Q	V			
10+45	0.4128	1.00	Q	V			
10+50	0.4196	1.00	Q	V			
10+55	0.4265	1.00	Q	V			
11+ 0	0.4334	1.00	Q	V			
11+ 5	0.4399	0.95	Q	V			
11+10	0.4465	0.95	Q	V			
11+15	0.4530	0.95	Q	V			
11+20	0.4595	0.95	Q	V			
11+25	0.4661	0.95	Q	V			
11+30	0.4726	0.95	Q	V			
11+35	0.4785	0.85	Q	V			
11+40	0.4843	0.85	Q	V			
11+45	0.4902	0.85	Q	V			
11+50	0.4964	0.90	Q	V			
11+55	0.5025	0.90	Q	V			
12+ 0	0.5087	0.90	Q	V			
12+ 5	0.5173	1.25	Q	V			
12+10	0.5259	1.25	Q	V			
12+15	0.5345	1.25	Q	V			
12+20	0.5435	1.30	Q	V			
12+25	0.5524	1.30	Q	V			
12+30	0.5614	1.30	Q	V			
12+35	0.5710	1.40	Q	V			
12+40	0.5806	1.40	Q	V			
12+45	0.5903	1.40	Q	V			
12+50	0.6002	1.45	Q	V			
12+55	0.6102	1.45	Q	V			
13+ 0	0.6202	1.45	Q	V			
13+ 5	0.6319	1.70	Q	V			
13+10	0.6436	1.70	Q	V			
13+15	0.6553	1.70	Q	V			


13+20 0.6670 1.70
13+25 0.6787 1.70
13+30 0.6904 1.70
13+35 0.6983 1.15
13+40 0.7062 1.15
13+45 0.7141 1.15
13+50 0.7220 1.15
13+55 0.7299 1.15
14+ 0 0.7378 1.15
14+ 5 0.7471 1.35
14+10 0.7564 1.35
14+15 0.7657 1.35
14+20 0.7746 1.30
14+25 0.7836 1.30
14+30 0.7925 1.30
14+35 0.8015 1.30
14+40 0.8104 1.30
14+45 0.8193 1.30
14+50 0.8279 1.25
14+55 0.8365 1.25
15+ 0 0.8451 1.25
15+ 5 0.8534 1.20
15+10 0.8616 1.20
15+15 0.8699 1.20
15+20 0.8778 1.15
15+25 0.8857 1.15
15+30 0.8936 1.15
15+35 0.9002 0.95
15+40 0.9067 0.95
15+45 0.9132 0.95
15+50 0.9198 0.95
15+55 0.9263 0.95
16+ 0 0.9329 0.95
16+ 5 0.9342 0.20
16+10 0.9356 0.20
16+15 0.9370 0.20
16+20 0.9384 0.20
16+25 0.9397 0.20
16+30 0.9411 0.20
16+35 0.9421 0.15
16+40 0.9432 0.15
16+45 0.9442 0.15
16+50 0.9452 0.15
16+55 0.9463 0.15
17+ 0 0.9473 0.15
17+ 5 0.9490 0.25
17+10 0.9507 0.25
17+15 0.9525 0.25
17+20 0.9542 0.25
17+25 0.9559 0.25
17+30 0.9576 0.25
17+35 0.9593 0.25
17+40 0.9611 0.25
17+45 0.9628 0.25
17+50 0.9642 0.20
17+55 0.9655 0.20
18+ 0 0.9669 0.20

18+ 5	0.9683	0.20	Q	|	|	|	V |
18+10	0.9697	0.20	Q	|	|	|	V |
18+15	0.9710	0.20	Q	|	|	|	V |
18+20	0.9724	0.20	Q	|	|	|	V |
18+25	0.9738	0.20	Q	|	|	|	V |
18+30	0.9752	0.20	Q	|	|	|	V |
18+35	0.9762	0.15	Q	|	|	|	V |
18+40	0.9772	0.15	Q	|	|	|	V |
18+45	0.9783	0.15	Q	|	|	|	V |
18+50	0.9789	0.10	Q	|	|	|	V |
18+55	0.9796	0.10	Q	|	|	|	V |
19+ 0	0.9803	0.10	Q	|	|	|	V |
19+ 5	0.9814	0.15	Q	|	|	|	V |
19+10	0.9824	0.15	Q	|	|	|	V |
19+15	0.9834	0.15	Q	|	|	|	V |
19+20	0.9848	0.20	Q	|	|	|	V |
19+25	0.9862	0.20	Q	|	|	|	V |
19+30	0.9875	0.20	Q	|	|	|	V |
19+35	0.9886	0.15	Q	|	|	|	V |
19+40	0.9896	0.15	Q	|	|	|	V |
19+45	0.9906	0.15	Q	|	|	|	V |
19+50	0.9913	0.10	Q	|	|	|	V |
19+55	0.9920	0.10	Q	|	|	|	V |
20+ 0	0.9927	0.10	Q	|	|	|	V |
20+ 5	0.9937	0.15	Q	|	|	|	V |
20+10	0.9948	0.15	Q	|	|	|	V |
20+15	0.9958	0.15	Q	|	|	|	V |
20+20	0.9968	0.15	Q	|	|	|	V |
20+25	0.9979	0.15	Q	|	|	|	V |
20+30	0.9989	0.15	Q	|	|	|	V |
20+35	0.9999	0.15	Q	|	|	|	V |
20+40	1.0010	0.15	Q	|	|	|	V |
20+45	1.0020	0.15	Q	|	|	|	V |
20+50	1.0027	0.10	Q	|	|	|	V |
20+55	1.0034	0.10	Q	|	|	|	V |
21+ 0	1.0041	0.10	Q	|	|	|	V |
21+ 5	1.0051	0.15	Q	|	|	|	V |
21+10	1.0061	0.15	Q	|	|	|	V|
21+15	1.0071	0.15	Q	|	|	|	V|
21+20	1.0078	0.10	Q	|	|	|	V|
21+25	1.0085	0.10	Q	|	|	|	V|
21+30	1.0092	0.10	Q	|	|	|	V|
21+35	1.0102	0.15	Q	|	|	|	V|
21+40	1.0113	0.15	Q	|	|	|	V|
21+45	1.0123	0.15	Q	|	|	|	V|
21+50	1.0130	0.10	Q	|	|	|	V|
21+55	1.0137	0.10	Q	|	|	|	V|
22+ 0	1.0144	0.10	Q	|	|	|	V|
22+ 5	1.0154	0.15	Q	|	|	|	V|
22+10	1.0164	0.15	Q	|	|	|	V|
22+15	1.0175	0.15	Q	|	|	|	V|
22+20	1.0182	0.10	Q	|	|	|	V|
22+25	1.0188	0.10	Q	|	|	|	V|
22+30	1.0195	0.10	Q	|	|	|	V|
22+35	1.0202	0.10	Q	|	|	|	V|
22+40	1.0209	0.10	Q	|	|	|	V|
22+45	1.0216	0.10	Q	|	|	|	V|

```
   22+50       1.0223      0.10  Q          |          |          |         V|
   22+55       1.0230      0.10  Q          |          |          |         V|
   23+ 0       1.0237      0.10  Q          |          |          |         V|
   23+ 5       1.0243      0.10  Q          |          |          |         V|
   23+10       1.0250      0.10  Q          |          |          |         V|
   23+15       1.0257      0.10  Q          |          |          |         V|
   23+20       1.0264      0.10  Q          |          |          |         V|
   23+25       1.0271      0.10  Q          |          |          |         V|
   23+30       1.0278      0.10  Q          |          |          |         V|
   23+35       1.0285      0.10  Q          |          |          |         V|
   23+40       1.0292      0.10  Q          |          |          |         V|
   23+45       1.0299      0.10  Q          |          |          |         V|
   23+50       1.0305      0.10  Q          |          |          |         V|
   23+55       1.0312      0.10  Q          |          |          |         V|
   24+ 0       1.0319      0.10  Q          |          |          |          V
-------------------------------------------------------------------------------
```

Proposed Condition

5-year return – 1-, 3-, 6-, 24-hour duration

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 06/03/26 File: 19267p005AL15.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	0.42	0.61

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	1.22	1.76

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.607(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.607(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

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

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

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
		Sum = 100.000	Sum=	1.456

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.240	(0.058)	0.043	0.197
2	0.17	4.20	0.306	(0.058)	0.055	0.251
3	0.25	4.40	0.320	0.058	(0.058)	0.263
4	0.33	4.80	0.349	0.058	(0.063)	0.292
5	0.42	5.20	0.379	0.058	(0.068)	0.321
6	0.50	6.20	0.451	0.058	(0.081)	0.394
7	0.58	6.80	0.495	0.058	(0.089)	0.437
8	0.67	8.80	0.641	0.058	(0.115)	0.583
9	0.75	13.90	1.012	0.058	(0.182)	0.954

```
 10   0.83    31.40      2.286          0.058    (  0.411)        2.228
 11   0.92     7.20      0.524          0.058    (  0.094)        0.467
 12   1.00     3.80      0.277       (  0.058)       0.050        0.227
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     6.6
    Flood volume = Effective rainfall      0.55(In)
     times area       1.4(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.007(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =        2890.7 Cubic Feet
    Total soil loss =         291.2 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      2.886(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0016      0.23  Q         |         |         |         |
   0+10       0.0040      0.35  |QV       |         |         |         |
   0+15       0.0066      0.38  |Q V      |         |         |         |
   0+20       0.0095      0.42  |Q   V    |         |         |         |
   0+25       0.0127      0.46  |Q     V  |         |         |         |
   0+30       0.0165      0.55  | Q      V|         |         |         |
   0+35       0.0208      0.62  | Q       | V       |         |         |
   0+40       0.0263      0.81  |  Q      |   V     |         |         |
   0+45       0.0352      1.29  |    Q    |         |V        |         |
   0+50       0.0551      2.89  |         |Q        |         |  V      |
   0+55       0.0632      1.18  |   Q     |         |         |       V |
   1+ 0       0.0659      0.40  |Q        |         |         |        V|
   1+ 5       0.0664      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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	0.42	1.36

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.25             1.22                 3.96

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.607(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.607(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.245           75.00          0.870
 Total Area Entered =      3.25(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  57.0      0.501     0.870        0.109        1.000      0.109
                                                    Sum (F) =   0.109
Area averaged mean soil loss (F) (In/Hr) =  0.109
Minimum soil loss rate ((In/Hr)) =  0.054
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.200
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        964.758        100.000             3.270
                               Sum = 100.000   Sum=       3.270
------------------------------------------------------------------------
```

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	3.30	0.240	(0.109)	0.048	0.192
2	0.17	4.20	0.306	(0.109)	0.061	0.245
3	0.25	4.40	0.320	(0.109)	0.064	0.256
4	0.33	4.80	0.349	(0.109)	0.070	0.280
5	0.42	5.20	0.379	(0.109)	0.076	0.303
6	0.50	6.20	0.451	(0.109)	0.090	0.361
7	0.58	6.80	0.495	(0.109)	0.099	0.396
8	0.67	8.80	0.641	0.109	(0.128)	0.532
9	0.75	13.90	1.012	0.109	(0.202)	0.903
10	0.83	31.40	2.286	0.109	(0.457)	2.177

```
 11   0.92     7.20      0.524       (  0.109)       0.105        0.419
 12   1.00     3.80      0.277       (  0.109)       0.055        0.221
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     6.3
     Flood volume = Effective rainfall      0.52(In)
      times area       3.2(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
     Total soil loss =      0.08(In)
     Total soil loss =     0.022(Ac.Ft)
     Total rainfall =      0.61(In)
     Flood volume =        6169.5 Cubic Feet
     Total soil loss =         975.8 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      7.123(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0043      0.63  |VQ       |         |         |         |
    0+10       0.0098      0.80  | VQ      |         |         |         |
    0+15       0.0156      0.84  |  QV     |         |         |         |
    0+20       0.0219      0.91  |  Q  V   |         |         |         |
    0+25       0.0287      0.99  |  Q    V |         |         |         |
    0+30       0.0369      1.18  |   Q     V         |         |         |
    0+35       0.0458      1.30  |    Q    | V       |         |         |
    0+40       0.0578      1.74  |     Q   |     V   |         |         |
    0+45       0.0781      2.96  |         |Q        | V       |         |
    0+50       0.1272      7.12  |         |         |       Q |    V    |
    0+55       0.1366      1.37  |    Q    |         |         |       V |
    1+ 0       0.1416      0.72  | 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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	0.42	0.53

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        1.25             1.22                 1.53

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.607(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.607(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     1.254           75.00          0.790
 Total Area Entered =      1.25(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.790        0.088        1.000      0.088
                                                    Sum (F) =   0.088
Area averaged mean soil loss (F) (In/Hr) =  0.088
Minimum soil loss rate ((In/Hr)) =  0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.270
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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       1293.145        100.000             1.264
                               Sum = 100.000   Sum=       1.264
------------------------------------------------------------------------
```

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	3.30	0.240	(0.088)		0.065	0.175
2	0.17	4.20	0.306	(0.088)		0.083	0.223
3	0.25	4.40	0.320	(0.088)		0.086	0.234
4	0.33	4.80	0.349	0.088	(	0.094)	0.262
5	0.42	5.20	0.379	0.088	(	0.102)	0.291
6	0.50	6.20	0.451	0.088	(	0.122)	0.364
7	0.58	6.80	0.495	0.088	(	0.134)	0.407
8	0.67	8.80	0.641	0.088	(	0.173)	0.553
9	0.75	13.90	1.012	0.088	(	0.273)	0.924
10	0.83	31.40	2.286	0.088	(	0.617)	2.198

```
 11   0.92     7.20      0.524          0.088    (  0.142)        0.437
 12   1.00     3.80      0.277       (  0.088)       0.075        0.202
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     6.3
     Flood volume = Effective rainfall      0.52(In)
      times area       1.3(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
     Total soil loss =      0.08(In)
     Total soil loss =     0.009(Ac.Ft)
     Total rainfall =      0.61(In)
     Flood volume =        2378.5 Cubic Feet
     Total soil loss =         382.8 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      2.779(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ----------------------------------------------------------------------
    0+ 5       0.0015      0.22  QV        |         |         |         |
    0+10       0.0035      0.28  |QV       |         |         |         |
    0+15       0.0055      0.30  |Q  V     |         |         |         |
    0+20       0.0078      0.33  |Q   V    |         |         |         |
    0+25       0.0103      0.37  |Q     V  |         |         |         |
    0+30       0.0135      0.46  |Q       V|         |         |         |
    0+35       0.0170      0.52  | Q       | V       |         |         |
    0+40       0.0219      0.70  | Q       |     V   |         |         |
    0+45       0.0299      1.17  |   Q     |         |V        |         |
    0+50       0.0490      2.78  |         |Q        |         |    V    |
    0+55       0.0528      0.55  | Q       |         |         |       V |
    1+ 0       0.0546      0.26  |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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
0.33	0.42	0.14

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        0.33             1.22                 0.41

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.607(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.607(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     0.332           75.00          0.880
 Total Area Entered =      0.33(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.880        0.063        1.000      0.063
                                                    Sum (F) =   0.063
Area averaged mean soil loss (F) (In/Hr) =  0.063
Minimum soil loss rate ((In/Hr)) =  0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.200
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        699.916         78.557             0.263
    2   0.167       1399.832         21.443             0.072
                               Sum = 100.000   Sum=       0.335
------------------------------------------------------------------------
```

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	3.30	0.240	(0.063)	0.048	0.192
2	0.17	4.20	0.306	(0.063)	0.061	0.245
3	0.25	4.40	0.320	0.063	(0.064)	0.257
4	0.33	4.80	0.349	0.063	(0.070)	0.286
5	0.42	5.20	0.379	0.063	(0.076)	0.316
6	0.50	6.20	0.451	0.063	(0.090)	0.388
7	0.58	6.80	0.495	0.063	(0.099)	0.432
8	0.67	8.80	0.641	0.063	(0.128)	0.578
9	0.75	13.90	1.012	0.063	(0.202)	0.949

```
 10   0.83    31.40      2.286          0.063    (  0.457)        2.223
 11   0.92     7.20      0.524          0.063    (  0.105)        0.461
 12   1.00     3.80      0.277       (  0.063)       0.055        0.221
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     6.5
    Flood volume = Effective rainfall      0.55(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.002(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =         657.6 Cubic Feet
    Total soil loss =          73.5 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.653(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0003      0.05  Q          |         |         |         |
   0+10       0.0009      0.08  Q V        |         |         |         |
   0+15       0.0015      0.09  Q  V       |         |         |         |
   0+20       0.0021      0.09  Q   V      |         |         |         |
   0+25       0.0028      0.10  Q     V    |         |         |         |
   0+30       0.0037      0.12  Q       V  |         |         |         |
   0+35       0.0047      0.14  Q          | V       |         |         |
   0+40       0.0059      0.18  Q          |   V     |         |         |
   0+45       0.0079      0.29  |Q         |         |V        |         |
   0+50       0.0124      0.65  | Q        |         |         | V       |
   0+55       0.0144      0.28  |Q         |         |         |       V |
   1+ 0       0.0150      0.09  Q          |         |         |        V|
   1+ 5       0.0151      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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	0.42	0.16

100 YEAR Area rainfall data:

```
    Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
            0.38             1.22                 0.47

    STORM EVENT (YEAR) =    5.00
    Area Averaged 2-Year Rainfall =    0.419(In)
    Area Averaged 100-Year Rainfall =    1.220(In)

    Point rain (area averaged) =    0.607(In)
    Areal adjustment factor =  100.00 %
    Adjusted average point rain =    0.607(In)

    Sub-Area Data:
    Area(Ac.)         Runoff Index   Impervious %
         0.382           75.00         0.880
     Total Area Entered =      0.38(Ac.)


    RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
    AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
    75.0  75.0      0.303     0.880        0.063        1.000      0.063
                                                        Sum (F) =   0.063
    Area averaged mean soil loss (F) (In/Hr) =  0.063
    Minimum soil loss rate ((In/Hr)) =  0.032
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.200
    ------------------------------------------------------------------------
    Slope of intensity-duration curve for a 1 hour storm =0.5500
    ------------------------------------------------------------------------

               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       1040.009        100.000             0.385
                                  Sum = 100.000   Sum=       0.385
------------------------------------------------------------------------


 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     3.30      0.240       (  0.063)      0.048        0.192
    2   0.17     4.20      0.306       (  0.063)      0.061        0.245
    3   0.25     4.40      0.320          0.063    (  0.064)        0.257
    4   0.33     4.80      0.349          0.063    (  0.070)        0.286
    5   0.42     5.20      0.379          0.063    (  0.076)        0.316
    6   0.50     6.20      0.451          0.063    (  0.090)        0.388
    7   0.58     6.80      0.495          0.063    (  0.099)        0.432
    8   0.67     8.80      0.641          0.063    (  0.128)        0.578
    9   0.75    13.90      1.012          0.063    (  0.202)        0.949
   10   0.83    31.40      2.286          0.063    (  0.457)        2.223
```

```
 11   0.92     7.20      0.524          0.063    (  0.105)        0.461
 12   1.00     3.80      0.277       (  0.063)       0.055        0.221
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     6.5
     Flood volume = Effective rainfall      0.55(In)
      times area       0.4(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
     Total soil loss =      0.06(In)
     Total soil loss =     0.002(Ac.Ft)
     Total rainfall =      0.61(In)
     Flood volume =         756.6 Cubic Feet
     Total soil loss =          84.6 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      0.856(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0005      0.07  QV        |         |         |         |
    0+10       0.0012      0.09  Q V       |         |         |         |
    0+15       0.0018      0.10  Q   V     |         |         |         |
    0+20       0.0026      0.11  Q    V    |         |         |         |
    0+25       0.0034      0.12  Q      V  |         |         |         |
    0+30       0.0045      0.15  Q         V         |         |         |
    0+35       0.0056      0.17  Q         | V       |         |         |
    0+40       0.0071      0.22  Q         |     V   |         |         |
    0+45       0.0097      0.37  |Q        |         | V       |         |
    0+50       0.0156      0.86  |  Q      |         |         |    V    |
    0+55       0.0168      0.18  Q         |         |         |       V |
    1+ 0       0.0174      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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	0.42	0.46

100 YEAR Area rainfall data:

```
    Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
            1.11             1.22                 1.35

    STORM EVENT (YEAR) =    5.00
    Area Averaged 2-Year Rainfall =    0.419(In)
    Area Averaged 100-Year Rainfall =    1.220(In)

    Point rain (area averaged) =    0.607(In)
    Areal adjustment factor =  100.00 %
    Adjusted average point rain =    0.607(In)

    Sub-Area Data:
    Area(Ac.)         Runoff Index   Impervious %
         1.105           75.00         0.840
     Total Area Entered =      1.11(Ac.)


    RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
    AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
    75.0  75.0      0.303     0.840        0.074        1.000      0.074
                                                        Sum (F) =   0.074
    Area averaged mean soil loss (F) (In/Hr) =  0.074
    Minimum soil loss rate ((In/Hr)) =  0.037
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.230
    ------------------------------------------------------------------------
    Slope of intensity-duration curve for a 1 hour storm =0.5500
    ------------------------------------------------------------------------

               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       1261.013        100.000             1.114
                                  Sum = 100.000   Sum=       1.114
------------------------------------------------------------------------


 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     3.30      0.240       (  0.074)       0.055        0.185
    2   0.17     4.20      0.306       (  0.074)       0.070        0.235
    3   0.25     4.40      0.320       (  0.074)       0.074        0.247
    4   0.33     4.80      0.349          0.074    (  0.080)        0.275
    5   0.42     5.20      0.379          0.074    (  0.087)        0.305
    6   0.50     6.20      0.451          0.074    (  0.104)        0.377
    7   0.58     6.80      0.495          0.074    (  0.114)        0.421
    8   0.67     8.80      0.641          0.074    (  0.147)        0.567
    9   0.75    13.90      1.012          0.074    (  0.233)        0.938
   10   0.83    31.40      2.286          0.074    (  0.526)        2.212
```

```
 11   0.92     7.20      0.524          0.074    (  0.121)        0.450
 12   1.00     3.80      0.277       (  0.074)       0.064        0.213
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     6.4
    Flood volume = Effective rainfall      0.54(In)
     times area       1.1(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.07(In)
    Total soil loss =     0.007(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =        2147.6 Cubic Feet
    Total soil loss =         285.6 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      2.464(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0014      0.21  QV         |         |         |         |
   0+10       0.0032      0.26  |QV        |         |         |         |
   0+15       0.0051      0.27  |Q  V      |         |         |         |
   0+20       0.0072      0.31  |Q   V     |         |         |         |
   0+25       0.0096      0.34  |Q     V   |         |         |         |
   0+30       0.0125      0.42  |Q         V         |         |         |
   0+35       0.0157      0.47  |Q         | V       |         |         |
   0+40       0.0200      0.63  | Q        |     V   |         |         |
   0+45       0.0272      1.05  |   Q      |         | V       |         |
   0+50       0.0442      2.46  |         Q|         |         |    V    |
   0+55       0.0477      0.50  | Q        |         |         |       V |
   1+ 0       0.0493      0.24  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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	0.42	0.38

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        0.90             1.22                 1.10

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.607(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.607(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     0.900           75.00          0.830
 Total Area Entered =      0.90(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.830        0.077        1.000      0.077
                                                    Sum (F) =   0.077
Area averaged mean soil loss (F) (In/Hr) =  0.077
Minimum soil loss rate ((In/Hr)) =  0.038
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.240
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        633.203         76.439             0.693
    2   0.167       1266.406         23.561             0.214
                               Sum = 100.000   Sum=       0.907
------------------------------------------------------------------------
```

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	3.30	0.240	(0.077)		0.058	0.183
2	0.17	4.20	0.306	(0.077)		0.073	0.232
3	0.25	4.40	0.320	0.077	(	0.077)	0.244
4	0.33	4.80	0.349	0.077	(	0.084)	0.273
5	0.42	5.20	0.379	0.077	(	0.091)	0.302
6	0.50	6.20	0.451	0.077	(	0.108)	0.375
7	0.58	6.80	0.495	0.077	(	0.119)	0.418
8	0.67	8.80	0.641	0.077	(	0.154)	0.564
9	0.75	13.90	1.012	0.077	(	0.243)	0.935

```
 10   0.83    31.40      2.286          0.077    (  0.549)        2.209
 11   0.92     7.20      0.524          0.077    (  0.126)        0.447
 12   1.00     3.80      0.277       (  0.077)       0.066        0.210
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     6.4
    Flood volume = Effective rainfall      0.53(In)
     times area       0.9(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.07(In)
    Total soil loss =     0.006(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =        1740.2 Cubic Feet
    Total soil loss =         241.6 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.732(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0009      0.13  Q          |         |         |         |
   0+10       0.0023      0.20  Q V        |         |         |         |
   0+15       0.0038      0.22  Q  V       |         |         |         |
   0+20       0.0054      0.24  Q   V      |         |         |         |
   0+25       0.0073      0.27  |Q     V    |         |         |         |
   0+30       0.0095      0.32  |Q       V|         |         |         |
   0+35       0.0120      0.37  |Q        | V       |         |         |
   0+40       0.0154      0.48  |Q        |   V     |         |         |
   0+45       0.0207      0.77  |  Q      |         V         |         |
   0+50       0.0326      1.73  |     Q   |         |         | V       |
   0+55       0.0380      0.78  |  Q      |         |         |       V |
   1+ 0       0.0396      0.24  Q         |         |         |        V|
   1+ 5       0.0399      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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	0.42	0.14

100 YEAR Area rainfall data:

```
    Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
            0.34             1.22                 0.41

    STORM EVENT (YEAR) =    5.00
    Area Averaged 2-Year Rainfall =    0.419(In)
    Area Averaged 100-Year Rainfall =    1.220(In)

    Point rain (area averaged) =    0.607(In)
    Areal adjustment factor =  100.00 %
    Adjusted average point rain =    0.607(In)

    Sub-Area Data:
    Area(Ac.)         Runoff Index   Impervious %
         0.340           75.00          0.860
     Total Area Entered =      0.34(Ac.)


    RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
    AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
    75.0  75.0      0.303     0.860        0.068        1.000      0.068
                                                        Sum (F) =   0.068
    Area averaged mean soil loss (F) (In/Hr) =  0.068
    Minimum soil loss rate ((In/Hr)) =  0.034
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.210
    ------------------------------------------------------------------------
    Slope of intensity-duration curve for a 1 hour storm =0.5500
    ------------------------------------------------------------------------

               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       1304.735        100.000             0.343
                                  Sum = 100.000   Sum=       0.343
------------------------------------------------------------------------
```

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	3.30	0.240	(0.068)		0.050	0.190
2	0.17	4.20	0.306	(0.068)		0.064	0.242
3	0.25	4.40	0.320	(0.068)		0.067	0.253
4	0.33	4.80	0.349	0.068	(| 0.073)	0.281
5	0.42	5.20	0.379	0.068	(| 0.079)	0.310
6	0.50	6.20	0.451	0.068	(| 0.095)	0.383
7	0.58	6.80	0.495	0.068	(| 0.104)	0.427
8	0.67	8.80	0.641	0.068	(| 0.135)	0.572
9	0.75	13.90	1.012	0.068	(| 0.212)	0.943
10	0.83	31.40	2.286	0.068	(| 0.480)	2.217

```
 11   0.92     7.20      0.524          0.068    (  0.110)        0.456
 12   1.00     3.80      0.277       (  0.068)       0.058        0.219
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     6.5
    Flood volume = Effective rainfall      0.54(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.07(In)
    Total soil loss =     0.002(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =         667.7 Cubic Feet
    Total soil loss =          81.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.760(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0004      0.07  QV        |         |         |         |
   0+10       0.0010      0.08  Q V       |         |         |         |
   0+15       0.0016      0.09  Q   V     |         |         |         |
   0+20       0.0023      0.10  Q    V    |         |         |         |
   0+25       0.0030      0.11  Q      V  |         |         |         |
   0+30       0.0039      0.13  Q         V         |         |         |
   0+35       0.0049      0.15  Q         | V       |         |         |
   0+40       0.0063      0.20  Q         |     V   |         |         |
   0+45       0.0085      0.32  |Q        |         | V       |         |
   0+50       0.0137      0.76  |  Q      |         |         |    V    |
   0+55       0.0148      0.16  Q         |         |         |       V |
   1+ 0       0.0153      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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	0.42	0.29

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	1.22	0.84

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.607(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.607(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
		Sum = 100.000	Sum=	0.690

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	3.30	0.240	(0.136)	0.060	0.180
2	0.17	4.20	0.306	(0.136)	0.076	0.229
3	0.25	4.40	0.320	(0.136)	0.080	0.240
4	0.33	4.80	0.349	(0.136)	0.087	0.262
5	0.42	5.20	0.379	(0.136)	0.095	0.284
6	0.50	6.20	0.451	(0.136)	0.113	0.338
7	0.58	6.80	0.495	(0.136)	0.124	0.371

8	0.67	8.80	0.641	0.136	(0.160)	0.505
9	0.75	13.90	1.012	0.136	(0.253)	0.876
10	0.83	31.40	2.286	0.136	(0.571)	2.150
11	0.92	7.20	0.524	(0.136)	0.131	0.393
12	1.00	3.80	0.277	(0.136)	0.069	0.207

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.0

Flood volume = Effective rainfall 0.50(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.006(Ac.Ft)
Total rainfall = 0.61(In)
Flood volume = 1250.9 Cubic Feet
Total soil loss = 257.4 Cubic Feet

Peak flow rate of this hydrograph = 1.024(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q				
0+10	0.0013	0.13	QV				
0+15	0.0024	0.16	Q V				
0+20	0.0036	0.17	Q V				
0+25	0.0049	0.19	Q V				
0+30	0.0064	0.21	Q V				
0+35	0.0080	0.24	Q V				
0+40	0.0101	0.30	Q V				
0+45	0.0133	0.47	Q V				
0+50	0.0204	1.02	Q V				
0+55	0.0258	0.78	Q V				
1+ 0	0.0278	0.30	Q V				
1+ 5	0.0286	0.11	Q V				
1+10	0.0287	0.02	Q V				
1+15	0.0287	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 06/03/26 File: 19267p005site15.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	0.42	4.06

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.69             1.22                 11.82

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.607(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.607(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     9.688           75.00          0.840
 Total Area Entered =      9.69(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  57.0      0.501     0.840        0.122        1.000      0.122
                                                    Sum (F) =   0.122
Area averaged mean soil loss (F) (In/Hr) =  0.122
Minimum soil loss rate ((In/Hr)) =  0.061
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.230
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        964.758        100.000             9.764
                               Sum = 100.000   Sum=       9.764
------------------------------------------------------------------------
```

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	3.30	0.240	(0.122)	0.055	0.185
2	0.17	4.20	0.306	(0.122)	0.070	0.235
3	0.25	4.40	0.320	(0.122)	0.074	0.247
4	0.33	4.80	0.349	(0.122)	0.080	0.269
5	0.42	5.20	0.378	(0.122)	0.087	0.291
6	0.50	6.20	0.451	(0.122)	0.104	0.347
7	0.58	6.80	0.495	(0.122)	0.114	0.381
8	0.67	8.80	0.641	0.122	(0.147)	0.518
9	0.75	13.90	1.012	0.122	(0.233)	0.890
10	0.83	31.40	2.286	0.122	(0.526)	2.163

```
 11   0.92     7.20      0.524       (  0.122)       0.121        0.404
 12   1.00     3.80      0.277       (  0.122)       0.064        0.213
          (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     6.1
    Flood volume = Effective rainfall      0.51(In)
     times area       9.7(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
    Total soil loss =      0.09(In)
    Total soil loss =     0.076(Ac.Ft)
    Total rainfall =      0.61(In)
    Flood volume =       18005.3 Cubic Feet
    Total soil loss =        3325.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     21.133(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       0.0124      1.81  |VQ       |         |         |         |
   0+10       0.0283      2.30  | VQ      |         |         |         |
   0+15       0.0449      2.41  |  QV     |         |         |         |
   0+20       0.0630      2.63  |  Q  V   |         |         |         |
   0+25       0.0826      2.85  |  Q   V  |         |         |         |
   0+30       0.1060      3.39  |   Q     V         |         |         |
   0+35       0.1316      3.72  |   Q     | V       |         |         |
   0+40       0.1665      5.06  |     Q   |     V   |         |         |
   0+45       0.2263      8.69  |         |Q        |V        |         |
   0+50       0.3719     21.13  |         |         |       Q |    V    |
   0+55       0.3990      3.94  |    Q    |         |         |       V |
   1+ 0       0.4133      2.08  | Q       |         |         |         V
------------------------------------------------------------------------
```

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

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Study date 06/03/26 File: 19267p005AL35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 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]
1.45	0.71	1.02

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	1.75	2.53

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

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

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

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
			Sum = 100.000 Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.149	(0.058)	0.027	0.122
2	0.17	1.30	0.149	(0.058)	0.027	0.122
3	0.25	1.10	0.126	(0.058)	0.023	0.103
4	0.33	1.50	0.171	(0.058)	0.031	0.141
5	0.42	1.50	0.171	(0.058)	0.031	0.141
6	0.50	1.80	0.206	(0.058)	0.037	0.169
7	0.58	1.50	0.171	(0.058)	0.031	0.141
8	0.67	1.80	0.206	(0.058)	0.037	0.169
9	0.75	1.80	0.206	(0.058)	0.037	0.169
10	0.83	1.50	0.171	(0.058)	0.031	0.141
11	0.92	1.60	0.183	(0.058)	0.033	0.150

12	1.00	1.80	0.206	(	0.058)	0.037	0.169
13	1.08	2.20	0.251	(	0.058)	0.045	0.206
14	1.17	2.20	0.251	(	0.058)	0.045	0.206
15	1.25	2.20	0.251	(	0.058)	0.045	0.206
16	1.33	2.00	0.228	(	0.058)	0.041	0.187
17	1.42	2.60	0.297	(	0.058)	0.053	0.244
18	1.50	2.70	0.308	(	0.058)	0.056	0.253
19	1.58	2.40	0.274	(	0.058)	0.049	0.225
20	1.67	2.70	0.308	(	0.058)	0.056	0.253
21	1.75	3.30	0.377		0.058	(0.068)	0.319
22	1.83	3.10	0.354		0.058	(0.064)	0.297
23	1.92	2.90	0.331		0.058	(0.060)	0.274
24	2.00	3.00	0.343		0.058	(0.062)	0.285
25	2.08	3.10	0.354		0.058	(0.064)	0.297
26	2.17	4.20	0.480		0.058	(0.086)	0.422
27	2.25	5.00	0.571		0.058	(0.103)	0.514
28	2.33	3.50	0.400		0.058	(0.072)	0.342
29	2.42	6.80	0.777		0.058	(0.140)	0.719
30	2.50	7.30	0.834		0.058	(0.150)	0.776
31	2.58	8.20	0.937		0.058	(0.169)	0.879
32	2.67	5.90	0.674		0.058	(0.121)	0.616
33	2.75	2.00	0.228	(	0.058)	0.041	0.187
34	2.83	1.80	0.206	(	0.058)	0.037	0.169
35	2.92	1.80	0.206	(	0.058)	0.037	0.169
36	3.00	0.60	0.069	(	0.058)	0.012	0.056

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.8

Flood volume = Effective rainfall 0.82(In)
times area 1.4(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.13(In)
Total soil loss = 0.016(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 4299.1 Cubic Feet
Total soil loss = 694.8 Cubic Feet

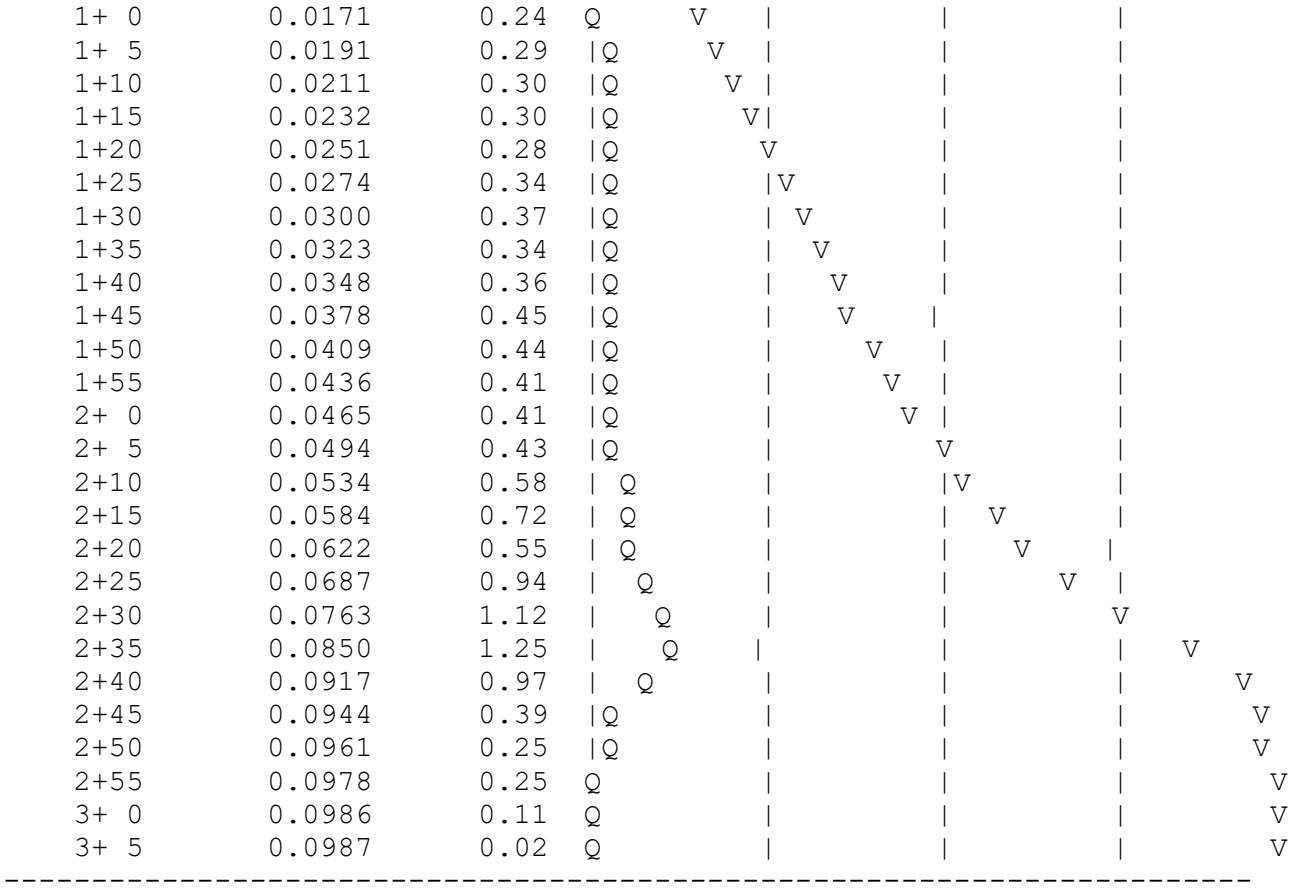
Peak flow rate of this hydrograph = 1.252(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0010	0.14	Q	|	|	|	|
0+10	0.0022	0.18	Q	|	|	|	|
0+15	0.0033	0.16	QV	|	|	|	|
0+20	0.0046	0.19	QV	|	|	|	|
0+25	0.0060	0.20	Q V	|	|	|	|
0+30	0.0077	0.24	Q V	|	|	|	|
0+35	0.0091	0.21	Q V	|	|	|	|
0+40	0.0108	0.24	Q V	|	|	|	|
0+45	0.0125	0.25	Q V	|	|	|	|
0+50	0.0139	0.21	Q V	|	|	|	|
0+55	0.0154	0.22	Q V	|	|	|	|


1+ 0 0.0171 0.24
1+ 5 0.0191 0.29
1+10 0.0211 0.30
1+15 0.0232 0.30
1+20 0.0251 0.28
1+25 0.0274 0.34
1+30 0.0300 0.37
1+35 0.0323 0.34
1+40 0.0348 0.36
1+45 0.0378 0.45
1+50 0.0409 0.44
1+55 0.0436 0.41
2+ 0 0.0465 0.41
2+ 5 0.0494 0.43
2+10 0.0534 0.58
2+15 0.0584 0.72
2+20 0.0622 0.55
2+25 0.0687 0.94
2+30 0.0763 1.12
2+35 0.0850 1.25
2+40 0.0917 0.97
2+45 0.0944 0.39
2+50 0.0961 0.25
2+55 0.0978 0.25
3+ 0 0.0986 0.11
3+ 5 0.0987 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 06/03/26 File: 19267p005B35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	0.71	2.30

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.25	1.75	5.68

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.245	75.00	0.870

Total Area Entered = 3.25(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.870	0.109	1.000	0.109
					Sum (F) =	0.109

Area averaged mean soil loss (F) (In/Hr) = 0.109
Minimum soil loss rate ((In/Hr)) = 0.054
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	3.270
		Sum = 100.000	Sum= 3.270

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	0.149	(0.109)	0.030	0.119
2	0.17	1.30	0.149	(0.109)	0.030	0.119
3	0.25	1.10	0.126	(0.109)	0.025	0.101
4	0.33	1.50	0.171	(0.109)	0.034	0.137
5	0.42	1.50	0.171	(0.109)	0.034	0.137
6	0.50	1.80	0.206	(0.109)	0.041	0.165
7	0.58	1.50	0.171	(0.109)	0.034	0.137
8	0.67	1.80	0.206	(0.109)	0.041	0.165
9	0.75	1.80	0.206	(0.109)	0.041	0.165
10	0.83	1.50	0.171	(0.109)	0.034	0.137
11	0.92	1.60	0.183	(0.109)	0.037	0.146
12	1.00	1.80	0.206	(0.109)	0.041	0.165

13	1.08	2.20	0.251	(0.109)	0.050	0.201
14	1.17	2.20	0.251	(0.109)	0.050	0.201
15	1.25	2.20	0.251	(0.109)	0.050	0.201
16	1.33	2.00	0.228	(0.109)	0.046	0.183
17	1.42	2.60	0.297	(0.109)	0.059	0.238
18	1.50	2.70	0.308	(0.109)	0.062	0.247
19	1.58	2.40	0.274	(0.109)	0.055	0.219
20	1.67	2.70	0.308	(0.109)	0.062	0.247
21	1.75	3.30	0.377	(0.109)	0.075	0.302
22	1.83	3.10	0.354	(0.109)	0.071	0.283
23	1.92	2.90	0.331	(0.109)	0.066	0.265
24	2.00	3.00	0.343	(0.109)	0.069	0.274
25	2.08	3.10	0.354	(0.109)	0.071	0.283
26	2.17	4.20	0.480	(0.109)	0.096	0.384
27	2.25	5.00	0.571	0.109	(0.114)	0.463
28	2.33	3.50	0.400	(0.109)	0.080	0.320
29	2.42	6.80	0.777	0.109	(0.155)	0.668
30	2.50	7.30	0.834	0.109	(0.167)	0.725
31	2.58	8.20	0.937	0.109	(0.187)	0.828
32	2.67	5.90	0.674	0.109	(0.135)	0.565
33	2.75	2.00	0.228	(0.109)	0.046	0.183
34	2.83	1.80	0.206	(0.109)	0.041	0.165
35	2.92	1.80	0.206	(0.109)	0.041	0.165
36	3.00	0.60	0.069	(0.109)	0.014	0.055

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.4

Flood volume = Effective rainfall 0.78(In)
times area 3.2(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.047(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 9183.1 Cubic Feet
Total soil loss = 2031.4 Cubic Feet

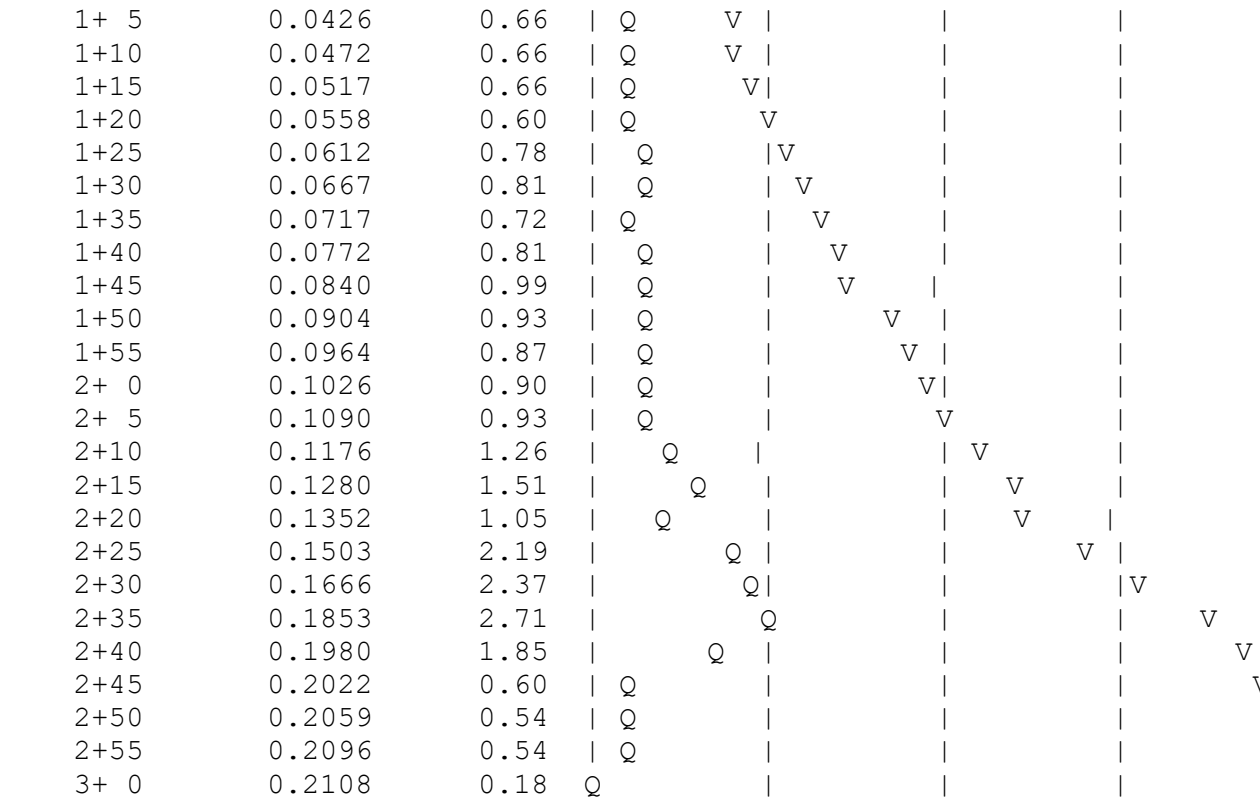
Peak flow rate of this hydrograph = 2.710(CFS)

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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 2.5 5.0 7.5 10.0
0+ 5	0.0027	0.39	VQ | | | |
0+10	0.0054	0.39	|Q | | | |
0+15	0.0076	0.33	|Q | | | |
0+20	0.0107	0.45	|QV | | | |
0+25	0.0138	0.45	|QV | | | |
0+30	0.0175	0.54	| QV | | | |
0+35	0.0206	0.45	|Q V | | | |
0+40	0.0243	0.54	| Q V | | | |
0+45	0.0280	0.54	| Q V | | | |
0+50	0.0311	0.45	|Q V | | | |
0+55	0.0344	0.48	|Q V | | | |
1+ 0	0.0381	0.54	| Q V | | | |


1+ 5 0.0426 0.66
1+10 0.0472 0.66
1+15 0.0517 0.66
1+20 0.0558 0.60
1+25 0.0612 0.78
1+30 0.0667 0.81
1+35 0.0717 0.72
1+40 0.0772 0.81
1+45 0.0840 0.99
1+50 0.0904 0.93
1+55 0.0964 0.87
2+ 0 0.1026 0.90
2+ 5 0.1090 0.93
2+10 0.1176 1.26
2+15 0.1280 1.51
2+20 0.1352 1.05
2+25 0.1503 2.19
2+30 0.1666 2.37
2+35 0.1853 2.71
2+40 0.1980 1.85
2+45 0.2022 0.60
2+50 0.2059 0.54
2+55 0.2096 0.54
3+ 0 0.2108 0.18

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 06/03/26 File: 19267p005CD35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
1.25	0.71	0.89

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	1.75	2.19

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.254	75.00	0.790

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.790	0.088	1.000	0.088
					Sum (F) =	0.088

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1293.145	100.000	1.264
		Sum = 100.000	Sum= 1.264

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	0.149	(0.088)	0.040	0.108
2	0.17	1.30	0.149	(0.088)	0.040	0.108
3	0.25	1.10	0.126	(0.088)	0.034	0.092
4	0.33	1.50	0.171	(0.088)	0.046	0.125
5	0.42	1.50	0.171	(0.088)	0.046	0.125
6	0.50	1.80	0.206	(0.088)	0.056	0.150
7	0.58	1.50	0.171	(0.088)	0.046	0.125
8	0.67	1.80	0.206	(0.088)	0.056	0.150
9	0.75	1.80	0.206	(0.088)	0.056	0.150
10	0.83	1.50	0.171	(0.088)	0.046	0.125
11	0.92	1.60	0.183	(0.088)	0.049	0.133
12	1.00	1.80	0.206	(0.088)	0.056	0.150

13	1.08	2.20	0.251	(	0.088)	0.068	0.183
14	1.17	2.20	0.251	(	0.088)	0.068	0.183
15	1.25	2.20	0.251	(	0.088)	0.068	0.183
16	1.33	2.00	0.228	(	0.088)	0.062	0.167
17	1.42	2.60	0.297	(	0.088)	0.080	0.217
18	1.50	2.70	0.308	(	0.088)	0.083	0.225
19	1.58	2.40	0.274	(	0.088)	0.074	0.200
20	1.67	2.70	0.308	(	0.088)	0.083	0.225
21	1.75	3.30	0.377		0.088	(0.102)	0.289
22	1.83	3.10	0.354		0.088	(0.096)	0.267
23	1.92	2.90	0.331		0.088	(0.089)	0.244
24	2.00	3.00	0.343		0.088	(0.093)	0.255
25	2.08	3.10	0.354		0.088	(0.096)	0.267
26	2.17	4.20	0.480		0.088	(0.130)	0.392
27	2.25	5.00	0.571		0.088	(0.154)	0.484
28	2.33	3.50	0.400		0.088	(0.108)	0.312
29	2.42	6.80	0.777		0.088	(0.210)	0.689
30	2.50	7.30	0.834		0.088	(0.225)	0.746
31	2.58	8.20	0.937		0.088	(0.253)	0.849
32	2.67	5.90	0.674		0.088	(0.182)	0.586
33	2.75	2.00	0.228	(	0.088)	0.062	0.167
34	2.83	1.80	0.206	(	0.088)	0.056	0.150
35	2.92	1.80	0.206	(	0.088)	0.056	0.150
36	3.00	0.60	0.069	(	0.088)	0.019	0.050

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.0

Flood volume = Effective rainfall 0.75(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.20(In)
Total soil loss = 0.021(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 3423.8 Cubic Feet
Total soil loss = 909.9 Cubic Feet

Peak flow rate of this hydrograph = 1.074(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	2.5	5.0	7.5	10.0
0+ 5	0.0009	0.14	Q				
0+10	0.0019	0.14	Q				
0+15	0.0027	0.12	QV				
0+20	0.0038	0.16	QV				
0+25	0.0049	0.16	Q V				
0+30	0.0062	0.19	Q V				
0+35	0.0073	0.16	Q V				
0+40	0.0086	0.19	Q V				
0+45	0.0099	0.19	Q V				
0+50	0.0110	0.16	Q V				
0+55	0.0121	0.17	Q V				
1+ 0	0.0134	0.19	Q V				

1+ 5	0.0150	0.23	Q	V				
1+10	0.0166	0.23	Q	V				
1+15	0.0182	0.23	Q	V				
1+20	0.0197	0.21	Q	V				
1+25	0.0216	0.27	Q	V				
1+30	0.0235	0.28	Q	V				
1+35	0.0253	0.25	Q	V				
1+40	0.0272	0.28	Q	V				
1+45	0.0298	0.37	Q	V				
1+50	0.0321	0.34	Q	V				
1+55	0.0342	0.31	Q	V				
2+ 0	0.0364	0.32	Q	V				
2+ 5	0.0387	0.34	Q	V				
2+10	0.0422	0.50	Q	V				
2+15	0.0464	0.61	Q	V				
2+20	0.0491	0.39	Q	V				
2+25	0.0551	0.87	Q	V				
2+30	0.0616	0.94	Q	V				
2+35	0.0690	1.07	Q	V				
2+40	0.0741	0.74	Q	V				
2+45	0.0755	0.21	Q	V				
2+50	0.0769	0.19	Q	V				
2+55	0.0782	0.19	Q	V				
3+ 0	0.0786	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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Study date 06/03/26 File: 19267p005EK35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
0.33	0.71	0.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	1.75	0.58

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.332	75.00	0.880

Total Area Entered = 0.33(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	699.916	78.557	0.263
2	0.167	1399.832	21.443	0.072
			Sum = 100.000 Sum=	0.335

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	0.149	(0.063)		0.030	0.119
2	0.17	1.30	0.149	(0.063)		0.030	0.119
3	0.25	1.10	0.126	(0.063)		0.025	0.101
4	0.33	1.50	0.171	(0.063)		0.034	0.137
5	0.42	1.50	0.171	(0.063)		0.034	0.137
6	0.50	1.80	0.206	(0.063)		0.041	0.165
7	0.58	1.50	0.171	(0.063)		0.034	0.137
8	0.67	1.80	0.206	(0.063)		0.041	0.165
9	0.75	1.80	0.206	(0.063)		0.041	0.165
10	0.83	1.50	0.171	(0.063)		0.034	0.137
11	0.92	1.60	0.183	(0.063)		0.037	0.146

12	1.00	1.80	0.206	(	0.063)	0.041	0.165
13	1.08	2.20	0.251	(	0.063)	0.050	0.201
14	1.17	2.20	0.251	(	0.063)	0.050	0.201
15	1.25	2.20	0.251	(	0.063)	0.050	0.201
16	1.33	2.00	0.228	(	0.063)	0.046	0.183
17	1.42	2.60	0.297	(	0.063)	0.059	0.238
18	1.50	2.70	0.308	(	0.063)	0.062	0.247
19	1.58	2.40	0.274	(	0.063)	0.055	0.219
20	1.67	2.70	0.308	(	0.063)	0.062	0.247
21	1.75	3.30	0.377		0.063	(0.075)	0.314
22	1.83	3.10	0.354		0.063	(0.071)	0.291
23	1.92	2.90	0.331		0.063	(0.066)	0.268
24	2.00	3.00	0.343		0.063	(0.069)	0.280
25	2.08	3.10	0.354		0.063	(0.071)	0.291
26	2.17	4.20	0.480		0.063	(0.096)	0.417
27	2.25	5.00	0.571		0.063	(0.114)	0.508
28	2.33	3.50	0.400		0.063	(0.080)	0.337
29	2.42	6.80	0.777		0.063	(0.155)	0.714
30	2.50	7.30	0.834		0.063	(0.167)	0.771
31	2.58	8.20	0.937		0.063	(0.187)	0.874
32	2.67	5.90	0.674		0.063	(0.135)	0.611
33	2.75	2.00	0.228	(	0.063)	0.046	0.183
34	2.83	1.80	0.206	(	0.063)	0.041	0.165
35	2.92	1.80	0.206	(	0.063)	0.041	0.165
36	3.00	0.60	0.069	(	0.063)	0.014	0.055

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.7

Flood volume = Effective rainfall 0.81(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 971.1 Cubic Feet
Total soil loss = 176.2 Cubic Feet

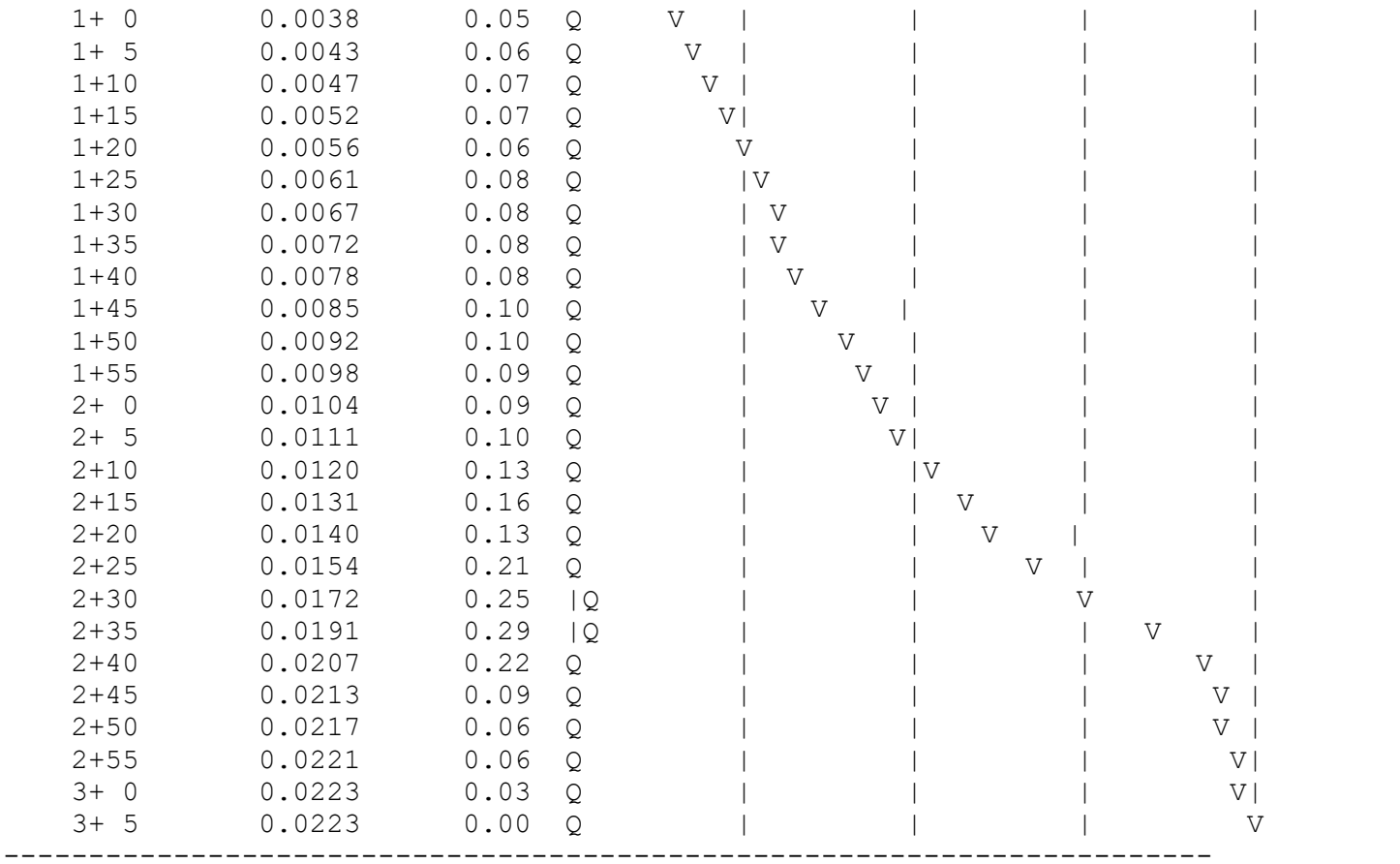
Peak flow rate of this hydrograph = 0.285(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.04	Q				
0+15	0.0007	0.03	QV				
0+20	0.0010	0.04	QV				
0+25	0.0013	0.05	Q V				
0+30	0.0017	0.05	Q V				
0+35	0.0020	0.05	Q V				
0+40	0.0024	0.05	Q V				
0+45	0.0028	0.06	Q V				
0+50	0.0031	0.05	Q V				
0+55	0.0034	0.05	Q V				


1+ 0 0.0038 0.05 Q
1+ 5 0.0043 0.06 Q
1+10 0.0047 0.07 Q
1+15 0.0052 0.07 Q
1+20 0.0056 0.06 Q
1+25 0.0061 0.08 Q
1+30 0.0067 0.08 Q
1+35 0.0072 0.08 Q
1+40 0.0078 0.08 Q
1+45 0.0085 0.10 Q
1+50 0.0092 0.10 Q
1+55 0.0098 0.09 Q
2+ 0 0.0104 0.09 Q
2+ 5 0.0111 0.10 Q
2+10 0.0120 0.13 Q
2+15 0.0131 0.16 Q
2+20 0.0140 0.13 Q
2+25 0.0154 0.21 Q
2+30 0.0172 0.25 Q
2+35 0.0191 0.29 Q
2+40 0.0207 0.22 Q
2+45 0.0213 0.09 Q
2+50 0.0217 0.06 Q
2+55 0.0221 0.06 Q
3+ 0 0.0223 0.03 Q
3+ 5 0.0223 0.00 Q

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

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Study date 06/03/26 File: 19267p005F35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	0.71	0.27

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.38	1.75	0.67

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.382	75.00	0.880

Total Area Entered = 0.38(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1040.009	100.000	0.385
		Sum = 100.000	Sum=	0.385

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	0.149	(0.063)	0.030	0.119
2	0.17	1.30	0.149	(0.063)	0.030	0.119
3	0.25	1.10	0.126	(0.063)	0.025	0.101
4	0.33	1.50	0.171	(0.063)	0.034	0.137
5	0.42	1.50	0.171	(0.063)	0.034	0.137
6	0.50	1.80	0.206	(0.063)	0.041	0.165
7	0.58	1.50	0.171	(0.063)	0.034	0.137
8	0.67	1.80	0.206	(0.063)	0.041	0.165
9	0.75	1.80	0.206	(0.063)	0.041	0.165
10	0.83	1.50	0.171	(0.063)	0.034	0.137
11	0.92	1.60	0.183	(0.063)	0.037	0.146
12	1.00	1.80	0.206	(0.063)	0.041	0.165

13	1.08	2.20	0.251	(	0.063)	0.050	0.201
14	1.17	2.20	0.251	(	0.063)	0.050	0.201
15	1.25	2.20	0.251	(	0.063)	0.050	0.201
16	1.33	2.00	0.228	(	0.063)	0.046	0.183
17	1.42	2.60	0.297	(	0.063)	0.059	0.238
18	1.50	2.70	0.308	(	0.063)	0.062	0.247
19	1.58	2.40	0.274	(	0.063)	0.055	0.219
20	1.67	2.70	0.308	(	0.063)	0.062	0.247
21	1.75	3.30	0.377		0.063	(0.075)	0.314
22	1.83	3.10	0.354		0.063	(0.071)	0.291
23	1.92	2.90	0.331		0.063	(0.066)	0.268
24	2.00	3.00	0.343		0.063	(0.069)	0.280
25	2.08	3.10	0.354		0.063	(0.071)	0.291
26	2.17	4.20	0.480		0.063	(0.096)	0.417
27	2.25	5.00	0.571		0.063	(0.114)	0.508
28	2.33	3.50	0.400		0.063	(0.080)	0.337
29	2.42	6.80	0.777		0.063	(0.155)	0.714
30	2.50	7.30	0.834		0.063	(0.167)	0.771
31	2.58	8.20	0.937		0.063	(0.187)	0.874
32	2.67	5.90	0.674		0.063	(0.135)	0.611
33	2.75	2.00	0.228	(	0.063)	0.046	0.183
34	2.83	1.80	0.206	(	0.063)	0.041	0.165
35	2.92	1.80	0.206	(	0.063)	0.041	0.165
36	3.00	0.60	0.069	(	0.063)	0.014	0.055

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.7

Flood volume = Effective rainfall 0.81(In)
times area 0.4(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 1117.4 Cubic Feet
Total soil loss = 202.8 Cubic Feet

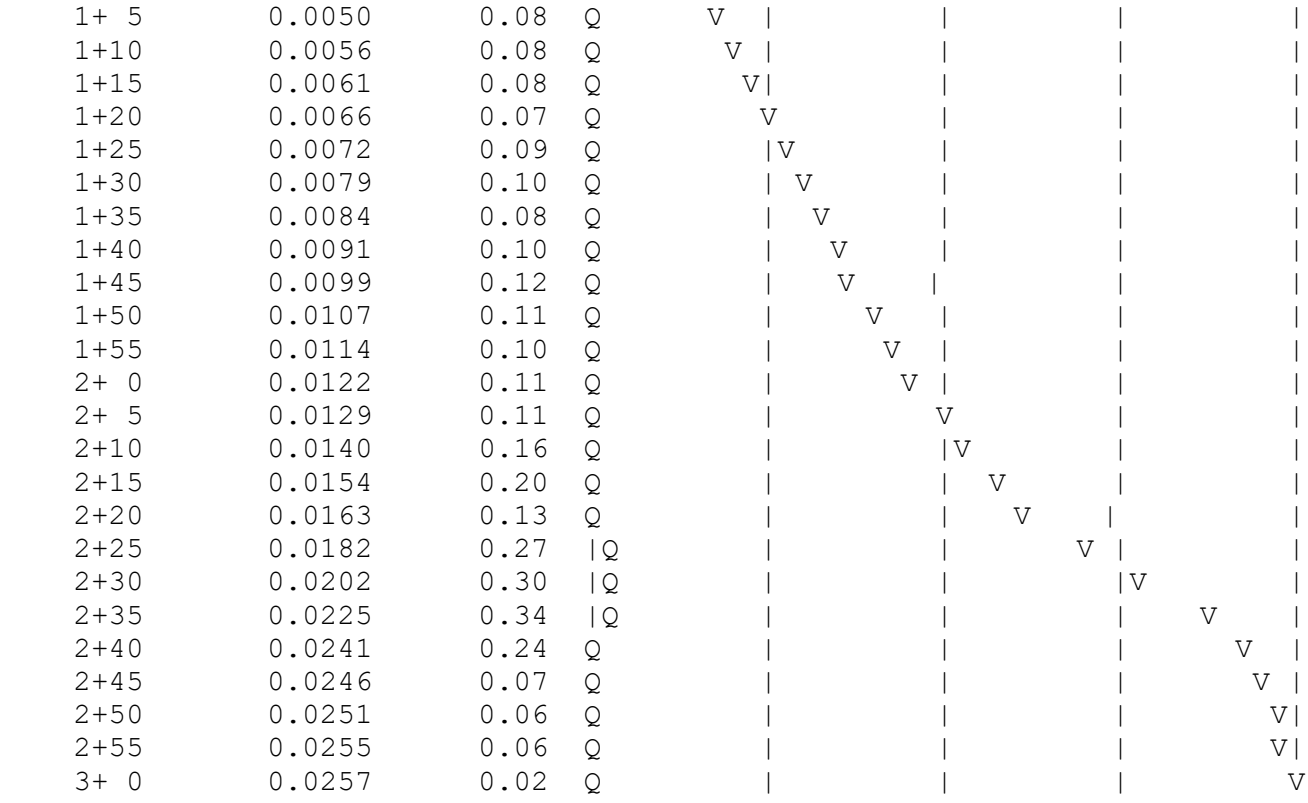
Peak flow rate of this hydrograph = 0.337(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q				
0+10	0.0006	0.05	Q				
0+15	0.0009	0.04	QV				
0+20	0.0013	0.05	QV				
0+25	0.0016	0.05	Q V				
0+30	0.0021	0.06	Q V				
0+35	0.0024	0.05	Q V				
0+40	0.0029	0.06	Q V				
0+45	0.0033	0.06	Q V				
0+50	0.0037	0.05	Q V				
0+55	0.0040	0.06	Q V				
1+ 0	0.0045	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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Study date 06/03/26 File: 19267p005GH35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 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]
1.11	0.71	0.78

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	1.75	1.93

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.105	75.00	0.840

Total Area Entered = 1.11(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.840	0.074	1.000	0.074
					Sum (F) =	0.074

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1261.013	100.000	1.114
		Sum = 100.000	Sum= 1.114

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	0.149	(0.074)	0.034	0.114
2	0.17	1.30	0.149	(0.074)	0.034	0.114
3	0.25	1.10	0.126	(0.074)	0.029	0.097
4	0.33	1.50	0.171	(0.074)	0.039	0.132
5	0.42	1.50	0.171	(0.074)	0.039	0.132
6	0.50	1.80	0.206	(0.074)	0.047	0.158
7	0.58	1.50	0.171	(0.074)	0.039	0.132
8	0.67	1.80	0.206	(0.074)	0.047	0.158
9	0.75	1.80	0.206	(0.074)	0.047	0.158
10	0.83	1.50	0.171	(0.074)	0.039	0.132
11	0.92	1.60	0.183	(0.074)	0.042	0.141
12	1.00	1.80	0.206	(0.074)	0.047	0.158

13	1.08	2.20	0.251	(	0.074)	0.058	0.194
14	1.17	2.20	0.251	(	0.074)	0.058	0.194
15	1.25	2.20	0.251	(	0.074)	0.058	0.194
16	1.33	2.00	0.228	(	0.074)	0.053	0.176
17	1.42	2.60	0.297	(	0.074)	0.068	0.229
18	1.50	2.70	0.308	(	0.074)	0.071	0.238
19	1.58	2.40	0.274	(	0.074)	0.063	0.211
20	1.67	2.70	0.308	(	0.074)	0.071	0.238
21	1.75	3.30	0.377		0.074	(0.087)	0.303
22	1.83	3.10	0.354		0.074	(0.081)	0.280
23	1.92	2.90	0.331		0.074	(0.076)	0.257
24	2.00	3.00	0.343		0.074	(0.079)	0.269
25	2.08	3.10	0.354		0.074	(0.081)	0.280
26	2.17	4.20	0.480		0.074	(0.110)	0.406
27	2.25	5.00	0.571		0.074	(0.131)	0.497
28	2.33	3.50	0.400		0.074	(0.092)	0.326
29	2.42	6.80	0.777		0.074	(0.179)	0.703
30	2.50	7.30	0.834		0.074	(0.192)	0.760
31	2.58	8.20	0.937		0.074	(0.215)	0.863
32	2.67	5.90	0.674		0.074	(0.155)	0.600
33	2.75	2.00	0.228	(	0.074)	0.053	0.176
34	2.83	1.80	0.206	(	0.074)	0.047	0.158
35	2.92	1.80	0.206	(	0.074)	0.047	0.158
36	3.00	0.60	0.069	(	0.074)	0.016	0.053

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.4

Flood volume = Effective rainfall 0.78(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.016(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 3138.5 Cubic Feet
Total soil loss = 680.4 Cubic Feet

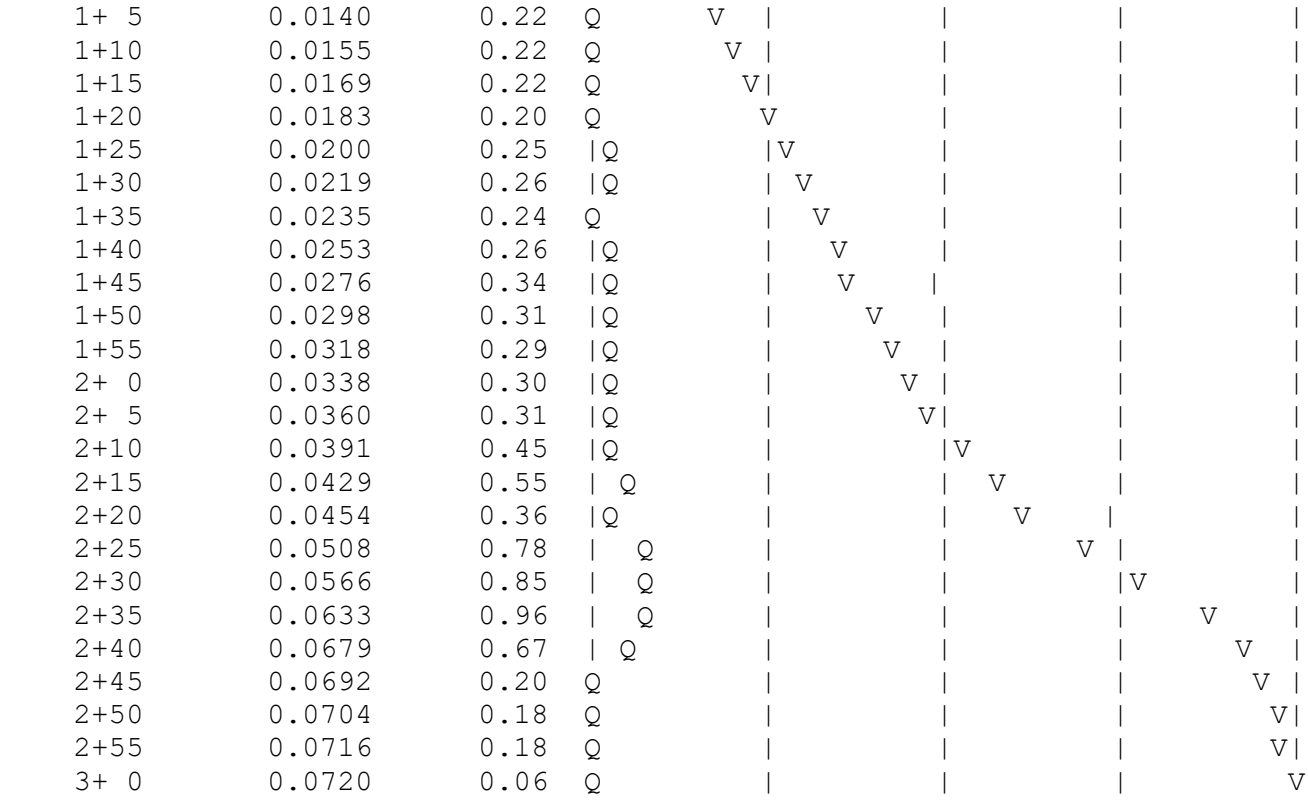
Peak flow rate of this hydrograph = 0.961(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0009	0.13	Q	|	|	|	|
0+10	0.0018	0.13	Q	|	|	|	|
0+15	0.0025	0.11	QV	|	|	|	|
0+20	0.0035	0.15	QV	|	|	|	|
0+25	0.0045	0.15	Q V	|	|	|	|
0+30	0.0057	0.18	Q V	|	|	|	|
0+35	0.0068	0.15	Q V	|	|	|	|
0+40	0.0080	0.18	Q V	|	|	|	|
0+45	0.0092	0.18	Q V	|	|	|	|
0+50	0.0102	0.15	Q V	|	|	|	|
0+55	0.0113	0.16	Q V	|	|	|	|
1+ 0	0.0125	0.18	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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	0.71	0.64

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.90	1.75	1.58

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.830	0.077	1.000	0.077
					Sum (F) =	0.077

Area averaged mean soil loss (F) (In/Hr) = 0.077
Minimum soil loss rate ((In/Hr)) = 0.038
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
		Sum = 100.000	Sum=	0.907

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	0.149	(0.077)	0.036	0.113
2	0.17	1.30	0.149	(0.077)	0.036	0.113
3	0.25	1.10	0.126	(0.077)	0.030	0.096
4	0.33	1.50	0.171	(0.077)	0.041	0.130
5	0.42	1.50	0.171	(0.077)	0.041	0.130
6	0.50	1.80	0.206	(0.077)	0.049	0.156
7	0.58	1.50	0.171	(0.077)	0.041	0.130
8	0.67	1.80	0.206	(0.077)	0.049	0.156
9	0.75	1.80	0.206	(0.077)	0.049	0.156
10	0.83	1.50	0.171	(0.077)	0.041	0.130
11	0.92	1.60	0.183	(0.077)	0.044	0.139

12	1.00	1.80	0.206	(	0.077)	0.049	0.156
13	1.08	2.20	0.251	(	0.077)	0.060	0.191
14	1.17	2.20	0.251	(	0.077)	0.060	0.191
15	1.25	2.20	0.251	(	0.077)	0.060	0.191
16	1.33	2.00	0.228	(	0.077)	0.055	0.174
17	1.42	2.60	0.297	(	0.077)	0.071	0.226
18	1.50	2.70	0.308	(	0.077)	0.074	0.234
19	1.58	2.40	0.274	(	0.077)	0.066	0.208
20	1.67	2.70	0.308	(	0.077)	0.074	0.234
21	1.75	3.30	0.377		0.077	(0.090)	0.300
22	1.83	3.10	0.354		0.077	(0.085)	0.278
23	1.92	2.90	0.331		0.077	(0.080)	0.255
24	2.00	3.00	0.343		0.077	(0.082)	0.266
25	2.08	3.10	0.354		0.077	(0.085)	0.278
26	2.17	4.20	0.480		0.077	(0.115)	0.403
27	2.25	5.00	0.571		0.077	(0.137)	0.495
28	2.33	3.50	0.400		0.077	(0.096)	0.323
29	2.42	6.80	0.777		0.077	(0.186)	0.700
30	2.50	7.30	0.834		0.077	(0.200)	0.757
31	2.58	8.20	0.937		0.077	(0.225)	0.860
32	2.67	5.90	0.674		0.077	(0.162)	0.597
33	2.75	2.00	0.228	(	0.077)	0.055	0.174
34	2.83	1.80	0.206	(	0.077)	0.049	0.156
35	2.92	1.80	0.206	(	0.077)	0.049	0.156
36	3.00	0.60	0.069	(	0.077)	0.016	0.052

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.3

Flood volume = Effective rainfall 0.78(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.18(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 2533.7 Cubic Feet
Total soil loss = 576.7 Cubic Feet

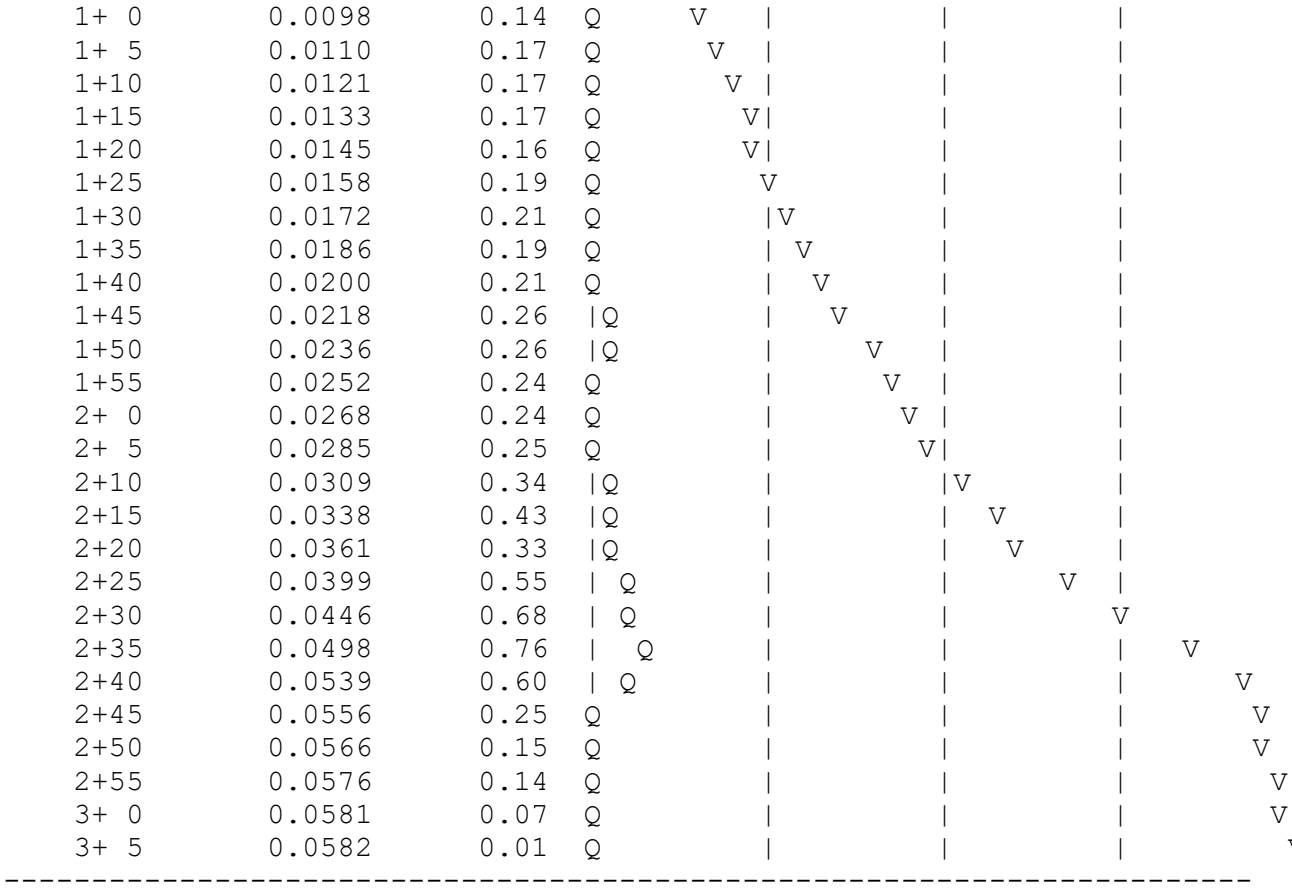
Peak flow rate of this hydrograph = 0.759(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0005	0.08	Q	|	|	|	|
0+10	0.0012	0.10	Q	|	|	|	|
0+15	0.0019	0.09	QV	|	|	|	|
0+20	0.0026	0.11	QV	|	|	|	|
0+25	0.0034	0.12	Q V	|	|	|	|
0+30	0.0044	0.14	Q V	|	|	|	|
0+35	0.0052	0.12	Q V	|	|	|	|
0+40	0.0062	0.14	Q V	|	|	|	|
0+45	0.0072	0.14	Q V	|	|	|	|
0+50	0.0080	0.12	Q V	|	|	|	|
0+55	0.0089	0.12	Q V	|	|	|	|


1+ 0 0.0098 0.14
1+ 5 0.0110 0.17
1+10 0.0121 0.17
1+15 0.0133 0.17
1+20 0.0145 0.16
1+25 0.0158 0.19
1+30 0.0172 0.21
1+35 0.0186 0.19
1+40 0.0200 0.21
1+45 0.0218 0.26
1+50 0.0236 0.26
1+55 0.0252 0.24
2+ 0 0.0268 0.24
2+ 5 0.0285 0.25
2+10 0.0309 0.34
2+15 0.0338 0.43
2+20 0.0361 0.33
2+25 0.0399 0.55
2+30 0.0446 0.68
2+35 0.0498 0.76
2+40 0.0539 0.60
2+45 0.0556 0.25
2+50 0.0566 0.15
2+55 0.0576 0.14
3+ 0 0.0581 0.07
3+ 5 0.0582 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 06/03/26 File: 19267p005J35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	0.71	0.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.34	1.75	0.60

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.340	75.00	0.860

Total Area Entered = 0.34(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.860	0.068	1.000	0.068
					Sum (F) =	0.068

Area averaged mean soil loss (F) (In/Hr) = 0.068
Minimum soil loss rate ((In/Hr)) = 0.034
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.210

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1304.735	100.000	0.343
		Sum = 100.000	Sum=	0.343

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	0.149	(0.068)	0.031	0.117
2	0.17	1.30	0.149	(0.068)	0.031	0.117
3	0.25	1.10	0.126	(0.068)	0.026	0.099
4	0.33	1.50	0.171	(0.068)	0.036	0.135
5	0.42	1.50	0.171	(0.068)	0.036	0.135
6	0.50	1.80	0.206	(0.068)	0.043	0.162
7	0.58	1.50	0.171	(0.068)	0.036	0.135
8	0.67	1.80	0.206	(0.068)	0.043	0.162
9	0.75	1.80	0.206	(0.068)	0.043	0.162
10	0.83	1.50	0.171	(0.068)	0.036	0.135
11	0.92	1.60	0.183	(0.068)	0.038	0.144
12	1.00	1.80	0.206	(0.068)	0.043	0.162

13	1.08	2.20	0.251	(	0.068)	0.053	0.199
14	1.17	2.20	0.251	(	0.068)	0.053	0.199
15	1.25	2.20	0.251	(	0.068)	0.053	0.199
16	1.33	2.00	0.228	(	0.068)	0.048	0.181
17	1.42	2.60	0.297	(	0.068)	0.062	0.235
18	1.50	2.70	0.308	(	0.068)	0.065	0.244
19	1.58	2.40	0.274	(	0.068)	0.058	0.217
20	1.67	2.70	0.308	(	0.068)	0.065	0.244
21	1.75	3.30	0.377		0.068	(0.079)	0.309
22	1.83	3.10	0.354		0.068	(0.074)	0.286
23	1.92	2.90	0.331		0.068	(0.070)	0.263
24	2.00	3.00	0.343		0.068	(0.072)	0.274
25	2.08	3.10	0.354		0.068	(0.074)	0.286
26	2.17	4.20	0.480		0.068	(0.101)	0.411
27	2.25	5.00	0.571		0.068	(0.120)	0.503
28	2.33	3.50	0.400		0.068	(0.084)	0.331
29	2.42	6.80	0.777		0.068	(0.163)	0.708
30	2.50	7.30	0.834		0.068	(0.175)	0.766
31	2.58	8.20	0.937		0.068	(0.197)	0.868
32	2.67	5.90	0.674		0.068	(0.142)	0.606
33	2.75	2.00	0.228	(	0.068)	0.048	0.181
34	2.83	1.80	0.206	(	0.068)	0.043	0.162
35	2.92	1.80	0.206	(	0.068)	0.043	0.162
36	3.00	0.60	0.069	(	0.068)	0.014	0.054

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.6

Flood volume = Effective rainfall 0.80(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 982.7 Cubic Feet
Total soil loss = 192.3 Cubic Feet

Peak flow rate of this hydrograph = 0.298(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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q	|	|	|	|
0+10	0.0006	0.04	Q	|	|	|	|
0+15	0.0008	0.03	QV	|	|	|	|
0+20	0.0011	0.05	QV	|	|	|	|
0+25	0.0014	0.05	Q V	|	|	|	|
0+30	0.0018	0.06	Q V	|	|	|	|
0+35	0.0021	0.05	Q V	|	|	|	|
0+40	0.0025	0.06	Q V	|	|	|	|
0+45	0.0029	0.06	Q V	|	|	|	|
0+50	0.0032	0.05	Q V	|	|	|	|
0+55	0.0036	0.05	Q V	|	|	|	|
1+ 0	0.0039	0.06	Q V	|	|	|	|

```
    1+ 5       0.0044      0.07  Q      V  |          |          |          |
    1+10       0.0049      0.07  Q       V |          |          |          |
    1+15       0.0053      0.07  Q        V|          |          |          |
    1+20       0.0058      0.06  Q         V          |          |          |
    1+25       0.0063      0.08  Q          |V         |          |          |
    1+30       0.0069      0.08  Q          | V        |          |          |
    1+35       0.0074      0.07  Q          |  V       |          |          |
    1+40       0.0080      0.08  Q          |   V      |          |          |
    1+45       0.0087      0.11  Q          |    V     |          |          |
    1+50       0.0094      0.10  Q          |     V    |          |          |
    1+55       0.0100      0.09  Q          |      V   |          |          |
    2+ 0       0.0107      0.09  Q          |       V  |          |          |
    2+ 5       0.0113      0.10  Q          |          V          |          |
    2+10       0.0123      0.14  Q          |          |V         |          |
    2+15       0.0135      0.17  Q          |          |  V       |          |
    2+20       0.0143      0.11  Q          |          |   V      |          |
    2+25       0.0160      0.24  Q          |          |       V  |          |
    2+30       0.0178      0.26  |Q         |          |          |V         |
    2+35       0.0198      0.30  |Q         |          |          |    V     |
    2+40       0.0212      0.21  Q          |          |          |      V   |
    2+45       0.0217      0.06  Q          |          |          |       V  |
    2+50       0.0220      0.06  Q          |          |          |        V |
    2+55       0.0224      0.06  Q          |          |          |        V |
    3+ 0       0.0226      0.02  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 06/03/26 File: 19267p005S35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	0.71	0.48

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	1.75	1.20

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
		Sum = 100.000	Sum=	0.690

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	0.149	(0.136)	0.037	0.111
2	0.17	1.30	0.149	(0.136)	0.037	0.111
3	0.25	1.10	0.126	(0.136)	0.031	0.094
4	0.33	1.50	0.171	(0.136)	0.043	0.129
5	0.42	1.50	0.171	(0.136)	0.043	0.129
6	0.50	1.80	0.206	(0.136)	0.051	0.154
7	0.58	1.50	0.171	(0.136)	0.043	0.129
8	0.67	1.80	0.206	(0.136)	0.051	0.154
9	0.75	1.80	0.206	(0.136)	0.051	0.154

10	0.83	1.50	0.171	(0.136)	0.043	0.129
11	0.92	1.60	0.183	(0.136)	0.046	0.137
12	1.00	1.80	0.206	(0.136)	0.051	0.154
13	1.08	2.20	0.251	(0.136)	0.063	0.189
14	1.17	2.20	0.251	(0.136)	0.063	0.189
15	1.25	2.20	0.251	(0.136)	0.063	0.189
16	1.33	2.00	0.228	(0.136)	0.057	0.171
17	1.42	2.60	0.297	(0.136)	0.074	0.223
18	1.50	2.70	0.308	(0.136)	0.077	0.231
19	1.58	2.40	0.274	(0.136)	0.069	0.206
20	1.67	2.70	0.308	(0.136)	0.077	0.231
21	1.75	3.30	0.377	(0.136)	0.094	0.283
22	1.83	3.10	0.354	(0.136)	0.089	0.266
23	1.92	2.90	0.331	(0.136)	0.083	0.248
24	2.00	3.00	0.343	(0.136)	0.086	0.257
25	2.08	3.10	0.354	(0.136)	0.089	0.266
26	2.17	4.20	0.480	(0.136)	0.120	0.360
27	2.25	5.00	0.571	0.136	(0.143)	0.436
28	2.33	3.50	0.400	(0.136)	0.100	0.300
29	2.42	6.80	0.777	0.136	(0.194)	0.641
30	2.50	7.30	0.834	0.136	(0.209)	0.698
31	2.58	8.20	0.937	0.136	(0.234)	0.801
32	2.67	5.90	0.674	0.136	(0.169)	0.538
33	2.75	2.00	0.228	(0.136)	0.057	0.171
34	2.83	1.80	0.206	(0.136)	0.051	0.154
35	2.92	1.80	0.206	(0.136)	0.051	0.154
36	3.00	0.60	0.069	(0.136)	0.017	0.051

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.8

Flood volume = Effective rainfall 0.74(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.22(In)
Total soil loss = 0.012(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 1831.4 Cubic Feet
Total soil loss = 535.9 Cubic Feet

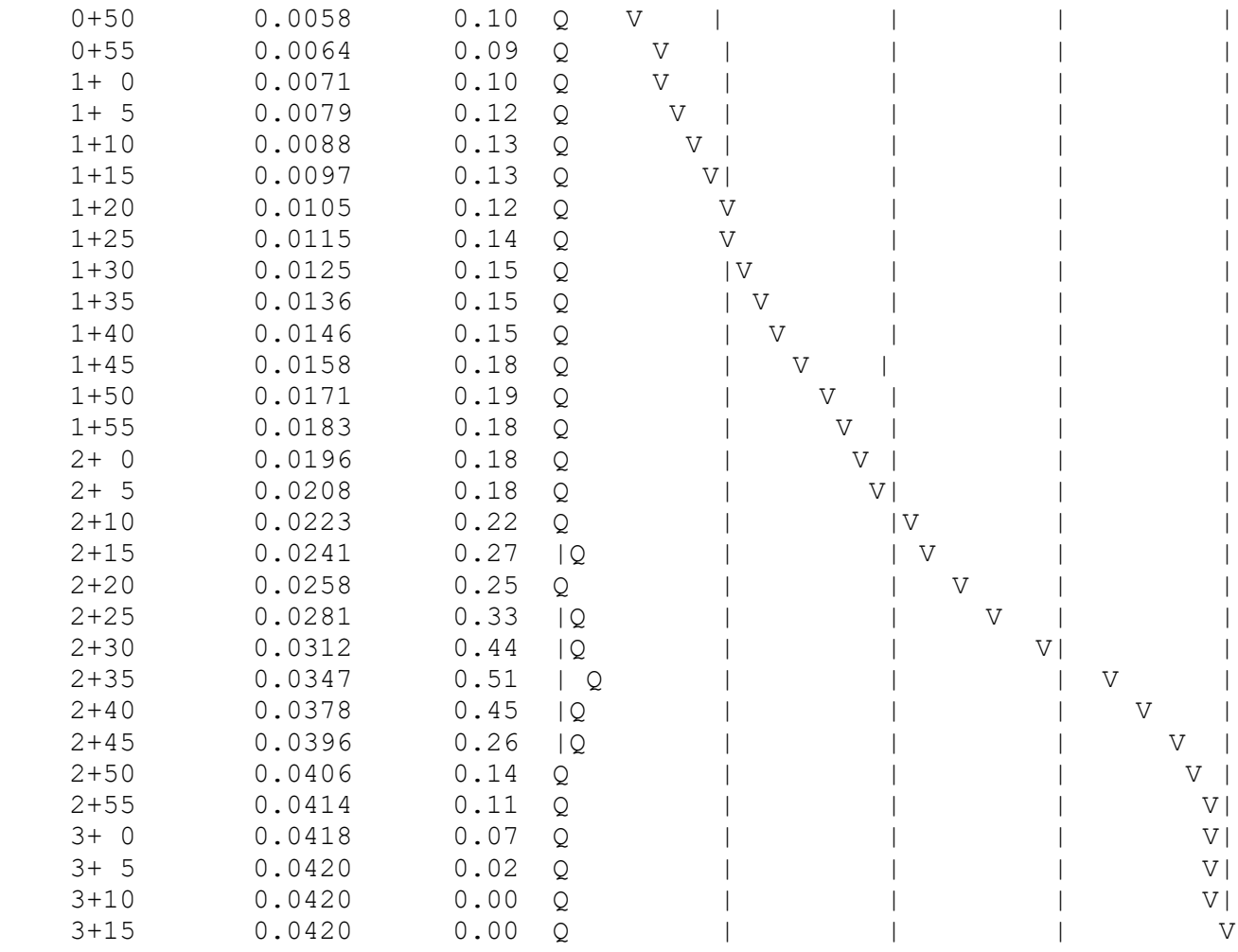
Peak flow rate of this hydrograph = 0.510(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q				
0+10	0.0007	0.07	Q				
0+15	0.0012	0.07	QV				
0+20	0.0018	0.08	QV				
0+25	0.0024	0.09	Q V				
0+30	0.0030	0.10	Q V				
0+35	0.0037	0.10	Q V				
0+40	0.0044	0.10	Q V				
0+45	0.0051	0.11	Q V				


0+50 0.0058 0.10
0+55 0.0064 0.09
1+ 0 0.0071 0.10
1+ 5 0.0079 0.12
1+10 0.0088 0.13
1+15 0.0097 0.13
1+20 0.0105 0.12
1+25 0.0115 0.14
1+30 0.0125 0.15
1+35 0.0136 0.15
1+40 0.0146 0.15
1+45 0.0158 0.18
1+50 0.0171 0.19
1+55 0.0183 0.18
2+ 0 0.0196 0.18
2+ 5 0.0208 0.18
2+10 0.0223 0.22
2+15 0.0241 0.27
2+20 0.0258 0.25
2+25 0.0281 0.33
2+30 0.0312 0.44
2+35 0.0347 0.51
2+40 0.0378 0.45
2+45 0.0396 0.26
2+50 0.0406 0.14
2+55 0.0414 0.11
3+ 0 0.0418 0.07
3+ 5 0.0420 0.02
3+10 0.0420 0.00
3+15 0.0420 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 06/03/26 File: 19267p005site35.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	0.71	6.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	1.75	16.95

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 0.952(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.952(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	75.00	0.840

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.840	0.122	1.000	0.122
					Sum (F) =	0.122

Area averaged mean soil loss (F) (In/Hr) = 0.122
Minimum soil loss rate ((In/Hr)) = 0.061
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	9.764
		Sum =	100.000	Sum= 9.764

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	0.149	(0.122)	0.034	0.114
2	0.17	1.30	0.149	(0.122)	0.034	0.114
3	0.25	1.10	0.126	(0.122)	0.029	0.097
4	0.33	1.50	0.171	(0.122)	0.039	0.132
5	0.42	1.50	0.171	(0.122)	0.039	0.132
6	0.50	1.80	0.206	(0.122)	0.047	0.158
7	0.58	1.50	0.171	(0.122)	0.039	0.132
8	0.67	1.80	0.206	(0.122)	0.047	0.158
9	0.75	1.80	0.206	(0.122)	0.047	0.158
10	0.83	1.50	0.171	(0.122)	0.039	0.132
11	0.92	1.60	0.183	(0.122)	0.042	0.141
12	1.00	1.80	0.206	(0.122)	0.047	0.158

13	1.08	2.20	0.251	(0.122)	0.058	0.194
14	1.17	2.20	0.251	(0.122)	0.058	0.194
15	1.25	2.20	0.251	(0.122)	0.058	0.194
16	1.33	2.00	0.228	(0.122)	0.053	0.176
17	1.42	2.60	0.297	(0.122)	0.068	0.229
18	1.50	2.70	0.308	(0.122)	0.071	0.238
19	1.58	2.40	0.274	(0.122)	0.063	0.211
20	1.67	2.70	0.308	(0.122)	0.071	0.238
21	1.75	3.30	0.377	(0.122)	0.087	0.290
22	1.83	3.10	0.354	(0.122)	0.081	0.273
23	1.92	2.90	0.331	(0.122)	0.076	0.255
24	2.00	3.00	0.343	(0.122)	0.079	0.264
25	2.08	3.10	0.354	(0.122)	0.081	0.273
26	2.17	4.20	0.480	(0.122)	0.110	0.369
27	2.25	5.00	0.571	0.122	(0.131)	0.449
28	2.33	3.50	0.400	(0.122)	0.092	0.308
29	2.42	6.80	0.777	0.122	(0.179)	0.655
30	2.50	7.30	0.834	0.122	(0.192)	0.712
31	2.58	8.20	0.937	0.122	(0.215)	0.815
32	2.67	5.90	0.674	0.122	(0.155)	0.552
33	2.75	2.00	0.228	(0.122)	0.053	0.176
34	2.83	1.80	0.206	(0.122)	0.047	0.158
35	2.92	1.80	0.206	(0.122)	0.047	0.158
36	3.00	0.60	0.069	(0.122)	0.016	0.053

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.1

Flood volume = Effective rainfall 0.75(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.20(In)
Total soil loss = 0.159(Ac.Ft)
Total rainfall = 0.95(In)
Flood volume = 26546.4 Cubic Feet
Total soil loss = 6933.7 Cubic Feet

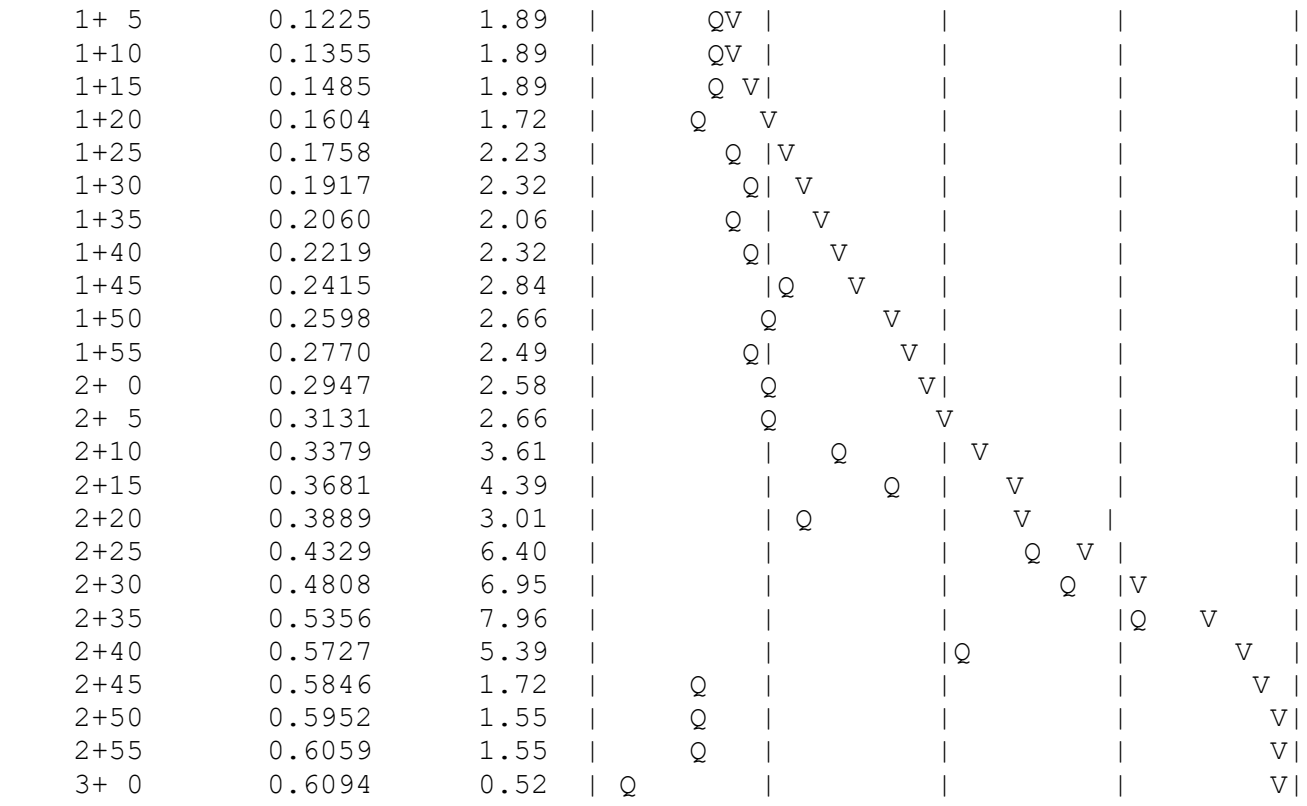
Peak flow rate of this hydrograph = 7.958(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0077	1.12	V Q				
0+10	0.0154	1.12	V Q				
0+15	0.0219	0.95	V Q				
0+20	0.0308	1.29	V Q				
0+25	0.0397	1.29	V Q				
0+30	0.0503	1.55	V Q				
0+35	0.0592	1.29	V Q				
0+40	0.0698	1.55	V Q				
0+45	0.0805	1.55	VQ				
0+50	0.0894	1.29	Q				
0+55	0.0988	1.37	QV				
1+ 0	0.1095	1.55	QV				


1+ 5 0.1225 1.89
1+10 0.1355 1.89
1+15 0.1485 1.89
1+20 0.1604 1.72
1+25 0.1758 2.23
1+30 0.1917 2.32
1+35 0.2060 2.06
1+40 0.2219 2.32
1+45 0.2415 2.84
1+50 0.2598 2.66
1+55 0.2770 2.49
2+ 0 0.2947 2.58
2+ 5 0.3131 2.66
2+10 0.3379 3.61
2+15 0.3681 4.39
2+20 0.3889 3.01
2+25 0.4329 6.40
2+30 0.4808 6.95
2+35 0.5356 7.96
2+40 0.5727 5.39
2+45 0.5846 1.72
2+50 0.5952 1.55
2+55 0.6059 1.55
3+ 0 0.6094 0.52

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 06/03/26 File: 19267p005AL65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 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]
1.45	0.95	1.38

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	2.26	3.27

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

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

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

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
			Sum = 100.000 Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.076	(0.058)	0.014	0.062
2	0.17	0.60	0.091	(0.058)	0.016	0.074
3	0.25	0.60	0.091	(0.058)	0.016	0.074
4	0.33	0.60	0.091	(0.058)	0.016	0.074
5	0.42	0.60	0.091	(0.058)	0.016	0.074
6	0.50	0.70	0.106	(0.058)	0.019	0.087
7	0.58	0.70	0.106	(0.058)	0.019	0.087
8	0.67	0.70	0.106	(0.058)	0.019	0.087
9	0.75	0.70	0.106	(0.058)	0.019	0.087
10	0.83	0.70	0.106	(0.058)	0.019	0.087
11	0.92	0.70	0.106	(0.058)	0.019	0.087

12	1.00	0.80	0.121	(0.058)	0.022	0.099
13	1.08	0.80	0.121	(0.058)	0.022	0.099
14	1.17	0.80	0.121	(0.058)	0.022	0.099
15	1.25	0.80	0.121	(0.058)	0.022	0.099
16	1.33	0.80	0.121	(0.058)	0.022	0.099
17	1.42	0.80	0.121	(0.058)	0.022	0.099
18	1.50	0.80	0.121	(0.058)	0.022	0.099
19	1.58	0.80	0.121	(0.058)	0.022	0.099
20	1.67	0.80	0.121	(0.058)	0.022	0.099
21	1.75	0.80	0.121	(0.058)	0.022	0.099
22	1.83	0.80	0.121	(0.058)	0.022	0.099
23	1.92	0.80	0.121	(0.058)	0.022	0.099
24	2.00	0.90	0.136	(0.058)	0.024	0.112
25	2.08	0.80	0.121	(0.058)	0.022	0.099
26	2.17	0.90	0.136	(0.058)	0.024	0.112
27	2.25	0.90	0.136	(0.058)	0.024	0.112
28	2.33	0.90	0.136	(0.058)	0.024	0.112
29	2.42	0.90	0.136	(0.058)	0.024	0.112
30	2.50	0.90	0.136	(0.058)	0.024	0.112
31	2.58	0.90	0.136	(0.058)	0.024	0.112
32	2.67	0.90	0.136	(0.058)	0.024	0.112
33	2.75	1.00	0.151	(0.058)	0.027	0.124
34	2.83	1.00	0.151	(0.058)	0.027	0.124
35	2.92	1.00	0.151	(0.058)	0.027	0.124
36	3.00	1.00	0.151	(0.058)	0.027	0.124
37	3.08	1.00	0.151	(0.058)	0.027	0.124
38	3.17	1.10	0.166	(0.058)	0.030	0.136
39	3.25	1.10	0.166	(0.058)	0.030	0.136
40	3.33	1.10	0.166	(0.058)	0.030	0.136
41	3.42	1.20	0.181	(0.058)	0.033	0.149
42	3.50	1.30	0.197	(0.058)	0.035	0.161
43	3.58	1.40	0.212	(0.058)	0.038	0.174
44	3.67	1.40	0.212	(0.058)	0.038	0.174
45	3.75	1.50	0.227	(0.058)	0.041	0.186
46	3.83	1.50	0.227	(0.058)	0.041	0.186
47	3.92	1.60	0.242	(0.058)	0.044	0.198
48	4.00	1.60	0.242	(0.058)	0.044	0.198
49	4.08	1.70	0.257	(0.058)	0.046	0.211
50	4.17	1.80	0.272	(0.058)	0.049	0.223
51	4.25	1.90	0.287	(0.058)	0.052	0.236
52	4.33	2.00	0.302	(0.058)	0.054	0.248
53	4.42	2.10	0.317	(0.058)	0.057	0.260
54	4.50	2.10	0.317	(0.058)	0.057	0.260
55	4.58	2.20	0.333	0.058	(0.060)	0.275
56	4.67	2.30	0.348	0.058	(0.063)	0.290
57	4.75	2.40	0.363	0.058	(0.065)	0.305
58	4.83	2.40	0.363	0.058	(0.065)	0.305
59	4.92	2.50	0.378	0.058	(0.068)	0.320
60	5.00	2.60	0.393	0.058	(0.071)	0.336
61	5.08	3.10	0.469	0.058	(0.084)	0.411
62	5.17	3.60	0.544	0.058	(0.098)	0.487
63	5.25	3.90	0.590	0.058	(0.106)	0.532
64	5.33	4.20	0.635	0.058	(0.114)	0.577
65	5.42	4.70	0.711	0.058	(0.128)	0.653
66	5.50	5.60	0.847	0.058	(0.152)	0.789
67	5.58	1.90	0.287	(0.058)	0.052	0.236
68	5.67	0.90	0.136	(0.058)	0.024	0.112

69	5.75	0.60	0.091	(0.058)	0.016	0.074
70	5.83	0.50	0.076	(0.058)	0.014	0.062
71	5.92	0.30	0.045	(0.058)	0.008	0.037
72	6.00	0.20	0.030	(0.058)	0.005	0.025

(Loss Rate Not Used)

Sum = 100.0 Sum = 12.8

Flood volume = Effective rainfall 1.07(In)
times area 1.4(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.19(In)
Total soil loss = 0.023(Ac.Ft)
Total rainfall = 1.26(In)
Flood volume = 5586.9 Cubic Feet
Total soil loss = 1021.6 Cubic Feet

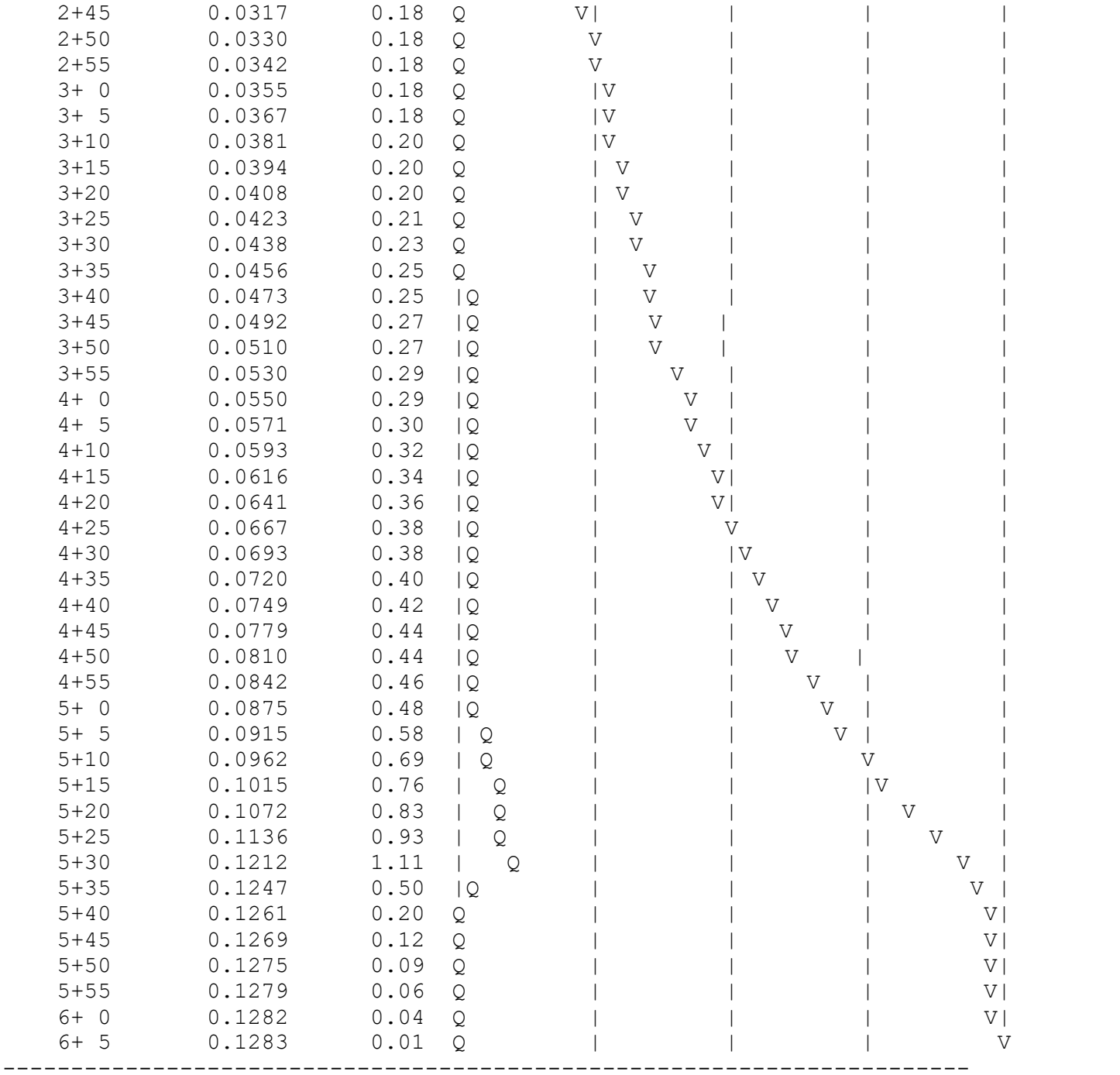
Peak flow rate of this hydrograph = 1.111(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0005	0.07	Q				
0+10	0.0012	0.10	Q				
0+15	0.0020	0.11	Q				
0+20	0.0027	0.11	Q				
0+25	0.0035	0.11	QV				
0+30	0.0043	0.12	QV				
0+35	0.0052	0.13	QV				
0+40	0.0061	0.13	QV				
0+45	0.0069	0.13	Q V				
0+50	0.0078	0.13	Q V				
0+55	0.0087	0.13	Q V				
1+ 0	0.0096	0.14	Q V				
1+ 5	0.0106	0.14	Q V				
1+10	0.0116	0.14	Q V				
1+15	0.0126	0.14	Q V				
1+20	0.0136	0.14	Q V				
1+25	0.0146	0.14	Q V				
1+30	0.0156	0.14	Q V				
1+35	0.0166	0.14	Q V				
1+40	0.0176	0.14	Q V				
1+45	0.0186	0.14	Q V				
1+50	0.0196	0.14	Q V				
1+55	0.0206	0.14	Q V				
2+ 0	0.0217	0.16	Q V				
2+ 5	0.0227	0.15	Q V				
2+10	0.0238	0.16	Q V				
2+15	0.0249	0.16	Q V				
2+20	0.0260	0.16	Q V				
2+25	0.0272	0.16	Q V				
2+30	0.0283	0.16	Q V				
2+35	0.0294	0.16	Q V				
2+40	0.0305	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 06/03/26 File: 19267p005B65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	0.95	3.10

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.25	2.26	7.33

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.245	75.00	0.870

Total Area Entered = 3.25(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.870	0.109	1.000	0.109
					Sum (F) =	0.109

Area averaged mean soil loss (F) (In/Hr) = 0.109
Minimum soil loss rate ((In/Hr)) = 0.054
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	3.270
		Sum = 100.000	Sum= 3.270

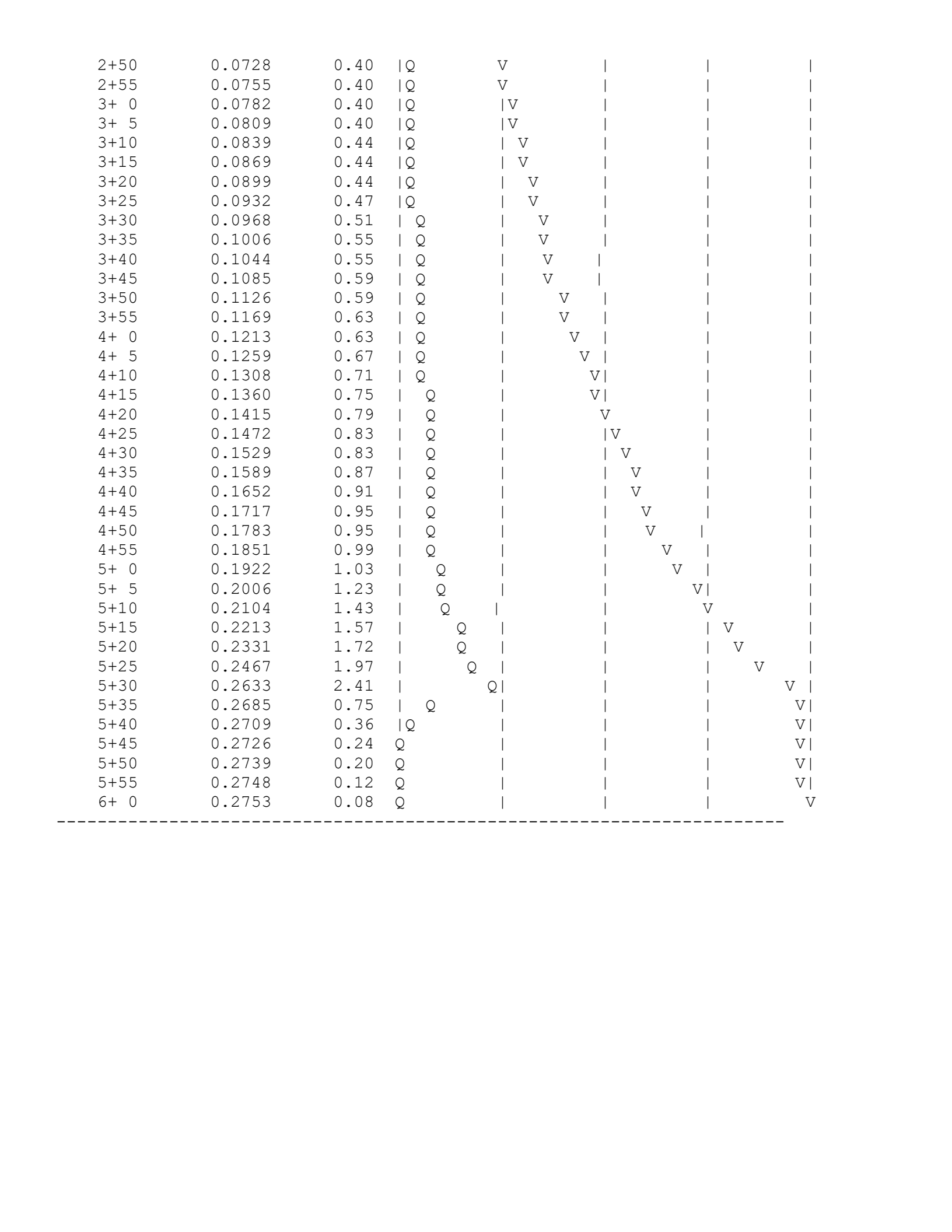
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.076	(0.109)	0.015	0.060
2	0.17	0.60	0.091	(0.109)	0.018	0.073
3	0.25	0.60	0.091	(0.109)	0.018	0.073
4	0.33	0.60	0.091	(0.109)	0.018	0.073
5	0.42	0.60	0.091	(0.109)	0.018	0.073
6	0.50	0.70	0.106	(0.109)	0.021	0.085
7	0.58	0.70	0.106	(0.109)	0.021	0.085
8	0.67	0.70	0.106	(0.109)	0.021	0.085
9	0.75	0.70	0.106	(0.109)	0.021	0.085
10	0.83	0.70	0.106	(0.109)	0.021	0.085
11	0.92	0.70	0.106	(0.109)	0.021	0.085
12	1.00	0.80	0.121	(0.109)	0.024	0.097

13	1.08	0.80	0.121	(0.109)	0.024	0.097
14	1.17	0.80	0.121	(0.109)	0.024	0.097
15	1.25	0.80	0.121	(0.109)	0.024	0.097
16	1.33	0.80	0.121	(0.109)	0.024	0.097
17	1.42	0.80	0.121	(0.109)	0.024	0.097
18	1.50	0.80	0.121	(0.109)	0.024	0.097
19	1.58	0.80	0.121	(0.109)	0.024	0.097
20	1.67	0.80	0.121	(0.109)	0.024	0.097
21	1.75	0.80	0.121	(0.109)	0.024	0.097
22	1.83	0.80	0.121	(0.109)	0.024	0.097
23	1.92	0.80	0.121	(0.109)	0.024	0.097
24	2.00	0.90	0.136	(0.109)	0.027	0.109
25	2.08	0.80	0.121	(0.109)	0.024	0.097
26	2.17	0.90	0.136	(0.109)	0.027	0.109
27	2.25	0.90	0.136	(0.109)	0.027	0.109
28	2.33	0.90	0.136	(0.109)	0.027	0.109
29	2.42	0.90	0.136	(0.109)	0.027	0.109
30	2.50	0.90	0.136	(0.109)	0.027	0.109
31	2.58	0.90	0.136	(0.109)	0.027	0.109
32	2.67	0.90	0.136	(0.109)	0.027	0.109
33	2.75	1.00	0.151	(0.109)	0.030	0.121
34	2.83	1.00	0.151	(0.109)	0.030	0.121
35	2.92	1.00	0.151	(0.109)	0.030	0.121
36	3.00	1.00	0.151	(0.109)	0.030	0.121
37	3.08	1.00	0.151	(0.109)	0.030	0.121
38	3.17	1.10	0.166	(0.109)	0.033	0.133
39	3.25	1.10	0.166	(0.109)	0.033	0.133
40	3.33	1.10	0.166	(0.109)	0.033	0.133
41	3.42	1.20	0.181	(0.109)	0.036	0.145
42	3.50	1.30	0.197	(0.109)	0.039	0.157
43	3.58	1.40	0.212	(0.109)	0.042	0.169
44	3.67	1.40	0.212	(0.109)	0.042	0.169
45	3.75	1.50	0.227	(0.109)	0.045	0.181
46	3.83	1.50	0.227	(0.109)	0.045	0.181
47	3.92	1.60	0.242	(0.109)	0.048	0.194
48	4.00	1.60	0.242	(0.109)	0.048	0.194
49	4.08	1.70	0.257	(0.109)	0.051	0.206
50	4.17	1.80	0.272	(0.109)	0.054	0.218
51	4.25	1.90	0.287	(0.109)	0.057	0.230
52	4.33	2.00	0.302	(0.109)	0.060	0.242
53	4.42	2.10	0.317	(0.109)	0.063	0.254
54	4.50	2.10	0.317	(0.109)	0.063	0.254
55	4.58	2.20	0.333	(0.109)	0.067	0.266
56	4.67	2.30	0.348	(0.109)	0.070	0.278
57	4.75	2.40	0.363	(0.109)	0.073	0.290
58	4.83	2.40	0.363	(0.109)	0.073	0.290
59	4.92	2.50	0.378	(0.109)	0.076	0.302
60	5.00	2.60	0.393	(0.109)	0.079	0.314
61	5.08	3.10	0.469	(0.109)	0.094	0.375
62	5.17	3.60	0.544	0.109	(0.109)	0.436
63	5.25	3.90	0.590	0.109	(0.118)	0.481
64	5.33	4.20	0.635	0.109	(0.127)	0.526
65	5.42	4.70	0.711	0.109	(0.142)	0.602
66	5.50	5.60	0.847	0.109	(0.169)	0.738
67	5.58	1.90	0.287	(0.109)	0.057	0.230
68	5.67	0.90	0.136	(0.109)	0.027	0.109
69	5.75	0.60	0.091	(0.109)	0.018	0.073

```
70   5.83     0.50      0.076       (  0.109)       0.015        0.060
71   5.92     0.30      0.045       (  0.109)       0.009        0.036
72   6.00     0.20      0.030       (  0.109)       0.006        0.024
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    12.2
    Flood volume = Effective rainfall      1.02(In)
     times area       3.2(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.24(In)
    Total soil loss =     0.065(Ac.Ft)
    Total rainfall =      1.26(In)
    Flood volume =       11992.3 Cubic Feet
    Total soil loss =        2848.3 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      2.415(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       0.0014      0.20  Q         |         |         |         |
  0+10       0.0030      0.24  Q         |         |         |         |
  0+15       0.0046      0.24  Q         |         |         |         |
  0+20       0.0063      0.24  Q         |         |         |         |
  0+25       0.0079      0.24  QV        |         |         |         |
  0+30       0.0098      0.28  |Q        |         |         |         |
  0+35       0.0117      0.28  |Q        |         |         |         |
  0+40       0.0136      0.28  |Q        |         |         |         |
  0+45       0.0155      0.28  |QV       |         |         |         |
  0+50       0.0174      0.28  |QV       |         |         |         |
  0+55       0.0194      0.28  |QV       |         |         |         |
  1+ 0       0.0215      0.32  |Q V      |         |         |         |
  1+ 5       0.0237      0.32  |Q V      |         |         |         |
  1+10       0.0259      0.32  |Q V      |         |         |         |
  1+15       0.0281      0.32  |Q  V     |         |         |         |
  1+20       0.0303      0.32  |Q  V     |         |         |         |
  1+25       0.0324      0.32  |Q  V     |         |         |         |
  1+30       0.0346      0.32  |Q   V    |         |         |         |
  1+35       0.0368      0.32  |Q   V    |         |         |         |
  1+40       0.0390      0.32  |Q   V    |         |         |         |
  1+45       0.0412      0.32  |Q   V    |         |         |         |
  1+50       0.0433      0.32  |Q    V   |         |         |         |
  1+55       0.0455      0.32  |Q    V   |         |         |         |
  2+ 0       0.0480      0.36  |Q    V   |         |         |         |
  2+ 5       0.0502      0.32  |Q     V  |         |         |         |
  2+10       0.0526      0.36  |Q     V  |         |         |         |
  2+15       0.0551      0.36  |Q     V  |         |         |         |
  2+20       0.0575      0.36  |Q      V |         |         |         |
  2+25       0.0600      0.36  |Q      V |         |         |         |
  2+30       0.0624      0.36  |Q       V|         |         |         |
  2+35       0.0649      0.36  |Q       V|         |         |         |
  2+40       0.0673      0.36  |Q       V|         |         |         |
  2+45       0.0700      0.40  |Q        V         |         |         |
```


2+50 0.0728 0.40
2+55 0.0755 0.40
3+ 0 0.0782 0.40
3+ 5 0.0809 0.40
3+10 0.0839 0.44
3+15 0.0869 0.44
3+20 0.0899 0.44
3+25 0.0932 0.47
3+30 0.0968 0.51
3+35 0.1006 0.55
3+40 0.1044 0.55
3+45 0.1085 0.59
3+50 0.1126 0.59
3+55 0.1169 0.63
4+ 0 0.1213 0.63
4+ 5 0.1259 0.67
4+10 0.1308 0.71
4+15 0.1360 0.75
4+20 0.1415 0.79
4+25 0.1472 0.83
4+30 0.1529 0.83
4+35 0.1589 0.87
4+40 0.1652 0.91
4+45 0.1717 0.95
4+50 0.1783 0.95
4+55 0.1851 0.99
5+ 0 0.1922 1.03
5+ 5 0.2006 1.23
5+10 0.2104 1.43
5+15 0.2213 1.57
5+20 0.2331 1.72
5+25 0.2467 1.97
5+30 0.2633 2.41
5+35 0.2685 0.75
5+40 0.2709 0.36
5+45 0.2726 0.24
5+50 0.2739 0.20
5+55 0.2748 0.12
6+ 0 0.2753 0.08

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 06/03/26 File: 19267p005CD65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
1.25	0.95	1.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	2.26	2.83

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.254	75.00	0.790

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.790	0.088	1.000	0.088
					Sum (F) =	0.088

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1293.145	100.000	1.264
		Sum = 100.000	Sum= 1.264

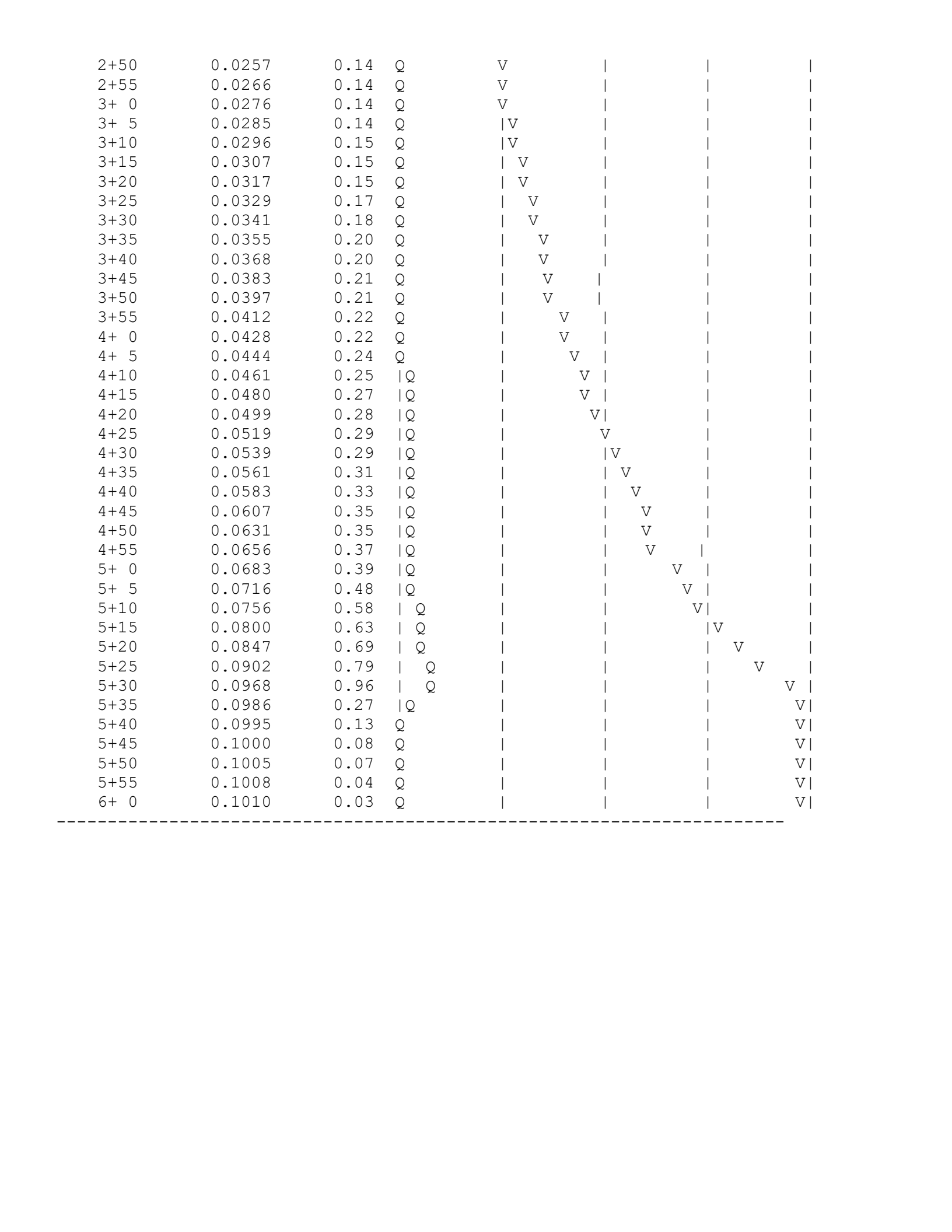
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.076	(0.088)	0.020	0.055
2	0.17	0.60	0.091	(0.088)	0.024	0.066
3	0.25	0.60	0.091	(0.088)	0.024	0.066
4	0.33	0.60	0.091	(0.088)	0.024	0.066
5	0.42	0.60	0.091	(0.088)	0.024	0.066
6	0.50	0.70	0.106	(0.088)	0.029	0.077
7	0.58	0.70	0.106	(0.088)	0.029	0.077
8	0.67	0.70	0.106	(0.088)	0.029	0.077
9	0.75	0.70	0.106	(0.088)	0.029	0.077
10	0.83	0.70	0.106	(0.088)	0.029	0.077
11	0.92	0.70	0.106	(0.088)	0.029	0.077
12	1.00	0.80	0.121	(0.088)	0.033	0.088

13	1.08	0.80	0.121	(0.088)	0.033	0.088
14	1.17	0.80	0.121	(0.088)	0.033	0.088
15	1.25	0.80	0.121	(0.088)	0.033	0.088
16	1.33	0.80	0.121	(0.088)	0.033	0.088
17	1.42	0.80	0.121	(0.088)	0.033	0.088
18	1.50	0.80	0.121	(0.088)	0.033	0.088
19	1.58	0.80	0.121	(0.088)	0.033	0.088
20	1.67	0.80	0.121	(0.088)	0.033	0.088
21	1.75	0.80	0.121	(0.088)	0.033	0.088
22	1.83	0.80	0.121	(0.088)	0.033	0.088
23	1.92	0.80	0.121	(0.088)	0.033	0.088
24	2.00	0.90	0.136	(0.088)	0.037	0.099
25	2.08	0.80	0.121	(0.088)	0.033	0.088
26	2.17	0.90	0.136	(0.088)	0.037	0.099
27	2.25	0.90	0.136	(0.088)	0.037	0.099
28	2.33	0.90	0.136	(0.088)	0.037	0.099
29	2.42	0.90	0.136	(0.088)	0.037	0.099
30	2.50	0.90	0.136	(0.088)	0.037	0.099
31	2.58	0.90	0.136	(0.088)	0.037	0.099
32	2.67	0.90	0.136	(0.088)	0.037	0.099
33	2.75	1.00	0.151	(0.088)	0.041	0.110
34	2.83	1.00	0.151	(0.088)	0.041	0.110
35	2.92	1.00	0.151	(0.088)	0.041	0.110
36	3.00	1.00	0.151	(0.088)	0.041	0.110
37	3.08	1.00	0.151	(0.088)	0.041	0.110
38	3.17	1.10	0.166	(0.088)	0.045	0.121
39	3.25	1.10	0.166	(0.088)	0.045	0.121
40	3.33	1.10	0.166	(0.088)	0.045	0.121
41	3.42	1.20	0.181	(0.088)	0.049	0.132
42	3.50	1.30	0.197	(0.088)	0.053	0.143
43	3.58	1.40	0.212	(0.088)	0.057	0.155
44	3.67	1.40	0.212	(0.088)	0.057	0.155
45	3.75	1.50	0.227	(0.088)	0.061	0.166
46	3.83	1.50	0.227	(0.088)	0.061	0.166
47	3.92	1.60	0.242	(0.088)	0.065	0.177
48	4.00	1.60	0.242	(0.088)	0.065	0.177
49	4.08	1.70	0.257	(0.088)	0.069	0.188
50	4.17	1.80	0.272	(0.088)	0.073	0.199
51	4.25	1.90	0.287	(0.088)	0.078	0.210
52	4.33	2.00	0.302	(0.088)	0.082	0.221
53	4.42	2.10	0.317	(0.088)	0.086	0.232
54	4.50	2.10	0.317	(0.088)	0.086	0.232
55	4.58	2.20	0.333	0.088	(0.090)	0.245
56	4.67	2.30	0.348	0.088	(0.094)	0.260
57	4.75	2.40	0.363	0.088	(0.098)	0.275
58	4.83	2.40	0.363	0.088	(0.098)	0.275
59	4.92	2.50	0.378	0.088	(0.102)	0.290
60	5.00	2.60	0.393	0.088	(0.106)	0.306
61	5.08	3.10	0.469	0.088	(0.127)	0.381
62	5.17	3.60	0.544	0.088	(0.147)	0.457
63	5.25	3.90	0.590	0.088	(0.159)	0.502
64	5.33	4.20	0.635	0.088	(0.171)	0.547
65	5.42	4.70	0.711	0.088	(0.192)	0.623
66	5.50	5.60	0.847	0.088	(0.229)	0.759
67	5.58	1.90	0.287	(0.088)	0.078	0.210
68	5.67	0.90	0.136	(0.088)	0.037	0.099
69	5.75	0.60	0.091	(0.088)	0.024	0.066

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70   5.83     0.50      0.076       (  0.088)       0.020        0.055
71   5.92     0.30      0.045       (  0.088)       0.012        0.033
72   6.00     0.20      0.030       (  0.088)       0.008        0.022
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    11.6
    Flood volume = Effective rainfall      0.97(In)
     times area       1.3(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.29(In)
    Total soil loss =     0.031(Ac.Ft)
    Total rainfall =      1.26(In)
    Flood volume =        4399.6 Cubic Feet
    Total soil loss =        1335.4 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.960(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       0.0005      0.07  Q         |         |         |         |
  0+10       0.0011      0.08  Q         |         |         |         |
  0+15       0.0016      0.08  Q         |         |         |         |
  0+20       0.0022      0.08  Q         |         |         |         |
  0+25       0.0028      0.08  QV        |         |         |         |
  0+30       0.0035      0.10  QV        |         |         |         |
  0+35       0.0041      0.10  QV        |         |         |         |
  0+40       0.0048      0.10  QV        |         |         |         |
  0+45       0.0055      0.10  Q V       |         |         |         |
  0+50       0.0062      0.10  Q V       |         |         |         |
  0+55       0.0068      0.10  Q V       |         |         |         |
  1+ 0       0.0076      0.11  Q  V      |         |         |         |
  1+ 5       0.0084      0.11  Q  V      |         |         |         |
  1+10       0.0091      0.11  Q  V      |         |         |         |
  1+15       0.0099      0.11  Q  V      |         |         |         |
  1+20       0.0107      0.11  Q   V     |         |         |         |
  1+25       0.0114      0.11  Q   V     |         |         |         |
  1+30       0.0122      0.11  Q   V     |         |         |         |
  1+35       0.0130      0.11  Q    V    |         |         |         |
  1+40       0.0137      0.11  Q    V    |         |         |         |
  1+45       0.0145      0.11  Q    V    |         |         |         |
  1+50       0.0153      0.11  Q     V   |         |         |         |
  1+55       0.0161      0.11  Q     V   |         |         |         |
  2+ 0       0.0169      0.13  Q     V   |         |         |         |
  2+ 5       0.0177      0.11  Q      V  |         |         |         |
  2+10       0.0185      0.13  Q      V  |         |         |         |
  2+15       0.0194      0.13  Q      V  |         |         |         |
  2+20       0.0203      0.13  Q       V |         |         |         |
  2+25       0.0211      0.13  Q       V |         |         |         |
  2+30       0.0220      0.13  Q       V |         |         |         |
  2+35       0.0229      0.13  Q        V|         |         |         |
  2+40       0.0237      0.13  Q        V|         |         |         |
  2+45       0.0247      0.14  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 06/03/26 File: 19267p005EK65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	0.95	0.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	2.26	0.75

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.332	75.00	0.880

Total Area Entered = 0.33(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	699.916	78.557	0.263
2	0.167	1399.832	21.443	0.072
			Sum = 100.000 Sum=	0.335

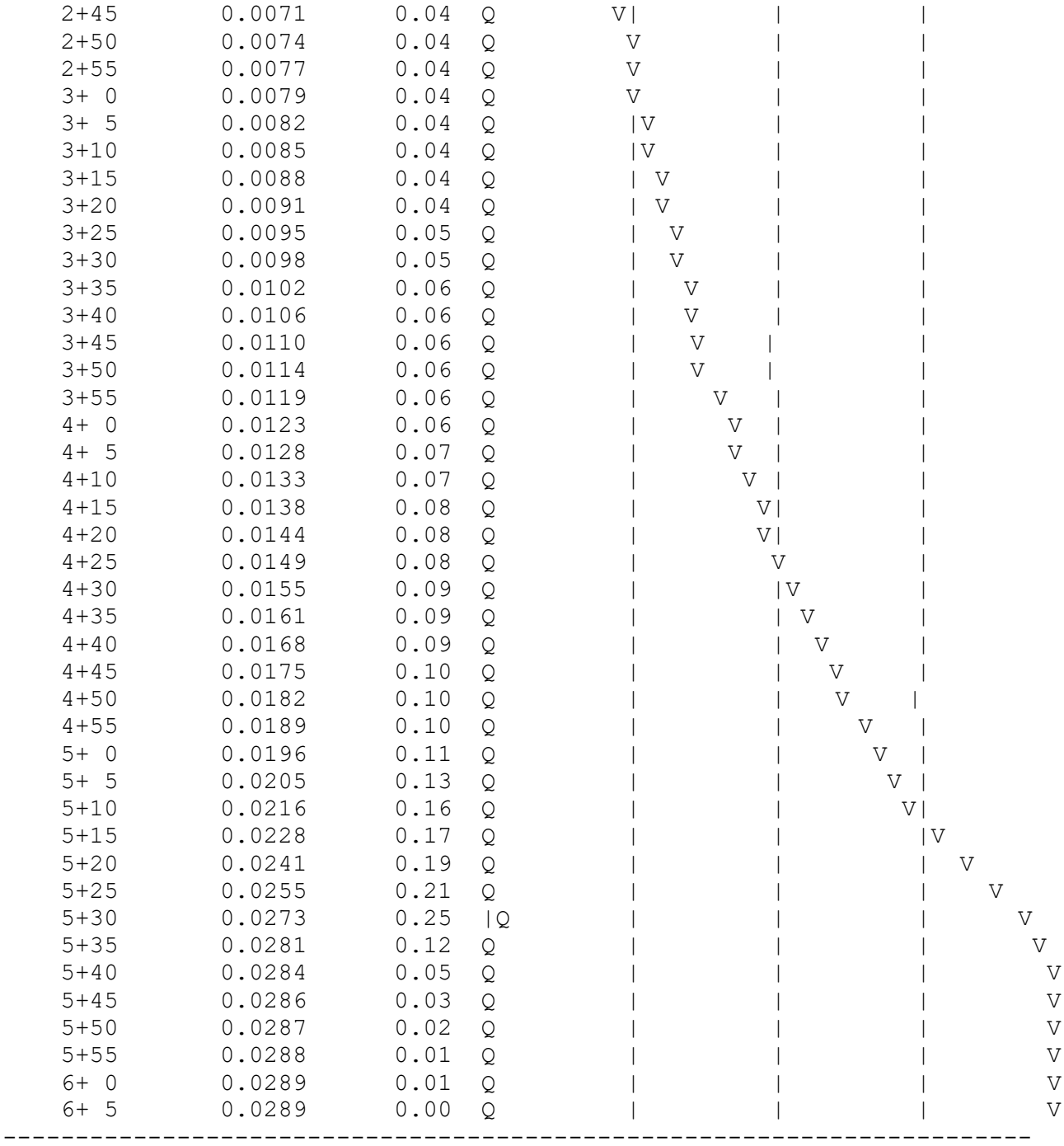
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.076	(0.063)	0.015	0.060
2	0.17	0.60	0.091	(0.063)	0.018	0.073
3	0.25	0.60	0.091	(0.063)	0.018	0.073
4	0.33	0.60	0.091	(0.063)	0.018	0.073
5	0.42	0.60	0.091	(0.063)	0.018	0.073
6	0.50	0.70	0.106	(0.063)	0.021	0.085
7	0.58	0.70	0.106	(0.063)	0.021	0.085
8	0.67	0.70	0.106	(0.063)	0.021	0.085
9	0.75	0.70	0.106	(0.063)	0.021	0.085
10	0.83	0.70	0.106	(0.063)	0.021	0.085
11	0.92	0.70	0.106	(0.063)	0.021	0.085

12	1.00	0.80	0.121	(0.063)	0.024	0.097
13	1.08	0.80	0.121	(0.063)	0.024	0.097
14	1.17	0.80	0.121	(0.063)	0.024	0.097
15	1.25	0.80	0.121	(0.063)	0.024	0.097
16	1.33	0.80	0.121	(0.063)	0.024	0.097
17	1.42	0.80	0.121	(0.063)	0.024	0.097
18	1.50	0.80	0.121	(0.063)	0.024	0.097
19	1.58	0.80	0.121	(0.063)	0.024	0.097
20	1.67	0.80	0.121	(0.063)	0.024	0.097
21	1.75	0.80	0.121	(0.063)	0.024	0.097
22	1.83	0.80	0.121	(0.063)	0.024	0.097
23	1.92	0.80	0.121	(0.063)	0.024	0.097
24	2.00	0.90	0.136	(0.063)	0.027	0.109
25	2.08	0.80	0.121	(0.063)	0.024	0.097
26	2.17	0.90	0.136	(0.063)	0.027	0.109
27	2.25	0.90	0.136	(0.063)	0.027	0.109
28	2.33	0.90	0.136	(0.063)	0.027	0.109
29	2.42	0.90	0.136	(0.063)	0.027	0.109
30	2.50	0.90	0.136	(0.063)	0.027	0.109
31	2.58	0.90	0.136	(0.063)	0.027	0.109
32	2.67	0.90	0.136	(0.063)	0.027	0.109
33	2.75	1.00	0.151	(0.063)	0.030	0.121
34	2.83	1.00	0.151	(0.063)	0.030	0.121
35	2.92	1.00	0.151	(0.063)	0.030	0.121
36	3.00	1.00	0.151	(0.063)	0.030	0.121
37	3.08	1.00	0.151	(0.063)	0.030	0.121
38	3.17	1.10	0.166	(0.063)	0.033	0.133
39	3.25	1.10	0.166	(0.063)	0.033	0.133
40	3.33	1.10	0.166	(0.063)	0.033	0.133
41	3.42	1.20	0.181	(0.063)	0.036	0.145
42	3.50	1.30	0.197	(0.063)	0.039	0.157
43	3.58	1.40	0.212	(0.063)	0.042	0.169
44	3.67	1.40	0.212	(0.063)	0.042	0.169
45	3.75	1.50	0.227	(0.063)	0.045	0.181
46	3.83	1.50	0.227	(0.063)	0.045	0.181
47	3.92	1.60	0.242	(0.063)	0.048	0.194
48	4.00	1.60	0.242	(0.063)	0.048	0.194
49	4.08	1.70	0.257	(0.063)	0.051	0.206
50	4.17	1.80	0.272	(0.063)	0.054	0.218
51	4.25	1.90	0.287	(0.063)	0.057	0.230
52	4.33	2.00	0.302	(0.063)	0.060	0.242
53	4.42	2.10	0.317	0.063	(0.063)	0.254
54	4.50	2.10	0.317	0.063	(0.063)	0.254
55	4.58	2.20	0.333	0.063	(0.067)	0.270
56	4.67	2.30	0.348	0.063	(0.070)	0.285
57	4.75	2.40	0.363	0.063	(0.073)	0.300
58	4.83	2.40	0.363	0.063	(0.073)	0.300
59	4.92	2.50	0.378	0.063	(0.076)	0.315
60	5.00	2.60	0.393	0.063	(0.079)	0.330
61	5.08	3.10	0.469	0.063	(0.094)	0.406
62	5.17	3.60	0.544	0.063	(0.109)	0.481
63	5.25	3.90	0.590	0.063	(0.118)	0.527
64	5.33	4.20	0.635	0.063	(0.127)	0.572
65	5.42	4.70	0.711	0.063	(0.142)	0.648
66	5.50	5.60	0.847	0.063	(0.169)	0.784
67	5.58	1.90	0.287	(0.063)	0.057	0.230
68	5.67	0.90	0.136	(0.063)	0.027	0.109

```
69   5.75     0.60      0.091       (  0.063)       0.018        0.073
70   5.83     0.50      0.076       (  0.063)       0.015        0.060
71   5.92     0.30      0.045       (  0.063)       0.009        0.036
72   6.00     0.20      0.030       (  0.063)       0.006        0.024
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    12.5
    Flood volume = Effective rainfall      1.04(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.22(In)
    Total soil loss =     0.006(Ac.Ft)
    Total rainfall =      1.26(In)
    Flood volume =        1258.8 Cubic Feet
    Total soil loss =         259.6 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.253(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.02  Q         |         |         |         |
  0+10       0.0003      0.02  Q         |         |         |         |
  0+15       0.0004      0.02  Q         |         |         |         |
  0+20       0.0006      0.02  Q         |         |         |         |
  0+25       0.0008      0.02  QV        |         |         |         |
  0+30       0.0010      0.03  QV        |         |         |         |
  0+35       0.0012      0.03  QV        |         |         |         |
  0+40       0.0014      0.03  QV        |         |         |         |
  0+45       0.0015      0.03  Q V       |         |         |         |
  0+50       0.0017      0.03  Q V       |         |         |         |
  0+55       0.0019      0.03  Q V       |         |         |         |
  1+ 0       0.0022      0.03  Q V       |         |         |         |
  1+ 5       0.0024      0.03  Q  V      |         |         |         |
  1+10       0.0026      0.03  Q  V      |         |         |         |
  1+15       0.0028      0.03  Q  V      |         |         |         |
  1+20       0.0030      0.03  Q   V     |         |         |         |
  1+25       0.0033      0.03  Q   V     |         |         |         |
  1+30       0.0035      0.03  Q   V     |         |         |         |
  1+35       0.0037      0.03  Q    V    |         |         |         |
  1+40       0.0039      0.03  Q    V    |         |         |         |
  1+45       0.0042      0.03  Q    V    |         |         |         |
  1+50       0.0044      0.03  Q     V   |         |         |         |
  1+55       0.0046      0.03  Q     V   |         |         |         |
  2+ 0       0.0049      0.04  Q     V   |         |         |         |
  2+ 5       0.0051      0.03  Q      V  |         |         |         |
  2+10       0.0053      0.04  Q      V  |         |         |         |
  2+15       0.0056      0.04  Q      V  |         |         |         |
  2+20       0.0058      0.04  Q       V |         |         |         |
  2+25       0.0061      0.04  Q       V |         |         |         |
  2+30       0.0063      0.04  Q       V |         |         |         |
  2+35       0.0066      0.04  Q        V|         |         |         |
  2+40       0.0068      0.04  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 06/03/26 File: 19267p005F65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	0.95	0.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.38	2.26	0.86

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.382	75.00	0.880

Total Area Entered = 0.38(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1040.009	100.000	0.385
		Sum = 100.000	Sum=	0.385

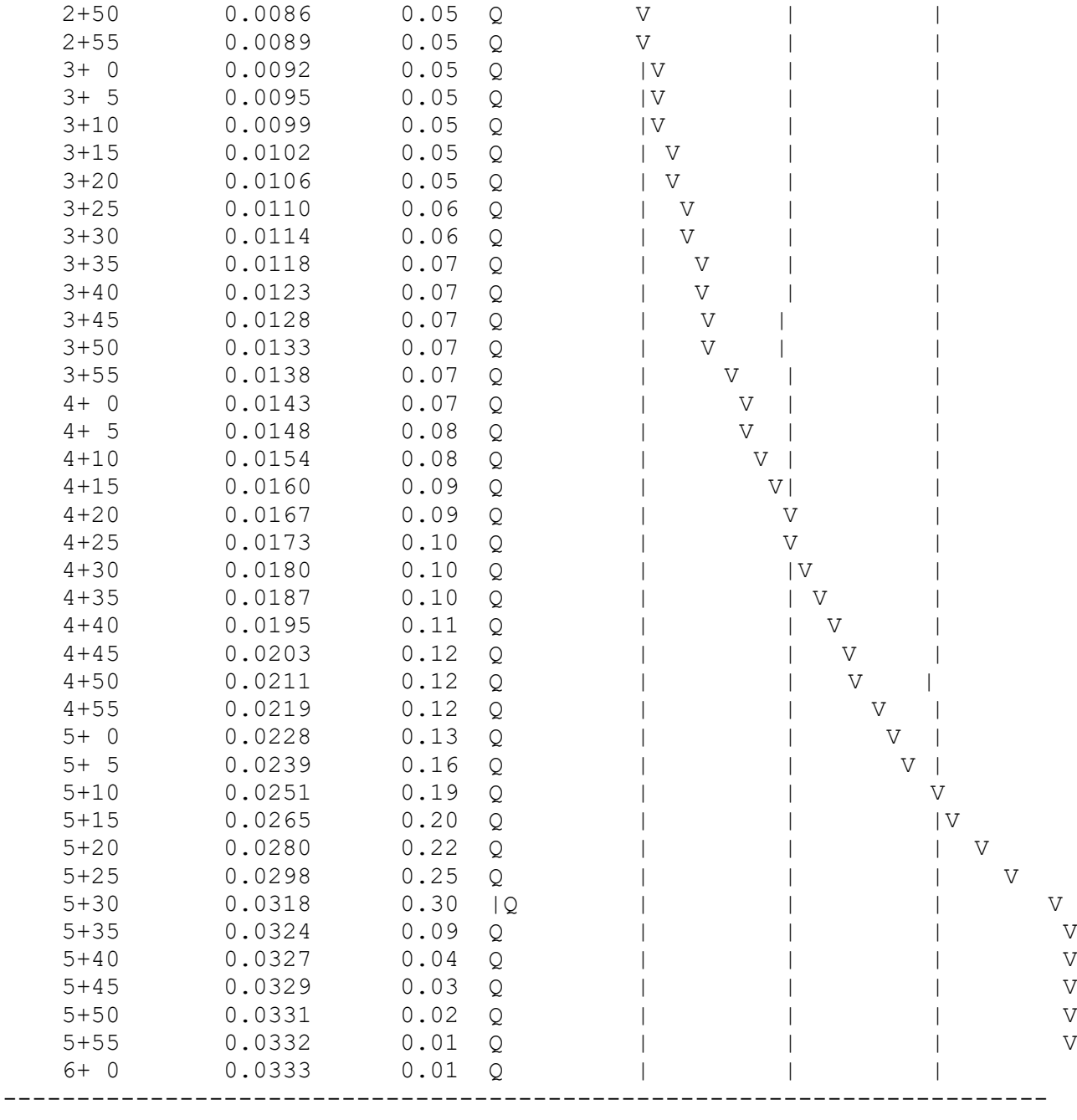
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.076	(0.063)	0.015	0.060
2	0.17	0.60	0.091	(0.063)	0.018	0.073
3	0.25	0.60	0.091	(0.063)	0.018	0.073
4	0.33	0.60	0.091	(0.063)	0.018	0.073
5	0.42	0.60	0.091	(0.063)	0.018	0.073
6	0.50	0.70	0.106	(0.063)	0.021	0.085
7	0.58	0.70	0.106	(0.063)	0.021	0.085
8	0.67	0.70	0.106	(0.063)	0.021	0.085
9	0.75	0.70	0.106	(0.063)	0.021	0.085
10	0.83	0.70	0.106	(0.063)	0.021	0.085
11	0.92	0.70	0.106	(0.063)	0.021	0.085
12	1.00	0.80	0.121	(0.063)	0.024	0.097

13	1.08	0.80	0.121	(0.063)	0.024	0.097
14	1.17	0.80	0.121	(0.063)	0.024	0.097
15	1.25	0.80	0.121	(0.063)	0.024	0.097
16	1.33	0.80	0.121	(0.063)	0.024	0.097
17	1.42	0.80	0.121	(0.063)	0.024	0.097
18	1.50	0.80	0.121	(0.063)	0.024	0.097
19	1.58	0.80	0.121	(0.063)	0.024	0.097
20	1.67	0.80	0.121	(0.063)	0.024	0.097
21	1.75	0.80	0.121	(0.063)	0.024	0.097
22	1.83	0.80	0.121	(0.063)	0.024	0.097
23	1.92	0.80	0.121	(0.063)	0.024	0.097
24	2.00	0.90	0.136	(0.063)	0.027	0.109
25	2.08	0.80	0.121	(0.063)	0.024	0.097
26	2.17	0.90	0.136	(0.063)	0.027	0.109
27	2.25	0.90	0.136	(0.063)	0.027	0.109
28	2.33	0.90	0.136	(0.063)	0.027	0.109
29	2.42	0.90	0.136	(0.063)	0.027	0.109
30	2.50	0.90	0.136	(0.063)	0.027	0.109
31	2.58	0.90	0.136	(0.063)	0.027	0.109
32	2.67	0.90	0.136	(0.063)	0.027	0.109
33	2.75	1.00	0.151	(0.063)	0.030	0.121
34	2.83	1.00	0.151	(0.063)	0.030	0.121
35	2.92	1.00	0.151	(0.063)	0.030	0.121
36	3.00	1.00	0.151	(0.063)	0.030	0.121
37	3.08	1.00	0.151	(0.063)	0.030	0.121
38	3.17	1.10	0.166	(0.063)	0.033	0.133
39	3.25	1.10	0.166	(0.063)	0.033	0.133
40	3.33	1.10	0.166	(0.063)	0.033	0.133
41	3.42	1.20	0.181	(0.063)	0.036	0.145
42	3.50	1.30	0.197	(0.063)	0.039	0.157
43	3.58	1.40	0.212	(0.063)	0.042	0.169
44	3.67	1.40	0.212	(0.063)	0.042	0.169
45	3.75	1.50	0.227	(0.063)	0.045	0.181
46	3.83	1.50	0.227	(0.063)	0.045	0.181
47	3.92	1.60	0.242	(0.063)	0.048	0.194
48	4.00	1.60	0.242	(0.063)	0.048	0.194
49	4.08	1.70	0.257	(0.063)	0.051	0.206
50	4.17	1.80	0.272	(0.063)	0.054	0.218
51	4.25	1.90	0.287	(0.063)	0.057	0.230
52	4.33	2.00	0.302	(0.063)	0.060	0.242
53	4.42	2.10	0.317	0.063	(0.063)	0.254
54	4.50	2.10	0.317	0.063	(0.063)	0.254
55	4.58	2.20	0.333	0.063	(0.067)	0.270
56	4.67	2.30	0.348	0.063	(0.070)	0.285
57	4.75	2.40	0.363	0.063	(0.073)	0.300
58	4.83	2.40	0.363	0.063	(0.073)	0.300
59	4.92	2.50	0.378	0.063	(0.076)	0.315
60	5.00	2.60	0.393	0.063	(0.079)	0.330
61	5.08	3.10	0.469	0.063	(0.094)	0.406
62	5.17	3.60	0.544	0.063	(0.109)	0.481
63	5.25	3.90	0.590	0.063	(0.118)	0.527
64	5.33	4.20	0.635	0.063	(0.127)	0.572
65	5.42	4.70	0.711	0.063	(0.142)	0.648
66	5.50	5.60	0.847	0.063	(0.169)	0.784
67	5.58	1.90	0.287	(0.063)	0.057	0.230
68	5.67	0.90	0.136	(0.063)	0.027	0.109
69	5.75	0.60	0.091	(0.063)	0.018	0.073

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70   5.83     0.50      0.076       (  0.063)       0.015        0.060
71   5.92     0.30      0.045       (  0.063)       0.009        0.036
72   6.00     0.20      0.030       (  0.063)       0.006        0.024
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    12.5
    Flood volume = Effective rainfall      1.04(In)
     times area       0.4(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.22(In)
    Total soil loss =     0.007(Ac.Ft)
    Total rainfall =      1.26(In)
    Flood volume =        1448.4 Cubic Feet
    Total soil loss =         298.7 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.302(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.02  Q         |         |         |         |
  0+10       0.0004      0.03  Q         |         |         |         |
  0+15       0.0005      0.03  Q         |         |         |         |
  0+20       0.0007      0.03  Q         |         |         |         |
  0+25       0.0009      0.03  QV        |         |         |         |
  0+30       0.0012      0.03  QV        |         |         |         |
  0+35       0.0014      0.03  QV        |         |         |         |
  0+40       0.0016      0.03  QV        |         |         |         |
  0+45       0.0018      0.03  Q V       |         |         |         |
  0+50       0.0021      0.03  Q V       |         |         |         |
  0+55       0.0023      0.03  Q V       |         |         |         |
  1+ 0       0.0025      0.04  Q  V      |         |         |         |
  1+ 5       0.0028      0.04  Q  V      |         |         |         |
  1+10       0.0030      0.04  Q  V      |         |         |         |
  1+15       0.0033      0.04  Q  V      |         |         |         |
  1+20       0.0036      0.04  Q   V     |         |         |         |
  1+25       0.0038      0.04  Q   V     |         |         |         |
  1+30       0.0041      0.04  Q   V     |         |         |         |
  1+35       0.0043      0.04  Q    V    |         |         |         |
  1+40       0.0046      0.04  Q    V    |         |         |         |
  1+45       0.0048      0.04  Q    V    |         |         |         |
  1+50       0.0051      0.04  Q     V   |         |         |         |
  1+55       0.0054      0.04  Q     V   |         |         |         |
  2+ 0       0.0056      0.04  Q     V   |         |         |         |
  2+ 5       0.0059      0.04  Q      V  |         |         |         |
  2+10       0.0062      0.04  Q      V  |         |         |         |
  2+15       0.0065      0.04  Q      V  |         |         |         |
  2+20       0.0068      0.04  Q       V |         |         |         |
  2+25       0.0071      0.04  Q       V |         |         |         |
  2+30       0.0073      0.04  Q       V |         |         |         |
  2+35       0.0076      0.04  Q        V|         |         |         |
  2+40       0.0079      0.04  Q        V|         |         |         |
  2+45       0.0082      0.05  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 06/03/26 File: 19267p005GH65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 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]
1.11	0.95	1.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	2.26	2.50

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.105	75.00	0.840

Total Area Entered = 1.11(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.840	0.074	1.000	0.074
					Sum (F) =	0.074

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1261.013	100.000	1.114
		Sum = 100.000	Sum= 1.114

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	0.076	(0.074)	0.017	0.058
2	0.17	0.60	0.091	(0.074)	0.021	0.070
3	0.25	0.60	0.091	(0.074)	0.021	0.070
4	0.33	0.60	0.091	(0.074)	0.021	0.070
5	0.42	0.60	0.091	(0.074)	0.021	0.070
6	0.50	0.70	0.106	(0.074)	0.024	0.081
7	0.58	0.70	0.106	(0.074)	0.024	0.081
8	0.67	0.70	0.106	(0.074)	0.024	0.081
9	0.75	0.70	0.106	(0.074)	0.024	0.081
10	0.83	0.70	0.106	(0.074)	0.024	0.081
11	0.92	0.70	0.106	(0.074)	0.024	0.081
12	1.00	0.80	0.121	(0.074)	0.028	0.093

13	1.08	0.80	0.121	(0.074)	0.028	0.093
14	1.17	0.80	0.121	(0.074)	0.028	0.093
15	1.25	0.80	0.121	(0.074)	0.028	0.093
16	1.33	0.80	0.121	(0.074)	0.028	0.093
17	1.42	0.80	0.121	(0.074)	0.028	0.093
18	1.50	0.80	0.121	(0.074)	0.028	0.093
19	1.58	0.80	0.121	(0.074)	0.028	0.093
20	1.67	0.80	0.121	(0.074)	0.028	0.093
21	1.75	0.80	0.121	(0.074)	0.028	0.093
22	1.83	0.80	0.121	(0.074)	0.028	0.093
23	1.92	0.80	0.121	(0.074)	0.028	0.093
24	2.00	0.90	0.136	(0.074)	0.031	0.105
25	2.08	0.80	0.121	(0.074)	0.028	0.093
26	2.17	0.90	0.136	(0.074)	0.031	0.105
27	2.25	0.90	0.136	(0.074)	0.031	0.105
28	2.33	0.90	0.136	(0.074)	0.031	0.105
29	2.42	0.90	0.136	(0.074)	0.031	0.105
30	2.50	0.90	0.136	(0.074)	0.031	0.105
31	2.58	0.90	0.136	(0.074)	0.031	0.105
32	2.67	0.90	0.136	(0.074)	0.031	0.105
33	2.75	1.00	0.151	(0.074)	0.035	0.116
34	2.83	1.00	0.151	(0.074)	0.035	0.116
35	2.92	1.00	0.151	(0.074)	0.035	0.116
36	3.00	1.00	0.151	(0.074)	0.035	0.116
37	3.08	1.00	0.151	(0.074)	0.035	0.116
38	3.17	1.10	0.166	(0.074)	0.038	0.128
39	3.25	1.10	0.166	(0.074)	0.038	0.128
40	3.33	1.10	0.166	(0.074)	0.038	0.128
41	3.42	1.20	0.181	(0.074)	0.042	0.140
42	3.50	1.30	0.197	(0.074)	0.045	0.151
43	3.58	1.40	0.212	(0.074)	0.049	0.163
44	3.67	1.40	0.212	(0.074)	0.049	0.163
45	3.75	1.50	0.227	(0.074)	0.052	0.175
46	3.83	1.50	0.227	(0.074)	0.052	0.175
47	3.92	1.60	0.242	(0.074)	0.056	0.186
48	4.00	1.60	0.242	(0.074)	0.056	0.186
49	4.08	1.70	0.257	(0.074)	0.059	0.198
50	4.17	1.80	0.272	(0.074)	0.063	0.210
51	4.25	1.90	0.287	(0.074)	0.066	0.221
52	4.33	2.00	0.302	(0.074)	0.070	0.233
53	4.42	2.10	0.317	(0.074)	0.073	0.244
54	4.50	2.10	0.317	(0.074)	0.073	0.244
55	4.58	2.20	0.333	0.074	(0.077)	0.259
56	4.67	2.30	0.348	0.074	(0.080)	0.274
57	4.75	2.40	0.363	0.074	(0.083)	0.289
58	4.83	2.40	0.363	0.074	(0.083)	0.289
59	4.92	2.50	0.378	0.074	(0.087)	0.304
60	5.00	2.60	0.393	0.074	(0.090)	0.319
61	5.08	3.10	0.469	0.074	(0.108)	0.395
62	5.17	3.60	0.544	0.074	(0.125)	0.470
63	5.25	3.90	0.590	0.074	(0.136)	0.516
64	5.33	4.20	0.635	0.074	(0.146)	0.561
65	5.42	4.70	0.711	0.074	(0.163)	0.637
66	5.50	5.60	0.847	0.074	(0.195)	0.773
67	5.58	1.90	0.287	(0.074)	0.066	0.221
68	5.67	0.90	0.136	(0.074)	0.031	0.105
69	5.75	0.60	0.091	(0.074)	0.021	0.070

70	5.83	0.50	0.076	(0.074)	0.017	0.058
71	5.92	0.30	0.045	(0.074)	0.010	0.035
72	6.00	0.20	0.030	(0.074)	0.007	0.023

(Loss Rate Not Used)

Sum = 100.0 Sum = 12.1

Flood volume = Effective rainfall 1.01(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.25(In)
Total soil loss = 0.023(Ac.Ft)
Total rainfall = 1.26(In)
Flood volume = 4053.9 Cubic Feet
Total soil loss = 999.8 Cubic Feet

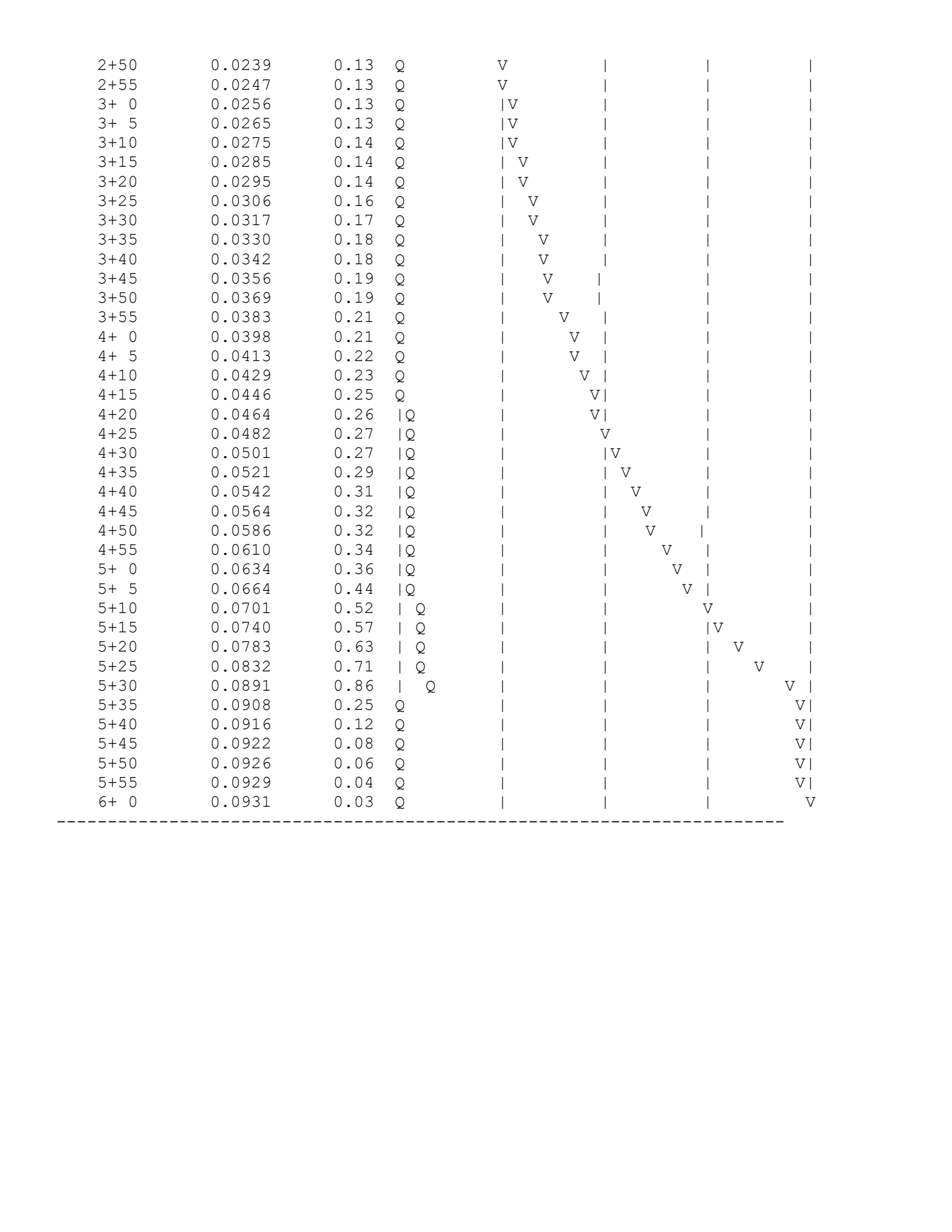
Peak flow rate of this hydrograph = 0.861(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q				
0+10	0.0010	0.08	Q				
0+15	0.0015	0.08	Q				
0+20	0.0021	0.08	Q				
0+25	0.0026	0.08	QV				
0+30	0.0032	0.09	QV				
0+35	0.0038	0.09	QV				
0+40	0.0045	0.09	QV				
0+45	0.0051	0.09	Q V				
0+50	0.0057	0.09	Q V				
0+55	0.0063	0.09	Q V				
1+ 0	0.0071	0.10	Q V				
1+ 5	0.0078	0.10	Q V				
1+10	0.0085	0.10	Q V				
1+15	0.0092	0.10	Q V				
1+20	0.0099	0.10	Q V				
1+25	0.0106	0.10	Q V				
1+30	0.0113	0.10	Q V				
1+35	0.0121	0.10	Q V				
1+40	0.0128	0.10	Q V				
1+45	0.0135	0.10	Q V				
1+50	0.0142	0.10	Q V				
1+55	0.0149	0.10	Q V				
2+ 0	0.0157	0.12	Q V				
2+ 5	0.0164	0.10	Q V				
2+10	0.0172	0.12	Q V				
2+15	0.0180	0.12	Q V				
2+20	0.0188	0.12	Q V				
2+25	0.0197	0.12	Q V				
2+30	0.0205	0.12	Q V				
2+35	0.0213	0.12	Q V				
2+40	0.0221	0.12	Q V				
2+45	0.0230	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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Study date 06/03/26 File: 19267p005I65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	0.95	0.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.90	2.26	2.03

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.830	0.077	1.000	0.077
					Sum (F) =	0.077

Area averaged mean soil loss (F) (In/Hr) = 0.077
Minimum soil loss rate ((In/Hr)) = 0.038
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
		Sum = 100.000	Sum=	0.907

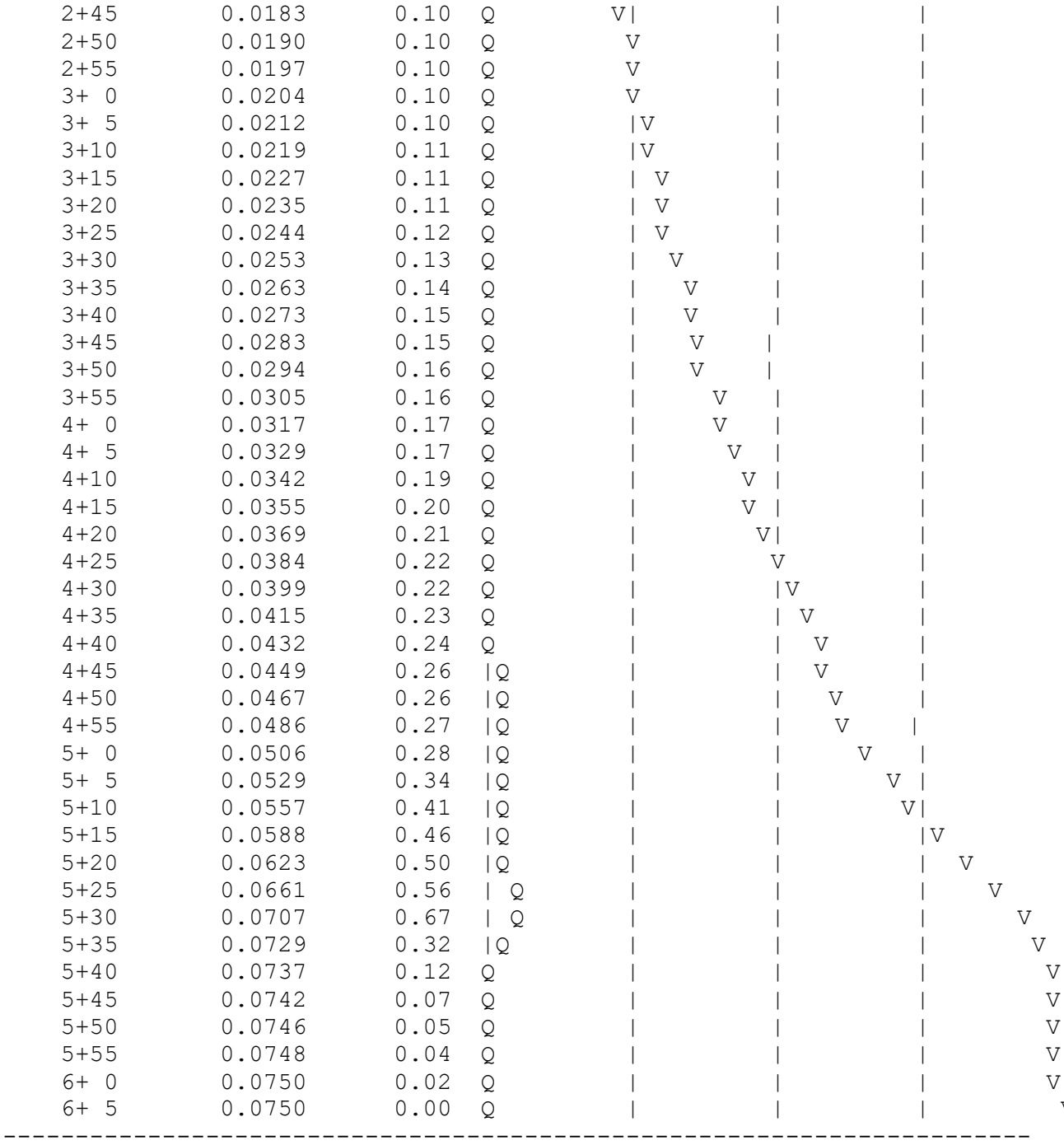
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.076	(0.077)	0.018	0.057
2	0.17	0.60	0.091	(0.077)	0.022	0.069
3	0.25	0.60	0.091	(0.077)	0.022	0.069
4	0.33	0.60	0.091	(0.077)	0.022	0.069
5	0.42	0.60	0.091	(0.077)	0.022	0.069
6	0.50	0.70	0.106	(0.077)	0.025	0.080
7	0.58	0.70	0.106	(0.077)	0.025	0.080
8	0.67	0.70	0.106	(0.077)	0.025	0.080
9	0.75	0.70	0.106	(0.077)	0.025	0.080
10	0.83	0.70	0.106	(0.077)	0.025	0.080
11	0.92	0.70	0.106	(0.077)	0.025	0.080

12	1.00	0.80	0.121	(0.077)	0.029	0.092
13	1.08	0.80	0.121	(0.077)	0.029	0.092
14	1.17	0.80	0.121	(0.077)	0.029	0.092
15	1.25	0.80	0.121	(0.077)	0.029	0.092
16	1.33	0.80	0.121	(0.077)	0.029	0.092
17	1.42	0.80	0.121	(0.077)	0.029	0.092
18	1.50	0.80	0.121	(0.077)	0.029	0.092
19	1.58	0.80	0.121	(0.077)	0.029	0.092
20	1.67	0.80	0.121	(0.077)	0.029	0.092
21	1.75	0.80	0.121	(0.077)	0.029	0.092
22	1.83	0.80	0.121	(0.077)	0.029	0.092
23	1.92	0.80	0.121	(0.077)	0.029	0.092
24	2.00	0.90	0.136	(0.077)	0.033	0.103
25	2.08	0.80	0.121	(0.077)	0.029	0.092
26	2.17	0.90	0.136	(0.077)	0.033	0.103
27	2.25	0.90	0.136	(0.077)	0.033	0.103
28	2.33	0.90	0.136	(0.077)	0.033	0.103
29	2.42	0.90	0.136	(0.077)	0.033	0.103
30	2.50	0.90	0.136	(0.077)	0.033	0.103
31	2.58	0.90	0.136	(0.077)	0.033	0.103
32	2.67	0.90	0.136	(0.077)	0.033	0.103
33	2.75	1.00	0.151	(0.077)	0.036	0.115
34	2.83	1.00	0.151	(0.077)	0.036	0.115
35	2.92	1.00	0.151	(0.077)	0.036	0.115
36	3.00	1.00	0.151	(0.077)	0.036	0.115
37	3.08	1.00	0.151	(0.077)	0.036	0.115
38	3.17	1.10	0.166	(0.077)	0.040	0.126
39	3.25	1.10	0.166	(0.077)	0.040	0.126
40	3.33	1.10	0.166	(0.077)	0.040	0.126
41	3.42	1.20	0.181	(0.077)	0.044	0.138
42	3.50	1.30	0.197	(0.077)	0.047	0.149
43	3.58	1.40	0.212	(0.077)	0.051	0.161
44	3.67	1.40	0.212	(0.077)	0.051	0.161
45	3.75	1.50	0.227	(0.077)	0.054	0.172
46	3.83	1.50	0.227	(0.077)	0.054	0.172
47	3.92	1.60	0.242	(0.077)	0.058	0.184
48	4.00	1.60	0.242	(0.077)	0.058	0.184
49	4.08	1.70	0.257	(0.077)	0.062	0.195
50	4.17	1.80	0.272	(0.077)	0.065	0.207
51	4.25	1.90	0.287	(0.077)	0.069	0.218
52	4.33	2.00	0.302	(0.077)	0.073	0.230
53	4.42	2.10	0.317	(0.077)	0.076	0.241
54	4.50	2.10	0.317	(0.077)	0.076	0.241
55	4.58	2.20	0.333	0.077	(0.080)	0.256
56	4.67	2.30	0.348	0.077	(0.083)	0.271
57	4.75	2.40	0.363	0.077	(0.087)	0.286
58	4.83	2.40	0.363	0.077	(0.087)	0.286
59	4.92	2.50	0.378	0.077	(0.091)	0.301
60	5.00	2.60	0.393	0.077	(0.094)	0.316
61	5.08	3.10	0.469	0.077	(0.112)	0.392
62	5.17	3.60	0.544	0.077	(0.131)	0.468
63	5.25	3.90	0.590	0.077	(0.142)	0.513
64	5.33	4.20	0.635	0.077	(0.152)	0.558
65	5.42	4.70	0.711	0.077	(0.171)	0.634
66	5.50	5.60	0.847	0.077	(0.203)	0.770
67	5.58	1.90	0.287	(0.077)	0.069	0.218
68	5.67	0.90	0.136	(0.077)	0.033	0.103

```
69   5.75     0.60      0.091       (  0.077)       0.022        0.069
70   5.83     0.50      0.076       (  0.077)       0.018        0.057
71   5.92     0.30      0.045       (  0.077)       0.011        0.034
72   6.00     0.20      0.030       (  0.077)       0.007        0.023
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    12.0
    Flood volume = Effective rainfall      1.00(In)
     times area       0.9(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.26(In)
    Total soil loss =     0.019(Ac.Ft)
    Total rainfall =      1.26(In)
    Flood volume =        3268.0 Cubic Feet
    Total soil loss =         848.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.670(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       0.0003      0.04  Q         |         |         |         |
  0+10       0.0007      0.06  Q         |         |         |         |
  0+15       0.0011      0.06  Q         |         |         |         |
  0+20       0.0016      0.06  Q         |         |         |         |
  0+25       0.0020      0.06  QV        |         |         |         |
  0+30       0.0025      0.07  QV        |         |         |         |
  0+35       0.0030      0.07  QV        |         |         |         |
  0+40       0.0035      0.07  QV        |         |         |         |
  0+45       0.0040      0.07  Q V       |         |         |         |
  0+50       0.0045      0.07  Q V       |         |         |         |
  0+55       0.0050      0.07  Q V       |         |         |         |
  1+ 0       0.0055      0.08  Q V       |         |         |         |
  1+ 5       0.0061      0.08  Q  V      |         |         |         |
  1+10       0.0067      0.08  Q  V      |         |         |         |
  1+15       0.0073      0.08  Q  V      |         |         |         |
  1+20       0.0078      0.08  Q   V     |         |         |         |
  1+25       0.0084      0.08  Q   V     |         |         |         |
  1+30       0.0090      0.08  Q   V     |         |         |         |
  1+35       0.0096      0.08  Q    V    |         |         |         |
  1+40       0.0101      0.08  Q    V    |         |         |         |
  1+45       0.0107      0.08  Q    V    |         |         |         |
  1+50       0.0113      0.08  Q     V   |         |         |         |
  1+55       0.0119      0.08  Q     V   |         |         |         |
  2+ 0       0.0125      0.09  Q     V   |         |         |         |
  2+ 5       0.0131      0.09  Q     V   |         |         |         |
  2+10       0.0137      0.09  Q      V  |         |         |         |
  2+15       0.0144      0.09  Q      V  |         |         |         |
  2+20       0.0150      0.09  Q      V  |         |         |         |
  2+25       0.0156      0.09  Q       V |         |         |         |
  2+30       0.0163      0.09  Q       V |         |         |         |
  2+35       0.0169      0.09  Q        V|         |         |         |
  2+40       0.0176      0.09  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 06/03/26 File: 19267p005J65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	0.95	0.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.34	2.26	0.77

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.340	75.00	0.860

Total Area Entered = 0.34(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.860	0.068	1.000	0.068
					Sum (F) =	0.068

Area averaged mean soil loss (F) (In/Hr) = 0.068
Minimum soil loss rate ((In/Hr)) = 0.034
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.210

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1304.735	100.000	0.343
		Sum = 100.000	Sum=	0.343

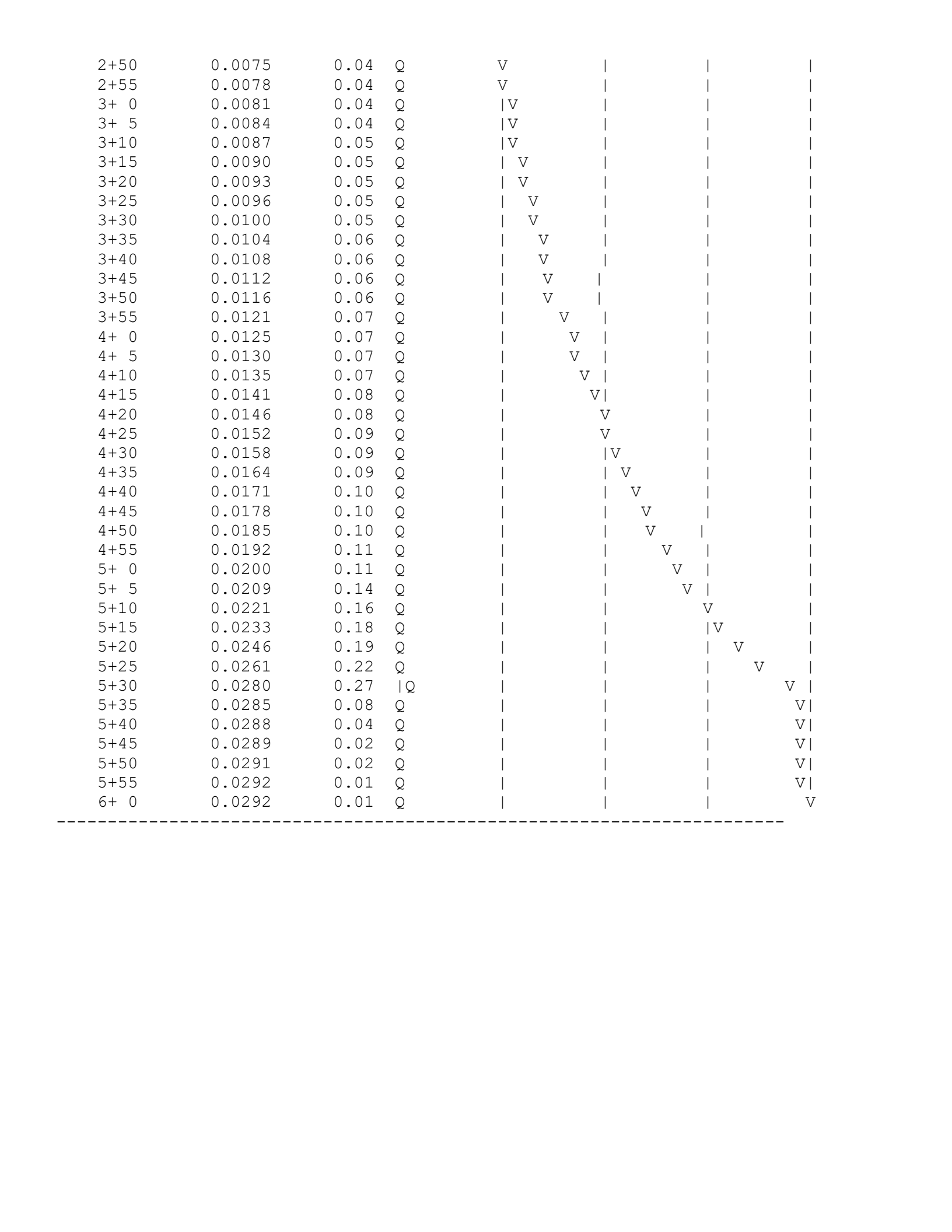
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.076	(0.068)	0.016	0.060
2	0.17	0.60	0.091	(0.068)	0.019	0.072
3	0.25	0.60	0.091	(0.068)	0.019	0.072
4	0.33	0.60	0.091	(0.068)	0.019	0.072
5	0.42	0.60	0.091	(0.068)	0.019	0.072
6	0.50	0.70	0.106	(0.068)	0.022	0.084
7	0.58	0.70	0.106	(0.068)	0.022	0.084
8	0.67	0.70	0.106	(0.068)	0.022	0.084
9	0.75	0.70	0.106	(0.068)	0.022	0.084
10	0.83	0.70	0.106	(0.068)	0.022	0.084
11	0.92	0.70	0.106	(0.068)	0.022	0.084
12	1.00	0.80	0.121	(0.068)	0.025	0.096

13	1.08	0.80	0.121	(0.068)	0.025	0.096
14	1.17	0.80	0.121	(0.068)	0.025	0.096
15	1.25	0.80	0.121	(0.068)	0.025	0.096
16	1.33	0.80	0.121	(0.068)	0.025	0.096
17	1.42	0.80	0.121	(0.068)	0.025	0.096
18	1.50	0.80	0.121	(0.068)	0.025	0.096
19	1.58	0.80	0.121	(0.068)	0.025	0.096
20	1.67	0.80	0.121	(0.068)	0.025	0.096
21	1.75	0.80	0.121	(0.068)	0.025	0.096
22	1.83	0.80	0.121	(0.068)	0.025	0.096
23	1.92	0.80	0.121	(0.068)	0.025	0.096
24	2.00	0.90	0.136	(0.068)	0.029	0.107
25	2.08	0.80	0.121	(0.068)	0.025	0.096
26	2.17	0.90	0.136	(0.068)	0.029	0.107
27	2.25	0.90	0.136	(0.068)	0.029	0.107
28	2.33	0.90	0.136	(0.068)	0.029	0.107
29	2.42	0.90	0.136	(0.068)	0.029	0.107
30	2.50	0.90	0.136	(0.068)	0.029	0.107
31	2.58	0.90	0.136	(0.068)	0.029	0.107
32	2.67	0.90	0.136	(0.068)	0.029	0.107
33	2.75	1.00	0.151	(0.068)	0.032	0.119
34	2.83	1.00	0.151	(0.068)	0.032	0.119
35	2.92	1.00	0.151	(0.068)	0.032	0.119
36	3.00	1.00	0.151	(0.068)	0.032	0.119
37	3.08	1.00	0.151	(0.068)	0.032	0.119
38	3.17	1.10	0.166	(0.068)	0.035	0.131
39	3.25	1.10	0.166	(0.068)	0.035	0.131
40	3.33	1.10	0.166	(0.068)	0.035	0.131
41	3.42	1.20	0.181	(0.068)	0.038	0.143
42	3.50	1.30	0.197	(0.068)	0.041	0.155
43	3.58	1.40	0.212	(0.068)	0.044	0.167
44	3.67	1.40	0.212	(0.068)	0.044	0.167
45	3.75	1.50	0.227	(0.068)	0.048	0.179
46	3.83	1.50	0.227	(0.068)	0.048	0.179
47	3.92	1.60	0.242	(0.068)	0.051	0.191
48	4.00	1.60	0.242	(0.068)	0.051	0.191
49	4.08	1.70	0.257	(0.068)	0.054	0.203
50	4.17	1.80	0.272	(0.068)	0.057	0.215
51	4.25	1.90	0.287	(0.068)	0.060	0.227
52	4.33	2.00	0.302	(0.068)	0.063	0.239
53	4.42	2.10	0.317	(0.068)	0.067	0.251
54	4.50	2.10	0.317	(0.068)	0.067	0.251
55	4.58	2.20	0.333	0.068	(0.070)	0.264
56	4.67	2.30	0.348	0.068	(0.073)	0.279
57	4.75	2.40	0.363	0.068	(0.076)	0.294
58	4.83	2.40	0.363	0.068	(0.076)	0.294
59	4.92	2.50	0.378	0.068	(0.079)	0.309
60	5.00	2.60	0.393	0.068	(0.083)	0.325
61	5.08	3.10	0.469	0.068	(0.098)	0.400
62	5.17	3.60	0.544	0.068	(0.114)	0.476
63	5.25	3.90	0.590	0.068	(0.124)	0.521
64	5.33	4.20	0.635	0.068	(0.133)	0.567
65	5.42	4.70	0.711	0.068	(0.149)	0.642
66	5.50	5.60	0.847	0.068	(0.178)	0.778
67	5.58	1.90	0.287	(0.068)	0.060	0.227
68	5.67	0.90	0.136	(0.068)	0.029	0.107
69	5.75	0.60	0.091	(0.068)	0.019	0.072

```
70   5.83     0.50      0.076       (  0.068)       0.016        0.060
71   5.92     0.30      0.045       (  0.068)       0.010        0.036
72   6.00     0.20      0.030       (  0.068)       0.006        0.024
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    12.4
    Flood volume = Effective rainfall      1.03(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.23(In)
    Total soil loss =     0.006(Ac.Ft)
    Total rainfall =      1.26(In)
    Flood volume =        1272.9 Cubic Feet
    Total soil loss =         282.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.267(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.02  Q         |         |         |         |
  0+10       0.0003      0.02  Q         |         |         |         |
  0+15       0.0005      0.02  Q         |         |         |         |
  0+20       0.0006      0.02  Q         |         |         |         |
  0+25       0.0008      0.02  QV        |         |         |         |
  0+30       0.0010      0.03  QV        |         |         |         |
  0+35       0.0012      0.03  QV        |         |         |         |
  0+40       0.0014      0.03  QV        |         |         |         |
  0+45       0.0016      0.03  Q V       |         |         |         |
  0+50       0.0018      0.03  Q V       |         |         |         |
  0+55       0.0020      0.03  Q V       |         |         |         |
  1+ 0       0.0022      0.03  Q  V      |         |         |         |
  1+ 5       0.0025      0.03  Q  V      |         |         |         |
  1+10       0.0027      0.03  Q  V      |         |         |         |
  1+15       0.0029      0.03  Q  V      |         |         |         |
  1+20       0.0031      0.03  Q   V     |         |         |         |
  1+25       0.0034      0.03  Q   V     |         |         |         |
  1+30       0.0036      0.03  Q   V     |         |         |         |
  1+35       0.0038      0.03  Q    V    |         |         |         |
  1+40       0.0040      0.03  Q    V    |         |         |         |
  1+45       0.0043      0.03  Q    V    |         |         |         |
  1+50       0.0045      0.03  Q     V   |         |         |         |
  1+55       0.0047      0.03  Q     V   |         |         |         |
  2+ 0       0.0050      0.04  Q     V   |         |         |         |
  2+ 5       0.0052      0.03  Q      V  |         |         |         |
  2+10       0.0054      0.04  Q      V  |         |         |         |
  2+15       0.0057      0.04  Q      V  |         |         |         |
  2+20       0.0060      0.04  Q       V |         |         |         |
  2+25       0.0062      0.04  Q       V |         |         |         |
  2+30       0.0065      0.04  Q       V |         |         |         |
  2+35       0.0067      0.04  Q        V|         |         |         |
  2+40       0.0070      0.04  Q        V|         |         |         |
  2+45       0.0072      0.04  Q        V|         |         |         |
```


2+50 0.0075 0.04 Q
2+55 0.0078 0.04 Q
3+ 0 0.0081 0.04 Q
3+ 5 0.0084 0.04 Q
3+10 0.0087 0.05 Q
3+15 0.0090 0.05 Q
3+20 0.0093 0.05 Q
3+25 0.0096 0.05 Q
3+30 0.0100 0.05 Q
3+35 0.0104 0.06 Q
3+40 0.0108 0.06 Q
3+45 0.0112 0.06 Q
3+50 0.0116 0.06 Q
3+55 0.0121 0.07 Q
4+ 0 0.0125 0.07 Q
4+ 5 0.0130 0.07 Q
4+10 0.0135 0.07 Q
4+15 0.0141 0.08 Q
4+20 0.0146 0.08 Q
4+25 0.0152 0.09 Q
4+30 0.0158 0.09 Q
4+35 0.0164 0.09 Q
4+40 0.0171 0.10 Q
4+45 0.0178 0.10 Q
4+50 0.0185 0.10 Q
4+55 0.0192 0.11 Q
5+ 0 0.0200 0.11 Q
5+ 5 0.0209 0.14 Q
5+10 0.0221 0.16 Q
5+15 0.0233 0.18 Q
5+20 0.0246 0.19 Q
5+25 0.0261 0.22 Q
5+30 0.0280 0.27 Q
5+35 0.0285 0.08 Q
5+40 0.0288 0.04 Q
5+45 0.0289 0.02 Q
5+50 0.0291 0.02 Q
5+55 0.0292 0.01 Q
6+ 0 0.0292 0.01 Q

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 06/03/26 File: 19267p005S65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	0.95	0.65

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	2.26	1.55

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
			Sum = 100.000 Sum=	0.690

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	0.076	(0.136)		0.019	0.057
2	0.17	0.60	0.091	(0.136)		0.023	0.068
3	0.25	0.60	0.091	(0.136)		0.023	0.068
4	0.33	0.60	0.091	(0.136)		0.023	0.068
5	0.42	0.60	0.091	(0.136)		0.023	0.068
6	0.50	0.70	0.106	(0.136)		0.026	0.079
7	0.58	0.70	0.106	(0.136)		0.026	0.079
8	0.67	0.70	0.106	(0.136)		0.026	0.079
9	0.75	0.70	0.106	(0.136)		0.026	0.079

10	0.83	0.70	0.106	(0.136)	0.026	0.079
11	0.92	0.70	0.106	(0.136)	0.026	0.079
12	1.00	0.80	0.121	(0.136)	0.030	0.091
13	1.08	0.80	0.121	(0.136)	0.030	0.091
14	1.17	0.80	0.121	(0.136)	0.030	0.091
15	1.25	0.80	0.121	(0.136)	0.030	0.091
16	1.33	0.80	0.121	(0.136)	0.030	0.091
17	1.42	0.80	0.121	(0.136)	0.030	0.091
18	1.50	0.80	0.121	(0.136)	0.030	0.091
19	1.58	0.80	0.121	(0.136)	0.030	0.091
20	1.67	0.80	0.121	(0.136)	0.030	0.091
21	1.75	0.80	0.121	(0.136)	0.030	0.091
22	1.83	0.80	0.121	(0.136)	0.030	0.091
23	1.92	0.80	0.121	(0.136)	0.030	0.091
24	2.00	0.90	0.136	(0.136)	0.034	0.102
25	2.08	0.80	0.121	(0.136)	0.030	0.091
26	2.17	0.90	0.136	(0.136)	0.034	0.102
27	2.25	0.90	0.136	(0.136)	0.034	0.102
28	2.33	0.90	0.136	(0.136)	0.034	0.102
29	2.42	0.90	0.136	(0.136)	0.034	0.102
30	2.50	0.90	0.136	(0.136)	0.034	0.102
31	2.58	0.90	0.136	(0.136)	0.034	0.102
32	2.67	0.90	0.136	(0.136)	0.034	0.102
33	2.75	1.00	0.151	(0.136)	0.038	0.113
34	2.83	1.00	0.151	(0.136)	0.038	0.113
35	2.92	1.00	0.151	(0.136)	0.038	0.113
36	3.00	1.00	0.151	(0.136)	0.038	0.113
37	3.08	1.00	0.151	(0.136)	0.038	0.113
38	3.17	1.10	0.166	(0.136)	0.042	0.125
39	3.25	1.10	0.166	(0.136)	0.042	0.125
40	3.33	1.10	0.166	(0.136)	0.042	0.125
41	3.42	1.20	0.181	(0.136)	0.045	0.136
42	3.50	1.30	0.197	(0.136)	0.049	0.147
43	3.58	1.40	0.212	(0.136)	0.053	0.159
44	3.67	1.40	0.212	(0.136)	0.053	0.159
45	3.75	1.50	0.227	(0.136)	0.057	0.170
46	3.83	1.50	0.227	(0.136)	0.057	0.170
47	3.92	1.60	0.242	(0.136)	0.060	0.181
48	4.00	1.60	0.242	(0.136)	0.060	0.181
49	4.08	1.70	0.257	(0.136)	0.064	0.193
50	4.17	1.80	0.272	(0.136)	0.068	0.204
51	4.25	1.90	0.287	(0.136)	0.072	0.215
52	4.33	2.00	0.302	(0.136)	0.076	0.227
53	4.42	2.10	0.317	(0.136)	0.079	0.238
54	4.50	2.10	0.317	(0.136)	0.079	0.238
55	4.58	2.20	0.333	(0.136)	0.083	0.249
56	4.67	2.30	0.348	(0.136)	0.087	0.261
57	4.75	2.40	0.363	(0.136)	0.091	0.272
58	4.83	2.40	0.363	(0.136)	0.091	0.272
59	4.92	2.50	0.378	(0.136)	0.094	0.283
60	5.00	2.60	0.393	(0.136)	0.098	0.295
61	5.08	3.10	0.469	(0.136)	0.117	0.352
62	5.17	3.60	0.544	0.136	(0.136)	0.409
63	5.25	3.90	0.590	0.136	(0.147)	0.454
64	5.33	4.20	0.635	0.136	(0.159)	0.499
65	5.42	4.70	0.711	0.136	(0.178)	0.575
66	5.50	5.60	0.847	0.136	(0.212)	0.711

67	5.58	1.90	0.287	(0.136)	0.072	0.215
68	5.67	0.90	0.136	(0.136)	0.034	0.102
69	5.75	0.60	0.091	(0.136)	0.023	0.068
70	5.83	0.50	0.076	(0.136)	0.019	0.057
71	5.92	0.30	0.045	(0.136)	0.011	0.034
72	6.00	0.20	0.030	(0.136)	0.008	0.023

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.5

Flood volume = Effective rainfall 0.96(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.30(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.26(In)
Flood volume = 2381.3 Cubic Feet
Total soil loss = 751.4 Cubic Feet

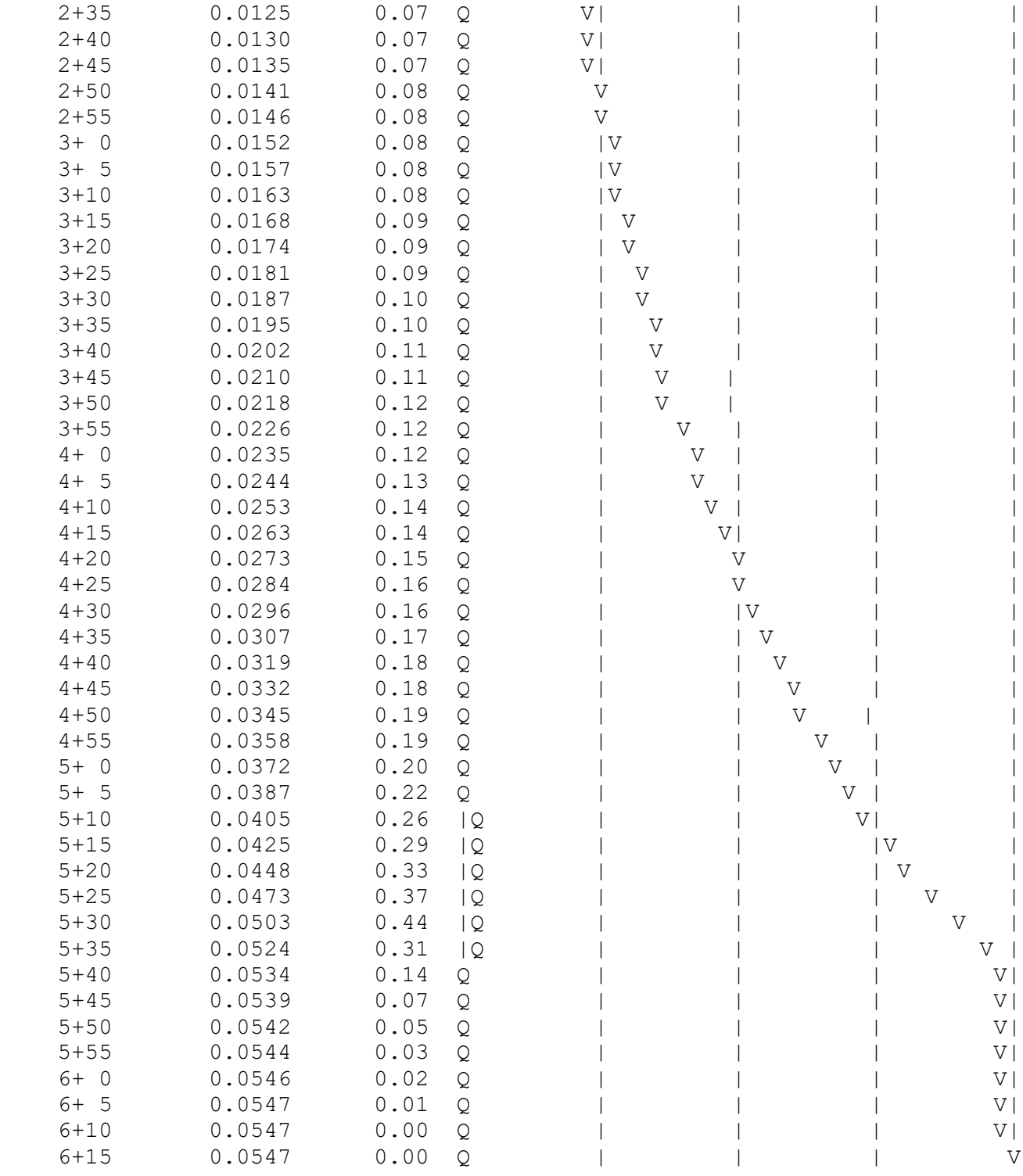
Peak flow rate of this hydrograph = 0.439(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0004	0.04	Q	|	|	|	|
0+15	0.0007	0.05	Q	|	|	|	|
0+20	0.0010	0.05	Q	|	|	|	|
0+25	0.0014	0.05	QV	|	|	|	|
0+30	0.0017	0.05	QV	|	|	|	|
0+35	0.0021	0.05	QV	|	|	|	|
0+40	0.0025	0.05	QV	|	|	|	|
0+45	0.0028	0.05	Q V	|	|	|	|
0+50	0.0032	0.05	Q V	|	|	|	|
0+55	0.0036	0.05	Q V	|	|	|	|
1+ 0	0.0040	0.06	Q V	|	|	|	|
1+ 5	0.0044	0.06	Q V	|	|	|	|
1+10	0.0049	0.06	Q V	|	|	|	|
1+15	0.0053	0.06	Q V	|	|	|	|
1+20	0.0057	0.06	Q V	|	|	|	|
1+25	0.0062	0.06	Q V	|	|	|	|
1+30	0.0066	0.06	Q V	|	|	|	|
1+35	0.0070	0.06	Q V	|	|	|	|
1+40	0.0075	0.06	Q V	|	|	|	|
1+45	0.0079	0.06	Q V	|	|	|	|
1+50	0.0083	0.06	Q V	|	|	|	|
1+55	0.0087	0.06	Q V	|	|	|	|
2+ 0	0.0092	0.07	Q V	|	|	|	|
2+ 5	0.0097	0.07	Q V	|	|	|	|
2+10	0.0101	0.07	Q V	|	|	|	|
2+15	0.0106	0.07	Q V	|	|	|	|
2+20	0.0111	0.07	Q V	|	|	|	|
2+25	0.0116	0.07	Q V	|	|	|	|
2+30	0.0121	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 06/03/26 File: 19267p005site65.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	0.95	9.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	2.26	21.89

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.260(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.260(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	75.00	0.840

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.840	0.122	1.000	0.122
					Sum (F) =	0.122

Area averaged mean soil loss (F) (In/Hr) = 0.122
Minimum soil loss rate ((In/Hr)) = 0.061
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	9.764
		Sum = 100.000	Sum= 9.764

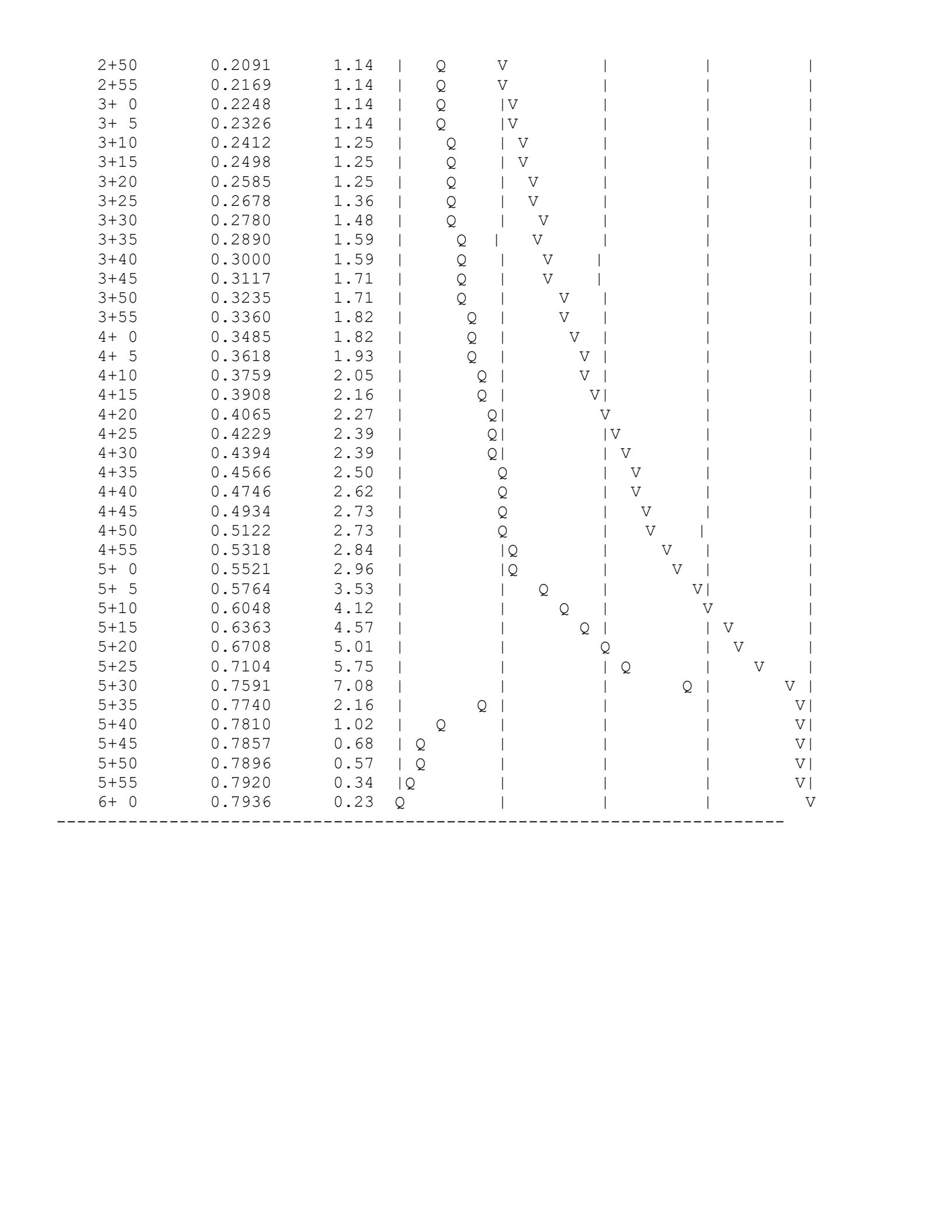
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.076	(0.122)	0.017	0.058
2	0.17	0.60	0.091	(0.122)	0.021	0.070
3	0.25	0.60	0.091	(0.122)	0.021	0.070
4	0.33	0.60	0.091	(0.122)	0.021	0.070
5	0.42	0.60	0.091	(0.122)	0.021	0.070
6	0.50	0.70	0.106	(0.122)	0.024	0.081
7	0.58	0.70	0.106	(0.122)	0.024	0.081
8	0.67	0.70	0.106	(0.122)	0.024	0.081
9	0.75	0.70	0.106	(0.122)	0.024	0.081
10	0.83	0.70	0.106	(0.122)	0.024	0.081
11	0.92	0.70	0.106	(0.122)	0.024	0.081
12	1.00	0.80	0.121	(0.122)	0.028	0.093

13	1.08	0.80	0.121	(0.122)	0.028	0.093
14	1.17	0.80	0.121	(0.122)	0.028	0.093
15	1.25	0.80	0.121	(0.122)	0.028	0.093
16	1.33	0.80	0.121	(0.122)	0.028	0.093
17	1.42	0.80	0.121	(0.122)	0.028	0.093
18	1.50	0.80	0.121	(0.122)	0.028	0.093
19	1.58	0.80	0.121	(0.122)	0.028	0.093
20	1.67	0.80	0.121	(0.122)	0.028	0.093
21	1.75	0.80	0.121	(0.122)	0.028	0.093
22	1.83	0.80	0.121	(0.122)	0.028	0.093
23	1.92	0.80	0.121	(0.122)	0.028	0.093
24	2.00	0.90	0.136	(0.122)	0.031	0.105
25	2.08	0.80	0.121	(0.122)	0.028	0.093
26	2.17	0.90	0.136	(0.122)	0.031	0.105
27	2.25	0.90	0.136	(0.122)	0.031	0.105
28	2.33	0.90	0.136	(0.122)	0.031	0.105
29	2.42	0.90	0.136	(0.122)	0.031	0.105
30	2.50	0.90	0.136	(0.122)	0.031	0.105
31	2.58	0.90	0.136	(0.122)	0.031	0.105
32	2.67	0.90	0.136	(0.122)	0.031	0.105
33	2.75	1.00	0.151	(0.122)	0.035	0.116
34	2.83	1.00	0.151	(0.122)	0.035	0.116
35	2.92	1.00	0.151	(0.122)	0.035	0.116
36	3.00	1.00	0.151	(0.122)	0.035	0.116
37	3.08	1.00	0.151	(0.122)	0.035	0.116
38	3.17	1.10	0.166	(0.122)	0.038	0.128
39	3.25	1.10	0.166	(0.122)	0.038	0.128
40	3.33	1.10	0.166	(0.122)	0.038	0.128
41	3.42	1.20	0.181	(0.122)	0.042	0.140
42	3.50	1.30	0.197	(0.122)	0.045	0.151
43	3.58	1.40	0.212	(0.122)	0.049	0.163
44	3.67	1.40	0.212	(0.122)	0.049	0.163
45	3.75	1.50	0.227	(0.122)	0.052	0.175
46	3.83	1.50	0.227	(0.122)	0.052	0.175
47	3.92	1.60	0.242	(0.122)	0.056	0.186
48	4.00	1.60	0.242	(0.122)	0.056	0.186
49	4.08	1.70	0.257	(0.122)	0.059	0.198
50	4.17	1.80	0.272	(0.122)	0.063	0.210
51	4.25	1.90	0.287	(0.122)	0.066	0.221
52	4.33	2.00	0.302	(0.122)	0.070	0.233
53	4.42	2.10	0.317	(0.122)	0.073	0.244
54	4.50	2.10	0.317	(0.122)	0.073	0.244
55	4.58	2.20	0.333	(0.122)	0.076	0.256
56	4.67	2.30	0.348	(0.122)	0.080	0.268
57	4.75	2.40	0.363	(0.122)	0.083	0.279
58	4.83	2.40	0.363	(0.122)	0.083	0.279
59	4.92	2.50	0.378	(0.122)	0.087	0.291
60	5.00	2.60	0.393	(0.122)	0.090	0.303
61	5.08	3.10	0.469	(0.122)	0.108	0.361
62	5.17	3.60	0.544	0.122	(0.125)	0.422
63	5.25	3.90	0.590	0.122	(0.136)	0.467
64	5.33	4.20	0.635	0.122	(0.146)	0.513
65	5.42	4.70	0.711	0.122	(0.163)	0.588
66	5.50	5.60	0.847	0.122	(0.195)	0.724
67	5.58	1.90	0.287	(0.122)	0.066	0.221
68	5.67	0.90	0.136	(0.122)	0.031	0.105
69	5.75	0.60	0.091	(0.122)	0.021	0.070

```
70   5.83     0.50      0.076       (  0.122)       0.017        0.058
71   5.92     0.30      0.045       (  0.122)       0.010        0.035
72   6.00     0.20      0.030       (  0.122)       0.007        0.023
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    11.8
    Flood volume = Effective rainfall      0.98(In)
     times area       9.7(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
    Total soil loss =      0.28(In)
    Total soil loss =     0.224(Ac.Ft)
    Total rainfall =      1.26(In)
    Flood volume =       34567.6 Cubic Feet
    Total soil loss =        9738.3 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      7.077(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       0.0039      0.57  V Q       |         |         |         |
  0+10       0.0086      0.68  V Q       |         |         |         |
  0+15       0.0133      0.68  V Q       |         |         |         |
  0+20       0.0180      0.68  V Q       |         |         |         |
  0+25       0.0227      0.68  |VQ       |         |         |         |
  0+30       0.0282      0.80  |V Q      |         |         |         |
  0+35       0.0337      0.80  |V Q      |         |         |         |
  0+40       0.0392      0.80  |V Q      |         |         |         |
  0+45       0.0446      0.80  | VQ      |         |         |         |
  0+50       0.0501      0.80  | VQ      |         |         |         |
  0+55       0.0556      0.80  | VQ      |         |         |         |
  1+ 0       0.0619      0.91  |  Q      |         |         |         |
  1+ 5       0.0681      0.91  |  Q      |         |         |         |
  1+10       0.0744      0.91  |  Q      |         |         |         |
  1+15       0.0807      0.91  |  QV     |         |         |         |
  1+20       0.0869      0.91  |  QV     |         |         |         |
  1+25       0.0932      0.91  |  QV     |         |         |         |
  1+30       0.0995      0.91  |  Q V    |         |         |         |
  1+35       0.1057      0.91  |  Q V    |         |         |         |
  1+40       0.1120      0.91  |  Q V    |         |         |         |
  1+45       0.1183      0.91  |  Q V    |         |         |         |
  1+50       0.1245      0.91  |  Q  V   |         |         |         |
  1+55       0.1308      0.91  |  Q  V   |         |         |         |
  2+ 0       0.1378      1.02  |   Q V   |         |         |         |
  2+ 5       0.1441      0.91  |  Q   V  |         |         |         |
  2+10       0.1512      1.02  |   Q  V  |         |         |         |
  2+15       0.1582      1.02  |   Q  V  |         |         |         |
  2+20       0.1653      1.02  |   Q   V |         |         |         |
  2+25       0.1723      1.02  |   Q   V |         |         |         |
  2+30       0.1793      1.02  |   Q    V|         |         |         |
  2+35       0.1864      1.02  |   Q    V|         |         |         |
  2+40       0.1934      1.02  |   Q    V|         |         |         |
  2+45       0.2013      1.14  |   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 06/03/26 File: 19267p005AL245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	1.66	2.40

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	4.10	5.92

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

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

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

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
			Sum = 100.000 Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.102)	0.003	0.015
2	0.17	0.07	0.018	(0.102)	0.003	0.015
3	0.25	0.07	0.018	(0.101)	0.003	0.015
4	0.33	0.10	0.027	(0.101)	0.005	0.022
5	0.42	0.10	0.027	(0.100)	0.005	0.022
6	0.50	0.10	0.027	(0.100)	0.005	0.022
7	0.58	0.10	0.027	(0.100)	0.005	0.022
8	0.67	0.10	0.027	(0.099)	0.005	0.022
9	0.75	0.10	0.027	(0.099)	0.005	0.022
10	0.83	0.13	0.036	(0.099)	0.006	0.029
11	0.92	0.13	0.036	(0.098)	0.006	0.029

12	1.00	0.13	0.036	(0.098)	0.006	0.029
13	1.08	0.10	0.027	(0.097)	0.005	0.022
14	1.17	0.10	0.027	(0.097)	0.005	0.022
15	1.25	0.10	0.027	(0.097)	0.005	0.022
16	1.33	0.10	0.027	(0.096)	0.005	0.022
17	1.42	0.10	0.027	(0.096)	0.005	0.022
18	1.50	0.10	0.027	(0.095)	0.005	0.022
19	1.58	0.10	0.027	(0.095)	0.005	0.022
20	1.67	0.10	0.027	(0.095)	0.005	0.022
21	1.75	0.10	0.027	(0.094)	0.005	0.022
22	1.83	0.13	0.036	(0.094)	0.006	0.029
23	1.92	0.13	0.036	(0.094)	0.006	0.029
24	2.00	0.13	0.036	(0.093)	0.006	0.029
25	2.08	0.13	0.036	(0.093)	0.006	0.029
26	2.17	0.13	0.036	(0.092)	0.006	0.029
27	2.25	0.13	0.036	(0.092)	0.006	0.029
28	2.33	0.13	0.036	(0.092)	0.006	0.029
29	2.42	0.13	0.036	(0.091)	0.006	0.029
30	2.50	0.13	0.036	(0.091)	0.006	0.029
31	2.58	0.17	0.045	(0.091)	0.008	0.037
32	2.67	0.17	0.045	(0.090)	0.008	0.037
33	2.75	0.17	0.045	(0.090)	0.008	0.037
34	2.83	0.17	0.045	(0.089)	0.008	0.037
35	2.92	0.17	0.045	(0.089)	0.008	0.037
36	3.00	0.17	0.045	(0.089)	0.008	0.037
37	3.08	0.17	0.045	(0.088)	0.008	0.037
38	3.17	0.17	0.045	(0.088)	0.008	0.037
39	3.25	0.17	0.045	(0.088)	0.008	0.037
40	3.33	0.17	0.045	(0.087)	0.008	0.037
41	3.42	0.17	0.045	(0.087)	0.008	0.037
42	3.50	0.17	0.045	(0.087)	0.008	0.037
43	3.58	0.17	0.045	(0.086)	0.008	0.037
44	3.67	0.17	0.045	(0.086)	0.008	0.037
45	3.75	0.17	0.045	(0.085)	0.008	0.037
46	3.83	0.20	0.054	(0.085)	0.010	0.044
47	3.92	0.20	0.054	(0.085)	0.010	0.044
48	4.00	0.20	0.054	(0.084)	0.010	0.044
49	4.08	0.20	0.054	(0.084)	0.010	0.044
50	4.17	0.20	0.054	(0.084)	0.010	0.044
51	4.25	0.20	0.054	(0.083)	0.010	0.044
52	4.33	0.23	0.062	(0.083)	0.011	0.051
53	4.42	0.23	0.062	(0.083)	0.011	0.051
54	4.50	0.23	0.062	(0.082)	0.011	0.051
55	4.58	0.23	0.062	(0.082)	0.011	0.051
56	4.67	0.23	0.062	(0.082)	0.011	0.051
57	4.75	0.23	0.062	(0.081)	0.011	0.051
58	4.83	0.27	0.071	(0.081)	0.013	0.059
59	4.92	0.27	0.071	(0.080)	0.013	0.059
60	5.00	0.27	0.071	(0.080)	0.013	0.059
61	5.08	0.20	0.054	(0.080)	0.010	0.044
62	5.17	0.20	0.054	(0.079)	0.010	0.044
63	5.25	0.20	0.054	(0.079)	0.010	0.044
64	5.33	0.23	0.062	(0.079)	0.011	0.051
65	5.42	0.23	0.062	(0.078)	0.011	0.051
66	5.50	0.23	0.062	(0.078)	0.011	0.051
67	5.58	0.27	0.071	(0.078)	0.013	0.059
68	5.67	0.27	0.071	(0.077)	0.013	0.059

69	5.75	0.27	0.071	(0.077)	0.013	0.059
70	5.83	0.27	0.071	(0.077)	0.013	0.059
71	5.92	0.27	0.071	(0.076)	0.013	0.059
72	6.00	0.27	0.071	(0.076)	0.013	0.059
73	6.08	0.30	0.080	(0.076)	0.014	0.066
74	6.17	0.30	0.080	(0.075)	0.014	0.066
75	6.25	0.30	0.080	(0.075)	0.014	0.066
76	6.33	0.30	0.080	(0.075)	0.014	0.066
77	6.42	0.30	0.080	(0.074)	0.014	0.066
78	6.50	0.30	0.080	(0.074)	0.014	0.066
79	6.58	0.33	0.089	(0.074)	0.016	0.073
80	6.67	0.33	0.089	(0.073)	0.016	0.073
81	6.75	0.33	0.089	(0.073)	0.016	0.073
82	6.83	0.33	0.089	(0.073)	0.016	0.073
83	6.92	0.33	0.089	(0.072)	0.016	0.073
84	7.00	0.33	0.089	(0.072)	0.016	0.073
85	7.08	0.33	0.089	(0.072)	0.016	0.073
86	7.17	0.33	0.089	(0.071)	0.016	0.073
87	7.25	0.33	0.089	(0.071)	0.016	0.073
88	7.33	0.37	0.098	(0.071)	0.018	0.081
89	7.42	0.37	0.098	(0.070)	0.018	0.081
90	7.50	0.37	0.098	(0.070)	0.018	0.081
91	7.58	0.40	0.107	(0.070)	0.019	0.088
92	7.67	0.40	0.107	(0.069)	0.019	0.088
93	7.75	0.40	0.107	(0.069)	0.019	0.088
94	7.83	0.43	0.116	(0.069)	0.021	0.095
95	7.92	0.43	0.116	(0.068)	0.021	0.095
96	8.00	0.43	0.116	(0.068)	0.021	0.095
97	8.08	0.50	0.134	(0.068)	0.024	0.110
98	8.17	0.50	0.134	(0.067)	0.024	0.110
99	8.25	0.50	0.134	(0.067)	0.024	0.110
100	8.33	0.50	0.134	(0.067)	0.024	0.110
101	8.42	0.50	0.134	(0.067)	0.024	0.110
102	8.50	0.50	0.134	(0.066)	0.024	0.110
103	8.58	0.53	0.143	(0.066)	0.026	0.117
104	8.67	0.53	0.143	(0.066)	0.026	0.117
105	8.75	0.53	0.143	(0.065)	0.026	0.117
106	8.83	0.57	0.152	(0.065)	0.027	0.124
107	8.92	0.57	0.152	(0.065)	0.027	0.124
108	9.00	0.57	0.152	(0.064)	0.027	0.124
109	9.08	0.63	0.170	(0.064)	0.031	0.139
110	9.17	0.63	0.170	(0.064)	0.031	0.139
111	9.25	0.63	0.170	(0.063)	0.031	0.139
112	9.33	0.67	0.179	(0.063)	0.032	0.146
113	9.42	0.67	0.179	(0.063)	0.032	0.146
114	9.50	0.67	0.179	(0.063)	0.032	0.146
115	9.58	0.70	0.187	(0.062)	0.034	0.154
116	9.67	0.70	0.187	(0.062)	0.034	0.154
117	9.75	0.70	0.187	(0.062)	0.034	0.154
118	9.83	0.73	0.196	(0.061)	0.035	0.161
119	9.92	0.73	0.196	(0.061)	0.035	0.161
120	10.00	0.73	0.196	(0.061)	0.035	0.161
121	10.08	0.50	0.134	(0.060)	0.024	0.110
122	10.17	0.50	0.134	(0.060)	0.024	0.110
123	10.25	0.50	0.134	(0.060)	0.024	0.110
124	10.33	0.50	0.134	(0.060)	0.024	0.110
125	10.42	0.50	0.134	(0.059)	0.024	0.110

126	10.50	0.50	0.134	(0.059)	0.024	0.110
127	10.58	0.67	0.179	(0.059)	0.032	0.146
128	10.67	0.67	0.179	(0.058)	0.032	0.146
129	10.75	0.67	0.179	(0.058)	0.032	0.146
130	10.83	0.67	0.179	(0.058)	0.032	0.146
131	10.92	0.67	0.179	(0.058)	0.032	0.146
132	11.00	0.67	0.179	(0.057)	0.032	0.146
133	11.08	0.63	0.170	(0.057)	0.031	0.139
134	11.17	0.63	0.170	(0.057)	0.031	0.139
135	11.25	0.63	0.170	(0.056)	0.031	0.139
136	11.33	0.63	0.170	(0.056)	0.031	0.139
137	11.42	0.63	0.170	(0.056)	0.031	0.139
138	11.50	0.63	0.170	(0.056)	0.031	0.139
139	11.58	0.57	0.152	(0.055)	0.027	0.124
140	11.67	0.57	0.152	(0.055)	0.027	0.124
141	11.75	0.57	0.152	(0.055)	0.027	0.124
142	11.83	0.60	0.161	(0.055)	0.029	0.132
143	11.92	0.60	0.161	(0.054)	0.029	0.132
144	12.00	0.60	0.161	(0.054)	0.029	0.132
145	12.08	0.83	0.223	(0.054)	0.040	0.183
146	12.17	0.83	0.223	(0.053)	0.040	0.183
147	12.25	0.83	0.223	(0.053)	0.040	0.183
148	12.33	0.87	0.232	(0.053)	0.042	0.190
149	12.42	0.87	0.232	(0.053)	0.042	0.190
150	12.50	0.87	0.232	(0.052)	0.042	0.190
151	12.58	0.93	0.250	(0.052)	0.045	0.205
152	12.67	0.93	0.250	(0.052)	0.045	0.205
153	12.75	0.93	0.250	(0.052)	0.045	0.205
154	12.83	0.97	0.259	(0.051)	0.047	0.212
155	12.92	0.97	0.259	(0.051)	0.047	0.212
156	13.00	0.97	0.259	(0.051)	0.047	0.212
157	13.08	1.13	0.303	0.051	(0.055)	0.253
158	13.17	1.13	0.303	0.050	(0.055)	0.253
159	13.25	1.13	0.303	0.050	(0.055)	0.253
160	13.33	1.13	0.303	0.050	(0.055)	0.254
161	13.42	1.13	0.303	0.050	(0.055)	0.254
162	13.50	1.13	0.303	0.049	(0.055)	0.254
163	13.58	0.77	0.205	(0.049)	0.037	0.168
164	13.67	0.77	0.205	(0.049)	0.037	0.168
165	13.75	0.77	0.205	(0.049)	0.037	0.168
166	13.83	0.77	0.205	(0.048)	0.037	0.168
167	13.92	0.77	0.205	(0.048)	0.037	0.168
168	14.00	0.77	0.205	(0.048)	0.037	0.168
169	14.08	0.90	0.241	(0.048)	0.043	0.198
170	14.17	0.90	0.241	(0.047)	0.043	0.198
171	14.25	0.90	0.241	(0.047)	0.043	0.198
172	14.33	0.87	0.232	(0.047)	0.042	0.190
173	14.42	0.87	0.232	(0.047)	0.042	0.190
174	14.50	0.87	0.232	(0.046)	0.042	0.190
175	14.58	0.87	0.232	(0.046)	0.042	0.190
176	14.67	0.87	0.232	(0.046)	0.042	0.190
177	14.75	0.87	0.232	(0.046)	0.042	0.190
178	14.83	0.83	0.223	(0.045)	0.040	0.183
179	14.92	0.83	0.223	(0.045)	0.040	0.183
180	15.00	0.83	0.223	(0.045)	0.040	0.183
181	15.08	0.80	0.214	(0.045)	0.039	0.176
182	15.17	0.80	0.214	(0.045)	0.039	0.176

183	15.25	0.80	0.214	(0.044)	0.039	0.176
184	15.33	0.77	0.205	(0.044)	0.037	0.168
185	15.42	0.77	0.205	(0.044)	0.037	0.168
186	15.50	0.77	0.205	(0.044)	0.037	0.168
187	15.58	0.63	0.170	(0.043)	0.031	0.139
188	15.67	0.63	0.170	(0.043)	0.031	0.139
189	15.75	0.63	0.170	(0.043)	0.031	0.139
190	15.83	0.63	0.170	(0.043)	0.031	0.139
191	15.92	0.63	0.170	(0.042)	0.031	0.139
192	16.00	0.63	0.170	(0.042)	0.031	0.139
193	16.08	0.13	0.036	(0.042)	0.006	0.029
194	16.17	0.13	0.036	(0.042)	0.006	0.029
195	16.25	0.13	0.036	(0.042)	0.006	0.029
196	16.33	0.13	0.036	(0.041)	0.006	0.029
197	16.42	0.13	0.036	(0.041)	0.006	0.029
198	16.50	0.13	0.036	(0.041)	0.006	0.029
199	16.58	0.10	0.027	(0.041)	0.005	0.022
200	16.67	0.10	0.027	(0.041)	0.005	0.022
201	16.75	0.10	0.027	(0.040)	0.005	0.022
202	16.83	0.10	0.027	(0.040)	0.005	0.022
203	16.92	0.10	0.027	(0.040)	0.005	0.022
204	17.00	0.10	0.027	(0.040)	0.005	0.022
205	17.08	0.17	0.045	(0.040)	0.008	0.037
206	17.17	0.17	0.045	(0.039)	0.008	0.037
207	17.25	0.17	0.045	(0.039)	0.008	0.037
208	17.33	0.17	0.045	(0.039)	0.008	0.037
209	17.42	0.17	0.045	(0.039)	0.008	0.037
210	17.50	0.17	0.045	(0.039)	0.008	0.037
211	17.58	0.17	0.045	(0.038)	0.008	0.037
212	17.67	0.17	0.045	(0.038)	0.008	0.037
213	17.75	0.17	0.045	(0.038)	0.008	0.037
214	17.83	0.13	0.036	(0.038)	0.006	0.029
215	17.92	0.13	0.036	(0.038)	0.006	0.029
216	18.00	0.13	0.036	(0.037)	0.006	0.029
217	18.08	0.13	0.036	(0.037)	0.006	0.029
218	18.17	0.13	0.036	(0.037)	0.006	0.029
219	18.25	0.13	0.036	(0.037)	0.006	0.029
220	18.33	0.13	0.036	(0.037)	0.006	0.029
221	18.42	0.13	0.036	(0.037)	0.006	0.029
222	18.50	0.13	0.036	(0.036)	0.006	0.029
223	18.58	0.10	0.027	(0.036)	0.005	0.022
224	18.67	0.10	0.027	(0.036)	0.005	0.022
225	18.75	0.10	0.027	(0.036)	0.005	0.022
226	18.83	0.07	0.018	(0.036)	0.003	0.015
227	18.92	0.07	0.018	(0.035)	0.003	0.015
228	19.00	0.07	0.018	(0.035)	0.003	0.015
229	19.08	0.10	0.027	(0.035)	0.005	0.022
230	19.17	0.10	0.027	(0.035)	0.005	0.022
231	19.25	0.10	0.027	(0.035)	0.005	0.022
232	19.33	0.13	0.036	(0.035)	0.006	0.029
233	19.42	0.13	0.036	(0.035)	0.006	0.029
234	19.50	0.13	0.036	(0.034)	0.006	0.029
235	19.58	0.10	0.027	(0.034)	0.005	0.022
236	19.67	0.10	0.027	(0.034)	0.005	0.022
237	19.75	0.10	0.027	(0.034)	0.005	0.022
238	19.83	0.07	0.018	(0.034)	0.003	0.015
239	19.92	0.07	0.018	(0.034)	0.003	0.015

240	20.00	0.07	0.018	(0.033)	0.003	0.015
241	20.08	0.10	0.027	(0.033)	0.005	0.022
242	20.17	0.10	0.027	(0.033)	0.005	0.022
243	20.25	0.10	0.027	(0.033)	0.005	0.022
244	20.33	0.10	0.027	(0.033)	0.005	0.022
245	20.42	0.10	0.027	(0.033)	0.005	0.022
246	20.50	0.10	0.027	(0.033)	0.005	0.022
247	20.58	0.10	0.027	(0.032)	0.005	0.022
248	20.67	0.10	0.027	(0.032)	0.005	0.022
249	20.75	0.10	0.027	(0.032)	0.005	0.022
250	20.83	0.07	0.018	(0.032)	0.003	0.015
251	20.92	0.07	0.018	(0.032)	0.003	0.015
252	21.00	0.07	0.018	(0.032)	0.003	0.015
253	21.08	0.10	0.027	(0.032)	0.005	0.022
254	21.17	0.10	0.027	(0.032)	0.005	0.022
255	21.25	0.10	0.027	(0.031)	0.005	0.022
256	21.33	0.07	0.018	(0.031)	0.003	0.015
257	21.42	0.07	0.018	(0.031)	0.003	0.015
258	21.50	0.07	0.018	(0.031)	0.003	0.015
259	21.58	0.10	0.027	(0.031)	0.005	0.022
260	21.67	0.10	0.027	(0.031)	0.005	0.022
261	21.75	0.10	0.027	(0.031)	0.005	0.022
262	21.83	0.07	0.018	(0.031)	0.003	0.015
263	21.92	0.07	0.018	(0.030)	0.003	0.015
264	22.00	0.07	0.018	(0.030)	0.003	0.015
265	22.08	0.10	0.027	(0.030)	0.005	0.022
266	22.17	0.10	0.027	(0.030)	0.005	0.022
267	22.25	0.10	0.027	(0.030)	0.005	0.022
268	22.33	0.07	0.018	(0.030)	0.003	0.015
269	22.42	0.07	0.018	(0.030)	0.003	0.015
270	22.50	0.07	0.018	(0.030)	0.003	0.015
271	22.58	0.07	0.018	(0.030)	0.003	0.015
272	22.67	0.07	0.018	(0.030)	0.003	0.015
273	22.75	0.07	0.018	(0.030)	0.003	0.015
274	22.83	0.07	0.018	(0.029)	0.003	0.015
275	22.92	0.07	0.018	(0.029)	0.003	0.015
276	23.00	0.07	0.018	(0.029)	0.003	0.015
277	23.08	0.07	0.018	(0.029)	0.003	0.015
278	23.17	0.07	0.018	(0.029)	0.003	0.015
279	23.25	0.07	0.018	(0.029)	0.003	0.015
280	23.33	0.07	0.018	(0.029)	0.003	0.015
281	23.42	0.07	0.018	(0.029)	0.003	0.015
282	23.50	0.07	0.018	(0.029)	0.003	0.015
283	23.58	0.07	0.018	(0.029)	0.003	0.015
284	23.67	0.07	0.018	(0.029)	0.003	0.015
285	23.75	0.07	0.018	(0.029)	0.003	0.015
286	23.83	0.07	0.018	(0.029)	0.003	0.015
287	23.92	0.07	0.018	(0.029)	0.003	0.015
288	24.00	0.07	0.018	(0.029)	0.003	0.015

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.0

Flood volume = Effective rainfall 1.83(In)
times area 1.4(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.40(In)
Total soil loss = 0.048(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 9610.4 Cubic Feet

Total soil loss = 2094.6 Cubic Feet

Peak flow rate of this hydrograph = 0.370(CFS)

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24 - H O U R S T O R M

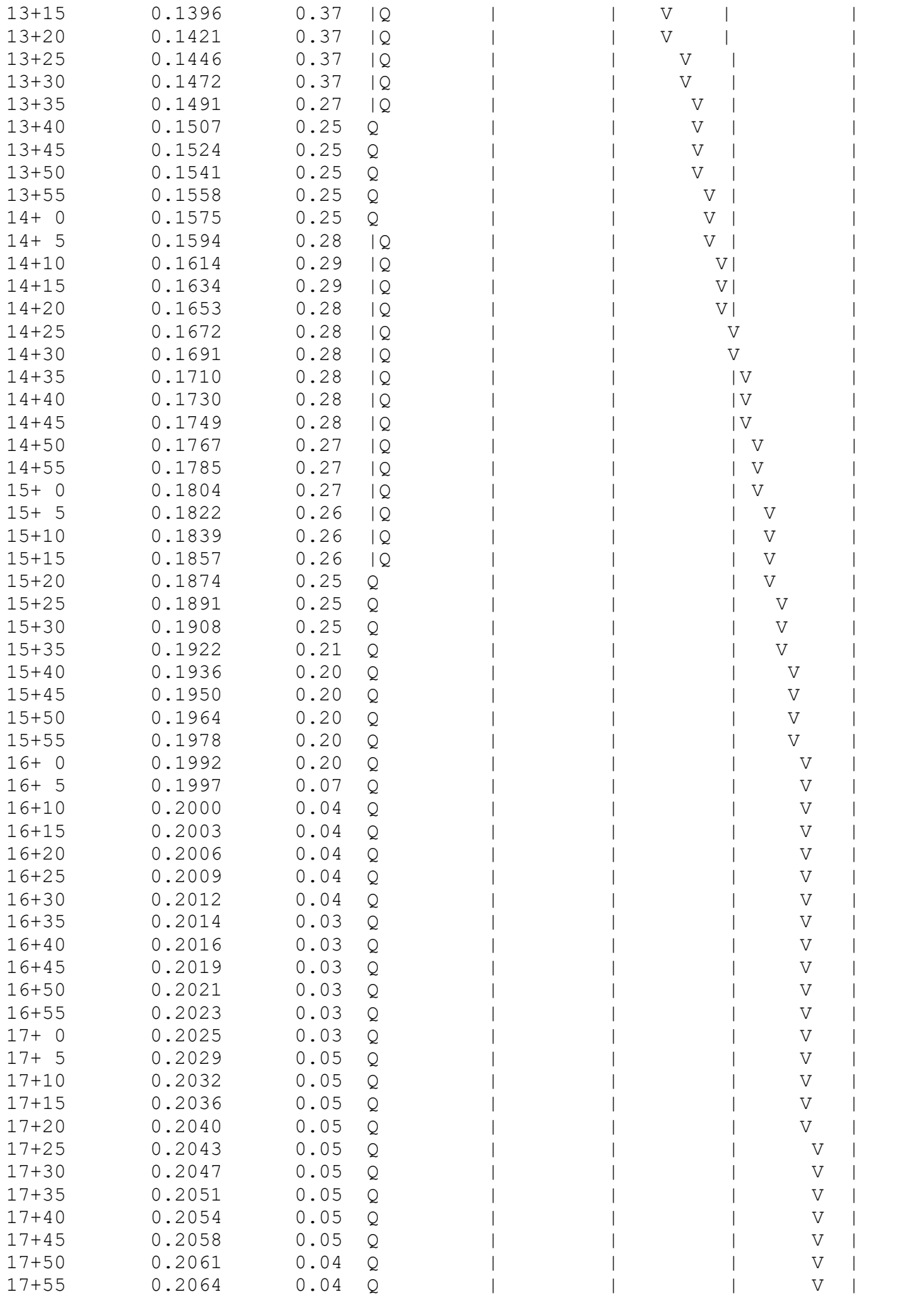
R u n o f f H y d r o g r a p h

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	0.0001	0.02	Q				
0+10	0.0003	0.02	Q				
0+15	0.0004	0.02	Q				
0+20	0.0006	0.03	Q				
0+25	0.0008	0.03	Q				
0+30	0.0011	0.03	Q				
0+35	0.0013	0.03	Q				
0+40	0.0015	0.03	Q				
0+45	0.0017	0.03	Q				
0+50	0.0020	0.04	Q				
0+55	0.0023	0.04	Q				
1+ 0	0.0026	0.04	Q				
1+ 5	0.0028	0.03	Q				
1+10	0.0030	0.03	Q				
1+15	0.0033	0.03	Q				
1+20	0.0035	0.03	Q				
1+25	0.0037	0.03	Q				
1+30	0.0039	0.03	Q				
1+35	0.0041	0.03	Q				
1+40	0.0044	0.03	Q				
1+45	0.0046	0.03	Q				
1+50	0.0049	0.04	Q				
1+55	0.0052	0.04	Q				
2+ 0	0.0055	0.04	Q				
2+ 5	0.0057	0.04	QV				
2+10	0.0060	0.04	QV				
2+15	0.0063	0.04	QV				
2+20	0.0066	0.04	QV				
2+25	0.0069	0.04	QV				
2+30	0.0072	0.04	QV				
2+35	0.0076	0.05	QV				
2+40	0.0079	0.05	QV				
2+45	0.0083	0.05	QV				
2+50	0.0087	0.05	QV				
2+55	0.0090	0.05	QV				
3+ 0	0.0094	0.05	QV				
3+ 5	0.0098	0.05	QV				
3+10	0.0101	0.05	QV				
3+15	0.0105	0.05	QV				
3+20	0.0109	0.05	QV				
3+25	0.0112	0.05	Q V				
3+30	0.0116	0.05	Q V				
3+35	0.0120	0.05	Q V				
3+40	0.0123	0.05	Q V				

3+45	0.0127	0.05	Q V	|	|	|	|
3+50	0.0131	0.06	Q V	|	|	|	|
3+55	0.0136	0.06	Q V	|	|	|	|
4+ 0	0.0140	0.06	Q V	|	|	|	|
4+ 5	0.0145	0.06	Q V	|	|	|	|
4+10	0.0149	0.06	Q V	|	|	|	|
4+15	0.0153	0.06	Q V	|	|	|	|
4+20	0.0158	0.07	Q V	|	|	|	|
4+25	0.0164	0.07	Q V	|	|	|	|
4+30	0.0169	0.07	Q V	|	|	|	|
4+35	0.0174	0.07	Q V	|	|	|	|
4+40	0.0179	0.07	Q V	|	|	|	|
4+45	0.0184	0.07	Q V	|	|	|	|
4+50	0.0190	0.08	Q V	|	|	|	|
4+55	0.0196	0.09	Q V	|	|	|	|
5+ 0	0.0202	0.09	Q V	|	|	|	|
5+ 5	0.0206	0.07	Q V	|	|	|	|
5+10	0.0211	0.06	Q V	|	|	|	|
5+15	0.0215	0.06	Q V	|	|	|	|
5+20	0.0220	0.07	Q V	|	|	|	|
5+25	0.0225	0.07	Q V	|	|	|	|
5+30	0.0230	0.07	Q V	|	|	|	|
5+35	0.0236	0.08	Q V	|	|	|	|
5+40	0.0242	0.09	Q V	|	|	|	|
5+45	0.0248	0.09	Q V	|	|	|	|
5+50	0.0254	0.09	Q V	|	|	|	|
5+55	0.0260	0.09	Q V	|	|	|	|
6+ 0	0.0265	0.09	Q V	|	|	|	|
6+ 5	0.0272	0.09	Q V	|	|	|	|
6+10	0.0279	0.10	Q V	|	|	|	|
6+15	0.0285	0.10	Q V	|	|	|	|
6+20	0.0292	0.10	Q V	|	|	|	|
6+25	0.0298	0.10	Q V	|	|	|	|
6+30	0.0305	0.10	Q V	|	|	|	|
6+35	0.0312	0.10	Q V	|	|	|	|
6+40	0.0320	0.11	Q V	|	|	|	|
6+45	0.0327	0.11	Q V	|	|	|	|
6+50	0.0334	0.11	Q V	|	|	|	|
6+55	0.0342	0.11	Q V	|	|	|	|
7+ 0	0.0349	0.11	Q V	|	|	|	|
7+ 5	0.0356	0.11	Q V	|	|	|	|
7+10	0.0364	0.11	Q V	|	|	|	|
7+15	0.0371	0.11	Q V	|	|	|	|
7+20	0.0379	0.12	Q V	|	|	|	|
7+25	0.0387	0.12	Q V	|	|	|	|
7+30	0.0395	0.12	Q V	|	|	|	|
7+35	0.0404	0.13	Q V	|	|	|	|
7+40	0.0413	0.13	Q V	|	|	|	|
7+45	0.0421	0.13	Q V	|	|	|	|
7+50	0.0431	0.14	Q V	|	|	|	|
7+55	0.0440	0.14	Q V	|	|	|	|
8+ 0	0.0450	0.14	Q V	|	|	|	|
8+ 5	0.0461	0.16	Q V	|	|	|	|
8+10	0.0472	0.16	Q V	|	|	|	|
8+15	0.0483	0.16	Q V	|	|	|	|
8+20	0.0494	0.16	Q V	|	|	|	|
8+25	0.0505	0.16	Q V	|	|	|	|

8+30	0.0516	0.16	Q	V|				
8+35	0.0527	0.17	Q	V|				
8+40	0.0539	0.17	Q	V|				
8+45	0.0551	0.17	Q	V|				
8+50	0.0563	0.18	Q	V				
8+55	0.0576	0.18	Q	V				
9+ 0	0.0588	0.18	Q	V				
9+ 5	0.0602	0.20	Q	V				
9+10	0.0616	0.20	Q	|V				
9+15	0.0630	0.20	Q	|V				
9+20	0.0644	0.21	Q	|V				
9+25	0.0659	0.21	Q	|V				
9+30	0.0674	0.21	Q	| V				
9+35	0.0689	0.22	Q	| V				
9+40	0.0704	0.22	Q	| V				
9+45	0.0720	0.22	Q	| V				
9+50	0.0736	0.23	Q	| V				
9+55	0.0752	0.23	Q	| V				
10+ 0	0.0768	0.23	Q	| V				
10+ 5	0.0780	0.17	Q	| V				
10+10	0.0791	0.16	Q	| V				
10+15	0.0802	0.16	Q	| V				
10+20	0.0813	0.16	Q	| V				
10+25	0.0824	0.16	Q	| V				
10+30	0.0835	0.16	Q	| V	|			
10+35	0.0849	0.20	Q	| V	|			
10+40	0.0864	0.21	Q	| V	|			
10+45	0.0879	0.21	Q	| V	|			
10+50	0.0893	0.21	Q	| V	|			
10+55	0.0908	0.21	Q	| V	|			
11+ 0	0.0923	0.21	Q	| V	|			
11+ 5	0.0937	0.20	Q	| V	|			
11+10	0.0951	0.20	Q	| V	|			
11+15	0.0965	0.20	Q	| V	|			
11+20	0.0979	0.20	Q	| V	|			
11+25	0.0993	0.20	Q	| V	|			
11+30	0.1006	0.20	Q	| V	|			
11+35	0.1019	0.19	Q	| V	|			
11+40	0.1032	0.18	Q	| V	|			
11+45	0.1044	0.18	Q	| V	|			
11+50	0.1057	0.19	Q	| V|				
11+55	0.1070	0.19	Q	| V|				
12+ 0	0.1084	0.19	Q	| V|				
12+ 5	0.1101	0.25	|Q	| V|				
12+10	0.1119	0.27	|Q	| V				
12+15	0.1138	0.27	|Q	| V				
12+20	0.1157	0.28	|Q	| V				
12+25	0.1176	0.28	|Q	| |V				
12+30	0.1195	0.28	|Q	| |V				
12+35	0.1215	0.29	|Q	| | V				
12+40	0.1236	0.30	|Q	| | V				
12+45	0.1256	0.30	|Q	| | V				
12+50	0.1278	0.31	|Q	| | V				
12+55	0.1299	0.31	|Q	| | V				
13+ 0	0.1320	0.31	|Q	| | V				
13+ 5	0.1345	0.36	|Q	| | V				
13+10	0.1370	0.37	|Q	| | V				



18+ 0	0.2067	0.04	Q	|	|	|	V |
18+ 5	0.2070	0.04	Q	|	|	|	V |
18+10	0.2073	0.04	Q	|	|	|	V |
18+15	0.2076	0.04	Q	|	|	|	V |
18+20	0.2079	0.04	Q	|	|	|	V |
18+25	0.2082	0.04	Q	|	|	|	V |
18+30	0.2084	0.04	Q	|	|	|	V |
18+35	0.2087	0.03	Q	|	|	|	V |
18+40	0.2089	0.03	Q	|	|	|	V |
18+45	0.2091	0.03	Q	|	|	|	V |
18+50	0.2093	0.02	Q	|	|	|	V |
18+55	0.2094	0.02	Q	|	|	|	V |
19+ 0	0.2096	0.02	Q	|	|	|	V |
19+ 5	0.2098	0.03	Q	|	|	|	V |
19+10	0.2100	0.03	Q	|	|	|	V |
19+15	0.2102	0.03	Q	|	|	|	V |
19+20	0.2105	0.04	Q	|	|	|	V |
19+25	0.2108	0.04	Q	|	|	|	V |
19+30	0.2111	0.04	Q	|	|	|	V |
19+35	0.2113	0.03	Q	|	|	|	V |
19+40	0.2115	0.03	Q	|	|	|	V |
19+45	0.2118	0.03	Q	|	|	|	V |
19+50	0.2119	0.02	Q	|	|	|	V |
19+55	0.2121	0.02	Q	|	|	|	V |
20+ 0	0.2122	0.02	Q	|	|	|	V |
20+ 5	0.2124	0.03	Q	|	|	|	V |
20+10	0.2126	0.03	Q	|	|	|	V |
20+15	0.2129	0.03	Q	|	|	|	V |
20+20	0.2131	0.03	Q	|	|	|	V |
20+25	0.2133	0.03	Q	|	|	|	V |
20+30	0.2135	0.03	Q	|	|	|	V |
20+35	0.2138	0.03	Q	|	|	|	V |
20+40	0.2140	0.03	Q	|	|	|	V |
20+45	0.2142	0.03	Q	|	|	|	V |
20+50	0.2144	0.02	Q	|	|	|	V |
20+55	0.2145	0.02	Q	|	|	|	V |
21+ 0	0.2146	0.02	Q	|	|	|	V |
21+ 5	0.2149	0.03	Q	|	|	|	V |
21+10	0.2151	0.03	Q	|	|	|	V |
21+15	0.2153	0.03	Q	|	|	|	V|
21+20	0.2155	0.02	Q	|	|	|	V|
21+25	0.2156	0.02	Q	|	|	|	V|
21+30	0.2157	0.02	Q	|	|	|	V|
21+35	0.2160	0.03	Q	|	|	|	V|
21+40	0.2162	0.03	Q	|	|	|	V|
21+45	0.2164	0.03	Q	|	|	|	V|
21+50	0.2166	0.02	Q	|	|	|	V|
21+55	0.2167	0.02	Q	|	|	|	V|
22+ 0	0.2168	0.02	Q	|	|	|	V|
22+ 5	0.2171	0.03	Q	|	|	|	V|
22+10	0.2173	0.03	Q	|	|	|	V|
22+15	0.2175	0.03	Q	|	|	|	V|
22+20	0.2177	0.02	Q	|	|	|	V|
22+25	0.2178	0.02	Q	|	|	|	V|
22+30	0.2180	0.02	Q	|	|	|	V|
22+35	0.2181	0.02	Q	|	|	|	V|
22+40	0.2182	0.02	Q	|	|	|	V|

22+45	0.2184	0.02	Q				V
22+50	0.2185	0.02	Q				V
22+55	0.2187	0.02	Q				V
23+ 0	0.2188	0.02	Q				V
23+ 5	0.2190	0.02	Q				V
23+10	0.2191	0.02	Q				V
23+15	0.2193	0.02	Q				V
23+20	0.2194	0.02	Q				V
23+25	0.2196	0.02	Q				V
23+30	0.2197	0.02	Q				V
23+35	0.2199	0.02	Q				V
23+40	0.2200	0.02	Q				V
23+45	0.2202	0.02	Q				V
23+50	0.2203	0.02	Q				V
23+55	0.2204	0.02	Q				V
24+ 0	0.2206	0.02	Q				V
24+ 5	0.2206	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 06/03/26 File: 19267p005B245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	1.66	5.39

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.25	4.10	13.30

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.231(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.245	75.00	0.870

Total Area Entered = 3.25(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.870	0.109	1.000	0.109
					Sum (F) =	0.109

Area averaged mean soil loss (F) (In/Hr) = 0.109
Minimum soil loss rate ((In/Hr)) = 0.054
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	3.270
		Sum = 100.000	Sum= 3.270

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.193)	0.004	0.014
2	0.17	0.07	0.018	(0.192)	0.004	0.014
3	0.25	0.07	0.018	(0.191)	0.004	0.014
4	0.33	0.10	0.027	(0.190)	0.005	0.021
5	0.42	0.10	0.027	(0.190)	0.005	0.021
6	0.50	0.10	0.027	(0.189)	0.005	0.021
7	0.58	0.10	0.027	(0.188)	0.005	0.021
8	0.67	0.10	0.027	(0.187)	0.005	0.021
9	0.75	0.10	0.027	(0.187)	0.005	0.021
10	0.83	0.13	0.036	(0.186)	0.007	0.029
11	0.92	0.13	0.036	(0.185)	0.007	0.029
12	1.00	0.13	0.036	(0.184)	0.007	0.029

13	1.08	0.10	0.027	(0.184)	0.005	0.021
14	1.17	0.10	0.027	(0.183)	0.005	0.021
15	1.25	0.10	0.027	(0.182)	0.005	0.021
16	1.33	0.10	0.027	(0.182)	0.005	0.021
17	1.42	0.10	0.027	(0.181)	0.005	0.021
18	1.50	0.10	0.027	(0.180)	0.005	0.021
19	1.58	0.10	0.027	(0.179)	0.005	0.021
20	1.67	0.10	0.027	(0.179)	0.005	0.021
21	1.75	0.10	0.027	(0.178)	0.005	0.021
22	1.83	0.13	0.036	(0.177)	0.007	0.029
23	1.92	0.13	0.036	(0.177)	0.007	0.029
24	2.00	0.13	0.036	(0.176)	0.007	0.029
25	2.08	0.13	0.036	(0.175)	0.007	0.029
26	2.17	0.13	0.036	(0.174)	0.007	0.029
27	2.25	0.13	0.036	(0.174)	0.007	0.029
28	2.33	0.13	0.036	(0.173)	0.007	0.029
29	2.42	0.13	0.036	(0.172)	0.007	0.029
30	2.50	0.13	0.036	(0.172)	0.007	0.029
31	2.58	0.17	0.045	(0.171)	0.009	0.036
32	2.67	0.17	0.045	(0.170)	0.009	0.036
33	2.75	0.17	0.045	(0.169)	0.009	0.036
34	2.83	0.17	0.045	(0.169)	0.009	0.036
35	2.92	0.17	0.045	(0.168)	0.009	0.036
36	3.00	0.17	0.045	(0.167)	0.009	0.036
37	3.08	0.17	0.045	(0.167)	0.009	0.036
38	3.17	0.17	0.045	(0.166)	0.009	0.036
39	3.25	0.17	0.045	(0.165)	0.009	0.036
40	3.33	0.17	0.045	(0.165)	0.009	0.036
41	3.42	0.17	0.045	(0.164)	0.009	0.036
42	3.50	0.17	0.045	(0.163)	0.009	0.036
43	3.58	0.17	0.045	(0.163)	0.009	0.036
44	3.67	0.17	0.045	(0.162)	0.009	0.036
45	3.75	0.17	0.045	(0.161)	0.009	0.036
46	3.83	0.20	0.054	(0.161)	0.011	0.043
47	3.92	0.20	0.054	(0.160)	0.011	0.043
48	4.00	0.20	0.054	(0.159)	0.011	0.043
49	4.08	0.20	0.054	(0.158)	0.011	0.043
50	4.17	0.20	0.054	(0.158)	0.011	0.043
51	4.25	0.20	0.054	(0.157)	0.011	0.043
52	4.33	0.23	0.062	(0.156)	0.012	0.050
53	4.42	0.23	0.062	(0.156)	0.012	0.050
54	4.50	0.23	0.062	(0.155)	0.012	0.050
55	4.58	0.23	0.062	(0.154)	0.012	0.050
56	4.67	0.23	0.062	(0.154)	0.012	0.050
57	4.75	0.23	0.062	(0.153)	0.012	0.050
58	4.83	0.27	0.071	(0.152)	0.014	0.057
59	4.92	0.27	0.071	(0.152)	0.014	0.057
60	5.00	0.27	0.071	(0.151)	0.014	0.057
61	5.08	0.20	0.054	(0.151)	0.011	0.043
62	5.17	0.20	0.054	(0.150)	0.011	0.043
63	5.25	0.20	0.054	(0.149)	0.011	0.043
64	5.33	0.23	0.062	(0.149)	0.012	0.050
65	5.42	0.23	0.062	(0.148)	0.012	0.050
66	5.50	0.23	0.062	(0.147)	0.012	0.050
67	5.58	0.27	0.071	(0.147)	0.014	0.057
68	5.67	0.27	0.071	(0.146)	0.014	0.057
69	5.75	0.27	0.071	(0.145)	0.014	0.057

70	5.83	0.27	0.071	(0.145)	0.014	0.057
71	5.92	0.27	0.071	(0.144)	0.014	0.057
72	6.00	0.27	0.071	(0.143)	0.014	0.057
73	6.08	0.30	0.080	(0.143)	0.016	0.064
74	6.17	0.30	0.080	(0.142)	0.016	0.064
75	6.25	0.30	0.080	(0.141)	0.016	0.064
76	6.33	0.30	0.080	(0.141)	0.016	0.064
77	6.42	0.30	0.080	(0.140)	0.016	0.064
78	6.50	0.30	0.080	(0.140)	0.016	0.064
79	6.58	0.33	0.089	(0.139)	0.018	0.071
80	6.67	0.33	0.089	(0.138)	0.018	0.071
81	6.75	0.33	0.089	(0.138)	0.018	0.071
82	6.83	0.33	0.089	(0.137)	0.018	0.071
83	6.92	0.33	0.089	(0.136)	0.018	0.071
84	7.00	0.33	0.089	(0.136)	0.018	0.071
85	7.08	0.33	0.089	(0.135)	0.018	0.071
86	7.17	0.33	0.089	(0.135)	0.018	0.071
87	7.25	0.33	0.089	(0.134)	0.018	0.071
88	7.33	0.37	0.098	(0.133)	0.020	0.079
89	7.42	0.37	0.098	(0.133)	0.020	0.079
90	7.50	0.37	0.098	(0.132)	0.020	0.079
91	7.58	0.40	0.107	(0.132)	0.021	0.086
92	7.67	0.40	0.107	(0.131)	0.021	0.086
93	7.75	0.40	0.107	(0.130)	0.021	0.086
94	7.83	0.43	0.116	(0.130)	0.023	0.093
95	7.92	0.43	0.116	(0.129)	0.023	0.093
96	8.00	0.43	0.116	(0.129)	0.023	0.093
97	8.08	0.50	0.134	(0.128)	0.027	0.107
98	8.17	0.50	0.134	(0.127)	0.027	0.107
99	8.25	0.50	0.134	(0.127)	0.027	0.107
100	8.33	0.50	0.134	(0.126)	0.027	0.107
101	8.42	0.50	0.134	(0.126)	0.027	0.107
102	8.50	0.50	0.134	(0.125)	0.027	0.107
103	8.58	0.53	0.143	(0.124)	0.029	0.114
104	8.67	0.53	0.143	(0.124)	0.029	0.114
105	8.75	0.53	0.143	(0.123)	0.029	0.114
106	8.83	0.57	0.152	(0.123)	0.030	0.121
107	8.92	0.57	0.152	(0.122)	0.030	0.121
108	9.00	0.57	0.152	(0.122)	0.030	0.121
109	9.08	0.63	0.170	(0.121)	0.034	0.136
110	9.17	0.63	0.170	(0.120)	0.034	0.136
111	9.25	0.63	0.170	(0.120)	0.034	0.136
112	9.33	0.67	0.179	(0.119)	0.036	0.143
113	9.42	0.67	0.179	(0.119)	0.036	0.143
114	9.50	0.67	0.179	(0.118)	0.036	0.143
115	9.58	0.70	0.187	(0.118)	0.037	0.150
116	9.67	0.70	0.187	(0.117)	0.037	0.150
117	9.75	0.70	0.187	(0.116)	0.037	0.150
118	9.83	0.73	0.196	(0.116)	0.039	0.157
119	9.92	0.73	0.196	(0.115)	0.039	0.157
120	10.00	0.73	0.196	(0.115)	0.039	0.157
121	10.08	0.50	0.134	(0.114)	0.027	0.107
122	10.17	0.50	0.134	(0.114)	0.027	0.107
123	10.25	0.50	0.134	(0.113)	0.027	0.107
124	10.33	0.50	0.134	(0.113)	0.027	0.107
125	10.42	0.50	0.134	(0.112)	0.027	0.107
126	10.50	0.50	0.134	(0.111)	0.027	0.107

127	10.58	0.67	0.179	(0.111)	0.036	0.143
128	10.67	0.67	0.179	(0.110)	0.036	0.143
129	10.75	0.67	0.179	(0.110)	0.036	0.143
130	10.83	0.67	0.179	(0.109)	0.036	0.143
131	10.92	0.67	0.179	(0.109)	0.036	0.143
132	11.00	0.67	0.179	(0.108)	0.036	0.143
133	11.08	0.63	0.170	(0.108)	0.034	0.136
134	11.17	0.63	0.170	(0.107)	0.034	0.136
135	11.25	0.63	0.170	(0.107)	0.034	0.136
136	11.33	0.63	0.170	(0.106)	0.034	0.136
137	11.42	0.63	0.170	(0.106)	0.034	0.136
138	11.50	0.63	0.170	(0.105)	0.034	0.136
139	11.58	0.57	0.152	(0.104)	0.030	0.121
140	11.67	0.57	0.152	(0.104)	0.030	0.121
141	11.75	0.57	0.152	(0.103)	0.030	0.121
142	11.83	0.60	0.161	(0.103)	0.032	0.129
143	11.92	0.60	0.161	(0.102)	0.032	0.129
144	12.00	0.60	0.161	(0.102)	0.032	0.129
145	12.08	0.83	0.223	(0.101)	0.045	0.179
146	12.17	0.83	0.223	(0.101)	0.045	0.179
147	12.25	0.83	0.223	(0.100)	0.045	0.179
148	12.33	0.87	0.232	(0.100)	0.046	0.186
149	12.42	0.87	0.232	(0.099)	0.046	0.186
150	12.50	0.87	0.232	(0.099)	0.046	0.186
151	12.58	0.93	0.250	(0.098)	0.050	0.200
152	12.67	0.93	0.250	(0.098)	0.050	0.200
153	12.75	0.93	0.250	(0.097)	0.050	0.200
154	12.83	0.97	0.259	(0.097)	0.052	0.207
155	12.92	0.97	0.259	(0.096)	0.052	0.207
156	13.00	0.97	0.259	(0.096)	0.052	0.207
157	13.08	1.13	0.303	(0.095)	0.061	0.243
158	13.17	1.13	0.303	(0.095)	0.061	0.243
159	13.25	1.13	0.303	(0.094)	0.061	0.243
160	13.33	1.13	0.303	(0.094)	0.061	0.243
161	13.42	1.13	0.303	(0.094)	0.061	0.243
162	13.50	1.13	0.303	(0.093)	0.061	0.243
163	13.58	0.77	0.205	(0.093)	0.041	0.164
164	13.67	0.77	0.205	(0.092)	0.041	0.164
165	13.75	0.77	0.205	(0.092)	0.041	0.164
166	13.83	0.77	0.205	(0.091)	0.041	0.164
167	13.92	0.77	0.205	(0.091)	0.041	0.164
168	14.00	0.77	0.205	(0.090)	0.041	0.164
169	14.08	0.90	0.241	(0.090)	0.048	0.193
170	14.17	0.90	0.241	(0.089)	0.048	0.193
171	14.25	0.90	0.241	(0.089)	0.048	0.193
172	14.33	0.87	0.232	(0.088)	0.046	0.186
173	14.42	0.87	0.232	(0.088)	0.046	0.186
174	14.50	0.87	0.232	(0.088)	0.046	0.186
175	14.58	0.87	0.232	(0.087)	0.046	0.186
176	14.67	0.87	0.232	(0.087)	0.046	0.186
177	14.75	0.87	0.232	(0.086)	0.046	0.186
178	14.83	0.83	0.223	(0.086)	0.045	0.179
179	14.92	0.83	0.223	(0.085)	0.045	0.179
180	15.00	0.83	0.223	(0.085)	0.045	0.179
181	15.08	0.80	0.214	(0.084)	0.043	0.171
182	15.17	0.80	0.214	(0.084)	0.043	0.171
183	15.25	0.80	0.214	(0.084)	0.043	0.171

184	15.33	0.77	0.205	(0.083)	0.041	0.164
185	15.42	0.77	0.205	(0.083)	0.041	0.164
186	15.50	0.77	0.205	(0.082)	0.041	0.164
187	15.58	0.63	0.170	(0.082)	0.034	0.136
188	15.67	0.63	0.170	(0.081)	0.034	0.136
189	15.75	0.63	0.170	(0.081)	0.034	0.136
190	15.83	0.63	0.170	(0.081)	0.034	0.136
191	15.92	0.63	0.170	(0.080)	0.034	0.136
192	16.00	0.63	0.170	(0.080)	0.034	0.136
193	16.08	0.13	0.036	(0.079)	0.007	0.029
194	16.17	0.13	0.036	(0.079)	0.007	0.029
195	16.25	0.13	0.036	(0.079)	0.007	0.029
196	16.33	0.13	0.036	(0.078)	0.007	0.029
197	16.42	0.13	0.036	(0.078)	0.007	0.029
198	16.50	0.13	0.036	(0.077)	0.007	0.029
199	16.58	0.10	0.027	(0.077)	0.005	0.021
200	16.67	0.10	0.027	(0.077)	0.005	0.021
201	16.75	0.10	0.027	(0.076)	0.005	0.021
202	16.83	0.10	0.027	(0.076)	0.005	0.021
203	16.92	0.10	0.027	(0.075)	0.005	0.021
204	17.00	0.10	0.027	(0.075)	0.005	0.021
205	17.08	0.17	0.045	(0.075)	0.009	0.036
206	17.17	0.17	0.045	(0.074)	0.009	0.036
207	17.25	0.17	0.045	(0.074)	0.009	0.036
208	17.33	0.17	0.045	(0.074)	0.009	0.036
209	17.42	0.17	0.045	(0.073)	0.009	0.036
210	17.50	0.17	0.045	(0.073)	0.009	0.036
211	17.58	0.17	0.045	(0.072)	0.009	0.036
212	17.67	0.17	0.045	(0.072)	0.009	0.036
213	17.75	0.17	0.045	(0.072)	0.009	0.036
214	17.83	0.13	0.036	(0.071)	0.007	0.029
215	17.92	0.13	0.036	(0.071)	0.007	0.029
216	18.00	0.13	0.036	(0.071)	0.007	0.029
217	18.08	0.13	0.036	(0.070)	0.007	0.029
218	18.17	0.13	0.036	(0.070)	0.007	0.029
219	18.25	0.13	0.036	(0.070)	0.007	0.029
220	18.33	0.13	0.036	(0.069)	0.007	0.029
221	18.42	0.13	0.036	(0.069)	0.007	0.029
222	18.50	0.13	0.036	(0.069)	0.007	0.029
223	18.58	0.10	0.027	(0.068)	0.005	0.021
224	18.67	0.10	0.027	(0.068)	0.005	0.021
225	18.75	0.10	0.027	(0.068)	0.005	0.021
226	18.83	0.07	0.018	(0.067)	0.004	0.014
227	18.92	0.07	0.018	(0.067)	0.004	0.014
228	19.00	0.07	0.018	(0.067)	0.004	0.014
229	19.08	0.10	0.027	(0.066)	0.005	0.021
230	19.17	0.10	0.027	(0.066)	0.005	0.021
231	19.25	0.10	0.027	(0.066)	0.005	0.021
232	19.33	0.13	0.036	(0.065)	0.007	0.029
233	19.42	0.13	0.036	(0.065)	0.007	0.029
234	19.50	0.13	0.036	(0.065)	0.007	0.029
235	19.58	0.10	0.027	(0.065)	0.005	0.021
236	19.67	0.10	0.027	(0.064)	0.005	0.021
237	19.75	0.10	0.027	(0.064)	0.005	0.021
238	19.83	0.07	0.018	(0.064)	0.004	0.014
239	19.92	0.07	0.018	(0.063)	0.004	0.014
240	20.00	0.07	0.018	(0.063)	0.004	0.014

241	20.08	0.10	0.027	(0.063)	0.005	0.021
242	20.17	0.10	0.027	(0.063)	0.005	0.021
243	20.25	0.10	0.027	(0.062)	0.005	0.021
244	20.33	0.10	0.027	(0.062)	0.005	0.021
245	20.42	0.10	0.027	(0.062)	0.005	0.021
246	20.50	0.10	0.027	(0.061)	0.005	0.021
247	20.58	0.10	0.027	(0.061)	0.005	0.021
248	20.67	0.10	0.027	(0.061)	0.005	0.021
249	20.75	0.10	0.027	(0.061)	0.005	0.021
250	20.83	0.07	0.018	(0.060)	0.004	0.014
251	20.92	0.07	0.018	(0.060)	0.004	0.014
252	21.00	0.07	0.018	(0.060)	0.004	0.014
253	21.08	0.10	0.027	(0.060)	0.005	0.021
254	21.17	0.10	0.027	(0.059)	0.005	0.021
255	21.25	0.10	0.027	(0.059)	0.005	0.021
256	21.33	0.07	0.018	(0.059)	0.004	0.014
257	21.42	0.07	0.018	(0.059)	0.004	0.014
258	21.50	0.07	0.018	(0.059)	0.004	0.014
259	21.58	0.10	0.027	(0.058)	0.005	0.021
260	21.67	0.10	0.027	(0.058)	0.005	0.021
261	21.75	0.10	0.027	(0.058)	0.005	0.021
262	21.83	0.07	0.018	(0.058)	0.004	0.014
263	21.92	0.07	0.018	(0.058)	0.004	0.014
264	22.00	0.07	0.018	(0.057)	0.004	0.014
265	22.08	0.10	0.027	(0.057)	0.005	0.021
266	22.17	0.10	0.027	(0.057)	0.005	0.021
267	22.25	0.10	0.027	(0.057)	0.005	0.021
268	22.33	0.07	0.018	(0.057)	0.004	0.014
269	22.42	0.07	0.018	(0.056)	0.004	0.014
270	22.50	0.07	0.018	(0.056)	0.004	0.014
271	22.58	0.07	0.018	(0.056)	0.004	0.014
272	22.67	0.07	0.018	(0.056)	0.004	0.014
273	22.75	0.07	0.018	(0.056)	0.004	0.014
274	22.83	0.07	0.018	(0.056)	0.004	0.014
275	22.92	0.07	0.018	(0.056)	0.004	0.014
276	23.00	0.07	0.018	(0.055)	0.004	0.014
277	23.08	0.07	0.018	(0.055)	0.004	0.014
278	23.17	0.07	0.018	(0.055)	0.004	0.014
279	23.25	0.07	0.018	(0.055)	0.004	0.014
280	23.33	0.07	0.018	(0.055)	0.004	0.014
281	23.42	0.07	0.018	(0.055)	0.004	0.014
282	23.50	0.07	0.018	(0.055)	0.004	0.014
283	23.58	0.07	0.018	(0.055)	0.004	0.014
284	23.67	0.07	0.018	(0.055)	0.004	0.014
285	23.75	0.07	0.018	(0.054)	0.004	0.014
286	23.83	0.07	0.018	(0.054)	0.004	0.014
287	23.92	0.07	0.018	(0.054)	0.004	0.014
288	24.00	0.07	0.018	(0.054)	0.004	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.4

Flood volume = Effective rainfall 1.79(In)
times area 3.2(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.45(In)
Total soil loss = 0.121(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 21028.4 Cubic Feet
Total soil loss = 5257.1 Cubic Feet

Peak flow rate of this hydrograph = 0.794(CFS)

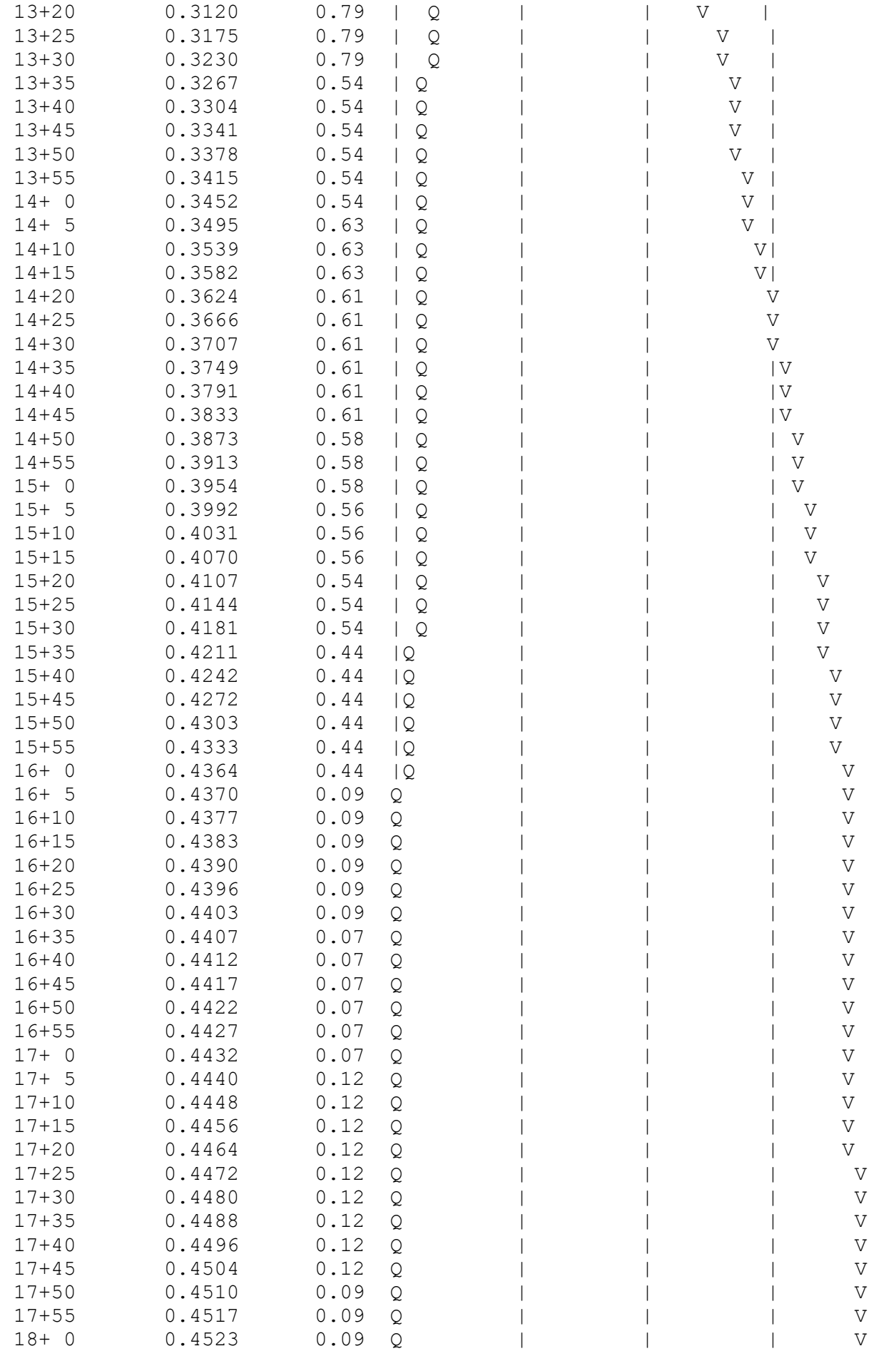
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q				
0+10	0.0006	0.05	Q				
0+15	0.0010	0.05	Q				
0+20	0.0014	0.07	Q				
0+25	0.0019	0.07	Q				
0+30	0.0024	0.07	Q				
0+35	0.0029	0.07	Q				
0+40	0.0034	0.07	Q				
0+45	0.0039	0.07	Q				
0+50	0.0045	0.09	Q				
0+55	0.0051	0.09	Q				
1+ 0	0.0058	0.09	Q				
1+ 5	0.0063	0.07	Q				
1+10	0.0068	0.07	Q				
1+15	0.0072	0.07	Q				
1+20	0.0077	0.07	Q				
1+25	0.0082	0.07	Q				
1+30	0.0087	0.07	Q				
1+35	0.0092	0.07	Q				
1+40	0.0097	0.07	Q				
1+45	0.0101	0.07	Q				
1+50	0.0108	0.09	Q				
1+55	0.0114	0.09	Q				
2+ 0	0.0121	0.09	QV				
2+ 5	0.0127	0.09	QV				
2+10	0.0134	0.09	QV				
2+15	0.0140	0.09	QV				
2+20	0.0146	0.09	QV				
2+25	0.0153	0.09	QV				
2+30	0.0159	0.09	QV				
2+35	0.0167	0.12	QV				
2+40	0.0175	0.12	QV				
2+45	0.0183	0.12	QV				
2+50	0.0191	0.12	QV				
2+55	0.0200	0.12	QV				
3+ 0	0.0208	0.12	QV				
3+ 5	0.0216	0.12	QV				
3+10	0.0224	0.12	QV				
3+15	0.0232	0.12	QV				
3+20	0.0240	0.12	QV				
3+25	0.0248	0.12	Q V				
3+30	0.0256	0.12	Q V				
3+35	0.0264	0.12	Q V				
3+40	0.0272	0.12	Q V				
3+45	0.0280	0.12	Q V				

3+50	0.0290	0.14	Q V	|	|	|	|
3+55	0.0299	0.14	Q V	|	|	|	|
4+ 0	0.0309	0.14	Q V	|	|	|	|
4+ 5	0.0319	0.14	Q V	|	|	|	|
4+10	0.0328	0.14	Q V	|	|	|	|
4+15	0.0338	0.14	Q V	|	|	|	|
4+20	0.0349	0.16	Q V	|	|	|	|
4+25	0.0360	0.16	Q V	|	|	|	|
4+30	0.0372	0.16	Q V	|	|	|	|
4+35	0.0383	0.16	Q V	|	|	|	|
4+40	0.0394	0.16	Q V	|	|	|	|
4+45	0.0406	0.16	Q V	|	|	|	|
4+50	0.0418	0.19	Q V	|	|	|	|
4+55	0.0431	0.19	Q V	|	|	|	|
5+ 0	0.0444	0.19	Q V	|	|	|	|
5+ 5	0.0454	0.14	Q V	|	|	|	|
5+10	0.0463	0.14	Q V	|	|	|	|
5+15	0.0473	0.14	Q V	|	|	|	|
5+20	0.0484	0.16	Q V	|	|	|	|
5+25	0.0496	0.16	Q V	|	|	|	|
5+30	0.0507	0.16	Q V	|	|	|	|
5+35	0.0520	0.19	Q V	|	|	|	|
5+40	0.0533	0.19	Q V	|	|	|	|
5+45	0.0546	0.19	Q V	|	|	|	|
5+50	0.0558	0.19	Q V	|	|	|	|
5+55	0.0571	0.19	Q V	|	|	|	|
6+ 0	0.0584	0.19	Q V	|	|	|	|
6+ 5	0.0599	0.21	Q V	|	|	|	|
6+10	0.0613	0.21	Q V	|	|	|	|
6+15	0.0628	0.21	Q V	|	|	|	|
6+20	0.0642	0.21	Q V	|	|	|	|
6+25	0.0657	0.21	Q V	|	|	|	|
6+30	0.0671	0.21	Q V	|	|	|	|
6+35	0.0687	0.23	Q V	|	|	|	|
6+40	0.0703	0.23	Q V	|	|	|	|
6+45	0.0719	0.23	Q V	|	|	|	|
6+50	0.0735	0.23	Q V	|	|	|	|
6+55	0.0751	0.23	Q V	|	|	|	|
7+ 0	0.0768	0.23	Q V	|	|	|	|
7+ 5	0.0784	0.23	Q V	|	|	|	|
7+10	0.0800	0.23	Q V	|	|	|	|
7+15	0.0816	0.23	Q V	|	|	|	|
7+20	0.0834	0.26	|Q V	|	|	|	|
7+25	0.0851	0.26	|Q V	|	|	|	|
7+30	0.0869	0.26	|Q V	|	|	|	|
7+35	0.0888	0.28	|Q V	|	|	|	|
7+40	0.0908	0.28	|Q V	|	|	|	|
7+45	0.0927	0.28	|Q V	|	|	|	|
7+50	0.0948	0.30	|Q V	|	|	|	|
7+55	0.0969	0.30	|Q V	|	|	|	|
8+ 0	0.0990	0.30	|Q V	|	|	|	|
8+ 5	0.1014	0.35	|Q V	|	|	|	|
8+10	0.1038	0.35	|Q V	|	|	|	|
8+15	0.1062	0.35	|Q V	|	|	|	|
8+20	0.1086	0.35	|Q V|	|	|	|	|
8+25	0.1110	0.35	|Q V|	|	|	|	|
8+30	0.1134	0.35	|Q V|	|	|	|	|

8+35	0.1160	0.37	Q	V			
8+40	0.1186	0.37	Q	V			
8+45	0.1212	0.37	Q	V			
8+50	0.1239	0.40	Q	V			
8+55	0.1266	0.40	Q	V			
9+ 0	0.1294	0.40	Q	V			
9+ 5	0.1324	0.44	Q	V			
9+10	0.1355	0.44	Q	V			
9+15	0.1385	0.44	Q	V			
9+20	0.1418	0.47	Q	V			
9+25	0.1450	0.47	Q	V			
9+30	0.1482	0.47	Q	V			
9+35	0.1516	0.49	Q	V			
9+40	0.1550	0.49	Q	V			
9+45	0.1583	0.49	Q	V			
9+50	0.1619	0.51	Q	V			
9+55	0.1654	0.51	Q	V			
10+ 0	0.1690	0.51	Q	V			
10+ 5	0.1714	0.35	Q	V			
10+10	0.1738	0.35	Q	V			
10+15	0.1762	0.35	Q	V			
10+20	0.1786	0.35	Q	V			
10+25	0.1810	0.35	Q	V			
10+30	0.1834	0.35	Q	V			
10+35	0.1867	0.47	Q	V			
10+40	0.1899	0.47	Q	V			
10+45	0.1931	0.47	Q	V			
10+50	0.1963	0.47	Q	V			
10+55	0.1995	0.47	Q	V			
11+ 0	0.2028	0.47	Q	V			
11+ 5	0.2058	0.44	Q	V			
11+10	0.2089	0.44	Q	V			
11+15	0.2119	0.44	Q	V			
11+20	0.2150	0.44	Q	V			
11+25	0.2180	0.44	Q	V			
11+30	0.2211	0.44	Q	V			
11+35	0.2238	0.40	Q	V			
11+40	0.2266	0.40	Q	V			
11+45	0.2293	0.40	Q	V			
11+50	0.2322	0.42	Q	V			
11+55	0.2351	0.42	Q	V			
12+ 0	0.2380	0.42	Q	V			
12+ 5	0.2420	0.58	Q	V			
12+10	0.2460	0.58	Q	V			
12+15	0.2501	0.58	Q	V			
12+20	0.2542	0.61	Q	V			
12+25	0.2584	0.61	Q	V			
12+30	0.2626	0.61	Q	V			
12+35	0.2671	0.65	Q	V			
12+40	0.2716	0.65	Q	V			
12+45	0.2761	0.65	Q	V			
12+50	0.2808	0.68	Q	V			
12+55	0.2855	0.68	Q	V			
13+ 0	0.2901	0.68	Q	V			
13+ 5	0.2956	0.79	Q	V			
13+10	0.3011	0.79	Q	V			
13+15	0.3065	0.79	Q	V			



18+ 5	0.4530	0.09	Q	|	|	|	V |
18+10	0.4536	0.09	Q	|	|	|	V |
18+15	0.4543	0.09	Q	|	|	|	V |
18+20	0.4549	0.09	Q	|	|	|	V |
18+25	0.4556	0.09	Q	|	|	|	V |
18+30	0.4562	0.09	Q	|	|	|	V |
18+35	0.4567	0.07	Q	|	|	|	V |
18+40	0.4572	0.07	Q	|	|	|	V |
18+45	0.4576	0.07	Q	|	|	|	V |
18+50	0.4580	0.05	Q	|	|	|	V |
18+55	0.4583	0.05	Q	|	|	|	V |
19+ 0	0.4586	0.05	Q	|	|	|	V |
19+ 5	0.4591	0.07	Q	|	|	|	V |
19+10	0.4596	0.07	Q	|	|	|	V |
19+15	0.4601	0.07	Q	|	|	|	V |
19+20	0.4607	0.09	Q	|	|	|	V |
19+25	0.4613	0.09	Q	|	|	|	V |
19+30	0.4620	0.09	Q	|	|	|	V |
19+35	0.4625	0.07	Q	|	|	|	V |
19+40	0.4630	0.07	Q	|	|	|	V |
19+45	0.4634	0.07	Q	|	|	|	V |
19+50	0.4638	0.05	Q	|	|	|	V |
19+55	0.4641	0.05	Q	|	|	|	V |
20+ 0	0.4644	0.05	Q	|	|	|	V |
20+ 5	0.4649	0.07	Q	|	|	|	V |
20+10	0.4654	0.07	Q	|	|	|	V |
20+15	0.4659	0.07	Q	|	|	|	V |
20+20	0.4663	0.07	Q	|	|	|	V |
20+25	0.4668	0.07	Q	|	|	|	V |
20+30	0.4673	0.07	Q	|	|	|	V |
20+35	0.4678	0.07	Q	|	|	|	V |
20+40	0.4683	0.07	Q	|	|	|	V |
20+45	0.4687	0.07	Q	|	|	|	V |
20+50	0.4691	0.05	Q	|	|	|	V |
20+55	0.4694	0.05	Q	|	|	|	V |
21+ 0	0.4697	0.05	Q	|	|	|	V |
21+ 5	0.4702	0.07	Q	|	|	|	V |
21+10	0.4707	0.07	Q	|	|	|	V|
21+15	0.4712	0.07	Q	|	|	|	V|
21+20	0.4715	0.05	Q	|	|	|	V|
21+25	0.4718	0.05	Q	|	|	|	V|
21+30	0.4721	0.05	Q	|	|	|	V|
21+35	0.4726	0.07	Q	|	|	|	V|
21+40	0.4731	0.07	Q	|	|	|	V|
21+45	0.4736	0.07	Q	|	|	|	V|
21+50	0.4739	0.05	Q	|	|	|	V|
21+55	0.4742	0.05	Q	|	|	|	V|
22+ 0	0.4745	0.05	Q	|	|	|	V|
22+ 5	0.4750	0.07	Q	|	|	|	V|
22+10	0.4755	0.07	Q	|	|	|	V|
22+15	0.4760	0.07	Q	|	|	|	V|
22+20	0.4763	0.05	Q	|	|	|	V|
22+25	0.4766	0.05	Q	|	|	|	V|
22+30	0.4770	0.05	Q	|	|	|	V|
22+35	0.4773	0.05	Q	|	|	|	V|
22+40	0.4776	0.05	Q	|	|	|	V|
22+45	0.4779	0.05	Q	|	|	|	V|

22+50	0.4782	0.05	Q	|	|	|	V|
22+55	0.4786	0.05	Q	|	|	|	V|
23+ 0	0.4789	0.05	Q	|	|	|	V|
23+ 5	0.4792	0.05	Q	|	|	|	V|
23+10	0.4795	0.05	Q	|	|	|	V|
23+15	0.4798	0.05	Q	|	|	|	V|
23+20	0.4802	0.05	Q	|	|	|	V|
23+25	0.4805	0.05	Q	|	|	|	V|
23+30	0.4808	0.05	Q	|	|	|	V|
23+35	0.4811	0.05	Q	|	|	|	V|
23+40	0.4815	0.05	Q	|	|	|	V|
23+45	0.4818	0.05	Q	|	|	|	V|
23+50	0.4821	0.05	Q	|	|	|	V|
23+55	0.4824	0.05	Q	|	|	|	V|
24+ 0	0.4827	0.05	Q	|	|	|	V

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

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Study date 06/03/26 File: 19267p005CD245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	1.66	2.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	4.10	5.14

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.254	75.00	0.790

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.790	0.088	1.000	0.088
					Sum (F) =	0.088

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1293.145	100.000	1.264
		Sum = 100.000	Sum= 1.264

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.155)	0.005	0.013
2	0.17	0.07	0.018	(0.155)	0.005	0.013
3	0.25	0.07	0.018	(0.154)	0.005	0.013
4	0.33	0.10	0.027	(0.153)	0.007	0.020
5	0.42	0.10	0.027	(0.153)	0.007	0.020
6	0.50	0.10	0.027	(0.152)	0.007	0.020
7	0.58	0.10	0.027	(0.152)	0.007	0.020
8	0.67	0.10	0.027	(0.151)	0.007	0.020
9	0.75	0.10	0.027	(0.150)	0.007	0.020
10	0.83	0.13	0.036	(0.150)	0.010	0.026
11	0.92	0.13	0.036	(0.149)	0.010	0.026
12	1.00	0.13	0.036	(0.149)	0.010	0.026

13	1.08	0.10	0.027	(0.148)	0.007	0.020
14	1.17	0.10	0.027	(0.148)	0.007	0.020
15	1.25	0.10	0.027	(0.147)	0.007	0.020
16	1.33	0.10	0.027	(0.146)	0.007	0.020
17	1.42	0.10	0.027	(0.146)	0.007	0.020
18	1.50	0.10	0.027	(0.145)	0.007	0.020
19	1.58	0.10	0.027	(0.145)	0.007	0.020
20	1.67	0.10	0.027	(0.144)	0.007	0.020
21	1.75	0.10	0.027	(0.143)	0.007	0.020
22	1.83	0.13	0.036	(0.143)	0.010	0.026
23	1.92	0.13	0.036	(0.142)	0.010	0.026
24	2.00	0.13	0.036	(0.142)	0.010	0.026
25	2.08	0.13	0.036	(0.141)	0.010	0.026
26	2.17	0.13	0.036	(0.141)	0.010	0.026
27	2.25	0.13	0.036	(0.140)	0.010	0.026
28	2.33	0.13	0.036	(0.139)	0.010	0.026
29	2.42	0.13	0.036	(0.139)	0.010	0.026
30	2.50	0.13	0.036	(0.138)	0.010	0.026
31	2.58	0.17	0.045	(0.138)	0.012	0.033
32	2.67	0.17	0.045	(0.137)	0.012	0.033
33	2.75	0.17	0.045	(0.137)	0.012	0.033
34	2.83	0.17	0.045	(0.136)	0.012	0.033
35	2.92	0.17	0.045	(0.135)	0.012	0.033
36	3.00	0.17	0.045	(0.135)	0.012	0.033
37	3.08	0.17	0.045	(0.134)	0.012	0.033
38	3.17	0.17	0.045	(0.134)	0.012	0.033
39	3.25	0.17	0.045	(0.133)	0.012	0.033
40	3.33	0.17	0.045	(0.133)	0.012	0.033
41	3.42	0.17	0.045	(0.132)	0.012	0.033
42	3.50	0.17	0.045	(0.132)	0.012	0.033
43	3.58	0.17	0.045	(0.131)	0.012	0.033
44	3.67	0.17	0.045	(0.130)	0.012	0.033
45	3.75	0.17	0.045	(0.130)	0.012	0.033
46	3.83	0.20	0.054	(0.129)	0.014	0.039
47	3.92	0.20	0.054	(0.129)	0.014	0.039
48	4.00	0.20	0.054	(0.128)	0.014	0.039
49	4.08	0.20	0.054	(0.128)	0.014	0.039
50	4.17	0.20	0.054	(0.127)	0.014	0.039
51	4.25	0.20	0.054	(0.127)	0.014	0.039
52	4.33	0.23	0.062	(0.126)	0.017	0.046
53	4.42	0.23	0.062	(0.126)	0.017	0.046
54	4.50	0.23	0.062	(0.125)	0.017	0.046
55	4.58	0.23	0.062	(0.125)	0.017	0.046
56	4.67	0.23	0.062	(0.124)	0.017	0.046
57	4.75	0.23	0.062	(0.123)	0.017	0.046
58	4.83	0.27	0.071	(0.123)	0.019	0.052
59	4.92	0.27	0.071	(0.122)	0.019	0.052
60	5.00	0.27	0.071	(0.122)	0.019	0.052
61	5.08	0.20	0.054	(0.121)	0.014	0.039
62	5.17	0.20	0.054	(0.121)	0.014	0.039
63	5.25	0.20	0.054	(0.120)	0.014	0.039
64	5.33	0.23	0.062	(0.120)	0.017	0.046
65	5.42	0.23	0.062	(0.119)	0.017	0.046
66	5.50	0.23	0.062	(0.119)	0.017	0.046
67	5.58	0.27	0.071	(0.118)	0.019	0.052
68	5.67	0.27	0.071	(0.118)	0.019	0.052
69	5.75	0.27	0.071	(0.117)	0.019	0.052

70	5.83	0.27	0.071	(0.117)	0.019	0.052
71	5.92	0.27	0.071	(0.116)	0.019	0.052
72	6.00	0.27	0.071	(0.116)	0.019	0.052
73	6.08	0.30	0.080	(0.115)	0.022	0.059
74	6.17	0.30	0.080	(0.115)	0.022	0.059
75	6.25	0.30	0.080	(0.114)	0.022	0.059
76	6.33	0.30	0.080	(0.114)	0.022	0.059
77	6.42	0.30	0.080	(0.113)	0.022	0.059
78	6.50	0.30	0.080	(0.113)	0.022	0.059
79	6.58	0.33	0.089	(0.112)	0.024	0.065
80	6.67	0.33	0.089	(0.112)	0.024	0.065
81	6.75	0.33	0.089	(0.111)	0.024	0.065
82	6.83	0.33	0.089	(0.111)	0.024	0.065
83	6.92	0.33	0.089	(0.110)	0.024	0.065
84	7.00	0.33	0.089	(0.110)	0.024	0.065
85	7.08	0.33	0.089	(0.109)	0.024	0.065
86	7.17	0.33	0.089	(0.109)	0.024	0.065
87	7.25	0.33	0.089	(0.108)	0.024	0.065
88	7.33	0.37	0.098	(0.108)	0.027	0.072
89	7.42	0.37	0.098	(0.107)	0.027	0.072
90	7.50	0.37	0.098	(0.107)	0.027	0.072
91	7.58	0.40	0.107	(0.106)	0.029	0.078
92	7.67	0.40	0.107	(0.106)	0.029	0.078
93	7.75	0.40	0.107	(0.105)	0.029	0.078
94	7.83	0.43	0.116	(0.105)	0.031	0.085
95	7.92	0.43	0.116	(0.104)	0.031	0.085
96	8.00	0.43	0.116	(0.104)	0.031	0.085
97	8.08	0.50	0.134	(0.103)	0.036	0.098
98	8.17	0.50	0.134	(0.103)	0.036	0.098
99	8.25	0.50	0.134	(0.102)	0.036	0.098
100	8.33	0.50	0.134	(0.102)	0.036	0.098
101	8.42	0.50	0.134	(0.101)	0.036	0.098
102	8.50	0.50	0.134	(0.101)	0.036	0.098
103	8.58	0.53	0.143	(0.100)	0.039	0.104
104	8.67	0.53	0.143	(0.100)	0.039	0.104
105	8.75	0.53	0.143	(0.099)	0.039	0.104
106	8.83	0.57	0.152	(0.099)	0.041	0.111
107	8.92	0.57	0.152	(0.098)	0.041	0.111
108	9.00	0.57	0.152	(0.098)	0.041	0.111
109	9.08	0.63	0.170	(0.097)	0.046	0.124
110	9.17	0.63	0.170	(0.097)	0.046	0.124
111	9.25	0.63	0.170	(0.097)	0.046	0.124
112	9.33	0.67	0.179	(0.096)	0.048	0.130
113	9.42	0.67	0.179	(0.096)	0.048	0.130
114	9.50	0.67	0.179	(0.095)	0.048	0.130
115	9.58	0.70	0.187	(0.095)	0.051	0.137
116	9.67	0.70	0.187	(0.094)	0.051	0.137
117	9.75	0.70	0.187	(0.094)	0.051	0.137
118	9.83	0.73	0.196	(0.093)	0.053	0.143
119	9.92	0.73	0.196	(0.093)	0.053	0.143
120	10.00	0.73	0.196	(0.092)	0.053	0.143
121	10.08	0.50	0.134	(0.092)	0.036	0.098
122	10.17	0.50	0.134	(0.092)	0.036	0.098
123	10.25	0.50	0.134	(0.091)	0.036	0.098
124	10.33	0.50	0.134	(0.091)	0.036	0.098
125	10.42	0.50	0.134	(0.090)	0.036	0.098
126	10.50	0.50	0.134	(0.090)	0.036	0.098

127	10.58	0.67	0.179	(0.089)	0.048	0.130
128	10.67	0.67	0.179	(0.089)	0.048	0.130
129	10.75	0.67	0.179	(0.088)	0.048	0.130
130	10.83	0.67	0.179	(0.088)	0.048	0.130
131	10.92	0.67	0.179	(0.088)	0.048	0.130
132	11.00	0.67	0.179	(0.087)	0.048	0.130
133	11.08	0.63	0.170	(0.087)	0.046	0.124
134	11.17	0.63	0.170	(0.086)	0.046	0.124
135	11.25	0.63	0.170	(0.086)	0.046	0.124
136	11.33	0.63	0.170	(0.085)	0.046	0.124
137	11.42	0.63	0.170	(0.085)	0.046	0.124
138	11.50	0.63	0.170	(0.085)	0.046	0.124
139	11.58	0.57	0.152	(0.084)	0.041	0.111
140	11.67	0.57	0.152	(0.084)	0.041	0.111
141	11.75	0.57	0.152	(0.083)	0.041	0.111
142	11.83	0.60	0.161	(0.083)	0.043	0.117
143	11.92	0.60	0.161	(0.083)	0.043	0.117
144	12.00	0.60	0.161	(0.082)	0.043	0.117
145	12.08	0.83	0.223	(0.082)	0.060	0.163
146	12.17	0.83	0.223	(0.081)	0.060	0.163
147	12.25	0.83	0.223	(0.081)	0.060	0.163
148	12.33	0.87	0.232	(0.081)	0.063	0.169
149	12.42	0.87	0.232	(0.080)	0.063	0.169
150	12.50	0.87	0.232	(0.080)	0.063	0.169
151	12.58	0.93	0.250	(0.079)	0.067	0.182
152	12.67	0.93	0.250	(0.079)	0.067	0.182
153	12.75	0.93	0.250	(0.079)	0.067	0.182
154	12.83	0.97	0.259	(0.078)	0.070	0.189
155	12.92	0.97	0.259	(0.078)	0.070	0.189
156	13.00	0.97	0.259	(0.077)	0.070	0.189
157	13.08	1.13	0.303	0.077	(0.082)	0.227
158	13.17	1.13	0.303	0.077	(0.082)	0.227
159	13.25	1.13	0.303	0.076	(0.082)	0.227
160	13.33	1.13	0.303	0.076	(0.082)	0.228
161	13.42	1.13	0.303	0.075	(0.082)	0.228
162	13.50	1.13	0.303	0.075	(0.082)	0.228
163	13.58	0.77	0.205	(0.075)	0.055	0.150
164	13.67	0.77	0.205	(0.074)	0.055	0.150
165	13.75	0.77	0.205	(0.074)	0.055	0.150
166	13.83	0.77	0.205	(0.073)	0.055	0.150
167	13.92	0.77	0.205	(0.073)	0.055	0.150
168	14.00	0.77	0.205	(0.073)	0.055	0.150
169	14.08	0.90	0.241	(0.072)	0.065	0.176
170	14.17	0.90	0.241	(0.072)	0.065	0.176
171	14.25	0.90	0.241	(0.072)	0.065	0.176
172	14.33	0.87	0.232	(0.071)	0.063	0.169
173	14.42	0.87	0.232	(0.071)	0.063	0.169
174	14.50	0.87	0.232	(0.071)	0.063	0.169
175	14.58	0.87	0.232	(0.070)	0.063	0.169
176	14.67	0.87	0.232	(0.070)	0.063	0.169
177	14.75	0.87	0.232	(0.069)	0.063	0.169
178	14.83	0.83	0.223	(0.069)	0.060	0.163
179	14.92	0.83	0.223	(0.069)	0.060	0.163
180	15.00	0.83	0.223	(0.068)	0.060	0.163
181	15.08	0.80	0.214	(0.068)	0.058	0.156
182	15.17	0.80	0.214	(0.068)	0.058	0.156
183	15.25	0.80	0.214	(0.067)	0.058	0.156

184	15.33	0.77	0.205	(0.067)	0.055	0.150
185	15.42	0.77	0.205	(0.067)	0.055	0.150
186	15.50	0.77	0.205	(0.066)	0.055	0.150
187	15.58	0.63	0.170	(0.066)	0.046	0.124
188	15.67	0.63	0.170	(0.066)	0.046	0.124
189	15.75	0.63	0.170	(0.065)	0.046	0.124
190	15.83	0.63	0.170	(0.065)	0.046	0.124
191	15.92	0.63	0.170	(0.065)	0.046	0.124
192	16.00	0.63	0.170	(0.064)	0.046	0.124
193	16.08	0.13	0.036	(0.064)	0.010	0.026
194	16.17	0.13	0.036	(0.064)	0.010	0.026
195	16.25	0.13	0.036	(0.063)	0.010	0.026
196	16.33	0.13	0.036	(0.063)	0.010	0.026
197	16.42	0.13	0.036	(0.063)	0.010	0.026
198	16.50	0.13	0.036	(0.062)	0.010	0.026
199	16.58	0.10	0.027	(0.062)	0.007	0.020
200	16.67	0.10	0.027	(0.062)	0.007	0.020
201	16.75	0.10	0.027	(0.061)	0.007	0.020
202	16.83	0.10	0.027	(0.061)	0.007	0.020
203	16.92	0.10	0.027	(0.061)	0.007	0.020
204	17.00	0.10	0.027	(0.060)	0.007	0.020
205	17.08	0.17	0.045	(0.060)	0.012	0.033
206	17.17	0.17	0.045	(0.060)	0.012	0.033
207	17.25	0.17	0.045	(0.060)	0.012	0.033
208	17.33	0.17	0.045	(0.059)	0.012	0.033
209	17.42	0.17	0.045	(0.059)	0.012	0.033
210	17.50	0.17	0.045	(0.059)	0.012	0.033
211	17.58	0.17	0.045	(0.058)	0.012	0.033
212	17.67	0.17	0.045	(0.058)	0.012	0.033
213	17.75	0.17	0.045	(0.058)	0.012	0.033
214	17.83	0.13	0.036	(0.058)	0.010	0.026
215	17.92	0.13	0.036	(0.057)	0.010	0.026
216	18.00	0.13	0.036	(0.057)	0.010	0.026
217	18.08	0.13	0.036	(0.057)	0.010	0.026
218	18.17	0.13	0.036	(0.056)	0.010	0.026
219	18.25	0.13	0.036	(0.056)	0.010	0.026
220	18.33	0.13	0.036	(0.056)	0.010	0.026
221	18.42	0.13	0.036	(0.056)	0.010	0.026
222	18.50	0.13	0.036	(0.055)	0.010	0.026
223	18.58	0.10	0.027	(0.055)	0.007	0.020
224	18.67	0.10	0.027	(0.055)	0.007	0.020
225	18.75	0.10	0.027	(0.055)	0.007	0.020
226	18.83	0.07	0.018	(0.054)	0.005	0.013
227	18.92	0.07	0.018	(0.054)	0.005	0.013
228	19.00	0.07	0.018	(0.054)	0.005	0.013
229	19.08	0.10	0.027	(0.053)	0.007	0.020
230	19.17	0.10	0.027	(0.053)	0.007	0.020
231	19.25	0.10	0.027	(0.053)	0.007	0.020
232	19.33	0.13	0.036	(0.053)	0.010	0.026
233	19.42	0.13	0.036	(0.052)	0.010	0.026
234	19.50	0.13	0.036	(0.052)	0.010	0.026
235	19.58	0.10	0.027	(0.052)	0.007	0.020
236	19.67	0.10	0.027	(0.052)	0.007	0.020
237	19.75	0.10	0.027	(0.052)	0.007	0.020
238	19.83	0.07	0.018	(0.051)	0.005	0.013
239	19.92	0.07	0.018	(0.051)	0.005	0.013
240	20.00	0.07	0.018	(0.051)	0.005	0.013

241	20.08	0.10	0.027	(0.051)	0.007	0.020
242	20.17	0.10	0.027	(0.050)	0.007	0.020
243	20.25	0.10	0.027	(0.050)	0.007	0.020
244	20.33	0.10	0.027	(0.050)	0.007	0.020
245	20.42	0.10	0.027	(0.050)	0.007	0.020
246	20.50	0.10	0.027	(0.050)	0.007	0.020
247	20.58	0.10	0.027	(0.049)	0.007	0.020
248	20.67	0.10	0.027	(0.049)	0.007	0.020
249	20.75	0.10	0.027	(0.049)	0.007	0.020
250	20.83	0.07	0.018	(0.049)	0.005	0.013
251	20.92	0.07	0.018	(0.049)	0.005	0.013
252	21.00	0.07	0.018	(0.048)	0.005	0.013
253	21.08	0.10	0.027	(0.048)	0.007	0.020
254	21.17	0.10	0.027	(0.048)	0.007	0.020
255	21.25	0.10	0.027	(0.048)	0.007	0.020
256	21.33	0.07	0.018	(0.048)	0.005	0.013
257	21.42	0.07	0.018	(0.047)	0.005	0.013
258	21.50	0.07	0.018	(0.047)	0.005	0.013
259	21.58	0.10	0.027	(0.047)	0.007	0.020
260	21.67	0.10	0.027	(0.047)	0.007	0.020
261	21.75	0.10	0.027	(0.047)	0.007	0.020
262	21.83	0.07	0.018	(0.047)	0.005	0.013
263	21.92	0.07	0.018	(0.046)	0.005	0.013
264	22.00	0.07	0.018	(0.046)	0.005	0.013
265	22.08	0.10	0.027	(0.046)	0.007	0.020
266	22.17	0.10	0.027	(0.046)	0.007	0.020
267	22.25	0.10	0.027	(0.046)	0.007	0.020
268	22.33	0.07	0.018	(0.046)	0.005	0.013
269	22.42	0.07	0.018	(0.046)	0.005	0.013
270	22.50	0.07	0.018	(0.045)	0.005	0.013
271	22.58	0.07	0.018	(0.045)	0.005	0.013
272	22.67	0.07	0.018	(0.045)	0.005	0.013
273	22.75	0.07	0.018	(0.045)	0.005	0.013
274	22.83	0.07	0.018	(0.045)	0.005	0.013
275	22.92	0.07	0.018	(0.045)	0.005	0.013
276	23.00	0.07	0.018	(0.045)	0.005	0.013
277	23.08	0.07	0.018	(0.045)	0.005	0.013
278	23.17	0.07	0.018	(0.044)	0.005	0.013
279	23.25	0.07	0.018	(0.044)	0.005	0.013
280	23.33	0.07	0.018	(0.044)	0.005	0.013
281	23.42	0.07	0.018	(0.044)	0.005	0.013
282	23.50	0.07	0.018	(0.044)	0.005	0.013
283	23.58	0.07	0.018	(0.044)	0.005	0.013
284	23.67	0.07	0.018	(0.044)	0.005	0.013
285	23.75	0.07	0.018	(0.044)	0.005	0.013
286	23.83	0.07	0.018	(0.044)	0.005	0.013
287	23.92	0.07	0.018	(0.044)	0.005	0.013
288	24.00	0.07	0.018	(0.044)	0.005	0.013

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.6

Flood volume = Effective rainfall 1.63(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.60(In)
Total soil loss = 0.063(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 7428.8 Cubic Feet
Total soil loss = 2729.0 Cubic Feet

Peak flow rate of this hydrograph = 0.289(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 2.5 5.0 7.5 10.0
0+ 5	0.0001	0.02	Q
0+10	0.0002	0.02	Q
0+15	0.0003	0.02	Q
0+20	0.0005	0.02	Q
0+25	0.0007	0.02	Q
0+30	0.0009	0.02	Q
0+35	0.0010	0.02	Q
0+40	0.0012	0.02	Q
0+45	0.0014	0.02	Q
0+50	0.0016	0.03	Q
0+55	0.0018	0.03	Q
1+ 0	0.0020	0.03	Q
1+ 5	0.0022	0.02	Q
1+10	0.0024	0.02	Q
1+15	0.0026	0.02	Q
1+20	0.0027	0.02	Q
1+25	0.0029	0.02	Q
1+30	0.0031	0.02	Q
1+35	0.0032	0.02	Q
1+40	0.0034	0.02	Q
1+45	0.0036	0.02	Q
1+50	0.0038	0.03	Q
1+55	0.0040	0.03	Q
2+ 0	0.0043	0.03	Q
2+ 5	0.0045	0.03	QV
2+10	0.0047	0.03	QV
2+15	0.0049	0.03	QV
2+20	0.0052	0.03	QV
2+25	0.0054	0.03	QV
2+30	0.0056	0.03	QV
2+35	0.0059	0.04	QV
2+40	0.0062	0.04	QV
2+45	0.0065	0.04	QV
2+50	0.0068	0.04	QV
2+55	0.0070	0.04	QV
3+ 0	0.0073	0.04	QV
3+ 5	0.0076	0.04	QV
3+10	0.0079	0.04	QV
3+15	0.0082	0.04	QV
3+20	0.0085	0.04	QV
3+25	0.0087	0.04	Q V
3+30	0.0090	0.04	Q V
3+35	0.0093	0.04	Q V
3+40	0.0096	0.04	Q V
3+45	0.0099	0.04	Q V

3+50	0.0102	0.05	Q V	|	|	|	|
3+55	0.0106	0.05	Q V	|	|	|	|
4+ 0	0.0109	0.05	Q V	|	|	|	|
4+ 5	0.0112	0.05	Q V	|	|	|	|
4+10	0.0116	0.05	Q V	|	|	|	|
4+15	0.0119	0.05	Q V	|	|	|	|
4+20	0.0123	0.06	Q V	|	|	|	|
4+25	0.0127	0.06	Q V	|	|	|	|
4+30	0.0131	0.06	Q V	|	|	|	|
4+35	0.0135	0.06	Q V	|	|	|	|
4+40	0.0139	0.06	Q V	|	|	|	|
4+45	0.0143	0.06	Q V	|	|	|	|
4+50	0.0148	0.07	Q V	|	|	|	|
4+55	0.0152	0.07	Q V	|	|	|	|
5+ 0	0.0157	0.07	Q V	|	|	|	|
5+ 5	0.0160	0.05	Q V	|	|	|	|
5+10	0.0163	0.05	Q V	|	|	|	|
5+15	0.0167	0.05	Q V	|	|	|	|
5+20	0.0171	0.06	Q V	|	|	|	|
5+25	0.0175	0.06	Q V	|	|	|	|
5+30	0.0179	0.06	Q V	|	|	|	|
5+35	0.0183	0.07	Q V	|	|	|	|
5+40	0.0188	0.07	Q V	|	|	|	|
5+45	0.0192	0.07	Q V	|	|	|	|
5+50	0.0197	0.07	Q V	|	|	|	|
5+55	0.0201	0.07	Q V	|	|	|	|
6+ 0	0.0206	0.07	Q V	|	|	|	|
6+ 5	0.0211	0.07	Q V	|	|	|	|
6+10	0.0216	0.07	Q V	|	|	|	|
6+15	0.0221	0.07	Q V	|	|	|	|
6+20	0.0226	0.07	Q V	|	|	|	|
6+25	0.0232	0.07	Q V	|	|	|	|
6+30	0.0237	0.07	Q V	|	|	|	|
6+35	0.0242	0.08	Q V	|	|	|	|
6+40	0.0248	0.08	Q V	|	|	|	|
6+45	0.0254	0.08	Q V	|	|	|	|
6+50	0.0259	0.08	Q V	|	|	|	|
6+55	0.0265	0.08	Q V	|	|	|	|
7+ 0	0.0271	0.08	Q V	|	|	|	|
7+ 5	0.0276	0.08	Q V	|	|	|	|
7+10	0.0282	0.08	Q V	|	|	|	|
7+15	0.0288	0.08	Q V	|	|	|	|
7+20	0.0294	0.09	Q V	|	|	|	|
7+25	0.0300	0.09	Q V	|	|	|	|
7+30	0.0306	0.09	Q V	|	|	|	|
7+35	0.0313	0.10	Q V	|	|	|	|
7+40	0.0320	0.10	Q V	|	|	|	|
7+45	0.0327	0.10	Q V	|	|	|	|
7+50	0.0334	0.11	Q V	|	|	|	|
7+55	0.0342	0.11	Q V	|	|	|	|
8+ 0	0.0349	0.11	Q V	|	|	|	|
8+ 5	0.0357	0.12	Q V	|	|	|	|
8+10	0.0366	0.12	Q V	|	|	|	|
8+15	0.0375	0.12	Q V	|	|	|	|
8+20	0.0383	0.12	Q V	|	|	|	|
8+25	0.0392	0.12	Q V	|	|	|	|
8+30	0.0400	0.12	Q V	|	|	|	|

8+35	0.0409	0.13	Q	V|				
8+40	0.0418	0.13	Q	V|				
8+45	0.0427	0.13	Q	V				
8+50	0.0437	0.14	Q	V				
8+55	0.0447	0.14	Q	V				
9+ 0	0.0456	0.14	Q	V				
9+ 5	0.0467	0.16	Q	V				
9+10	0.0478	0.16	Q	|V				
9+15	0.0489	0.16	Q	|V				
9+20	0.0500	0.16	Q	|V				
9+25	0.0511	0.16	Q	|V				
9+30	0.0523	0.16	Q	| V				
9+35	0.0535	0.17	Q	| V				
9+40	0.0546	0.17	Q	| V				
9+45	0.0558	0.17	Q	| V				
9+50	0.0571	0.18	Q	| V				
9+55	0.0583	0.18	Q	| V				
10+ 0	0.0596	0.18	Q	| V				
10+ 5	0.0604	0.12	Q	| V				
10+10	0.0613	0.12	Q	| V				
10+15	0.0621	0.12	Q	| V				
10+20	0.0630	0.12	Q	| V				
10+25	0.0638	0.12	Q	| V				
10+30	0.0647	0.12	Q	| V				
10+35	0.0658	0.16	Q	| V				
10+40	0.0670	0.16	Q	| V				
10+45	0.0681	0.16	Q	| V				
10+50	0.0692	0.16	Q	| V				
10+55	0.0704	0.16	Q	| V				
11+ 0	0.0715	0.16	Q	| V				
11+ 5	0.0726	0.16	Q	| V				
11+10	0.0737	0.16	Q	| V				
11+15	0.0747	0.16	Q	| V				
11+20	0.0758	0.16	Q	| V				
11+25	0.0769	0.16	Q	| V				
11+30	0.0780	0.16	Q	| V				
11+35	0.0789	0.14	Q	| V				
11+40	0.0799	0.14	Q	| V				
11+45	0.0809	0.14	Q	| V				
11+50	0.0819	0.15	Q	| V				
11+55	0.0829	0.15	Q	| V				
12+ 0	0.0839	0.15	Q	| V				
12+ 5	0.0853	0.21	Q	| V				
12+10	0.0868	0.21	Q	| V				
12+15	0.0882	0.21	Q	| V				
12+20	0.0897	0.21	Q	| V				
12+25	0.0911	0.21	Q	| V				
12+30	0.0926	0.21	Q	| V				
12+35	0.0942	0.23	Q	| V				
12+40	0.0958	0.23	Q	| V				
12+45	0.0974	0.23	Q	| V				
12+50	0.0990	0.24	Q	| V				
12+55	0.1007	0.24	Q	| V				
13+ 0	0.1023	0.24	Q	| V				
13+ 5	0.1043	0.29	|Q	| V				
13+10	0.1063	0.29	|Q	| V				
13+15	0.1082	0.29	|Q	| V				

13+20	0.1102	0.29	|Q	|	|	V |	|	|
13+25	0.1122	0.29	|Q	|	|	V |	|	|
13+30	0.1142	0.29	|Q	|	|	V |	|	|
13+35	0.1155	0.19	Q	|	|	V |	|	|
13+40	0.1168	0.19	Q	|	|	V |	|	|
13+45	0.1181	0.19	Q	|	|	V |	|	|
13+50	0.1194	0.19	Q	|	|	V |	|	|
13+55	0.1207	0.19	Q	|	|	V |	|	|
14+ 0	0.1220	0.19	Q	|	|	V |	|	|
14+ 5	0.1236	0.22	Q	|	|	V |	|	|
14+10	0.1251	0.22	Q	|	|	V|	|	|
14+15	0.1266	0.22	Q	|	|	V|	|	|
14+20	0.1281	0.21	Q	|	|	V	|	|
14+25	0.1296	0.21	Q	|	|	V	|	|
14+30	0.1310	0.21	Q	|	|	V	|	|
14+35	0.1325	0.21	Q	|	|	|V	|	|
14+40	0.1340	0.21	Q	|	|	|V	|	|
14+45	0.1355	0.21	Q	|	|	|V	|	|
14+50	0.1369	0.21	Q	|	|	| V	|	|
14+55	0.1383	0.21	Q	|	|	| V	|	|
15+ 0	0.1397	0.21	Q	|	|	| V	|	|
15+ 5	0.1411	0.20	Q	|	|	| V	|	|
15+10	0.1425	0.20	Q	|	|	| V	|	|
15+15	0.1438	0.20	Q	|	|	| V	|	|
15+20	0.1451	0.19	Q	|	|	| V	|	|
15+25	0.1464	0.19	Q	|	|	| V	|	|
15+30	0.1477	0.19	Q	|	|	| V	|	|
15+35	0.1488	0.16	Q	|	|	| V	|	|
15+40	0.1499	0.16	Q	|	|	| V	|	|
15+45	0.1510	0.16	Q	|	|	| V	|	|
15+50	0.1520	0.16	Q	|	|	| V	|	|
15+55	0.1531	0.16	Q	|	|	| V	|	|
16+ 0	0.1542	0.16	Q	|	|	| V	|	|
16+ 5	0.1544	0.03	Q	|	|	| V	|	|
16+10	0.1547	0.03	Q	|	|	| V	|	|
16+15	0.1549	0.03	Q	|	|	| V	|	|
16+20	0.1551	0.03	Q	|	|	| V	|	|
16+25	0.1553	0.03	Q	|	|	| V	|	|
16+30	0.1556	0.03	Q	|	|	| V	|	|
16+35	0.1557	0.02	Q	|	|	| V	|	|
16+40	0.1559	0.02	Q	|	|	| V	|	|
16+45	0.1561	0.02	Q	|	|	| V	|	|
16+50	0.1562	0.02	Q	|	|	| V	|	|
16+55	0.1564	0.02	Q	|	|	| V	|	|
17+ 0	0.1566	0.02	Q	|	|	| V	|	|
17+ 5	0.1569	0.04	Q	|	|	| V	|	|
17+10	0.1572	0.04	Q	|	|	| V	|	|
17+15	0.1574	0.04	Q	|	|	| V	|	|
17+20	0.1577	0.04	Q	|	|	| V	|	|
17+25	0.1580	0.04	Q	|	|	| V	|	|
17+30	0.1583	0.04	Q	|	|	| V	|	|
17+35	0.1586	0.04	Q	|	|	| V	|	|
17+40	0.1589	0.04	Q	|	|	| V	|	|
17+45	0.1591	0.04	Q	|	|	| V	|	|
17+50	0.1594	0.03	Q	|	|	| V	|	|
17+55	0.1596	0.03	Q	|	|	| V	|	|
18+ 0	0.1598	0.03	Q	|	|	| V	|	|

18+ 5	0.1600	0.03	Q	|	|	|	V |
18+10	0.1603	0.03	Q	|	|	|	V |
18+15	0.1605	0.03	Q	|	|	|	V |
18+20	0.1607	0.03	Q	|	|	|	V |
18+25	0.1610	0.03	Q	|	|	|	V |
18+30	0.1612	0.03	Q	|	|	|	V |
18+35	0.1613	0.02	Q	|	|	|	V |
18+40	0.1615	0.02	Q	|	|	|	V |
18+45	0.1617	0.02	Q	|	|	|	V |
18+50	0.1618	0.02	Q	|	|	|	V |
18+55	0.1619	0.02	Q	|	|	|	V |
19+ 0	0.1620	0.02	Q	|	|	|	V |
19+ 5	0.1622	0.02	Q	|	|	|	V |
19+10	0.1624	0.02	Q	|	|	|	V |
19+15	0.1625	0.02	Q	|	|	|	V |
19+20	0.1628	0.03	Q	|	|	|	V |
19+25	0.1630	0.03	Q	|	|	|	V |
19+30	0.1632	0.03	Q	|	|	|	V |
19+35	0.1634	0.02	Q	|	|	|	V |
19+40	0.1636	0.02	Q	|	|	|	V |
19+45	0.1637	0.02	Q	|	|	|	V |
19+50	0.1638	0.02	Q	|	|	|	V |
19+55	0.1640	0.02	Q	|	|	|	V |
20+ 0	0.1641	0.02	Q	|	|	|	V |
20+ 5	0.1642	0.02	Q	|	|	|	V |
20+10	0.1644	0.02	Q	|	|	|	V |
20+15	0.1646	0.02	Q	|	|	|	V |
20+20	0.1648	0.02	Q	|	|	|	V |
20+25	0.1649	0.02	Q	|	|	|	V |
20+30	0.1651	0.02	Q	|	|	|	V |
20+35	0.1653	0.02	Q	|	|	|	V |
20+40	0.1654	0.02	Q	|	|	|	V |
20+45	0.1656	0.02	Q	|	|	|	V |
20+50	0.1657	0.02	Q	|	|	|	V |
20+55	0.1658	0.02	Q	|	|	|	V |
21+ 0	0.1659	0.02	Q	|	|	|	V |
21+ 5	0.1661	0.02	Q	|	|	|	V |
21+10	0.1663	0.02	Q	|	|	|	V|
21+15	0.1665	0.02	Q	|	|	|	V|
21+20	0.1666	0.02	Q	|	|	|	V|
21+25	0.1667	0.02	Q	|	|	|	V|
21+30	0.1668	0.02	Q	|	|	|	V|
21+35	0.1670	0.02	Q	|	|	|	V|
21+40	0.1671	0.02	Q	|	|	|	V|
21+45	0.1673	0.02	Q	|	|	|	V|
21+50	0.1674	0.02	Q	|	|	|	V|
21+55	0.1675	0.02	Q	|	|	|	V|
22+ 0	0.1676	0.02	Q	|	|	|	V|
22+ 5	0.1678	0.02	Q	|	|	|	V|
22+10	0.1680	0.02	Q	|	|	|	V|
22+15	0.1682	0.02	Q	|	|	|	V|
22+20	0.1683	0.02	Q	|	|	|	V|
22+25	0.1684	0.02	Q	|	|	|	V|
22+30	0.1685	0.02	Q	|	|	|	V|
22+35	0.1686	0.02	Q	|	|	|	V|
22+40	0.1687	0.02	Q	|	|	|	V|
22+45	0.1688	0.02	Q	|	|	|	V|

22+50	0.1690	0.02	Q	|	|	|	V|
22+55	0.1691	0.02	Q	|	|	|	V|
23+ 0	0.1692	0.02	Q	|	|	|	V|
23+ 5	0.1693	0.02	Q	|	|	|	V|
23+10	0.1694	0.02	Q	|	|	|	V|
23+15	0.1695	0.02	Q	|	|	|	V|
23+20	0.1696	0.02	Q	|	|	|	V|
23+25	0.1697	0.02	Q	|	|	|	V|
23+30	0.1699	0.02	Q	|	|	|	V|
23+35	0.1700	0.02	Q	|	|	|	V|
23+40	0.1701	0.02	Q	|	|	|	V|
23+45	0.1702	0.02	Q	|	|	|	V|
23+50	0.1703	0.02	Q	|	|	|	V|
23+55	0.1704	0.02	Q	|	|	|	V|
24+ 0	0.1705	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 06/03/26 File: 19267p005EK245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	1.66	0.55

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	4.10	1.36

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.332	75.00	0.880

Total Area Entered = 0.33(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	699.916	78.557	0.263
2	0.167	1399.832	21.443	0.072
			Sum = 100.000 Sum=	0.335

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.112)	0.004	0.014
2	0.17	0.07	0.018	(0.111)	0.004	0.014
3	0.25	0.07	0.018	(0.111)	0.004	0.014
4	0.33	0.10	0.027	(0.110)	0.005	0.021
5	0.42	0.10	0.027	(0.110)	0.005	0.021
6	0.50	0.10	0.027	(0.110)	0.005	0.021
7	0.58	0.10	0.027	(0.109)	0.005	0.021
8	0.67	0.10	0.027	(0.109)	0.005	0.021
9	0.75	0.10	0.027	(0.108)	0.005	0.021
10	0.83	0.13	0.036	(0.108)	0.007	0.029
11	0.92	0.13	0.036	(0.107)	0.007	0.029

12	1.00	0.13	0.036	(0.107)	0.007	0.029
13	1.08	0.10	0.027	(0.107)	0.005	0.021
14	1.17	0.10	0.027	(0.106)	0.005	0.021
15	1.25	0.10	0.027	(0.106)	0.005	0.021
16	1.33	0.10	0.027	(0.105)	0.005	0.021
17	1.42	0.10	0.027	(0.105)	0.005	0.021
18	1.50	0.10	0.027	(0.104)	0.005	0.021
19	1.58	0.10	0.027	(0.104)	0.005	0.021
20	1.67	0.10	0.027	(0.104)	0.005	0.021
21	1.75	0.10	0.027	(0.103)	0.005	0.021
22	1.83	0.13	0.036	(0.103)	0.007	0.029
23	1.92	0.13	0.036	(0.102)	0.007	0.029
24	2.00	0.13	0.036	(0.102)	0.007	0.029
25	2.08	0.13	0.036	(0.102)	0.007	0.029
26	2.17	0.13	0.036	(0.101)	0.007	0.029
27	2.25	0.13	0.036	(0.101)	0.007	0.029
28	2.33	0.13	0.036	(0.100)	0.007	0.029
29	2.42	0.13	0.036	(0.100)	0.007	0.029
30	2.50	0.13	0.036	(0.100)	0.007	0.029
31	2.58	0.17	0.045	(0.099)	0.009	0.036
32	2.67	0.17	0.045	(0.099)	0.009	0.036
33	2.75	0.17	0.045	(0.098)	0.009	0.036
34	2.83	0.17	0.045	(0.098)	0.009	0.036
35	2.92	0.17	0.045	(0.098)	0.009	0.036
36	3.00	0.17	0.045	(0.097)	0.009	0.036
37	3.08	0.17	0.045	(0.097)	0.009	0.036
38	3.17	0.17	0.045	(0.096)	0.009	0.036
39	3.25	0.17	0.045	(0.096)	0.009	0.036
40	3.33	0.17	0.045	(0.096)	0.009	0.036
41	3.42	0.17	0.045	(0.095)	0.009	0.036
42	3.50	0.17	0.045	(0.095)	0.009	0.036
43	3.58	0.17	0.045	(0.094)	0.009	0.036
44	3.67	0.17	0.045	(0.094)	0.009	0.036
45	3.75	0.17	0.045	(0.094)	0.009	0.036
46	3.83	0.20	0.054	(0.093)	0.011	0.043
47	3.92	0.20	0.054	(0.093)	0.011	0.043
48	4.00	0.20	0.054	(0.092)	0.011	0.043
49	4.08	0.20	0.054	(0.092)	0.011	0.043
50	4.17	0.20	0.054	(0.092)	0.011	0.043
51	4.25	0.20	0.054	(0.091)	0.011	0.043
52	4.33	0.23	0.062	(0.091)	0.012	0.050
53	4.42	0.23	0.062	(0.090)	0.012	0.050
54	4.50	0.23	0.062	(0.090)	0.012	0.050
55	4.58	0.23	0.062	(0.090)	0.012	0.050
56	4.67	0.23	0.062	(0.089)	0.012	0.050
57	4.75	0.23	0.062	(0.089)	0.012	0.050
58	4.83	0.27	0.071	(0.088)	0.014	0.057
59	4.92	0.27	0.071	(0.088)	0.014	0.057
60	5.00	0.27	0.071	(0.088)	0.014	0.057
61	5.08	0.20	0.054	(0.087)	0.011	0.043
62	5.17	0.20	0.054	(0.087)	0.011	0.043
63	5.25	0.20	0.054	(0.087)	0.011	0.043
64	5.33	0.23	0.062	(0.086)	0.012	0.050
65	5.42	0.23	0.062	(0.086)	0.012	0.050
66	5.50	0.23	0.062	(0.085)	0.012	0.050
67	5.58	0.27	0.071	(0.085)	0.014	0.057
68	5.67	0.27	0.071	(0.085)	0.014	0.057

69	5.75	0.27	0.071	(0.084)	0.014	0.057
70	5.83	0.27	0.071	(0.084)	0.014	0.057
71	5.92	0.27	0.071	(0.084)	0.014	0.057
72	6.00	0.27	0.071	(0.083)	0.014	0.057
73	6.08	0.30	0.080	(0.083)	0.016	0.064
74	6.17	0.30	0.080	(0.082)	0.016	0.064
75	6.25	0.30	0.080	(0.082)	0.016	0.064
76	6.33	0.30	0.080	(0.082)	0.016	0.064
77	6.42	0.30	0.080	(0.081)	0.016	0.064
78	6.50	0.30	0.080	(0.081)	0.016	0.064
79	6.58	0.33	0.089	(0.081)	0.018	0.071
80	6.67	0.33	0.089	(0.080)	0.018	0.071
81	6.75	0.33	0.089	(0.080)	0.018	0.071
82	6.83	0.33	0.089	(0.080)	0.018	0.071
83	6.92	0.33	0.089	(0.079)	0.018	0.071
84	7.00	0.33	0.089	(0.079)	0.018	0.071
85	7.08	0.33	0.089	(0.078)	0.018	0.071
86	7.17	0.33	0.089	(0.078)	0.018	0.071
87	7.25	0.33	0.089	(0.078)	0.018	0.071
88	7.33	0.37	0.098	(0.077)	0.020	0.079
89	7.42	0.37	0.098	(0.077)	0.020	0.079
90	7.50	0.37	0.098	(0.077)	0.020	0.079
91	7.58	0.40	0.107	(0.076)	0.021	0.086
92	7.67	0.40	0.107	(0.076)	0.021	0.086
93	7.75	0.40	0.107	(0.076)	0.021	0.086
94	7.83	0.43	0.116	(0.075)	0.023	0.093
95	7.92	0.43	0.116	(0.075)	0.023	0.093
96	8.00	0.43	0.116	(0.075)	0.023	0.093
97	8.08	0.50	0.134	(0.074)	0.027	0.107
98	8.17	0.50	0.134	(0.074)	0.027	0.107
99	8.25	0.50	0.134	(0.074)	0.027	0.107
100	8.33	0.50	0.134	(0.073)	0.027	0.107
101	8.42	0.50	0.134	(0.073)	0.027	0.107
102	8.50	0.50	0.134	(0.073)	0.027	0.107
103	8.58	0.53	0.143	(0.072)	0.029	0.114
104	8.67	0.53	0.143	(0.072)	0.029	0.114
105	8.75	0.53	0.143	(0.072)	0.029	0.114
106	8.83	0.57	0.152	(0.071)	0.030	0.121
107	8.92	0.57	0.152	(0.071)	0.030	0.121
108	9.00	0.57	0.152	(0.070)	0.030	0.121
109	9.08	0.63	0.170	(0.070)	0.034	0.136
110	9.17	0.63	0.170	(0.070)	0.034	0.136
111	9.25	0.63	0.170	(0.069)	0.034	0.136
112	9.33	0.67	0.179	(0.069)	0.036	0.143
113	9.42	0.67	0.179	(0.069)	0.036	0.143
114	9.50	0.67	0.179	(0.069)	0.036	0.143
115	9.58	0.70	0.187	(0.068)	0.037	0.150
116	9.67	0.70	0.187	(0.068)	0.037	0.150
117	9.75	0.70	0.187	(0.068)	0.037	0.150
118	9.83	0.73	0.196	(0.067)	0.039	0.157
119	9.92	0.73	0.196	(0.067)	0.039	0.157
120	10.00	0.73	0.196	(0.067)	0.039	0.157
121	10.08	0.50	0.134	(0.066)	0.027	0.107
122	10.17	0.50	0.134	(0.066)	0.027	0.107
123	10.25	0.50	0.134	(0.066)	0.027	0.107
124	10.33	0.50	0.134	(0.065)	0.027	0.107
125	10.42	0.50	0.134	(0.065)	0.027	0.107

126	10.50	0.50	0.134	(0.065)	0.027	0.107
127	10.58	0.67	0.179	(0.064)	0.036	0.143
128	10.67	0.67	0.179	(0.064)	0.036	0.143
129	10.75	0.67	0.179	(0.064)	0.036	0.143
130	10.83	0.67	0.179	(0.063)	0.036	0.143
131	10.92	0.67	0.179	(0.063)	0.036	0.143
132	11.00	0.67	0.179	(0.063)	0.036	0.143
133	11.08	0.63	0.170	(0.062)	0.034	0.136
134	11.17	0.63	0.170	(0.062)	0.034	0.136
135	11.25	0.63	0.170	(0.062)	0.034	0.136
136	11.33	0.63	0.170	(0.062)	0.034	0.136
137	11.42	0.63	0.170	(0.061)	0.034	0.136
138	11.50	0.63	0.170	(0.061)	0.034	0.136
139	11.58	0.57	0.152	(0.061)	0.030	0.121
140	11.67	0.57	0.152	(0.060)	0.030	0.121
141	11.75	0.57	0.152	(0.060)	0.030	0.121
142	11.83	0.60	0.161	(0.060)	0.032	0.129
143	11.92	0.60	0.161	(0.059)	0.032	0.129
144	12.00	0.60	0.161	(0.059)	0.032	0.129
145	12.08	0.83	0.223	(0.059)	0.045	0.179
146	12.17	0.83	0.223	(0.059)	0.045	0.179
147	12.25	0.83	0.223	(0.058)	0.045	0.179
148	12.33	0.87	0.232	(0.058)	0.046	0.186
149	12.42	0.87	0.232	(0.058)	0.046	0.186
150	12.50	0.87	0.232	(0.057)	0.046	0.186
151	12.58	0.93	0.250	(0.057)	0.050	0.200
152	12.67	0.93	0.250	(0.057)	0.050	0.200
153	12.75	0.93	0.250	(0.057)	0.050	0.200
154	12.83	0.97	0.259	(0.056)	0.052	0.207
155	12.92	0.97	0.259	(0.056)	0.052	0.207
156	13.00	0.97	0.259	(0.056)	0.052	0.207
157	13.08	1.13	0.303	0.055	(0.061)	0.248
158	13.17	1.13	0.303	0.055	(0.061)	0.248
159	13.25	1.13	0.303	0.055	(0.061)	0.249
160	13.33	1.13	0.303	0.055	(0.061)	0.249
161	13.42	1.13	0.303	0.054	(0.061)	0.249
162	13.50	1.13	0.303	0.054	(0.061)	0.250
163	13.58	0.77	0.205	(0.054)	0.041	0.164
164	13.67	0.77	0.205	(0.053)	0.041	0.164
165	13.75	0.77	0.205	(0.053)	0.041	0.164
166	13.83	0.77	0.205	(0.053)	0.041	0.164
167	13.92	0.77	0.205	(0.053)	0.041	0.164
168	14.00	0.77	0.205	(0.052)	0.041	0.164
169	14.08	0.90	0.241	(0.052)	0.048	0.193
170	14.17	0.90	0.241	(0.052)	0.048	0.193
171	14.25	0.90	0.241	(0.052)	0.048	0.193
172	14.33	0.87	0.232	(0.051)	0.046	0.186
173	14.42	0.87	0.232	(0.051)	0.046	0.186
174	14.50	0.87	0.232	(0.051)	0.046	0.186
175	14.58	0.87	0.232	(0.051)	0.046	0.186
176	14.67	0.87	0.232	(0.050)	0.046	0.186
177	14.75	0.87	0.232	(0.050)	0.046	0.186
178	14.83	0.83	0.223	(0.050)	0.045	0.179
179	14.92	0.83	0.223	(0.049)	0.045	0.179
180	15.00	0.83	0.223	(0.049)	0.045	0.179
181	15.08	0.80	0.214	(0.049)	0.043	0.171
182	15.17	0.80	0.214	(0.049)	0.043	0.171

183	15.25	0.80	0.214	(0.048)	0.043	0.171
184	15.33	0.77	0.205	(0.048)	0.041	0.164
185	15.42	0.77	0.205	(0.048)	0.041	0.164
186	15.50	0.77	0.205	(0.048)	0.041	0.164
187	15.58	0.63	0.170	(0.047)	0.034	0.136
188	15.67	0.63	0.170	(0.047)	0.034	0.136
189	15.75	0.63	0.170	(0.047)	0.034	0.136
190	15.83	0.63	0.170	(0.047)	0.034	0.136
191	15.92	0.63	0.170	(0.047)	0.034	0.136
192	16.00	0.63	0.170	(0.046)	0.034	0.136
193	16.08	0.13	0.036	(0.046)	0.007	0.029
194	16.17	0.13	0.036	(0.046)	0.007	0.029
195	16.25	0.13	0.036	(0.046)	0.007	0.029
196	16.33	0.13	0.036	(0.045)	0.007	0.029
197	16.42	0.13	0.036	(0.045)	0.007	0.029
198	16.50	0.13	0.036	(0.045)	0.007	0.029
199	16.58	0.10	0.027	(0.045)	0.005	0.021
200	16.67	0.10	0.027	(0.044)	0.005	0.021
201	16.75	0.10	0.027	(0.044)	0.005	0.021
202	16.83	0.10	0.027	(0.044)	0.005	0.021
203	16.92	0.10	0.027	(0.044)	0.005	0.021
204	17.00	0.10	0.027	(0.044)	0.005	0.021
205	17.08	0.17	0.045	(0.043)	0.009	0.036
206	17.17	0.17	0.045	(0.043)	0.009	0.036
207	17.25	0.17	0.045	(0.043)	0.009	0.036
208	17.33	0.17	0.045	(0.043)	0.009	0.036
209	17.42	0.17	0.045	(0.042)	0.009	0.036
210	17.50	0.17	0.045	(0.042)	0.009	0.036
211	17.58	0.17	0.045	(0.042)	0.009	0.036
212	17.67	0.17	0.045	(0.042)	0.009	0.036
213	17.75	0.17	0.045	(0.042)	0.009	0.036
214	17.83	0.13	0.036	(0.041)	0.007	0.029
215	17.92	0.13	0.036	(0.041)	0.007	0.029
216	18.00	0.13	0.036	(0.041)	0.007	0.029
217	18.08	0.13	0.036	(0.041)	0.007	0.029
218	18.17	0.13	0.036	(0.041)	0.007	0.029
219	18.25	0.13	0.036	(0.040)	0.007	0.029
220	18.33	0.13	0.036	(0.040)	0.007	0.029
221	18.42	0.13	0.036	(0.040)	0.007	0.029
222	18.50	0.13	0.036	(0.040)	0.007	0.029
223	18.58	0.10	0.027	(0.040)	0.005	0.021
224	18.67	0.10	0.027	(0.039)	0.005	0.021
225	18.75	0.10	0.027	(0.039)	0.005	0.021
226	18.83	0.07	0.018	(0.039)	0.004	0.014
227	18.92	0.07	0.018	(0.039)	0.004	0.014
228	19.00	0.07	0.018	(0.039)	0.004	0.014
229	19.08	0.10	0.027	(0.038)	0.005	0.021
230	19.17	0.10	0.027	(0.038)	0.005	0.021
231	19.25	0.10	0.027	(0.038)	0.005	0.021
232	19.33	0.13	0.036	(0.038)	0.007	0.029
233	19.42	0.13	0.036	(0.038)	0.007	0.029
234	19.50	0.13	0.036	(0.038)	0.007	0.029
235	19.58	0.10	0.027	(0.037)	0.005	0.021
236	19.67	0.10	0.027	(0.037)	0.005	0.021
237	19.75	0.10	0.027	(0.037)	0.005	0.021
238	19.83	0.07	0.018	(0.037)	0.004	0.014
239	19.92	0.07	0.018	(0.037)	0.004	0.014

240	20.00	0.07	0.018	(0.037)	0.004	0.014
241	20.08	0.10	0.027	(0.036)	0.005	0.021
242	20.17	0.10	0.027	(0.036)	0.005	0.021
243	20.25	0.10	0.027	(0.036)	0.005	0.021
244	20.33	0.10	0.027	(0.036)	0.005	0.021
245	20.42	0.10	0.027	(0.036)	0.005	0.021
246	20.50	0.10	0.027	(0.036)	0.005	0.021
247	20.58	0.10	0.027	(0.036)	0.005	0.021
248	20.67	0.10	0.027	(0.035)	0.005	0.021
249	20.75	0.10	0.027	(0.035)	0.005	0.021
250	20.83	0.07	0.018	(0.035)	0.004	0.014
251	20.92	0.07	0.018	(0.035)	0.004	0.014
252	21.00	0.07	0.018	(0.035)	0.004	0.014
253	21.08	0.10	0.027	(0.035)	0.005	0.021
254	21.17	0.10	0.027	(0.035)	0.005	0.021
255	21.25	0.10	0.027	(0.034)	0.005	0.021
256	21.33	0.07	0.018	(0.034)	0.004	0.014
257	21.42	0.07	0.018	(0.034)	0.004	0.014
258	21.50	0.07	0.018	(0.034)	0.004	0.014
259	21.58	0.10	0.027	(0.034)	0.005	0.021
260	21.67	0.10	0.027	(0.034)	0.005	0.021
261	21.75	0.10	0.027	(0.034)	0.005	0.021
262	21.83	0.07	0.018	(0.034)	0.004	0.014
263	21.92	0.07	0.018	(0.033)	0.004	0.014
264	22.00	0.07	0.018	(0.033)	0.004	0.014
265	22.08	0.10	0.027	(0.033)	0.005	0.021
266	22.17	0.10	0.027	(0.033)	0.005	0.021
267	22.25	0.10	0.027	(0.033)	0.005	0.021
268	22.33	0.07	0.018	(0.033)	0.004	0.014
269	22.42	0.07	0.018	(0.033)	0.004	0.014
270	22.50	0.07	0.018	(0.033)	0.004	0.014
271	22.58	0.07	0.018	(0.033)	0.004	0.014
272	22.67	0.07	0.018	(0.032)	0.004	0.014
273	22.75	0.07	0.018	(0.032)	0.004	0.014
274	22.83	0.07	0.018	(0.032)	0.004	0.014
275	22.92	0.07	0.018	(0.032)	0.004	0.014
276	23.00	0.07	0.018	(0.032)	0.004	0.014
277	23.08	0.07	0.018	(0.032)	0.004	0.014
278	23.17	0.07	0.018	(0.032)	0.004	0.014
279	23.25	0.07	0.018	(0.032)	0.004	0.014
280	23.33	0.07	0.018	(0.032)	0.004	0.014
281	23.42	0.07	0.018	(0.032)	0.004	0.014
282	23.50	0.07	0.018	(0.032)	0.004	0.014
283	23.58	0.07	0.018	(0.032)	0.004	0.014
284	23.67	0.07	0.018	(0.032)	0.004	0.014
285	23.75	0.07	0.018	(0.032)	0.004	0.014
286	23.83	0.07	0.018	(0.032)	0.004	0.014
287	23.92	0.07	0.018	(0.032)	0.004	0.014
288	24.00	0.07	0.018	(0.032)	0.004	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.5

Flood volume = Effective rainfall 1.79(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.44(In)
Total soil loss = 0.012(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 2155.1 Cubic Feet

Total soil loss = 534.2 Cubic Feet

Peak flow rate of this hydrograph = 0.084(CFS)

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24 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0003	0.01	Q				
0+45	0.0004	0.01	Q				
0+50	0.0004	0.01	Q				
0+55	0.0005	0.01	Q				
1+ 0	0.0006	0.01	Q				
1+ 5	0.0006	0.01	Q				
1+10	0.0007	0.01	Q				
1+15	0.0007	0.01	Q				
1+20	0.0008	0.01	Q				
1+25	0.0008	0.01	Q				
1+30	0.0009	0.01	Q				
1+35	0.0009	0.01	Q				
1+40	0.0010	0.01	Q				
1+45	0.0010	0.01	Q				
1+50	0.0011	0.01	Q				
1+55	0.0012	0.01	Q				
2+ 0	0.0012	0.01	Q				
2+ 5	0.0013	0.01	QV				
2+10	0.0014	0.01	QV				
2+15	0.0014	0.01	QV				
2+20	0.0015	0.01	QV				
2+25	0.0015	0.01	QV				
2+30	0.0016	0.01	QV				
2+35	0.0017	0.01	QV				
2+40	0.0018	0.01	QV				
2+45	0.0019	0.01	QV				
2+50	0.0019	0.01	QV				
2+55	0.0020	0.01	QV				
3+ 0	0.0021	0.01	QV				
3+ 5	0.0022	0.01	QV				
3+10	0.0023	0.01	QV				
3+15	0.0024	0.01	QV				
3+20	0.0024	0.01	QV				
3+25	0.0025	0.01	Q V				
3+30	0.0026	0.01	Q V				
3+35	0.0027	0.01	Q V				
3+40	0.0028	0.01	Q V				

3+45	0.0028	0.01	Q V	|	|	|	|
3+50	0.0029	0.01	Q V	|	|	|	|
3+55	0.0030	0.01	Q V	|	|	|	|
4+ 0	0.0031	0.01	Q V	|	|	|	|
4+ 5	0.0032	0.01	Q V	|	|	|	|
4+10	0.0033	0.01	Q V	|	|	|	|
4+15	0.0034	0.01	Q V	|	|	|	|
4+20	0.0035	0.02	Q V	|	|	|	|
4+25	0.0037	0.02	Q V	|	|	|	|
4+30	0.0038	0.02	Q V	|	|	|	|
4+35	0.0039	0.02	Q V	|	|	|	|
4+40	0.0040	0.02	Q V	|	|	|	|
4+45	0.0041	0.02	Q V	|	|	|	|
4+50	0.0043	0.02	Q V	|	|	|	|
4+55	0.0044	0.02	Q V	|	|	|	|
5+ 0	0.0045	0.02	Q V	|	|	|	|
5+ 5	0.0046	0.02	Q V	|	|	|	|
5+10	0.0047	0.01	Q V	|	|	|	|
5+15	0.0048	0.01	Q V	|	|	|	|
5+20	0.0049	0.02	Q V	|	|	|	|
5+25	0.0050	0.02	Q V	|	|	|	|
5+30	0.0052	0.02	Q V	|	|	|	|
5+35	0.0053	0.02	Q V	|	|	|	|
5+40	0.0054	0.02	Q V	|	|	|	|
5+45	0.0056	0.02	Q V	|	|	|	|
5+50	0.0057	0.02	Q V	|	|	|	|
5+55	0.0058	0.02	Q V	|	|	|	|
6+ 0	0.0059	0.02	Q V	|	|	|	|
6+ 5	0.0061	0.02	Q V	|	|	|	|
6+10	0.0062	0.02	Q V	|	|	|	|
6+15	0.0064	0.02	Q V	|	|	|	|
6+20	0.0065	0.02	Q V	|	|	|	|
6+25	0.0067	0.02	Q V	|	|	|	|
6+30	0.0068	0.02	Q V	|	|	|	|
6+35	0.0070	0.02	Q V	|	|	|	|
6+40	0.0072	0.02	Q V	|	|	|	|
6+45	0.0073	0.02	Q V	|	|	|	|
6+50	0.0075	0.02	Q V	|	|	|	|
6+55	0.0077	0.02	Q V	|	|	|	|
7+ 0	0.0078	0.02	Q V	|	|	|	|
7+ 5	0.0080	0.02	Q V	|	|	|	|
7+10	0.0081	0.02	Q V	|	|	|	|
7+15	0.0083	0.02	Q V	|	|	|	|
7+20	0.0085	0.03	Q V	|	|	|	|
7+25	0.0087	0.03	Q V	|	|	|	|
7+30	0.0089	0.03	Q V	|	|	|	|
7+35	0.0090	0.03	Q V	|	|	|	|
7+40	0.0092	0.03	Q V	|	|	|	|
7+45	0.0094	0.03	Q V	|	|	|	|
7+50	0.0097	0.03	Q V	|	|	|	|
7+55	0.0099	0.03	Q V	|	|	|	|
8+ 0	0.0101	0.03	Q V	|	|	|	|
8+ 5	0.0103	0.03	Q V	|	|	|	|
8+10	0.0106	0.04	Q V	|	|	|	|
8+15	0.0108	0.04	Q V	|	|	|	|
8+20	0.0111	0.04	Q V	|	|	|	|
8+25	0.0113	0.04	Q V	|	|	|	|

8+30	0.0116	0.04	Q	V|				
8+35	0.0118	0.04	Q	V|				
8+40	0.0121	0.04	Q	V|				
8+45	0.0123	0.04	Q	V|				
8+50	0.0126	0.04	Q	V				
8+55	0.0129	0.04	Q	V				
9+ 0	0.0132	0.04	Q	V				
9+ 5	0.0135	0.04	Q	V				
9+10	0.0138	0.05	Q	|V				
9+15	0.0141	0.05	Q	|V				
9+20	0.0144	0.05	Q	|V				
9+25	0.0148	0.05	Q	|V				
9+30	0.0151	0.05	Q	| V				
9+35	0.0154	0.05	Q	| V				
9+40	0.0158	0.05	Q	| V				
9+45	0.0161	0.05	Q	| V				
9+50	0.0165	0.05	Q	| V				
9+55	0.0168	0.05	Q	| V				
10+ 0	0.0172	0.05	Q	| V				
10+ 5	0.0175	0.04	Q	| V				
10+10	0.0177	0.04	Q	| V				
10+15	0.0180	0.04	Q	| V				
10+20	0.0182	0.04	Q	| V				
10+25	0.0185	0.04	Q	| V				
10+30	0.0187	0.04	Q	| V |				
10+35	0.0190	0.05	Q	| V |				
10+40	0.0194	0.05	Q	| V |				
10+45	0.0197	0.05	Q	| V |				
10+50	0.0200	0.05	Q	| V |				
10+55	0.0203	0.05	Q	| V |				
11+ 0	0.0207	0.05	Q	| V |				
11+ 5	0.0210	0.05	Q	| V |				
11+10	0.0213	0.05	Q	| V |				
11+15	0.0216	0.05	Q	| V |				
11+20	0.0219	0.05	Q	| V |				
11+25	0.0222	0.05	Q	| V |				
11+30	0.0226	0.05	Q	| V |				
11+35	0.0228	0.04	Q	| V |				
11+40	0.0231	0.04	Q	| V |				
11+45	0.0234	0.04	Q	| V |				
11+50	0.0237	0.04	Q	| V|				
11+55	0.0240	0.04	Q	| V|				
12+ 0	0.0243	0.04	Q	| V|				
12+ 5	0.0247	0.06	Q	| V|				
12+10	0.0251	0.06	Q	| V				
12+15	0.0255	0.06	Q	| V				
12+20	0.0259	0.06	Q	| V				
12+25	0.0263	0.06	Q	| |V				
12+30	0.0268	0.06	Q	| |V				
12+35	0.0272	0.07	Q	| | V				
12+40	0.0277	0.07	Q	| | V				
12+45	0.0282	0.07	Q	| | V				
12+50	0.0286	0.07	Q	| | V				
12+55	0.0291	0.07	Q	| | V				
13+ 0	0.0296	0.07	Q	| | V				
13+ 5	0.0301	0.08	Q	| | V				
13+10	0.0307	0.08	Q	| | V				

13+15	0.0313	0.08	Q	|	|	V	|	|
13+20	0.0319	0.08	Q	|	|	V	|	|
13+25	0.0324	0.08	Q	|	|	V	|	|
13+30	0.0330	0.08	Q	|	|	V	|	|
13+35	0.0334	0.06	Q	|	|	V	|	|
13+40	0.0338	0.05	Q	|	|	V	|	|
13+45	0.0342	0.05	Q	|	|	V	|	|
13+50	0.0346	0.05	Q	|	|	V	|	|
13+55	0.0349	0.05	Q	|	|	V	|	|
14+ 0	0.0353	0.05	Q	|	|	V	|	|
14+ 5	0.0357	0.06	Q	|	|	V	|	|
14+10	0.0362	0.06	Q	|	|	V	|	|
14+15	0.0366	0.06	Q	|	|	V	|	|
14+20	0.0371	0.06	Q	|	|	V	|	|
14+25	0.0375	0.06	Q	|	|	V	|	|
14+30	0.0379	0.06	Q	|	|	V	|	|
14+35	0.0384	0.06	Q	|	|	|	V	|
14+40	0.0388	0.06	Q	|	|	|	V	|
14+45	0.0392	0.06	Q	|	|	|	V	|
14+50	0.0396	0.06	Q	|	|	|	V	|
14+55	0.0400	0.06	Q	|	|	|	V	|
15+ 0	0.0404	0.06	Q	|	|	|	V	|
15+ 5	0.0408	0.06	Q	|	|	|	V	|
15+10	0.0412	0.06	Q	|	|	|	V	|
15+15	0.0416	0.06	Q	|	|	|	V	|
15+20	0.0420	0.06	Q	|	|	|	V	|
15+25	0.0424	0.05	Q	|	|	|	V	|
15+30	0.0428	0.05	Q	|	|	|	V	|
15+35	0.0431	0.05	Q	|	|	|	V	|
15+40	0.0434	0.05	Q	|	|	|	V	|
15+45	0.0437	0.05	Q	|	|	|	V	|
15+50	0.0440	0.05	Q	|	|	|	V	|
15+55	0.0444	0.05	Q	|	|	|	V	|
16+ 0	0.0447	0.05	Q	|	|	|	V	|
16+ 5	0.0448	0.02	Q	|	|	|	V	|
16+10	0.0449	0.01	Q	|	|	|	V	|
16+15	0.0449	0.01	Q	|	|	|	V	|
16+20	0.0450	0.01	Q	|	|	|	V	|
16+25	0.0450	0.01	Q	|	|	|	V	|
16+30	0.0451	0.01	Q	|	|	|	V	|
16+35	0.0452	0.01	Q	|	|	|	V	|
16+40	0.0452	0.01	Q	|	|	|	V	|
16+45	0.0453	0.01	Q	|	|	|	V	|
16+50	0.0453	0.01	Q	|	|	|	V	|
16+55	0.0454	0.01	Q	|	|	|	V	|
17+ 0	0.0454	0.01	Q	|	|	|	V	|
17+ 5	0.0455	0.01	Q	|	|	|	V	|
17+10	0.0456	0.01	Q	|	|	|	V	|
17+15	0.0457	0.01	Q	|	|	|	V	|
17+20	0.0457	0.01	Q	|	|	|	V	|
17+25	0.0458	0.01	Q	|	|	|	V	|
17+30	0.0459	0.01	Q	|	|	|	V	|
17+35	0.0460	0.01	Q	|	|	|	V	|
17+40	0.0461	0.01	Q	|	|	|	V	|
17+45	0.0461	0.01	Q	|	|	|	V	|
17+50	0.0462	0.01	Q	|	|	|	V	|
17+55	0.0463	0.01	Q	|	|	|	V	|

18+ 0	0.0463	0.01	Q	|	|	|	V |
18+ 5	0.0464	0.01	Q	|	|	|	V |
18+10	0.0465	0.01	Q	|	|	|	V |
18+15	0.0465	0.01	Q	|	|	|	V |
18+20	0.0466	0.01	Q	|	|	|	V |
18+25	0.0467	0.01	Q	|	|	|	V |
18+30	0.0467	0.01	Q	|	|	|	V |
18+35	0.0468	0.01	Q	|	|	|	V |
18+40	0.0468	0.01	Q	|	|	|	V |
18+45	0.0469	0.01	Q	|	|	|	V |
18+50	0.0469	0.01	Q	|	|	|	V |
18+55	0.0470	0.00	Q	|	|	|	V |
19+ 0	0.0470	0.00	Q	|	|	|	V |
19+ 5	0.0470	0.01	Q	|	|	|	V |
19+10	0.0471	0.01	Q	|	|	|	V |
19+15	0.0471	0.01	Q	|	|	|	V |
19+20	0.0472	0.01	Q	|	|	|	V |
19+25	0.0473	0.01	Q	|	|	|	V |
19+30	0.0473	0.01	Q	|	|	|	V |
19+35	0.0474	0.01	Q	|	|	|	V |
19+40	0.0474	0.01	Q	|	|	|	V |
19+45	0.0475	0.01	Q	|	|	|	V |
19+50	0.0475	0.01	Q	|	|	|	V |
19+55	0.0476	0.00	Q	|	|	|	V |
20+ 0	0.0476	0.00	Q	|	|	|	V |
20+ 5	0.0476	0.01	Q	|	|	|	V |
20+10	0.0477	0.01	Q	|	|	|	V |
20+15	0.0477	0.01	Q	|	|	|	V |
20+20	0.0478	0.01	Q	|	|	|	V |
20+25	0.0478	0.01	Q	|	|	|	V |
20+30	0.0479	0.01	Q	|	|	|	V |
20+35	0.0479	0.01	Q	|	|	|	V |
20+40	0.0480	0.01	Q	|	|	|	V |
20+45	0.0480	0.01	Q	|	|	|	V |
20+50	0.0481	0.01	Q	|	|	|	V |
20+55	0.0481	0.00	Q	|	|	|	V |
21+ 0	0.0481	0.00	Q	|	|	|	V |
21+ 5	0.0482	0.01	Q	|	|	|	V |
21+10	0.0482	0.01	Q	|	|	|	V |
21+15	0.0483	0.01	Q	|	|	|	V|
21+20	0.0483	0.01	Q	|	|	|	V|
21+25	0.0483	0.00	Q	|	|	|	V|
21+30	0.0484	0.00	Q	|	|	|	V|
21+35	0.0484	0.01	Q	|	|	|	V|
21+40	0.0485	0.01	Q	|	|	|	V|
21+45	0.0485	0.01	Q	|	|	|	V|
21+50	0.0486	0.01	Q	|	|	|	V|
21+55	0.0486	0.00	Q	|	|	|	V|
22+ 0	0.0486	0.00	Q	|	|	|	V|
22+ 5	0.0487	0.01	Q	|	|	|	V|
22+10	0.0487	0.01	Q	|	|	|	V|
22+15	0.0488	0.01	Q	|	|	|	V|
22+20	0.0488	0.01	Q	|	|	|	V|
22+25	0.0488	0.00	Q	|	|	|	V|
22+30	0.0489	0.00	Q	|	|	|	V|
22+35	0.0489	0.00	Q	|	|	|	V|
22+40	0.0489	0.00	Q	|	|	|	V|

22+45	0.0490	0.00	Q	|	|	|	V|
22+50	0.0490	0.00	Q	|	|	|	V|
22+55	0.0490	0.00	Q	|	|	|	V|
23+ 0	0.0491	0.00	Q	|	|	|	V|
23+ 5	0.0491	0.00	Q	|	|	|	V|
23+10	0.0491	0.00	Q	|	|	|	V|
23+15	0.0492	0.00	Q	|	|	|	V|
23+20	0.0492	0.00	Q	|	|	|	V|
23+25	0.0492	0.00	Q	|	|	|	V|
23+30	0.0493	0.00	Q	|	|	|	V|
23+35	0.0493	0.00	Q	|	|	|	V|
23+40	0.0493	0.00	Q	|	|	|	V|
23+45	0.0494	0.00	Q	|	|	|	V|
23+50	0.0494	0.00	Q	|	|	|	V|
23+55	0.0494	0.00	Q	|	|	|	V|
24+ 0	0.0495	0.00	Q	|	|	|	V|
24+ 5	0.0495	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 06/03/26 File: 19267p005F245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	1.66	0.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.38	4.10	1.57

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.382	75.00	0.880

Total Area Entered = 0.38(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1040.009	100.000	0.385
		Sum = 100.000	Sum=	0.385

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.112)	0.004	0.014
2	0.17	0.07	0.018	(0.111)	0.004	0.014
3	0.25	0.07	0.018	(0.111)	0.004	0.014
4	0.33	0.10	0.027	(0.110)	0.005	0.021
5	0.42	0.10	0.027	(0.110)	0.005	0.021
6	0.50	0.10	0.027	(0.110)	0.005	0.021
7	0.58	0.10	0.027	(0.109)	0.005	0.021
8	0.67	0.10	0.027	(0.109)	0.005	0.021
9	0.75	0.10	0.027	(0.108)	0.005	0.021
10	0.83	0.13	0.036	(0.108)	0.007	0.029
11	0.92	0.13	0.036	(0.107)	0.007	0.029
12	1.00	0.13	0.036	(0.107)	0.007	0.029

13	1.08	0.10	0.027	(0.107)	0.005	0.021
14	1.17	0.10	0.027	(0.106)	0.005	0.021
15	1.25	0.10	0.027	(0.106)	0.005	0.021
16	1.33	0.10	0.027	(0.105)	0.005	0.021
17	1.42	0.10	0.027	(0.105)	0.005	0.021
18	1.50	0.10	0.027	(0.104)	0.005	0.021
19	1.58	0.10	0.027	(0.104)	0.005	0.021
20	1.67	0.10	0.027	(0.104)	0.005	0.021
21	1.75	0.10	0.027	(0.103)	0.005	0.021
22	1.83	0.13	0.036	(0.103)	0.007	0.029
23	1.92	0.13	0.036	(0.102)	0.007	0.029
24	2.00	0.13	0.036	(0.102)	0.007	0.029
25	2.08	0.13	0.036	(0.102)	0.007	0.029
26	2.17	0.13	0.036	(0.101)	0.007	0.029
27	2.25	0.13	0.036	(0.101)	0.007	0.029
28	2.33	0.13	0.036	(0.100)	0.007	0.029
29	2.42	0.13	0.036	(0.100)	0.007	0.029
30	2.50	0.13	0.036	(0.100)	0.007	0.029
31	2.58	0.17	0.045	(0.099)	0.009	0.036
32	2.67	0.17	0.045	(0.099)	0.009	0.036
33	2.75	0.17	0.045	(0.098)	0.009	0.036
34	2.83	0.17	0.045	(0.098)	0.009	0.036
35	2.92	0.17	0.045	(0.098)	0.009	0.036
36	3.00	0.17	0.045	(0.097)	0.009	0.036
37	3.08	0.17	0.045	(0.097)	0.009	0.036
38	3.17	0.17	0.045	(0.096)	0.009	0.036
39	3.25	0.17	0.045	(0.096)	0.009	0.036
40	3.33	0.17	0.045	(0.096)	0.009	0.036
41	3.42	0.17	0.045	(0.095)	0.009	0.036
42	3.50	0.17	0.045	(0.095)	0.009	0.036
43	3.58	0.17	0.045	(0.094)	0.009	0.036
44	3.67	0.17	0.045	(0.094)	0.009	0.036
45	3.75	0.17	0.045	(0.094)	0.009	0.036
46	3.83	0.20	0.054	(0.093)	0.011	0.043
47	3.92	0.20	0.054	(0.093)	0.011	0.043
48	4.00	0.20	0.054	(0.092)	0.011	0.043
49	4.08	0.20	0.054	(0.092)	0.011	0.043
50	4.17	0.20	0.054	(0.092)	0.011	0.043
51	4.25	0.20	0.054	(0.091)	0.011	0.043
52	4.33	0.23	0.062	(0.091)	0.012	0.050
53	4.42	0.23	0.062	(0.090)	0.012	0.050
54	4.50	0.23	0.062	(0.090)	0.012	0.050
55	4.58	0.23	0.062	(0.090)	0.012	0.050
56	4.67	0.23	0.062	(0.089)	0.012	0.050
57	4.75	0.23	0.062	(0.089)	0.012	0.050
58	4.83	0.27	0.071	(0.088)	0.014	0.057
59	4.92	0.27	0.071	(0.088)	0.014	0.057
60	5.00	0.27	0.071	(0.088)	0.014	0.057
61	5.08	0.20	0.054	(0.087)	0.011	0.043
62	5.17	0.20	0.054	(0.087)	0.011	0.043
63	5.25	0.20	0.054	(0.087)	0.011	0.043
64	5.33	0.23	0.062	(0.086)	0.012	0.050
65	5.42	0.23	0.062	(0.086)	0.012	0.050
66	5.50	0.23	0.062	(0.085)	0.012	0.050
67	5.58	0.27	0.071	(0.085)	0.014	0.057
68	5.67	0.27	0.071	(0.085)	0.014	0.057
69	5.75	0.27	0.071	(0.084)	0.014	0.057

70	5.83	0.27	0.071	(0.084)	0.014	0.057
71	5.92	0.27	0.071	(0.084)	0.014	0.057
72	6.00	0.27	0.071	(0.083)	0.014	0.057
73	6.08	0.30	0.080	(0.083)	0.016	0.064
74	6.17	0.30	0.080	(0.082)	0.016	0.064
75	6.25	0.30	0.080	(0.082)	0.016	0.064
76	6.33	0.30	0.080	(0.082)	0.016	0.064
77	6.42	0.30	0.080	(0.081)	0.016	0.064
78	6.50	0.30	0.080	(0.081)	0.016	0.064
79	6.58	0.33	0.089	(0.081)	0.018	0.071
80	6.67	0.33	0.089	(0.080)	0.018	0.071
81	6.75	0.33	0.089	(0.080)	0.018	0.071
82	6.83	0.33	0.089	(0.080)	0.018	0.071
83	6.92	0.33	0.089	(0.079)	0.018	0.071
84	7.00	0.33	0.089	(0.079)	0.018	0.071
85	7.08	0.33	0.089	(0.078)	0.018	0.071
86	7.17	0.33	0.089	(0.078)	0.018	0.071
87	7.25	0.33	0.089	(0.078)	0.018	0.071
88	7.33	0.37	0.098	(0.077)	0.020	0.079
89	7.42	0.37	0.098	(0.077)	0.020	0.079
90	7.50	0.37	0.098	(0.077)	0.020	0.079
91	7.58	0.40	0.107	(0.076)	0.021	0.086
92	7.67	0.40	0.107	(0.076)	0.021	0.086
93	7.75	0.40	0.107	(0.076)	0.021	0.086
94	7.83	0.43	0.116	(0.075)	0.023	0.093
95	7.92	0.43	0.116	(0.075)	0.023	0.093
96	8.00	0.43	0.116	(0.075)	0.023	0.093
97	8.08	0.50	0.134	(0.074)	0.027	0.107
98	8.17	0.50	0.134	(0.074)	0.027	0.107
99	8.25	0.50	0.134	(0.074)	0.027	0.107
100	8.33	0.50	0.134	(0.073)	0.027	0.107
101	8.42	0.50	0.134	(0.073)	0.027	0.107
102	8.50	0.50	0.134	(0.073)	0.027	0.107
103	8.58	0.53	0.143	(0.072)	0.029	0.114
104	8.67	0.53	0.143	(0.072)	0.029	0.114
105	8.75	0.53	0.143	(0.072)	0.029	0.114
106	8.83	0.57	0.152	(0.071)	0.030	0.121
107	8.92	0.57	0.152	(0.071)	0.030	0.121
108	9.00	0.57	0.152	(0.070)	0.030	0.121
109	9.08	0.63	0.170	(0.070)	0.034	0.136
110	9.17	0.63	0.170	(0.070)	0.034	0.136
111	9.25	0.63	0.170	(0.069)	0.034	0.136
112	9.33	0.67	0.179	(0.069)	0.036	0.143
113	9.42	0.67	0.179	(0.069)	0.036	0.143
114	9.50	0.67	0.179	(0.069)	0.036	0.143
115	9.58	0.70	0.187	(0.068)	0.037	0.150
116	9.67	0.70	0.187	(0.068)	0.037	0.150
117	9.75	0.70	0.187	(0.068)	0.037	0.150
118	9.83	0.73	0.196	(0.067)	0.039	0.157
119	9.92	0.73	0.196	(0.067)	0.039	0.157
120	10.00	0.73	0.196	(0.067)	0.039	0.157
121	10.08	0.50	0.134	(0.066)	0.027	0.107
122	10.17	0.50	0.134	(0.066)	0.027	0.107
123	10.25	0.50	0.134	(0.066)	0.027	0.107
124	10.33	0.50	0.134	(0.065)	0.027	0.107
125	10.42	0.50	0.134	(0.065)	0.027	0.107
126	10.50	0.50	0.134	(0.065)	0.027	0.107

127	10.58	0.67	0.179	(0.064)	0.036	0.143
128	10.67	0.67	0.179	(0.064)	0.036	0.143
129	10.75	0.67	0.179	(0.064)	0.036	0.143
130	10.83	0.67	0.179	(0.063)	0.036	0.143
131	10.92	0.67	0.179	(0.063)	0.036	0.143
132	11.00	0.67	0.179	(0.063)	0.036	0.143
133	11.08	0.63	0.170	(0.062)	0.034	0.136
134	11.17	0.63	0.170	(0.062)	0.034	0.136
135	11.25	0.63	0.170	(0.062)	0.034	0.136
136	11.33	0.63	0.170	(0.062)	0.034	0.136
137	11.42	0.63	0.170	(0.061)	0.034	0.136
138	11.50	0.63	0.170	(0.061)	0.034	0.136
139	11.58	0.57	0.152	(0.061)	0.030	0.121
140	11.67	0.57	0.152	(0.060)	0.030	0.121
141	11.75	0.57	0.152	(0.060)	0.030	0.121
142	11.83	0.60	0.161	(0.060)	0.032	0.129
143	11.92	0.60	0.161	(0.059)	0.032	0.129
144	12.00	0.60	0.161	(0.059)	0.032	0.129
145	12.08	0.83	0.223	(0.059)	0.045	0.179
146	12.17	0.83	0.223	(0.059)	0.045	0.179
147	12.25	0.83	0.223	(0.058)	0.045	0.179
148	12.33	0.87	0.232	(0.058)	0.046	0.186
149	12.42	0.87	0.232	(0.058)	0.046	0.186
150	12.50	0.87	0.232	(0.057)	0.046	0.186
151	12.58	0.93	0.250	(0.057)	0.050	0.200
152	12.67	0.93	0.250	(0.057)	0.050	0.200
153	12.75	0.93	0.250	(0.057)	0.050	0.200
154	12.83	0.97	0.259	(0.056)	0.052	0.207
155	12.92	0.97	0.259	(0.056)	0.052	0.207
156	13.00	0.97	0.259	(0.056)	0.052	0.207
157	13.08	1.13	0.303	0.055	(0.061)	0.248
158	13.17	1.13	0.303	0.055	(0.061)	0.248
159	13.25	1.13	0.303	0.055	(0.061)	0.249
160	13.33	1.13	0.303	0.055	(0.061)	0.249
161	13.42	1.13	0.303	0.054	(0.061)	0.249
162	13.50	1.13	0.303	0.054	(0.061)	0.250
163	13.58	0.77	0.205	(0.054)	0.041	0.164
164	13.67	0.77	0.205	(0.053)	0.041	0.164
165	13.75	0.77	0.205	(0.053)	0.041	0.164
166	13.83	0.77	0.205	(0.053)	0.041	0.164
167	13.92	0.77	0.205	(0.053)	0.041	0.164
168	14.00	0.77	0.205	(0.052)	0.041	0.164
169	14.08	0.90	0.241	(0.052)	0.048	0.193
170	14.17	0.90	0.241	(0.052)	0.048	0.193
171	14.25	0.90	0.241	(0.052)	0.048	0.193
172	14.33	0.87	0.232	(0.051)	0.046	0.186
173	14.42	0.87	0.232	(0.051)	0.046	0.186
174	14.50	0.87	0.232	(0.051)	0.046	0.186
175	14.58	0.87	0.232	(0.051)	0.046	0.186
176	14.67	0.87	0.232	(0.050)	0.046	0.186
177	14.75	0.87	0.232	(0.050)	0.046	0.186
178	14.83	0.83	0.223	(0.050)	0.045	0.179
179	14.92	0.83	0.223	(0.049)	0.045	0.179
180	15.00	0.83	0.223	(0.049)	0.045	0.179
181	15.08	0.80	0.214	(0.049)	0.043	0.171
182	15.17	0.80	0.214	(0.049)	0.043	0.171
183	15.25	0.80	0.214	(0.048)	0.043	0.171

184	15.33	0.77	0.205	(0.048)	0.041	0.164
185	15.42	0.77	0.205	(0.048)	0.041	0.164
186	15.50	0.77	0.205	(0.048)	0.041	0.164
187	15.58	0.63	0.170	(0.047)	0.034	0.136
188	15.67	0.63	0.170	(0.047)	0.034	0.136
189	15.75	0.63	0.170	(0.047)	0.034	0.136
190	15.83	0.63	0.170	(0.047)	0.034	0.136
191	15.92	0.63	0.170	(0.047)	0.034	0.136
192	16.00	0.63	0.170	(0.046)	0.034	0.136
193	16.08	0.13	0.036	(0.046)	0.007	0.029
194	16.17	0.13	0.036	(0.046)	0.007	0.029
195	16.25	0.13	0.036	(0.046)	0.007	0.029
196	16.33	0.13	0.036	(0.045)	0.007	0.029
197	16.42	0.13	0.036	(0.045)	0.007	0.029
198	16.50	0.13	0.036	(0.045)	0.007	0.029
199	16.58	0.10	0.027	(0.045)	0.005	0.021
200	16.67	0.10	0.027	(0.044)	0.005	0.021
201	16.75	0.10	0.027	(0.044)	0.005	0.021
202	16.83	0.10	0.027	(0.044)	0.005	0.021
203	16.92	0.10	0.027	(0.044)	0.005	0.021
204	17.00	0.10	0.027	(0.044)	0.005	0.021
205	17.08	0.17	0.045	(0.043)	0.009	0.036
206	17.17	0.17	0.045	(0.043)	0.009	0.036
207	17.25	0.17	0.045	(0.043)	0.009	0.036
208	17.33	0.17	0.045	(0.043)	0.009	0.036
209	17.42	0.17	0.045	(0.042)	0.009	0.036
210	17.50	0.17	0.045	(0.042)	0.009	0.036
211	17.58	0.17	0.045	(0.042)	0.009	0.036
212	17.67	0.17	0.045	(0.042)	0.009	0.036
213	17.75	0.17	0.045	(0.042)	0.009	0.036
214	17.83	0.13	0.036	(0.041)	0.007	0.029
215	17.92	0.13	0.036	(0.041)	0.007	0.029
216	18.00	0.13	0.036	(0.041)	0.007	0.029
217	18.08	0.13	0.036	(0.041)	0.007	0.029
218	18.17	0.13	0.036	(0.041)	0.007	0.029
219	18.25	0.13	0.036	(0.040)	0.007	0.029
220	18.33	0.13	0.036	(0.040)	0.007	0.029
221	18.42	0.13	0.036	(0.040)	0.007	0.029
222	18.50	0.13	0.036	(0.040)	0.007	0.029
223	18.58	0.10	0.027	(0.040)	0.005	0.021
224	18.67	0.10	0.027	(0.039)	0.005	0.021
225	18.75	0.10	0.027	(0.039)	0.005	0.021
226	18.83	0.07	0.018	(0.039)	0.004	0.014
227	18.92	0.07	0.018	(0.039)	0.004	0.014
228	19.00	0.07	0.018	(0.039)	0.004	0.014
229	19.08	0.10	0.027	(0.038)	0.005	0.021
230	19.17	0.10	0.027	(0.038)	0.005	0.021
231	19.25	0.10	0.027	(0.038)	0.005	0.021
232	19.33	0.13	0.036	(0.038)	0.007	0.029
233	19.42	0.13	0.036	(0.038)	0.007	0.029
234	19.50	0.13	0.036	(0.038)	0.007	0.029
235	19.58	0.10	0.027	(0.037)	0.005	0.021
236	19.67	0.10	0.027	(0.037)	0.005	0.021
237	19.75	0.10	0.027	(0.037)	0.005	0.021
238	19.83	0.07	0.018	(0.037)	0.004	0.014
239	19.92	0.07	0.018	(0.037)	0.004	0.014
240	20.00	0.07	0.018	(0.037)	0.004	0.014

241	20.08	0.10	0.027	(0.036)	0.005	0.021
242	20.17	0.10	0.027	(0.036)	0.005	0.021
243	20.25	0.10	0.027	(0.036)	0.005	0.021
244	20.33	0.10	0.027	(0.036)	0.005	0.021
245	20.42	0.10	0.027	(0.036)	0.005	0.021
246	20.50	0.10	0.027	(0.036)	0.005	0.021
247	20.58	0.10	0.027	(0.036)	0.005	0.021
248	20.67	0.10	0.027	(0.035)	0.005	0.021
249	20.75	0.10	0.027	(0.035)	0.005	0.021
250	20.83	0.07	0.018	(0.035)	0.004	0.014
251	20.92	0.07	0.018	(0.035)	0.004	0.014
252	21.00	0.07	0.018	(0.035)	0.004	0.014
253	21.08	0.10	0.027	(0.035)	0.005	0.021
254	21.17	0.10	0.027	(0.035)	0.005	0.021
255	21.25	0.10	0.027	(0.034)	0.005	0.021
256	21.33	0.07	0.018	(0.034)	0.004	0.014
257	21.42	0.07	0.018	(0.034)	0.004	0.014
258	21.50	0.07	0.018	(0.034)	0.004	0.014
259	21.58	0.10	0.027	(0.034)	0.005	0.021
260	21.67	0.10	0.027	(0.034)	0.005	0.021
261	21.75	0.10	0.027	(0.034)	0.005	0.021
262	21.83	0.07	0.018	(0.034)	0.004	0.014
263	21.92	0.07	0.018	(0.033)	0.004	0.014
264	22.00	0.07	0.018	(0.033)	0.004	0.014
265	22.08	0.10	0.027	(0.033)	0.005	0.021
266	22.17	0.10	0.027	(0.033)	0.005	0.021
267	22.25	0.10	0.027	(0.033)	0.005	0.021
268	22.33	0.07	0.018	(0.033)	0.004	0.014
269	22.42	0.07	0.018	(0.033)	0.004	0.014
270	22.50	0.07	0.018	(0.033)	0.004	0.014
271	22.58	0.07	0.018	(0.033)	0.004	0.014
272	22.67	0.07	0.018	(0.032)	0.004	0.014
273	22.75	0.07	0.018	(0.032)	0.004	0.014
274	22.83	0.07	0.018	(0.032)	0.004	0.014
275	22.92	0.07	0.018	(0.032)	0.004	0.014
276	23.00	0.07	0.018	(0.032)	0.004	0.014
277	23.08	0.07	0.018	(0.032)	0.004	0.014
278	23.17	0.07	0.018	(0.032)	0.004	0.014
279	23.25	0.07	0.018	(0.032)	0.004	0.014
280	23.33	0.07	0.018	(0.032)	0.004	0.014
281	23.42	0.07	0.018	(0.032)	0.004	0.014
282	23.50	0.07	0.018	(0.032)	0.004	0.014
283	23.58	0.07	0.018	(0.032)	0.004	0.014
284	23.67	0.07	0.018	(0.032)	0.004	0.014
285	23.75	0.07	0.018	(0.032)	0.004	0.014
286	23.83	0.07	0.018	(0.032)	0.004	0.014
287	23.92	0.07	0.018	(0.032)	0.004	0.014
288	24.00	0.07	0.018	(0.032)	0.004	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.5

Flood volume = Effective rainfall 1.79(In)
times area 0.4(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.44(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 2479.6 Cubic Feet
Total soil loss = 614.7 Cubic Feet

Peak flow rate of this hydrograph = 0.096(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0004	0.01	Q				
0+45	0.0005	0.01	Q				
0+50	0.0005	0.01	Q				
0+55	0.0006	0.01	Q				
1+ 0	0.0007	0.01	Q				
1+ 5	0.0007	0.01	Q				
1+10	0.0008	0.01	Q				
1+15	0.0009	0.01	Q				
1+20	0.0009	0.01	Q				
1+25	0.0010	0.01	Q				
1+30	0.0010	0.01	Q				
1+35	0.0011	0.01	Q				
1+40	0.0011	0.01	Q				
1+45	0.0012	0.01	Q				
1+50	0.0013	0.01	Q				
1+55	0.0013	0.01	Q				
2+ 0	0.0014	0.01	Q				
2+ 5	0.0015	0.01	QV				
2+10	0.0016	0.01	QV				
2+15	0.0016	0.01	QV				
2+20	0.0017	0.01	QV				
2+25	0.0018	0.01	QV				
2+30	0.0019	0.01	QV				
2+35	0.0020	0.01	QV				
2+40	0.0021	0.01	QV				
2+45	0.0022	0.01	QV				
2+50	0.0023	0.01	QV				
2+55	0.0023	0.01	QV				
3+ 0	0.0024	0.01	QV				
3+ 5	0.0025	0.01	QV				
3+10	0.0026	0.01	QV				
3+15	0.0027	0.01	QV				
3+20	0.0028	0.01	QV				
3+25	0.0029	0.01	Q V				
3+30	0.0030	0.01	Q V				
3+35	0.0031	0.01	Q V				
3+40	0.0032	0.01	Q V				
3+45	0.0033	0.01	Q V				

3+50	0.0034	0.02	Q V	|	|	|	|
3+55	0.0035	0.02	Q V	|	|	|	|
4+ 0	0.0036	0.02	Q V	|	|	|	|
4+ 5	0.0038	0.02	Q V	|	|	|	|
4+10	0.0039	0.02	Q V	|	|	|	|
4+15	0.0040	0.02	Q V	|	|	|	|
4+20	0.0041	0.02	Q V	|	|	|	|
4+25	0.0042	0.02	Q V	|	|	|	|
4+30	0.0044	0.02	Q V	|	|	|	|
4+35	0.0045	0.02	Q V	|	|	|	|
4+40	0.0046	0.02	Q V	|	|	|	|
4+45	0.0048	0.02	Q V	|	|	|	|
4+50	0.0049	0.02	Q V	|	|	|	|
4+55	0.0051	0.02	Q V	|	|	|	|
5+ 0	0.0052	0.02	Q V	|	|	|	|
5+ 5	0.0053	0.02	Q V	|	|	|	|
5+10	0.0055	0.02	Q V	|	|	|	|
5+15	0.0056	0.02	Q V	|	|	|	|
5+20	0.0057	0.02	Q V	|	|	|	|
5+25	0.0058	0.02	Q V	|	|	|	|
5+30	0.0060	0.02	Q V	|	|	|	|
5+35	0.0061	0.02	Q V	|	|	|	|
5+40	0.0063	0.02	Q V	|	|	|	|
5+45	0.0064	0.02	Q V	|	|	|	|
5+50	0.0066	0.02	Q V	|	|	|	|
5+55	0.0067	0.02	Q V	|	|	|	|
6+ 0	0.0069	0.02	Q V	|	|	|	|
6+ 5	0.0070	0.02	Q V	|	|	|	|
6+10	0.0072	0.02	Q V	|	|	|	|
6+15	0.0074	0.02	Q V	|	|	|	|
6+20	0.0076	0.02	Q V	|	|	|	|
6+25	0.0077	0.02	Q V	|	|	|	|
6+30	0.0079	0.02	Q V	|	|	|	|
6+35	0.0081	0.03	Q V	|	|	|	|
6+40	0.0083	0.03	Q V	|	|	|	|
6+45	0.0085	0.03	Q V	|	|	|	|
6+50	0.0087	0.03	Q V	|	|	|	|
6+55	0.0088	0.03	Q V	|	|	|	|
7+ 0	0.0090	0.03	Q V	|	|	|	|
7+ 5	0.0092	0.03	Q V	|	|	|	|
7+10	0.0094	0.03	Q V	|	|	|	|
7+15	0.0096	0.03	Q V	|	|	|	|
7+20	0.0098	0.03	Q V	|	|	|	|
7+25	0.0100	0.03	Q V	|	|	|	|
7+30	0.0102	0.03	Q V	|	|	|	|
7+35	0.0105	0.03	Q V	|	|	|	|
7+40	0.0107	0.03	Q V	|	|	|	|
7+45	0.0109	0.03	Q V	|	|	|	|
7+50	0.0112	0.04	Q V	|	|	|	|
7+55	0.0114	0.04	Q V	|	|	|	|
8+ 0	0.0116	0.04	Q V	|	|	|	|
8+ 5	0.0119	0.04	Q V	|	|	|	|
8+10	0.0122	0.04	Q V	|	|	|	|
8+15	0.0125	0.04	Q V	|	|	|	|
8+20	0.0128	0.04	Q V	|	|	|	|
8+25	0.0131	0.04	Q V	|	|	|	|
8+30	0.0134	0.04	Q V	|	|	|	|

8+35	0.0137	0.04	Q	V|				
8+40	0.0140	0.04	Q	V|				
8+45	0.0143	0.04	Q	V				
8+50	0.0146	0.05	Q	V				
8+55	0.0149	0.05	Q	V				
9+ 0	0.0152	0.05	Q	V				
9+ 5	0.0156	0.05	Q	V				
9+10	0.0160	0.05	Q	|V				
9+15	0.0163	0.05	Q	|V				
9+20	0.0167	0.06	Q	|V				
9+25	0.0171	0.06	Q	|V				
9+30	0.0174	0.06	Q	| V				
9+35	0.0178	0.06	Q	| V				
9+40	0.0182	0.06	Q	| V				
9+45	0.0186	0.06	Q	| V				
9+50	0.0191	0.06	Q	| V				
9+55	0.0195	0.06	Q	| V				
10+ 0	0.0199	0.06	Q	| V				
10+ 5	0.0202	0.04	Q	| V				
10+10	0.0205	0.04	Q	| V				
10+15	0.0207	0.04	Q	| V				
10+20	0.0210	0.04	Q	| V				
10+25	0.0213	0.04	Q	| V				
10+30	0.0216	0.04	Q	| V	|			
10+35	0.0220	0.06	Q	| V	|			
10+40	0.0224	0.06	Q	| V	|			
10+45	0.0227	0.06	Q	| V	|			
10+50	0.0231	0.06	Q	| V	|			
10+55	0.0235	0.06	Q	| V	|			
11+ 0	0.0239	0.06	Q	| V	|			
11+ 5	0.0242	0.05	Q	| V	|			
11+10	0.0246	0.05	Q	| V	|			
11+15	0.0249	0.05	Q	| V	|			
11+20	0.0253	0.05	Q	| V	|			
11+25	0.0257	0.05	Q	| V	|			
11+30	0.0260	0.05	Q	| V	|			
11+35	0.0263	0.05	Q	| V	|			
11+40	0.0267	0.05	Q	| V	|			
11+45	0.0270	0.05	Q	| V	|			
11+50	0.0273	0.05	Q	| V|				
11+55	0.0277	0.05	Q	| V|				
12+ 0	0.0280	0.05	Q	| V|				
12+ 5	0.0285	0.07	Q	| V				
12+10	0.0290	0.07	Q	| V				
12+15	0.0294	0.07	Q	| V				
12+20	0.0299	0.07	Q	| |V				
12+25	0.0304	0.07	Q	| |V				
12+30	0.0309	0.07	Q	| |V				
12+35	0.0314	0.08	Q	| | V				
12+40	0.0320	0.08	Q	| | V				
12+45	0.0325	0.08	Q	| | V				
12+50	0.0331	0.08	Q	| | V				
12+55	0.0336	0.08	Q	| | V				
13+ 0	0.0342	0.08	Q	| | V				
13+ 5	0.0348	0.10	Q	| | V				
13+10	0.0355	0.10	Q	| | V				
13+15	0.0361	0.10	Q	| | V	|			

13+20	0.0368	0.10	Q			V	
13+25	0.0375	0.10	Q			V	
13+30	0.0381	0.10	Q			V	
13+35	0.0386	0.06	Q			V	
13+40	0.0390	0.06	Q			V	
13+45	0.0394	0.06	Q			V	
13+50	0.0399	0.06	Q			V	
13+55	0.0403	0.06	Q			V	
14+ 0	0.0407	0.06	Q			V	
14+ 5	0.0412	0.07	Q			V	
14+10	0.0418	0.07	Q			V	
14+15	0.0423	0.07	Q			V	
14+20	0.0428	0.07	Q			V	
14+25	0.0432	0.07	Q			V	
14+30	0.0437	0.07	Q			V	
14+35	0.0442	0.07	Q			V	
14+40	0.0447	0.07	Q			V	
14+45	0.0452	0.07	Q			V	
14+50	0.0457	0.07	Q			V	
14+55	0.0462	0.07	Q			V	
15+ 0	0.0466	0.07	Q			V	
15+ 5	0.0471	0.07	Q			V	
15+10	0.0475	0.07	Q			V	
15+15	0.0480	0.07	Q			V	
15+20	0.0484	0.06	Q			V	
15+25	0.0489	0.06	Q			V	
15+30	0.0493	0.06	Q			V	
15+35	0.0497	0.05	Q			V	
15+40	0.0500	0.05	Q			V	
15+45	0.0504	0.05	Q			V	
15+50	0.0507	0.05	Q			V	
15+55	0.0511	0.05	Q			V	
16+ 0	0.0515	0.05	Q			V	
16+ 5	0.0515	0.01	Q			V	
16+10	0.0516	0.01	Q			V	
16+15	0.0517	0.01	Q			V	
16+20	0.0518	0.01	Q			V	
16+25	0.0518	0.01	Q			V	
16+30	0.0519	0.01	Q			V	
16+35	0.0520	0.01	Q			V	
16+40	0.0520	0.01	Q			V	
16+45	0.0521	0.01	Q			V	
16+50	0.0522	0.01	Q			V	
16+55	0.0522	0.01	Q			V	
17+ 0	0.0523	0.01	Q			V	
17+ 5	0.0524	0.01	Q			V	
17+10	0.0525	0.01	Q			V	
17+15	0.0525	0.01	Q			V	
17+20	0.0526	0.01	Q			V	
17+25	0.0527	0.01	Q			V	
17+30	0.0528	0.01	Q			V	
17+35	0.0529	0.01	Q			V	
17+40	0.0530	0.01	Q			V	
17+45	0.0531	0.01	Q			V	
17+50	0.0532	0.01	Q			V	
17+55	0.0533	0.01	Q			V	
18+ 0	0.0533	0.01	Q			V	

18+ 5	0.0534	0.01	Q	|	|	|	V |
18+10	0.0535	0.01	Q	|	|	|	V |
18+15	0.0536	0.01	Q	|	|	|	V |
18+20	0.0536	0.01	Q	|	|	|	V |
18+25	0.0537	0.01	Q	|	|	|	V |
18+30	0.0538	0.01	Q	|	|	|	V |
18+35	0.0539	0.01	Q	|	|	|	V |
18+40	0.0539	0.01	Q	|	|	|	V |
18+45	0.0540	0.01	Q	|	|	|	V |
18+50	0.0540	0.01	Q	|	|	|	V |
18+55	0.0540	0.01	Q	|	|	|	V |
19+ 0	0.0541	0.01	Q	|	|	|	V |
19+ 5	0.0541	0.01	Q	|	|	|	V |
19+10	0.0542	0.01	Q	|	|	|	V |
19+15	0.0543	0.01	Q	|	|	|	V |
19+20	0.0543	0.01	Q	|	|	|	V |
19+25	0.0544	0.01	Q	|	|	|	V |
19+30	0.0545	0.01	Q	|	|	|	V |
19+35	0.0545	0.01	Q	|	|	|	V |
19+40	0.0546	0.01	Q	|	|	|	V |
19+45	0.0547	0.01	Q	|	|	|	V |
19+50	0.0547	0.01	Q	|	|	|	V |
19+55	0.0547	0.01	Q	|	|	|	V |
20+ 0	0.0548	0.01	Q	|	|	|	V |
20+ 5	0.0548	0.01	Q	|	|	|	V |
20+10	0.0549	0.01	Q	|	|	|	V |
20+15	0.0549	0.01	Q	|	|	|	V |
20+20	0.0550	0.01	Q	|	|	|	V |
20+25	0.0550	0.01	Q	|	|	|	V |
20+30	0.0551	0.01	Q	|	|	|	V |
20+35	0.0552	0.01	Q	|	|	|	V |
20+40	0.0552	0.01	Q	|	|	|	V |
20+45	0.0553	0.01	Q	|	|	|	V |
20+50	0.0553	0.01	Q	|	|	|	V |
20+55	0.0554	0.01	Q	|	|	|	V |
21+ 0	0.0554	0.01	Q	|	|	|	V |
21+ 5	0.0554	0.01	Q	|	|	|	V |
21+10	0.0555	0.01	Q	|	|	|	V|
21+15	0.0556	0.01	Q	|	|	|	V|
21+20	0.0556	0.01	Q	|	|	|	V|
21+25	0.0556	0.01	Q	|	|	|	V|
21+30	0.0557	0.01	Q	|	|	|	V|
21+35	0.0557	0.01	Q	|	|	|	V|
21+40	0.0558	0.01	Q	|	|	|	V|
21+45	0.0558	0.01	Q	|	|	|	V|
21+50	0.0559	0.01	Q	|	|	|	V|
21+55	0.0559	0.01	Q	|	|	|	V|
22+ 0	0.0560	0.01	Q	|	|	|	V|
22+ 5	0.0560	0.01	Q	|	|	|	V|
22+10	0.0561	0.01	Q	|	|	|	V|
22+15	0.0561	0.01	Q	|	|	|	V|
22+20	0.0562	0.01	Q	|	|	|	V|
22+25	0.0562	0.01	Q	|	|	|	V|
22+30	0.0562	0.01	Q	|	|	|	V|
22+35	0.0563	0.01	Q	|	|	|	V|
22+40	0.0563	0.01	Q	|	|	|	V|
22+45	0.0564	0.01	Q	|	|	|	V|

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  22+50       0.0564      0.01  Q          |          |          |         V|
  22+55       0.0564      0.01  Q          |          |          |         V|
  23+ 0       0.0565      0.01  Q          |          |          |         V|
  23+ 5       0.0565      0.01  Q          |          |          |         V|
  23+10       0.0565      0.01  Q          |          |          |         V|
  23+15       0.0566      0.01  Q          |          |          |         V|
  23+20       0.0566      0.01  Q          |          |          |         V|
  23+25       0.0567      0.01  Q          |          |          |         V|
  23+30       0.0567      0.01  Q          |          |          |         V|
  23+35       0.0567      0.01  Q          |          |          |         V|
  23+40       0.0568      0.01  Q          |          |          |         V|
  23+45       0.0568      0.01  Q          |          |          |         V|
  23+50       0.0568      0.01  Q          |          |          |         V|
  23+55       0.0569      0.01  Q          |          |          |         V|
  24+ 0       0.0569      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 06/03/26 File: 19267p005GH245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	1.66	1.83

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	4.10	4.53

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.105	75.00	0.840

Total Area Entered = 1.11(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.840	0.074	1.000	0.074
					Sum (F) =	0.074

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1261.013	100.000	1.114
		Sum = 100.000	Sum= 1.114

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.131)	0.004	0.014
2	0.17	0.07	0.018	(0.131)	0.004	0.014
3	0.25	0.07	0.018	(0.130)	0.004	0.014
4	0.33	0.10	0.027	(0.130)	0.006	0.021
5	0.42	0.10	0.027	(0.129)	0.006	0.021
6	0.50	0.10	0.027	(0.129)	0.006	0.021
7	0.58	0.10	0.027	(0.128)	0.006	0.021
8	0.67	0.10	0.027	(0.128)	0.006	0.021
9	0.75	0.10	0.027	(0.127)	0.006	0.021
10	0.83	0.13	0.036	(0.127)	0.008	0.027
11	0.92	0.13	0.036	(0.126)	0.008	0.027
12	1.00	0.13	0.036	(0.126)	0.008	0.027

13	1.08	0.10	0.027	(0.125)	0.006	0.021
14	1.17	0.10	0.027	(0.125)	0.006	0.021
15	1.25	0.10	0.027	(0.124)	0.006	0.021
16	1.33	0.10	0.027	(0.124)	0.006	0.021
17	1.42	0.10	0.027	(0.123)	0.006	0.021
18	1.50	0.10	0.027	(0.123)	0.006	0.021
19	1.58	0.10	0.027	(0.122)	0.006	0.021
20	1.67	0.10	0.027	(0.122)	0.006	0.021
21	1.75	0.10	0.027	(0.121)	0.006	0.021
22	1.83	0.13	0.036	(0.121)	0.008	0.027
23	1.92	0.13	0.036	(0.120)	0.008	0.027
24	2.00	0.13	0.036	(0.120)	0.008	0.027
25	2.08	0.13	0.036	(0.119)	0.008	0.027
26	2.17	0.13	0.036	(0.119)	0.008	0.027
27	2.25	0.13	0.036	(0.118)	0.008	0.027
28	2.33	0.13	0.036	(0.118)	0.008	0.027
29	2.42	0.13	0.036	(0.117)	0.008	0.027
30	2.50	0.13	0.036	(0.117)	0.008	0.027
31	2.58	0.17	0.045	(0.116)	0.010	0.034
32	2.67	0.17	0.045	(0.116)	0.010	0.034
33	2.75	0.17	0.045	(0.115)	0.010	0.034
34	2.83	0.17	0.045	(0.115)	0.010	0.034
35	2.92	0.17	0.045	(0.114)	0.010	0.034
36	3.00	0.17	0.045	(0.114)	0.010	0.034
37	3.08	0.17	0.045	(0.113)	0.010	0.034
38	3.17	0.17	0.045	(0.113)	0.010	0.034
39	3.25	0.17	0.045	(0.112)	0.010	0.034
40	3.33	0.17	0.045	(0.112)	0.010	0.034
41	3.42	0.17	0.045	(0.112)	0.010	0.034
42	3.50	0.17	0.045	(0.111)	0.010	0.034
43	3.58	0.17	0.045	(0.111)	0.010	0.034
44	3.67	0.17	0.045	(0.110)	0.010	0.034
45	3.75	0.17	0.045	(0.110)	0.010	0.034
46	3.83	0.20	0.054	(0.109)	0.012	0.041
47	3.92	0.20	0.054	(0.109)	0.012	0.041
48	4.00	0.20	0.054	(0.108)	0.012	0.041
49	4.08	0.20	0.054	(0.108)	0.012	0.041
50	4.17	0.20	0.054	(0.107)	0.012	0.041
51	4.25	0.20	0.054	(0.107)	0.012	0.041
52	4.33	0.23	0.062	(0.106)	0.014	0.048
53	4.42	0.23	0.062	(0.106)	0.014	0.048
54	4.50	0.23	0.062	(0.106)	0.014	0.048
55	4.58	0.23	0.062	(0.105)	0.014	0.048
56	4.67	0.23	0.062	(0.105)	0.014	0.048
57	4.75	0.23	0.062	(0.104)	0.014	0.048
58	4.83	0.27	0.071	(0.104)	0.016	0.055
59	4.92	0.27	0.071	(0.103)	0.016	0.055
60	5.00	0.27	0.071	(0.103)	0.016	0.055
61	5.08	0.20	0.054	(0.102)	0.012	0.041
62	5.17	0.20	0.054	(0.102)	0.012	0.041
63	5.25	0.20	0.054	(0.102)	0.012	0.041
64	5.33	0.23	0.062	(0.101)	0.014	0.048
65	5.42	0.23	0.062	(0.101)	0.014	0.048
66	5.50	0.23	0.062	(0.100)	0.014	0.048
67	5.58	0.27	0.071	(0.100)	0.016	0.055
68	5.67	0.27	0.071	(0.099)	0.016	0.055
69	5.75	0.27	0.071	(0.099)	0.016	0.055

70	5.83	0.27	0.071	(0.098)	0.016	0.055
71	5.92	0.27	0.071	(0.098)	0.016	0.055
72	6.00	0.27	0.071	(0.098)	0.016	0.055
73	6.08	0.30	0.080	(0.097)	0.018	0.062
74	6.17	0.30	0.080	(0.097)	0.018	0.062
75	6.25	0.30	0.080	(0.096)	0.018	0.062
76	6.33	0.30	0.080	(0.096)	0.018	0.062
77	6.42	0.30	0.080	(0.095)	0.018	0.062
78	6.50	0.30	0.080	(0.095)	0.018	0.062
79	6.58	0.33	0.089	(0.095)	0.021	0.069
80	6.67	0.33	0.089	(0.094)	0.021	0.069
81	6.75	0.33	0.089	(0.094)	0.021	0.069
82	6.83	0.33	0.089	(0.093)	0.021	0.069
83	6.92	0.33	0.089	(0.093)	0.021	0.069
84	7.00	0.33	0.089	(0.092)	0.021	0.069
85	7.08	0.33	0.089	(0.092)	0.021	0.069
86	7.17	0.33	0.089	(0.092)	0.021	0.069
87	7.25	0.33	0.089	(0.091)	0.021	0.069
88	7.33	0.37	0.098	(0.091)	0.023	0.076
89	7.42	0.37	0.098	(0.090)	0.023	0.076
90	7.50	0.37	0.098	(0.090)	0.023	0.076
91	7.58	0.40	0.107	(0.090)	0.025	0.082
92	7.67	0.40	0.107	(0.089)	0.025	0.082
93	7.75	0.40	0.107	(0.089)	0.025	0.082
94	7.83	0.43	0.116	(0.088)	0.027	0.089
95	7.92	0.43	0.116	(0.088)	0.027	0.089
96	8.00	0.43	0.116	(0.087)	0.027	0.089
97	8.08	0.50	0.134	(0.087)	0.031	0.103
98	8.17	0.50	0.134	(0.087)	0.031	0.103
99	8.25	0.50	0.134	(0.086)	0.031	0.103
100	8.33	0.50	0.134	(0.086)	0.031	0.103
101	8.42	0.50	0.134	(0.085)	0.031	0.103
102	8.50	0.50	0.134	(0.085)	0.031	0.103
103	8.58	0.53	0.143	(0.085)	0.033	0.110
104	8.67	0.53	0.143	(0.084)	0.033	0.110
105	8.75	0.53	0.143	(0.084)	0.033	0.110
106	8.83	0.57	0.152	(0.083)	0.035	0.117
107	8.92	0.57	0.152	(0.083)	0.035	0.117
108	9.00	0.57	0.152	(0.083)	0.035	0.117
109	9.08	0.63	0.170	(0.082)	0.039	0.131
110	9.17	0.63	0.170	(0.082)	0.039	0.131
111	9.25	0.63	0.170	(0.082)	0.039	0.131
112	9.33	0.67	0.179	(0.081)	0.041	0.137
113	9.42	0.67	0.179	(0.081)	0.041	0.137
114	9.50	0.67	0.179	(0.080)	0.041	0.137
115	9.58	0.70	0.187	(0.080)	0.043	0.144
116	9.67	0.70	0.187	(0.080)	0.043	0.144
117	9.75	0.70	0.187	(0.079)	0.043	0.144
118	9.83	0.73	0.196	(0.079)	0.045	0.151
119	9.92	0.73	0.196	(0.078)	0.045	0.151
120	10.00	0.73	0.196	(0.078)	0.045	0.151
121	10.08	0.50	0.134	(0.078)	0.031	0.103
122	10.17	0.50	0.134	(0.077)	0.031	0.103
123	10.25	0.50	0.134	(0.077)	0.031	0.103
124	10.33	0.50	0.134	(0.077)	0.031	0.103
125	10.42	0.50	0.134	(0.076)	0.031	0.103
126	10.50	0.50	0.134	(0.076)	0.031	0.103

127	10.58	0.67	0.179	(0.075)	0.041	0.137
128	10.67	0.67	0.179	(0.075)	0.041	0.137
129	10.75	0.67	0.179	(0.075)	0.041	0.137
130	10.83	0.67	0.179	(0.074)	0.041	0.137
131	10.92	0.67	0.179	(0.074)	0.041	0.137
132	11.00	0.67	0.179	(0.074)	0.041	0.137
133	11.08	0.63	0.170	(0.073)	0.039	0.131
134	11.17	0.63	0.170	(0.073)	0.039	0.131
135	11.25	0.63	0.170	(0.073)	0.039	0.131
136	11.33	0.63	0.170	(0.072)	0.039	0.131
137	11.42	0.63	0.170	(0.072)	0.039	0.131
138	11.50	0.63	0.170	(0.071)	0.039	0.131
139	11.58	0.57	0.152	(0.071)	0.035	0.117
140	11.67	0.57	0.152	(0.071)	0.035	0.117
141	11.75	0.57	0.152	(0.070)	0.035	0.117
142	11.83	0.60	0.161	(0.070)	0.037	0.124
143	11.92	0.60	0.161	(0.070)	0.037	0.124
144	12.00	0.60	0.161	(0.069)	0.037	0.124
145	12.08	0.83	0.223	(0.069)	0.051	0.172
146	12.17	0.83	0.223	(0.069)	0.051	0.172
147	12.25	0.83	0.223	(0.068)	0.051	0.172
148	12.33	0.87	0.232	(0.068)	0.053	0.179
149	12.42	0.87	0.232	(0.068)	0.053	0.179
150	12.50	0.87	0.232	(0.067)	0.053	0.179
151	12.58	0.93	0.250	(0.067)	0.057	0.192
152	12.67	0.93	0.250	(0.067)	0.057	0.192
153	12.75	0.93	0.250	(0.066)	0.057	0.192
154	12.83	0.97	0.259	(0.066)	0.060	0.199
155	12.92	0.97	0.259	(0.066)	0.060	0.199
156	13.00	0.97	0.259	(0.065)	0.060	0.199
157	13.08	1.13	0.303	0.065	(0.070)	0.239
158	13.17	1.13	0.303	0.065	(0.070)	0.239
159	13.25	1.13	0.303	0.064	(0.070)	0.239
160	13.33	1.13	0.303	0.064	(0.070)	0.240
161	13.42	1.13	0.303	0.064	(0.070)	0.240
162	13.50	1.13	0.303	0.063	(0.070)	0.240
163	13.58	0.77	0.205	(0.063)	0.047	0.158
164	13.67	0.77	0.205	(0.063)	0.047	0.158
165	13.75	0.77	0.205	(0.062)	0.047	0.158
166	13.83	0.77	0.205	(0.062)	0.047	0.158
167	13.92	0.77	0.205	(0.062)	0.047	0.158
168	14.00	0.77	0.205	(0.061)	0.047	0.158
169	14.08	0.90	0.241	(0.061)	0.055	0.186
170	14.17	0.90	0.241	(0.061)	0.055	0.186
171	14.25	0.90	0.241	(0.060)	0.055	0.186
172	14.33	0.87	0.232	(0.060)	0.053	0.179
173	14.42	0.87	0.232	(0.060)	0.053	0.179
174	14.50	0.87	0.232	(0.060)	0.053	0.179
175	14.58	0.87	0.232	(0.059)	0.053	0.179
176	14.67	0.87	0.232	(0.059)	0.053	0.179
177	14.75	0.87	0.232	(0.059)	0.053	0.179
178	14.83	0.83	0.223	(0.058)	0.051	0.172
179	14.92	0.83	0.223	(0.058)	0.051	0.172
180	15.00	0.83	0.223	(0.058)	0.051	0.172
181	15.08	0.80	0.214	(0.057)	0.049	0.165
182	15.17	0.80	0.214	(0.057)	0.049	0.165
183	15.25	0.80	0.214	(0.057)	0.049	0.165

184	15.33	0.77	0.205	(0.057)	0.047	0.158
185	15.42	0.77	0.205	(0.056)	0.047	0.158
186	15.50	0.77	0.205	(0.056)	0.047	0.158
187	15.58	0.63	0.170	(0.056)	0.039	0.131
188	15.67	0.63	0.170	(0.055)	0.039	0.131
189	15.75	0.63	0.170	(0.055)	0.039	0.131
190	15.83	0.63	0.170	(0.055)	0.039	0.131
191	15.92	0.63	0.170	(0.055)	0.039	0.131
192	16.00	0.63	0.170	(0.054)	0.039	0.131
193	16.08	0.13	0.036	(0.054)	0.008	0.027
194	16.17	0.13	0.036	(0.054)	0.008	0.027
195	16.25	0.13	0.036	(0.053)	0.008	0.027
196	16.33	0.13	0.036	(0.053)	0.008	0.027
197	16.42	0.13	0.036	(0.053)	0.008	0.027
198	16.50	0.13	0.036	(0.053)	0.008	0.027
199	16.58	0.10	0.027	(0.052)	0.006	0.021
200	16.67	0.10	0.027	(0.052)	0.006	0.021
201	16.75	0.10	0.027	(0.052)	0.006	0.021
202	16.83	0.10	0.027	(0.052)	0.006	0.021
203	16.92	0.10	0.027	(0.051)	0.006	0.021
204	17.00	0.10	0.027	(0.051)	0.006	0.021
205	17.08	0.17	0.045	(0.051)	0.010	0.034
206	17.17	0.17	0.045	(0.051)	0.010	0.034
207	17.25	0.17	0.045	(0.050)	0.010	0.034
208	17.33	0.17	0.045	(0.050)	0.010	0.034
209	17.42	0.17	0.045	(0.050)	0.010	0.034
210	17.50	0.17	0.045	(0.050)	0.010	0.034
211	17.58	0.17	0.045	(0.049)	0.010	0.034
212	17.67	0.17	0.045	(0.049)	0.010	0.034
213	17.75	0.17	0.045	(0.049)	0.010	0.034
214	17.83	0.13	0.036	(0.049)	0.008	0.027
215	17.92	0.13	0.036	(0.048)	0.008	0.027
216	18.00	0.13	0.036	(0.048)	0.008	0.027
217	18.08	0.13	0.036	(0.048)	0.008	0.027
218	18.17	0.13	0.036	(0.048)	0.008	0.027
219	18.25	0.13	0.036	(0.047)	0.008	0.027
220	18.33	0.13	0.036	(0.047)	0.008	0.027
221	18.42	0.13	0.036	(0.047)	0.008	0.027
222	18.50	0.13	0.036	(0.047)	0.008	0.027
223	18.58	0.10	0.027	(0.046)	0.006	0.021
224	18.67	0.10	0.027	(0.046)	0.006	0.021
225	18.75	0.10	0.027	(0.046)	0.006	0.021
226	18.83	0.07	0.018	(0.046)	0.004	0.014
227	18.92	0.07	0.018	(0.046)	0.004	0.014
228	19.00	0.07	0.018	(0.045)	0.004	0.014
229	19.08	0.10	0.027	(0.045)	0.006	0.021
230	19.17	0.10	0.027	(0.045)	0.006	0.021
231	19.25	0.10	0.027	(0.045)	0.006	0.021
232	19.33	0.13	0.036	(0.045)	0.008	0.027
233	19.42	0.13	0.036	(0.044)	0.008	0.027
234	19.50	0.13	0.036	(0.044)	0.008	0.027
235	19.58	0.10	0.027	(0.044)	0.006	0.021
236	19.67	0.10	0.027	(0.044)	0.006	0.021
237	19.75	0.10	0.027	(0.044)	0.006	0.021
238	19.83	0.07	0.018	(0.043)	0.004	0.014
239	19.92	0.07	0.018	(0.043)	0.004	0.014
240	20.00	0.07	0.018	(0.043)	0.004	0.014

241	20.08	0.10	0.027	(0.043)	0.006	0.021
242	20.17	0.10	0.027	(0.043)	0.006	0.021
243	20.25	0.10	0.027	(0.042)	0.006	0.021
244	20.33	0.10	0.027	(0.042)	0.006	0.021
245	20.42	0.10	0.027	(0.042)	0.006	0.021
246	20.50	0.10	0.027	(0.042)	0.006	0.021
247	20.58	0.10	0.027	(0.042)	0.006	0.021
248	20.67	0.10	0.027	(0.041)	0.006	0.021
249	20.75	0.10	0.027	(0.041)	0.006	0.021
250	20.83	0.07	0.018	(0.041)	0.004	0.014
251	20.92	0.07	0.018	(0.041)	0.004	0.014
252	21.00	0.07	0.018	(0.041)	0.004	0.014
253	21.08	0.10	0.027	(0.041)	0.006	0.021
254	21.17	0.10	0.027	(0.040)	0.006	0.021
255	21.25	0.10	0.027	(0.040)	0.006	0.021
256	21.33	0.07	0.018	(0.040)	0.004	0.014
257	21.42	0.07	0.018	(0.040)	0.004	0.014
258	21.50	0.07	0.018	(0.040)	0.004	0.014
259	21.58	0.10	0.027	(0.040)	0.006	0.021
260	21.67	0.10	0.027	(0.040)	0.006	0.021
261	21.75	0.10	0.027	(0.039)	0.006	0.021
262	21.83	0.07	0.018	(0.039)	0.004	0.014
263	21.92	0.07	0.018	(0.039)	0.004	0.014
264	22.00	0.07	0.018	(0.039)	0.004	0.014
265	22.08	0.10	0.027	(0.039)	0.006	0.021
266	22.17	0.10	0.027	(0.039)	0.006	0.021
267	22.25	0.10	0.027	(0.039)	0.006	0.021
268	22.33	0.07	0.018	(0.039)	0.004	0.014
269	22.42	0.07	0.018	(0.038)	0.004	0.014
270	22.50	0.07	0.018	(0.038)	0.004	0.014
271	22.58	0.07	0.018	(0.038)	0.004	0.014
272	22.67	0.07	0.018	(0.038)	0.004	0.014
273	22.75	0.07	0.018	(0.038)	0.004	0.014
274	22.83	0.07	0.018	(0.038)	0.004	0.014
275	22.92	0.07	0.018	(0.038)	0.004	0.014
276	23.00	0.07	0.018	(0.038)	0.004	0.014
277	23.08	0.07	0.018	(0.038)	0.004	0.014
278	23.17	0.07	0.018	(0.038)	0.004	0.014
279	23.25	0.07	0.018	(0.037)	0.004	0.014
280	23.33	0.07	0.018	(0.037)	0.004	0.014
281	23.42	0.07	0.018	(0.037)	0.004	0.014
282	23.50	0.07	0.018	(0.037)	0.004	0.014
283	23.58	0.07	0.018	(0.037)	0.004	0.014
284	23.67	0.07	0.018	(0.037)	0.004	0.014
285	23.75	0.07	0.018	(0.037)	0.004	0.014
286	23.83	0.07	0.018	(0.037)	0.004	0.014
287	23.92	0.07	0.018	(0.037)	0.004	0.014
288	24.00	0.07	0.018	(0.037)	0.004	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.7

Flood volume = Effective rainfall 1.72(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

Total soil loss = 0.51(In)
Total soil loss = 0.047(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 6903.5 Cubic Feet
Total soil loss = 2047.3 Cubic Feet

Peak flow rate of this hydrograph = 0.268(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q				
0+10	0.0002	0.02	Q				
0+15	0.0003	0.02	Q				
0+20	0.0005	0.02	Q				
0+25	0.0006	0.02	Q				
0+30	0.0008	0.02	Q				
0+35	0.0009	0.02	Q				
0+40	0.0011	0.02	Q				
0+45	0.0013	0.02	Q				
0+50	0.0015	0.03	Q				
0+55	0.0017	0.03	Q				
1+ 0	0.0019	0.03	Q				
1+ 5	0.0021	0.02	Q				
1+10	0.0022	0.02	Q				
1+15	0.0024	0.02	Q				
1+20	0.0025	0.02	Q				
1+25	0.0027	0.02	Q				
1+30	0.0028	0.02	Q				
1+35	0.0030	0.02	Q				
1+40	0.0032	0.02	Q				
1+45	0.0033	0.02	Q				
1+50	0.0035	0.03	Q				
1+55	0.0037	0.03	Q				
2+ 0	0.0040	0.03	Q				
2+ 5	0.0042	0.03	QV				
2+10	0.0044	0.03	QV				
2+15	0.0046	0.03	QV				
2+20	0.0048	0.03	QV				
2+25	0.0050	0.03	QV				
2+30	0.0052	0.03	QV				
2+35	0.0055	0.04	QV				
2+40	0.0057	0.04	QV				
2+45	0.0060	0.04	QV				
2+50	0.0063	0.04	QV				
2+55	0.0065	0.04	QV				
3+ 0	0.0068	0.04	QV				
3+ 5	0.0071	0.04	QV				
3+10	0.0073	0.04	QV				
3+15	0.0076	0.04	QV				
3+20	0.0079	0.04	QV				
3+25	0.0081	0.04	Q V				
3+30	0.0084	0.04	Q V				
3+35	0.0086	0.04	Q V				
3+40	0.0089	0.04	Q V				
3+45	0.0092	0.04	Q V				

3+50	0.0095	0.05	Q V	|	|	|	|
3+55	0.0098	0.05	Q V	|	|	|	|
4+ 0	0.0101	0.05	Q V	|	|	|	|
4+ 5	0.0104	0.05	Q V	|	|	|	|
4+10	0.0108	0.05	Q V	|	|	|	|
4+15	0.0111	0.05	Q V	|	|	|	|
4+20	0.0114	0.05	Q V	|	|	|	|
4+25	0.0118	0.05	Q V	|	|	|	|
4+30	0.0122	0.05	Q V	|	|	|	|
4+35	0.0126	0.05	Q V	|	|	|	|
4+40	0.0129	0.05	Q V	|	|	|	|
4+45	0.0133	0.05	Q V	|	|	|	|
4+50	0.0137	0.06	Q V	|	|	|	|
4+55	0.0141	0.06	Q V	|	|	|	|
5+ 0	0.0146	0.06	Q V	|	|	|	|
5+ 5	0.0149	0.05	Q V	|	|	|	|
5+10	0.0152	0.05	Q V	|	|	|	|
5+15	0.0155	0.05	Q V	|	|	|	|
5+20	0.0159	0.05	Q V	|	|	|	|
5+25	0.0162	0.05	Q V	|	|	|	|
5+30	0.0166	0.05	Q V	|	|	|	|
5+35	0.0170	0.06	Q V	|	|	|	|
5+40	0.0175	0.06	Q V	|	|	|	|
5+45	0.0179	0.06	Q V	|	|	|	|
5+50	0.0183	0.06	Q V	|	|	|	|
5+55	0.0187	0.06	Q V	|	|	|	|
6+ 0	0.0191	0.06	Q V	|	|	|	|
6+ 5	0.0196	0.07	Q V	|	|	|	|
6+10	0.0201	0.07	Q V	|	|	|	|
6+15	0.0206	0.07	Q V	|	|	|	|
6+20	0.0210	0.07	Q V	|	|	|	|
6+25	0.0215	0.07	Q V	|	|	|	|
6+30	0.0220	0.07	Q V	|	|	|	|
6+35	0.0225	0.08	Q V	|	|	|	|
6+40	0.0230	0.08	Q V	|	|	|	|
6+45	0.0236	0.08	Q V	|	|	|	|
6+50	0.0241	0.08	Q V	|	|	|	|
6+55	0.0246	0.08	Q V	|	|	|	|
7+ 0	0.0252	0.08	Q V	|	|	|	|
7+ 5	0.0257	0.08	Q V	|	|	|	|
7+10	0.0262	0.08	Q V	|	|	|	|
7+15	0.0267	0.08	Q V	|	|	|	|
7+20	0.0273	0.08	Q V	|	|	|	|
7+25	0.0279	0.08	Q V	|	|	|	|
7+30	0.0285	0.08	Q V	|	|	|	|
7+35	0.0291	0.09	Q V	|	|	|	|
7+40	0.0297	0.09	Q V	|	|	|	|
7+45	0.0304	0.09	Q V	|	|	|	|
7+50	0.0311	0.10	Q V	|	|	|	|
7+55	0.0318	0.10	Q V	|	|	|	|
8+ 0	0.0324	0.10	Q V	|	|	|	|
8+ 5	0.0332	0.11	Q V	|	|	|	|
8+10	0.0340	0.11	Q V	|	|	|	|
8+15	0.0348	0.11	Q V	|	|	|	|
8+20	0.0356	0.11	Q V	|	|	|	|
8+25	0.0364	0.11	Q V	|	|	|	|
8+30	0.0372	0.11	Q V	|	|	|	|

8+35	0.0380	0.12	Q	V|	|	|	|	|
8+40	0.0389	0.12	Q	V|	|	|	|	|
8+45	0.0397	0.12	Q	V	|	|	|	|
8+50	0.0406	0.13	Q	V	|	|	|	|
8+55	0.0415	0.13	Q	V	|	|	|	|
9+ 0	0.0424	0.13	Q	V	|	|	|	|
9+ 5	0.0434	0.15	Q	V	|	|	|	|
9+10	0.0444	0.15	Q	|V	|	|	|	|
9+15	0.0454	0.15	Q	|V	|	|	|	|
9+20	0.0465	0.15	Q	|V	|	|	|	|
9+25	0.0475	0.15	Q	|V	|	|	|	|
9+30	0.0486	0.15	Q	| V	|	|	|	|
9+35	0.0497	0.16	Q	| V	|	|	|	|
9+40	0.0508	0.16	Q	| V	|	|	|	|
9+45	0.0519	0.16	Q	| V	|	|	|	|
9+50	0.0531	0.17	Q	| V	|	|	|	|
9+55	0.0542	0.17	Q	| V	|	|	|	|
10+ 0	0.0554	0.17	Q	| V	|	|	|	|
10+ 5	0.0562	0.11	Q	| V	|	|	|	|
10+10	0.0570	0.11	Q	| V	|	|	|	|
10+15	0.0578	0.11	Q	| V	|	|	|	|
10+20	0.0585	0.11	Q	| V	|	|	|	|
10+25	0.0593	0.11	Q	| V	|	|	|	|
10+30	0.0601	0.11	Q	| V	|	|	|	|
10+35	0.0612	0.15	Q	| V	|	|	|	|
10+40	0.0622	0.15	Q	| V	|	|	|	|
10+45	0.0633	0.15	Q	| V	|	|	|	|
10+50	0.0643	0.15	Q	| V	|	|	|	|
10+55	0.0654	0.15	Q	| V	|	|	|	|
11+ 0	0.0665	0.15	Q	| V	|	|	|	|
11+ 5	0.0675	0.15	Q	| V	|	|	|	|
11+10	0.0685	0.15	Q	| V	|	|	|	|
11+15	0.0695	0.15	Q	| V	|	|	|	|
11+20	0.0705	0.15	Q	| V	|	|	|	|
11+25	0.0715	0.15	Q	| V	|	|	|	|
11+30	0.0725	0.15	Q	| V	|	|	|	|
11+35	0.0734	0.13	Q	| V	|	|	|	|
11+40	0.0743	0.13	Q	| V	|	|	|	|
11+45	0.0752	0.13	Q	| V	|	|	|	|
11+50	0.0761	0.14	Q	| V|	|	|	|	|
11+55	0.0771	0.14	Q	| V|	|	|	|	|
12+ 0	0.0780	0.14	Q	| V|	|	|	|	|
12+ 5	0.0793	0.19	Q	| V	|	|	|	|
12+10	0.0806	0.19	Q	| V	|	|	|	|
12+15	0.0820	0.19	Q	| V	|	|	|	|
12+20	0.0833	0.20	Q	| |V	|	|	|	|
12+25	0.0847	0.20	Q	| |V	|	|	|	|
12+30	0.0861	0.20	Q	| |V	|	|	|	|
12+35	0.0875	0.21	Q	| | V	|	|	|	|
12+40	0.0890	0.21	Q	| | V	|	|	|	|
12+45	0.0905	0.21	Q	| | V	|	|	|	|
12+50	0.0920	0.22	Q	| | V	|	|	|	|
12+55	0.0936	0.22	Q	| | V	|	|	|	|
13+ 0	0.0951	0.22	Q	| | V	|	|	|	|
13+ 5	0.0969	0.27	|Q	| | V	|	|	|	|
13+10	0.0988	0.27	|Q	| | V	|	|	|	|
13+15	0.1006	0.27	|Q	| | V	|	|	|	|

13+20	0.1024	0.27	|Q	|	|	V |	|	|
13+25	0.1043	0.27	|Q	|	|	V |	|	|
13+30	0.1061	0.27	|Q	|	|	V |	|	|
13+35	0.1073	0.18	Q	|	|	V |	|	|
13+40	0.1085	0.18	Q	|	|	V |	|	|
13+45	0.1098	0.18	Q	|	|	V |	|	|
13+50	0.1110	0.18	Q	|	|	V |	|	|
13+55	0.1122	0.18	Q	|	|	V |	|	|
14+ 0	0.1134	0.18	Q	|	|	V |	|	|
14+ 5	0.1148	0.21	Q	|	|	V |	|	|
14+10	0.1162	0.21	Q	|	|	V|	|	|
14+15	0.1177	0.21	Q	|	|	V|	|	|
14+20	0.1190	0.20	Q	|	|	V |	|	|
14+25	0.1204	0.20	Q	|	|	V |	|	|
14+30	0.1218	0.20	Q	|	|	V |	|	|
14+35	0.1231	0.20	Q	|	|	|V |	|	|
14+40	0.1245	0.20	Q	|	|	|V |	|	|
14+45	0.1259	0.20	Q	|	|	|V |	|	|
14+50	0.1272	0.19	Q	|	|	| V |	|	|
14+55	0.1285	0.19	Q	|	|	| V |	|	|
15+ 0	0.1298	0.19	Q	|	|	| V |	|	|
15+ 5	0.1311	0.18	Q	|	|	| V |	|	|
15+10	0.1324	0.18	Q	|	|	| V |	|	|
15+15	0.1336	0.18	Q	|	|	| V |	|	|
15+20	0.1349	0.18	Q	|	|	| V |	|	|
15+25	0.1361	0.18	Q	|	|	| V |	|	|
15+30	0.1373	0.18	Q	|	|	| V |	|	|
15+35	0.1383	0.15	Q	|	|	| V |	|	|
15+40	0.1393	0.15	Q	|	|	| V |	|	|
15+45	0.1403	0.15	Q	|	|	| V |	|	|
15+50	0.1413	0.15	Q	|	|	| V |	|	|
15+55	0.1423	0.15	Q	|	|	| V |	|	|
16+ 0	0.1433	0.15	Q	|	|	| V |	|	|
16+ 5	0.1435	0.03	Q	|	|	| V |	|	|
16+10	0.1437	0.03	Q	|	|	| V |	|	|
16+15	0.1439	0.03	Q	|	|	| V |	|	|
16+20	0.1441	0.03	Q	|	|	| V |	|	|
16+25	0.1443	0.03	Q	|	|	| V |	|	|
16+30	0.1446	0.03	Q	|	|	| V |	|	|
16+35	0.1447	0.02	Q	|	|	| V |	|	|
16+40	0.1449	0.02	Q	|	|	| V |	|	|
16+45	0.1450	0.02	Q	|	|	| V |	|	|
16+50	0.1452	0.02	Q	|	|	| V |	|	|
16+55	0.1454	0.02	Q	|	|	| V |	|	|
17+ 0	0.1455	0.02	Q	|	|	| V |	|	|
17+ 5	0.1458	0.04	Q	|	|	| V |	|	|
17+10	0.1460	0.04	Q	|	|	| V |	|	|
17+15	0.1463	0.04	Q	|	|	| V |	|	|
17+20	0.1466	0.04	Q	|	|	| V |	|	|
17+25	0.1468	0.04	Q	|	|	| V |	|	|
17+30	0.1471	0.04	Q	|	|	| V |	|	|
17+35	0.1474	0.04	Q	|	|	| V |	|	|
17+40	0.1476	0.04	Q	|	|	| V |	|	|
17+45	0.1479	0.04	Q	|	|	| V |	|	|
17+50	0.1481	0.03	Q	|	|	| V |	|	|
17+55	0.1483	0.03	Q	|	|	| V |	|	|
18+ 0	0.1485	0.03	Q	|	|	| V |	|	|

18+ 5	0.1487	0.03	Q	|	|	|	V |
18+10	0.1489	0.03	Q	|	|	|	V |
18+15	0.1491	0.03	Q	|	|	|	V |
18+20	0.1494	0.03	Q	|	|	|	V |
18+25	0.1496	0.03	Q	|	|	|	V |
18+30	0.1498	0.03	Q	|	|	|	V |
18+35	0.1499	0.02	Q	|	|	|	V |
18+40	0.1501	0.02	Q	|	|	|	V |
18+45	0.1503	0.02	Q	|	|	|	V |
18+50	0.1504	0.02	Q	|	|	|	V |
18+55	0.1505	0.02	Q	|	|	|	V |
19+ 0	0.1506	0.02	Q	|	|	|	V |
19+ 5	0.1507	0.02	Q	|	|	|	V |
19+10	0.1509	0.02	Q	|	|	|	V |
19+15	0.1510	0.02	Q	|	|	|	V |
19+20	0.1513	0.03	Q	|	|	|	V |
19+25	0.1515	0.03	Q	|	|	|	V |
19+30	0.1517	0.03	Q	|	|	|	V |
19+35	0.1518	0.02	Q	|	|	|	V |
19+40	0.1520	0.02	Q	|	|	|	V |
19+45	0.1522	0.02	Q	|	|	|	V |
19+50	0.1523	0.02	Q	|	|	|	V |
19+55	0.1524	0.02	Q	|	|	|	V |
20+ 0	0.1525	0.02	Q	|	|	|	V |
20+ 5	0.1526	0.02	Q	|	|	|	V |
20+10	0.1528	0.02	Q	|	|	|	V |
20+15	0.1529	0.02	Q	|	|	|	V |
20+20	0.1531	0.02	Q	|	|	|	V |
20+25	0.1533	0.02	Q	|	|	|	V |
20+30	0.1534	0.02	Q	|	|	|	V |
20+35	0.1536	0.02	Q	|	|	|	V |
20+40	0.1537	0.02	Q	|	|	|	V |
20+45	0.1539	0.02	Q	|	|	|	V |
20+50	0.1540	0.02	Q	|	|	|	V |
20+55	0.1541	0.02	Q	|	|	|	V |
21+ 0	0.1542	0.02	Q	|	|	|	V |
21+ 5	0.1544	0.02	Q	|	|	|	V |
21+10	0.1545	0.02	Q	|	|	|	V|
21+15	0.1547	0.02	Q	|	|	|	V|
21+20	0.1548	0.02	Q	|	|	|	V|
21+25	0.1549	0.02	Q	|	|	|	V|
21+30	0.1550	0.02	Q	|	|	|	V|
21+35	0.1552	0.02	Q	|	|	|	V|
21+40	0.1553	0.02	Q	|	|	|	V|
21+45	0.1555	0.02	Q	|	|	|	V|
21+50	0.1556	0.02	Q	|	|	|	V|
21+55	0.1557	0.02	Q	|	|	|	V|
22+ 0	0.1558	0.02	Q	|	|	|	V|
22+ 5	0.1560	0.02	Q	|	|	|	V|
22+10	0.1561	0.02	Q	|	|	|	V|
22+15	0.1563	0.02	Q	|	|	|	V|
22+20	0.1564	0.02	Q	|	|	|	V|
22+25	0.1565	0.02	Q	|	|	|	V|
22+30	0.1566	0.02	Q	|	|	|	V|
22+35	0.1567	0.02	Q	|	|	|	V|
22+40	0.1568	0.02	Q	|	|	|	V|
22+45	0.1569	0.02	Q	|	|	|	V|

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  22+50       0.1570      0.02  Q          |          |          |         V|
  22+55       0.1571      0.02  Q          |          |          |         V|
  23+ 0       0.1572      0.02  Q          |          |          |         V|
  23+ 5       0.1573      0.02  Q          |          |          |         V|
  23+10       0.1574      0.02  Q          |          |          |         V|
  23+15       0.1575      0.02  Q          |          |          |         V|
  23+20       0.1576      0.02  Q          |          |          |         V|
  23+25       0.1577      0.02  Q          |          |          |         V|
  23+30       0.1579      0.02  Q          |          |          |         V|
  23+35       0.1580      0.02  Q          |          |          |         V|
  23+40       0.1581      0.02  Q          |          |          |         V|
  23+45       0.1582      0.02  Q          |          |          |         V|
  23+50       0.1583      0.02  Q          |          |          |         V|
  23+55       0.1584      0.02  Q          |          |          |         V|
  24+ 0       0.1585      0.02  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 06/03/26 File: 19267p005I245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	1.66	1.49

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.90	4.10	3.69

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.830	0.077	1.000	0.077
					Sum (F) =	0.077

Area averaged mean soil loss (F) (In/Hr) = 0.077
Minimum soil loss rate ((In/Hr)) = 0.038
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
		Sum = 100.000	Sum=	0.907

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.136)	0.004	0.014
2	0.17	0.07	0.018	(0.135)	0.004	0.014
3	0.25	0.07	0.018	(0.135)	0.004	0.014
4	0.33	0.10	0.027	(0.134)	0.006	0.020
5	0.42	0.10	0.027	(0.134)	0.006	0.020
6	0.50	0.10	0.027	(0.133)	0.006	0.020
7	0.58	0.10	0.027	(0.133)	0.006	0.020
8	0.67	0.10	0.027	(0.132)	0.006	0.020
9	0.75	0.10	0.027	(0.132)	0.006	0.020
10	0.83	0.13	0.036	(0.131)	0.009	0.027
11	0.92	0.13	0.036	(0.131)	0.009	0.027

12	1.00	0.13	0.036	(0.130)	0.009	0.027
13	1.08	0.10	0.027	(0.130)	0.006	0.020
14	1.17	0.10	0.027	(0.129)	0.006	0.020
15	1.25	0.10	0.027	(0.129)	0.006	0.020
16	1.33	0.10	0.027	(0.128)	0.006	0.020
17	1.42	0.10	0.027	(0.128)	0.006	0.020
18	1.50	0.10	0.027	(0.127)	0.006	0.020
19	1.58	0.10	0.027	(0.127)	0.006	0.020
20	1.67	0.10	0.027	(0.126)	0.006	0.020
21	1.75	0.10	0.027	(0.126)	0.006	0.020
22	1.83	0.13	0.036	(0.125)	0.009	0.027
23	1.92	0.13	0.036	(0.125)	0.009	0.027
24	2.00	0.13	0.036	(0.124)	0.009	0.027
25	2.08	0.13	0.036	(0.124)	0.009	0.027
26	2.17	0.13	0.036	(0.123)	0.009	0.027
27	2.25	0.13	0.036	(0.123)	0.009	0.027
28	2.33	0.13	0.036	(0.122)	0.009	0.027
29	2.42	0.13	0.036	(0.122)	0.009	0.027
30	2.50	0.13	0.036	(0.121)	0.009	0.027
31	2.58	0.17	0.045	(0.121)	0.011	0.034
32	2.67	0.17	0.045	(0.120)	0.011	0.034
33	2.75	0.17	0.045	(0.120)	0.011	0.034
34	2.83	0.17	0.045	(0.119)	0.011	0.034
35	2.92	0.17	0.045	(0.119)	0.011	0.034
36	3.00	0.17	0.045	(0.118)	0.011	0.034
37	3.08	0.17	0.045	(0.118)	0.011	0.034
38	3.17	0.17	0.045	(0.117)	0.011	0.034
39	3.25	0.17	0.045	(0.117)	0.011	0.034
40	3.33	0.17	0.045	(0.116)	0.011	0.034
41	3.42	0.17	0.045	(0.116)	0.011	0.034
42	3.50	0.17	0.045	(0.115)	0.011	0.034
43	3.58	0.17	0.045	(0.115)	0.011	0.034
44	3.67	0.17	0.045	(0.114)	0.011	0.034
45	3.75	0.17	0.045	(0.114)	0.011	0.034
46	3.83	0.20	0.054	(0.113)	0.013	0.041
47	3.92	0.20	0.054	(0.113)	0.013	0.041
48	4.00	0.20	0.054	(0.112)	0.013	0.041
49	4.08	0.20	0.054	(0.112)	0.013	0.041
50	4.17	0.20	0.054	(0.111)	0.013	0.041
51	4.25	0.20	0.054	(0.111)	0.013	0.041
52	4.33	0.23	0.062	(0.110)	0.015	0.047
53	4.42	0.23	0.062	(0.110)	0.015	0.047
54	4.50	0.23	0.062	(0.109)	0.015	0.047
55	4.58	0.23	0.062	(0.109)	0.015	0.047
56	4.67	0.23	0.062	(0.109)	0.015	0.047
57	4.75	0.23	0.062	(0.108)	0.015	0.047
58	4.83	0.27	0.071	(0.108)	0.017	0.054
59	4.92	0.27	0.071	(0.107)	0.017	0.054
60	5.00	0.27	0.071	(0.107)	0.017	0.054
61	5.08	0.20	0.054	(0.106)	0.013	0.041
62	5.17	0.20	0.054	(0.106)	0.013	0.041
63	5.25	0.20	0.054	(0.105)	0.013	0.041
64	5.33	0.23	0.062	(0.105)	0.015	0.047
65	5.42	0.23	0.062	(0.104)	0.015	0.047
66	5.50	0.23	0.062	(0.104)	0.015	0.047
67	5.58	0.27	0.071	(0.103)	0.017	0.054
68	5.67	0.27	0.071	(0.103)	0.017	0.054

69	5.75	0.27	0.071	(0.103)	0.017	0.054
70	5.83	0.27	0.071	(0.102)	0.017	0.054
71	5.92	0.27	0.071	(0.102)	0.017	0.054
72	6.00	0.27	0.071	(0.101)	0.017	0.054
73	6.08	0.30	0.080	(0.101)	0.019	0.061
74	6.17	0.30	0.080	(0.100)	0.019	0.061
75	6.25	0.30	0.080	(0.100)	0.019	0.061
76	6.33	0.30	0.080	(0.099)	0.019	0.061
77	6.42	0.30	0.080	(0.099)	0.019	0.061
78	6.50	0.30	0.080	(0.099)	0.019	0.061
79	6.58	0.33	0.089	(0.098)	0.021	0.068
80	6.67	0.33	0.089	(0.098)	0.021	0.068
81	6.75	0.33	0.089	(0.097)	0.021	0.068
82	6.83	0.33	0.089	(0.097)	0.021	0.068
83	6.92	0.33	0.089	(0.096)	0.021	0.068
84	7.00	0.33	0.089	(0.096)	0.021	0.068
85	7.08	0.33	0.089	(0.095)	0.021	0.068
86	7.17	0.33	0.089	(0.095)	0.021	0.068
87	7.25	0.33	0.089	(0.095)	0.021	0.068
88	7.33	0.37	0.098	(0.094)	0.024	0.075
89	7.42	0.37	0.098	(0.094)	0.024	0.075
90	7.50	0.37	0.098	(0.093)	0.024	0.075
91	7.58	0.40	0.107	(0.093)	0.026	0.081
92	7.67	0.40	0.107	(0.092)	0.026	0.081
93	7.75	0.40	0.107	(0.092)	0.026	0.081
94	7.83	0.43	0.116	(0.092)	0.028	0.088
95	7.92	0.43	0.116	(0.091)	0.028	0.088
96	8.00	0.43	0.116	(0.091)	0.028	0.088
97	8.08	0.50	0.134	(0.090)	0.032	0.102
98	8.17	0.50	0.134	(0.090)	0.032	0.102
99	8.25	0.50	0.134	(0.089)	0.032	0.102
100	8.33	0.50	0.134	(0.089)	0.032	0.102
101	8.42	0.50	0.134	(0.089)	0.032	0.102
102	8.50	0.50	0.134	(0.088)	0.032	0.102
103	8.58	0.53	0.143	(0.088)	0.034	0.109
104	8.67	0.53	0.143	(0.087)	0.034	0.109
105	8.75	0.53	0.143	(0.087)	0.034	0.109
106	8.83	0.57	0.152	(0.087)	0.036	0.115
107	8.92	0.57	0.152	(0.086)	0.036	0.115
108	9.00	0.57	0.152	(0.086)	0.036	0.115
109	9.08	0.63	0.170	(0.085)	0.041	0.129
110	9.17	0.63	0.170	(0.085)	0.041	0.129
111	9.25	0.63	0.170	(0.085)	0.041	0.129
112	9.33	0.67	0.179	(0.084)	0.043	0.136
113	9.42	0.67	0.179	(0.084)	0.043	0.136
114	9.50	0.67	0.179	(0.083)	0.043	0.136
115	9.58	0.70	0.187	(0.083)	0.045	0.142
116	9.67	0.70	0.187	(0.083)	0.045	0.142
117	9.75	0.70	0.187	(0.082)	0.045	0.142
118	9.83	0.73	0.196	(0.082)	0.047	0.149
119	9.92	0.73	0.196	(0.081)	0.047	0.149
120	10.00	0.73	0.196	(0.081)	0.047	0.149
121	10.08	0.50	0.134	(0.081)	0.032	0.102
122	10.17	0.50	0.134	(0.080)	0.032	0.102
123	10.25	0.50	0.134	(0.080)	0.032	0.102
124	10.33	0.50	0.134	(0.079)	0.032	0.102
125	10.42	0.50	0.134	(0.079)	0.032	0.102

126	10.50	0.50	0.134	(0.079)	0.032	0.102
127	10.58	0.67	0.179	(0.078)	0.043	0.136
128	10.67	0.67	0.179	(0.078)	0.043	0.136
129	10.75	0.67	0.179	(0.077)	0.043	0.136
130	10.83	0.67	0.179	(0.077)	0.043	0.136
131	10.92	0.67	0.179	(0.077)	0.043	0.136
132	11.00	0.67	0.179	(0.076)	0.043	0.136
133	11.08	0.63	0.170	(0.076)	0.041	0.129
134	11.17	0.63	0.170	(0.076)	0.041	0.129
135	11.25	0.63	0.170	(0.075)	0.041	0.129
136	11.33	0.63	0.170	(0.075)	0.041	0.129
137	11.42	0.63	0.170	(0.074)	0.041	0.129
138	11.50	0.63	0.170	(0.074)	0.041	0.129
139	11.58	0.57	0.152	(0.074)	0.036	0.115
140	11.67	0.57	0.152	(0.073)	0.036	0.115
141	11.75	0.57	0.152	(0.073)	0.036	0.115
142	11.83	0.60	0.161	(0.073)	0.039	0.122
143	11.92	0.60	0.161	(0.072)	0.039	0.122
144	12.00	0.60	0.161	(0.072)	0.039	0.122
145	12.08	0.83	0.223	(0.072)	0.054	0.170
146	12.17	0.83	0.223	(0.071)	0.054	0.170
147	12.25	0.83	0.223	(0.071)	0.054	0.170
148	12.33	0.87	0.232	(0.070)	0.056	0.176
149	12.42	0.87	0.232	(0.070)	0.056	0.176
150	12.50	0.87	0.232	(0.070)	0.056	0.176
151	12.58	0.93	0.250	(0.069)	0.060	0.190
152	12.67	0.93	0.250	(0.069)	0.060	0.190
153	12.75	0.93	0.250	(0.069)	0.060	0.190
154	12.83	0.97	0.259	(0.068)	0.062	0.197
155	12.92	0.97	0.259	(0.068)	0.062	0.197
156	13.00	0.97	0.259	(0.068)	0.062	0.197
157	13.08	1.13	0.303	0.067	(0.073)	0.236
158	13.17	1.13	0.303	0.067	(0.073)	0.236
159	13.25	1.13	0.303	0.067	(0.073)	0.237
160	13.33	1.13	0.303	0.066	(0.073)	0.237
161	13.42	1.13	0.303	0.066	(0.073)	0.237
162	13.50	1.13	0.303	0.066	(0.073)	0.238
163	13.58	0.77	0.205	(0.065)	0.049	0.156
164	13.67	0.77	0.205	(0.065)	0.049	0.156
165	13.75	0.77	0.205	(0.065)	0.049	0.156
166	13.83	0.77	0.205	(0.064)	0.049	0.156
167	13.92	0.77	0.205	(0.064)	0.049	0.156
168	14.00	0.77	0.205	(0.064)	0.049	0.156
169	14.08	0.90	0.241	(0.063)	0.058	0.183
170	14.17	0.90	0.241	(0.063)	0.058	0.183
171	14.25	0.90	0.241	(0.063)	0.058	0.183
172	14.33	0.87	0.232	(0.062)	0.056	0.176
173	14.42	0.87	0.232	(0.062)	0.056	0.176
174	14.50	0.87	0.232	(0.062)	0.056	0.176
175	14.58	0.87	0.232	(0.061)	0.056	0.176
176	14.67	0.87	0.232	(0.061)	0.056	0.176
177	14.75	0.87	0.232	(0.061)	0.056	0.176
178	14.83	0.83	0.223	(0.060)	0.054	0.170
179	14.92	0.83	0.223	(0.060)	0.054	0.170
180	15.00	0.83	0.223	(0.060)	0.054	0.170
181	15.08	0.80	0.214	(0.060)	0.051	0.163
182	15.17	0.80	0.214	(0.059)	0.051	0.163

183	15.25	0.80	0.214	(0.059)	0.051	0.163
184	15.33	0.77	0.205	(0.059)	0.049	0.156
185	15.42	0.77	0.205	(0.058)	0.049	0.156
186	15.50	0.77	0.205	(0.058)	0.049	0.156
187	15.58	0.63	0.170	(0.058)	0.041	0.129
188	15.67	0.63	0.170	(0.057)	0.041	0.129
189	15.75	0.63	0.170	(0.057)	0.041	0.129
190	15.83	0.63	0.170	(0.057)	0.041	0.129
191	15.92	0.63	0.170	(0.057)	0.041	0.129
192	16.00	0.63	0.170	(0.056)	0.041	0.129
193	16.08	0.13	0.036	(0.056)	0.009	0.027
194	16.17	0.13	0.036	(0.056)	0.009	0.027
195	16.25	0.13	0.036	(0.055)	0.009	0.027
196	16.33	0.13	0.036	(0.055)	0.009	0.027
197	16.42	0.13	0.036	(0.055)	0.009	0.027
198	16.50	0.13	0.036	(0.055)	0.009	0.027
199	16.58	0.10	0.027	(0.054)	0.006	0.020
200	16.67	0.10	0.027	(0.054)	0.006	0.020
201	16.75	0.10	0.027	(0.054)	0.006	0.020
202	16.83	0.10	0.027	(0.053)	0.006	0.020
203	16.92	0.10	0.027	(0.053)	0.006	0.020
204	17.00	0.10	0.027	(0.053)	0.006	0.020
205	17.08	0.17	0.045	(0.053)	0.011	0.034
206	17.17	0.17	0.045	(0.052)	0.011	0.034
207	17.25	0.17	0.045	(0.052)	0.011	0.034
208	17.33	0.17	0.045	(0.052)	0.011	0.034
209	17.42	0.17	0.045	(0.052)	0.011	0.034
210	17.50	0.17	0.045	(0.051)	0.011	0.034
211	17.58	0.17	0.045	(0.051)	0.011	0.034
212	17.67	0.17	0.045	(0.051)	0.011	0.034
213	17.75	0.17	0.045	(0.051)	0.011	0.034
214	17.83	0.13	0.036	(0.050)	0.009	0.027
215	17.92	0.13	0.036	(0.050)	0.009	0.027
216	18.00	0.13	0.036	(0.050)	0.009	0.027
217	18.08	0.13	0.036	(0.050)	0.009	0.027
218	18.17	0.13	0.036	(0.049)	0.009	0.027
219	18.25	0.13	0.036	(0.049)	0.009	0.027
220	18.33	0.13	0.036	(0.049)	0.009	0.027
221	18.42	0.13	0.036	(0.049)	0.009	0.027
222	18.50	0.13	0.036	(0.048)	0.009	0.027
223	18.58	0.10	0.027	(0.048)	0.006	0.020
224	18.67	0.10	0.027	(0.048)	0.006	0.020
225	18.75	0.10	0.027	(0.048)	0.006	0.020
226	18.83	0.07	0.018	(0.047)	0.004	0.014
227	18.92	0.07	0.018	(0.047)	0.004	0.014
228	19.00	0.07	0.018	(0.047)	0.004	0.014
229	19.08	0.10	0.027	(0.047)	0.006	0.020
230	19.17	0.10	0.027	(0.047)	0.006	0.020
231	19.25	0.10	0.027	(0.046)	0.006	0.020
232	19.33	0.13	0.036	(0.046)	0.009	0.027
233	19.42	0.13	0.036	(0.046)	0.009	0.027
234	19.50	0.13	0.036	(0.046)	0.009	0.027
235	19.58	0.10	0.027	(0.046)	0.006	0.020
236	19.67	0.10	0.027	(0.045)	0.006	0.020
237	19.75	0.10	0.027	(0.045)	0.006	0.020
238	19.83	0.07	0.018	(0.045)	0.004	0.014
239	19.92	0.07	0.018	(0.045)	0.004	0.014

240	20.00	0.07	0.018	(0.045)	0.004	0.014
241	20.08	0.10	0.027	(0.044)	0.006	0.020
242	20.17	0.10	0.027	(0.044)	0.006	0.020
243	20.25	0.10	0.027	(0.044)	0.006	0.020
244	20.33	0.10	0.027	(0.044)	0.006	0.020
245	20.42	0.10	0.027	(0.044)	0.006	0.020
246	20.50	0.10	0.027	(0.043)	0.006	0.020
247	20.58	0.10	0.027	(0.043)	0.006	0.020
248	20.67	0.10	0.027	(0.043)	0.006	0.020
249	20.75	0.10	0.027	(0.043)	0.006	0.020
250	20.83	0.07	0.018	(0.043)	0.004	0.014
251	20.92	0.07	0.018	(0.042)	0.004	0.014
252	21.00	0.07	0.018	(0.042)	0.004	0.014
253	21.08	0.10	0.027	(0.042)	0.006	0.020
254	21.17	0.10	0.027	(0.042)	0.006	0.020
255	21.25	0.10	0.027	(0.042)	0.006	0.020
256	21.33	0.07	0.018	(0.042)	0.004	0.014
257	21.42	0.07	0.018	(0.041)	0.004	0.014
258	21.50	0.07	0.018	(0.041)	0.004	0.014
259	21.58	0.10	0.027	(0.041)	0.006	0.020
260	21.67	0.10	0.027	(0.041)	0.006	0.020
261	21.75	0.10	0.027	(0.041)	0.006	0.020
262	21.83	0.07	0.018	(0.041)	0.004	0.014
263	21.92	0.07	0.018	(0.041)	0.004	0.014
264	22.00	0.07	0.018	(0.040)	0.004	0.014
265	22.08	0.10	0.027	(0.040)	0.006	0.020
266	22.17	0.10	0.027	(0.040)	0.006	0.020
267	22.25	0.10	0.027	(0.040)	0.006	0.020
268	22.33	0.07	0.018	(0.040)	0.004	0.014
269	22.42	0.07	0.018	(0.040)	0.004	0.014
270	22.50	0.07	0.018	(0.040)	0.004	0.014
271	22.58	0.07	0.018	(0.040)	0.004	0.014
272	22.67	0.07	0.018	(0.039)	0.004	0.014
273	22.75	0.07	0.018	(0.039)	0.004	0.014
274	22.83	0.07	0.018	(0.039)	0.004	0.014
275	22.92	0.07	0.018	(0.039)	0.004	0.014
276	23.00	0.07	0.018	(0.039)	0.004	0.014
277	23.08	0.07	0.018	(0.039)	0.004	0.014
278	23.17	0.07	0.018	(0.039)	0.004	0.014
279	23.25	0.07	0.018	(0.039)	0.004	0.014
280	23.33	0.07	0.018	(0.039)	0.004	0.014
281	23.42	0.07	0.018	(0.039)	0.004	0.014
282	23.50	0.07	0.018	(0.039)	0.004	0.014
283	23.58	0.07	0.018	(0.039)	0.004	0.014
284	23.67	0.07	0.018	(0.038)	0.004	0.014
285	23.75	0.07	0.018	(0.038)	0.004	0.014
286	23.83	0.07	0.018	(0.038)	0.004	0.014
287	23.92	0.07	0.018	(0.038)	0.004	0.014
288	24.00	0.07	0.018	(0.038)	0.004	0.014
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	20.4

Flood volume = Effective rainfall 1.70(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 0.040(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 5551.0 Cubic Feet

Total soil loss = 1739.3 Cubic Feet

Peak flow rate of this hydrograph = 0.216(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	0.0001	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0004	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0006	0.02	Q				
0+35	0.0007	0.02	Q				
0+40	0.0009	0.02	Q				
0+45	0.0010	0.02	Q				
0+50	0.0011	0.02	Q				
0+55	0.0013	0.02	Q				
1+ 0	0.0015	0.02	Q				
1+ 5	0.0016	0.02	Q				
1+10	0.0018	0.02	Q				
1+15	0.0019	0.02	Q				
1+20	0.0020	0.02	Q				
1+25	0.0021	0.02	Q				
1+30	0.0023	0.02	Q				
1+35	0.0024	0.02	Q				
1+40	0.0025	0.02	Q				
1+45	0.0026	0.02	Q				
1+50	0.0028	0.02	Q				
1+55	0.0030	0.02	Q				
2+ 0	0.0031	0.02	Q				
2+ 5	0.0033	0.02	QV				
2+10	0.0035	0.02	QV				
2+15	0.0036	0.02	QV				
2+20	0.0038	0.02	QV				
2+25	0.0040	0.02	QV				
2+30	0.0042	0.02	QV				
2+35	0.0044	0.03	QV				
2+40	0.0046	0.03	QV				
2+45	0.0048	0.03	QV				
2+50	0.0050	0.03	QV				
2+55	0.0052	0.03	QV				
3+ 0	0.0054	0.03	QV				
3+ 5	0.0056	0.03	QV				
3+10	0.0058	0.03	QV				
3+15	0.0061	0.03	QV				
3+20	0.0063	0.03	QV				
3+25	0.0065	0.03	Q V				
3+30	0.0067	0.03	Q V				
3+35	0.0069	0.03	Q V				
3+40	0.0071	0.03	Q V				

3+45	0.0073	0.03	Q V	|	|	|	|
3+50	0.0076	0.04	Q V	|	|	|	|
3+55	0.0078	0.04	Q V	|	|	|	|
4+ 0	0.0081	0.04	Q V	|	|	|	|
4+ 5	0.0083	0.04	Q V	|	|	|	|
4+10	0.0086	0.04	Q V	|	|	|	|
4+15	0.0088	0.04	Q V	|	|	|	|
4+20	0.0091	0.04	Q V	|	|	|	|
4+25	0.0094	0.04	Q V	|	|	|	|
4+30	0.0097	0.04	Q V	|	|	|	|
4+35	0.0100	0.04	Q V	|	|	|	|
4+40	0.0103	0.04	Q V	|	|	|	|
4+45	0.0106	0.04	Q V	|	|	|	|
4+50	0.0109	0.05	Q V	|	|	|	|
4+55	0.0113	0.05	Q V	|	|	|	|
5+ 0	0.0116	0.05	Q V	|	|	|	|
5+ 5	0.0119	0.04	Q V	|	|	|	|
5+10	0.0122	0.04	Q V	|	|	|	|
5+15	0.0124	0.04	Q V	|	|	|	|
5+20	0.0127	0.04	Q V	|	|	|	|
5+25	0.0130	0.04	Q V	|	|	|	|
5+30	0.0133	0.04	Q V	|	|	|	|
5+35	0.0136	0.05	Q V	|	|	|	|
5+40	0.0140	0.05	Q V	|	|	|	|
5+45	0.0143	0.05	Q V	|	|	|	|
5+50	0.0146	0.05	Q V	|	|	|	|
5+55	0.0150	0.05	Q V	|	|	|	|
6+ 0	0.0153	0.05	Q V	|	|	|	|
6+ 5	0.0157	0.05	Q V	|	|	|	|
6+10	0.0161	0.06	Q V	|	|	|	|
6+15	0.0164	0.06	Q V	|	|	|	|
6+20	0.0168	0.06	Q V	|	|	|	|
6+25	0.0172	0.06	Q V	|	|	|	|
6+30	0.0176	0.06	Q V	|	|	|	|
6+35	0.0180	0.06	Q V	|	|	|	|
6+40	0.0184	0.06	Q V	|	|	|	|
6+45	0.0189	0.06	Q V	|	|	|	|
6+50	0.0193	0.06	Q V	|	|	|	|
6+55	0.0197	0.06	Q V	|	|	|	|
7+ 0	0.0201	0.06	Q V	|	|	|	|
7+ 5	0.0205	0.06	Q V	|	|	|	|
7+10	0.0210	0.06	Q V	|	|	|	|
7+15	0.0214	0.06	Q V	|	|	|	|
7+20	0.0219	0.07	Q V	|	|	|	|
7+25	0.0223	0.07	Q V	|	|	|	|
7+30	0.0228	0.07	Q V	|	|	|	|
7+35	0.0233	0.07	Q V	|	|	|	|
7+40	0.0238	0.07	Q V	|	|	|	|
7+45	0.0243	0.07	Q V	|	|	|	|
7+50	0.0248	0.08	Q V	|	|	|	|
7+55	0.0254	0.08	Q V	|	|	|	|
8+ 0	0.0259	0.08	Q V	|	|	|	|
8+ 5	0.0266	0.09	Q V	|	|	|	|
8+10	0.0272	0.09	Q V	|	|	|	|
8+15	0.0278	0.09	Q V	|	|	|	|
8+20	0.0285	0.09	Q V	|	|	|	|
8+25	0.0291	0.09	Q V	|	|	|	|

8+30	0.0297	0.09	Q	V|				
8+35	0.0304	0.10	Q	V|				
8+40	0.0311	0.10	Q	V|				
8+45	0.0318	0.10	Q	V|				
8+50	0.0325	0.10	Q	V				
8+55	0.0332	0.10	Q	V				
9+ 0	0.0339	0.10	Q	V				
9+ 5	0.0347	0.11	Q	V				
9+10	0.0355	0.12	Q	|V				
9+15	0.0363	0.12	Q	|V				
9+20	0.0372	0.12	Q	|V				
9+25	0.0380	0.12	Q	|V				
9+30	0.0388	0.12	Q	| V				
9+35	0.0397	0.13	Q	| V				
9+40	0.0406	0.13	Q	| V				
9+45	0.0415	0.13	Q	| V				
9+50	0.0424	0.13	Q	| V				
9+55	0.0434	0.14	Q	| V				
10+ 0	0.0443	0.14	Q	| V				
10+ 5	0.0450	0.10	Q	| V				
10+10	0.0456	0.09	Q	| V				
10+15	0.0463	0.09	Q	| V				
10+20	0.0469	0.09	Q	| V				
10+25	0.0475	0.09	Q	| V				
10+30	0.0482	0.09	Q	| V |				
10+35	0.0490	0.12	Q	| V |				
10+40	0.0498	0.12	Q	| V |				
10+45	0.0507	0.12	Q	| V |				
10+50	0.0515	0.12	Q	| V |				
10+55	0.0524	0.12	Q	| V |				
11+ 0	0.0532	0.12	Q	| V |				
11+ 5	0.0540	0.12	Q	| V |				
11+10	0.0548	0.12	Q	| V |				
11+15	0.0556	0.12	Q	| V |				
11+20	0.0565	0.12	Q	| V |				
11+25	0.0573	0.12	Q	| V |				
11+30	0.0581	0.12	Q	| V |				
11+35	0.0588	0.11	Q	| V |				
11+40	0.0595	0.10	Q	| V |				
11+45	0.0602	0.10	Q	| V |				
11+50	0.0610	0.11	Q	| V|				
11+55	0.0618	0.11	Q	| V|				
12+ 0	0.0625	0.11	Q	| V|				
12+ 5	0.0635	0.14	Q	| V|				
12+10	0.0646	0.15	Q	| V				
12+15	0.0656	0.15	Q	| V				
12+20	0.0667	0.16	Q	| V				
12+25	0.0678	0.16	Q	| |V				
12+30	0.0689	0.16	Q	| |V				
12+35	0.0701	0.17	Q	| | V				
12+40	0.0713	0.17	Q	| | V				
12+45	0.0725	0.17	Q	| | V				
12+50	0.0737	0.18	Q	| | V				
12+55	0.0749	0.18	Q	| | V				
13+ 0	0.0762	0.18	Q	| | V				
13+ 5	0.0776	0.21	Q	| | V				
13+10	0.0791	0.21	Q	| | V				

13+15	0.0805	0.21	Q	|	|	V |	|
13+20	0.0820	0.22	Q	|	|	V |	|
13+25	0.0835	0.22	Q	|	|	V |	|
13+30	0.0850	0.22	Q	|	|	V |	|
13+35	0.0861	0.16	Q	|	|	V |	|
13+40	0.0871	0.14	Q	|	|	V |	|
13+45	0.0880	0.14	Q	|	|	V |	|
13+50	0.0890	0.14	Q	|	|	V |	|
13+55	0.0900	0.14	Q	|	|	V |	|
14+ 0	0.0910	0.14	Q	|	|	V |	|
14+ 5	0.0921	0.16	Q	|	|	V |	|
14+10	0.0932	0.17	Q	|	|	V|	|
14+15	0.0943	0.17	Q	|	|	V|	|
14+20	0.0955	0.16	Q	|	|	V|	|
14+25	0.0966	0.16	Q	|	|	V |	|
14+30	0.0977	0.16	Q	|	|	V |	|
14+35	0.0988	0.16	Q	|	|	|V |	|
14+40	0.0999	0.16	Q	|	|	|V |	|
14+45	0.1010	0.16	Q	|	|	|V |	|
14+50	0.1020	0.16	Q	|	|	| V |	|
14+55	0.1031	0.15	Q	|	|	| V |	|
15+ 0	0.1042	0.15	Q	|	|	| V |	|
15+ 5	0.1052	0.15	Q	|	|	| V |	|
15+10	0.1062	0.15	Q	|	|	| V |	|
15+15	0.1072	0.15	Q	|	|	| V |	|
15+20	0.1082	0.14	Q	|	|	| V |	|
15+25	0.1092	0.14	Q	|	|	| V |	|
15+30	0.1102	0.14	Q	|	|	| V |	|
15+35	0.1110	0.12	Q	|	|	| V |	|
15+40	0.1118	0.12	Q	|	|	| V |	|
15+45	0.1126	0.12	Q	|	|	| V |	|
15+50	0.1134	0.12	Q	|	|	| V |	|
15+55	0.1142	0.12	Q	|	|	| V |	|
16+ 0	0.1150	0.12	Q	|	|	| V |	|
16+ 5	0.1154	0.05	Q	|	|	| V |	|
16+10	0.1155	0.02	Q	|	|	| V |	|
16+15	0.1157	0.02	Q	|	|	| V |	|
16+20	0.1159	0.02	Q	|	|	| V |	|
16+25	0.1160	0.02	Q	|	|	| V |	|
16+30	0.1162	0.02	Q	|	|	| V |	|
16+35	0.1163	0.02	Q	|	|	| V |	|
16+40	0.1165	0.02	Q	|	|	| V |	|
16+45	0.1166	0.02	Q	|	|	| V |	|
16+50	0.1167	0.02	Q	|	|	| V |	|
16+55	0.1168	0.02	Q	|	|	| V |	|
17+ 0	0.1170	0.02	Q	|	|	| V |	|
17+ 5	0.1172	0.03	Q	|	|	| V |	|
17+10	0.1174	0.03	Q	|	|	| V |	|
17+15	0.1176	0.03	Q	|	|	| V |	|
17+20	0.1178	0.03	Q	|	|	| V |	|
17+25	0.1180	0.03	Q	|	|	| V |	|
17+30	0.1182	0.03	Q	|	|	| V |	|
17+35	0.1184	0.03	Q	|	|	| V |	|
17+40	0.1186	0.03	Q	|	|	| V |	|
17+45	0.1189	0.03	Q	|	|	| V |	|
17+50	0.1190	0.03	Q	|	|	| V |	|
17+55	0.1192	0.02	Q	|	|	| V |	|

18+ 0	0.1194	0.02	Q	|	|	|	V |
18+ 5	0.1195	0.02	Q	|	|	|	V |
18+10	0.1197	0.02	Q	|	|	|	V |
18+15	0.1199	0.02	Q	|	|	|	V |
18+20	0.1201	0.02	Q	|	|	|	V |
18+25	0.1202	0.02	Q	|	|	|	V |
18+30	0.1204	0.02	Q	|	|	|	V |
18+35	0.1205	0.02	Q	|	|	|	V |
18+40	0.1207	0.02	Q	|	|	|	V |
18+45	0.1208	0.02	Q	|	|	|	V |
18+50	0.1209	0.01	Q	|	|	|	V |
18+55	0.1210	0.01	Q	|	|	|	V |
19+ 0	0.1211	0.01	Q	|	|	|	V |
19+ 5	0.1212	0.02	Q	|	|	|	V |
19+10	0.1213	0.02	Q	|	|	|	V |
19+15	0.1214	0.02	Q	|	|	|	V |
19+20	0.1216	0.02	Q	|	|	|	V |
19+25	0.1218	0.02	Q	|	|	|	V |
19+30	0.1219	0.02	Q	|	|	|	V |
19+35	0.1221	0.02	Q	|	|	|	V |
19+40	0.1222	0.02	Q	|	|	|	V |
19+45	0.1223	0.02	Q	|	|	|	V |
19+50	0.1224	0.01	Q	|	|	|	V |
19+55	0.1225	0.01	Q	|	|	|	V |
20+ 0	0.1226	0.01	Q	|	|	|	V |
20+ 5	0.1227	0.02	Q	|	|	|	V |
20+10	0.1228	0.02	Q	|	|	|	V |
20+15	0.1230	0.02	Q	|	|	|	V |
20+20	0.1231	0.02	Q	|	|	|	V |
20+25	0.1232	0.02	Q	|	|	|	V |
20+30	0.1233	0.02	Q	|	|	|	V |
20+35	0.1235	0.02	Q	|	|	|	V |
20+40	0.1236	0.02	Q	|	|	|	V |
20+45	0.1237	0.02	Q	|	|	|	V |
20+50	0.1238	0.01	Q	|	|	|	V |
20+55	0.1239	0.01	Q	|	|	|	V |
21+ 0	0.1240	0.01	Q	|	|	|	V |
21+ 5	0.1241	0.02	Q	|	|	|	V |
21+10	0.1242	0.02	Q	|	|	|	V |
21+15	0.1244	0.02	Q	|	|	|	V|
21+20	0.1244	0.01	Q	|	|	|	V|
21+25	0.1245	0.01	Q	|	|	|	V|
21+30	0.1246	0.01	Q	|	|	|	V|
21+35	0.1247	0.02	Q	|	|	|	V|
21+40	0.1249	0.02	Q	|	|	|	V|
21+45	0.1250	0.02	Q	|	|	|	V|
21+50	0.1251	0.01	Q	|	|	|	V|
21+55	0.1252	0.01	Q	|	|	|	V|
22+ 0	0.1253	0.01	Q	|	|	|	V|
22+ 5	0.1254	0.02	Q	|	|	|	V|
22+10	0.1255	0.02	Q	|	|	|	V|
22+15	0.1256	0.02	Q	|	|	|	V|
22+20	0.1257	0.01	Q	|	|	|	V|
22+25	0.1258	0.01	Q	|	|	|	V|
22+30	0.1259	0.01	Q	|	|	|	V|
22+35	0.1260	0.01	Q	|	|	|	V|
22+40	0.1261	0.01	Q	|	|	|	V|

22+45	0.1261	0.01	Q	|	|	|	V|
22+50	0.1262	0.01	Q	|	|	|	V|
22+55	0.1263	0.01	Q	|	|	|	V|
23+ 0	0.1264	0.01	Q	|	|	|	V|
23+ 5	0.1265	0.01	Q	|	|	|	V|
23+10	0.1266	0.01	Q	|	|	|	V|
23+15	0.1266	0.01	Q	|	|	|	V|
23+20	0.1267	0.01	Q	|	|	|	V|
23+25	0.1268	0.01	Q	|	|	|	V|
23+30	0.1269	0.01	Q	|	|	|	V|
23+35	0.1270	0.01	Q	|	|	|	V|
23+40	0.1271	0.01	Q	|	|	|	V|
23+45	0.1272	0.01	Q	|	|	|	V|
23+50	0.1272	0.01	Q	|	|	|	V|
23+55	0.1273	0.01	Q	|	|	|	V|
24+ 0	0.1274	0.01	Q	|	|	|	V|
24+ 5	0.1274	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 06/03/26 File: 19267p005J245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	1.66	0.56

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.34	4.10	1.39

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.340	75.00	0.860

Total Area Entered = 0.34(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.860	0.068	1.000	0.068
					Sum (F) =	0.068

Area averaged mean soil loss (F) (In/Hr) = 0.068
Minimum soil loss rate ((In/Hr)) = 0.034
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.210

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1304.735	100.000	0.343
		Sum = 100.000	Sum= 0.343

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.121)	0.004	0.014
2	0.17	0.07	0.018	(0.121)	0.004	0.014
3	0.25	0.07	0.018	(0.120)	0.004	0.014
4	0.33	0.10	0.027	(0.120)	0.006	0.021
5	0.42	0.10	0.027	(0.120)	0.006	0.021
6	0.50	0.10	0.027	(0.119)	0.006	0.021
7	0.58	0.10	0.027	(0.119)	0.006	0.021
8	0.67	0.10	0.027	(0.118)	0.006	0.021
9	0.75	0.10	0.027	(0.118)	0.006	0.021
10	0.83	0.13	0.036	(0.117)	0.007	0.028
11	0.92	0.13	0.036	(0.117)	0.007	0.028
12	1.00	0.13	0.036	(0.116)	0.007	0.028

13	1.08	0.10	0.027	(0.116)	0.006	0.021
14	1.17	0.10	0.027	(0.115)	0.006	0.021
15	1.25	0.10	0.027	(0.115)	0.006	0.021
16	1.33	0.10	0.027	(0.114)	0.006	0.021
17	1.42	0.10	0.027	(0.114)	0.006	0.021
18	1.50	0.10	0.027	(0.114)	0.006	0.021
19	1.58	0.10	0.027	(0.113)	0.006	0.021
20	1.67	0.10	0.027	(0.113)	0.006	0.021
21	1.75	0.10	0.027	(0.112)	0.006	0.021
22	1.83	0.13	0.036	(0.112)	0.007	0.028
23	1.92	0.13	0.036	(0.111)	0.007	0.028
24	2.00	0.13	0.036	(0.111)	0.007	0.028
25	2.08	0.13	0.036	(0.110)	0.007	0.028
26	2.17	0.13	0.036	(0.110)	0.007	0.028
27	2.25	0.13	0.036	(0.109)	0.007	0.028
28	2.33	0.13	0.036	(0.109)	0.007	0.028
29	2.42	0.13	0.036	(0.109)	0.007	0.028
30	2.50	0.13	0.036	(0.108)	0.007	0.028
31	2.58	0.17	0.045	(0.108)	0.009	0.035
32	2.67	0.17	0.045	(0.107)	0.009	0.035
33	2.75	0.17	0.045	(0.107)	0.009	0.035
34	2.83	0.17	0.045	(0.106)	0.009	0.035
35	2.92	0.17	0.045	(0.106)	0.009	0.035
36	3.00	0.17	0.045	(0.106)	0.009	0.035
37	3.08	0.17	0.045	(0.105)	0.009	0.035
38	3.17	0.17	0.045	(0.105)	0.009	0.035
39	3.25	0.17	0.045	(0.104)	0.009	0.035
40	3.33	0.17	0.045	(0.104)	0.009	0.035
41	3.42	0.17	0.045	(0.103)	0.009	0.035
42	3.50	0.17	0.045	(0.103)	0.009	0.035
43	3.58	0.17	0.045	(0.102)	0.009	0.035
44	3.67	0.17	0.045	(0.102)	0.009	0.035
45	3.75	0.17	0.045	(0.102)	0.009	0.035
46	3.83	0.20	0.054	(0.101)	0.011	0.042
47	3.92	0.20	0.054	(0.101)	0.011	0.042
48	4.00	0.20	0.054	(0.100)	0.011	0.042
49	4.08	0.20	0.054	(0.100)	0.011	0.042
50	4.17	0.20	0.054	(0.099)	0.011	0.042
51	4.25	0.20	0.054	(0.099)	0.011	0.042
52	4.33	0.23	0.062	(0.099)	0.013	0.049
53	4.42	0.23	0.062	(0.098)	0.013	0.049
54	4.50	0.23	0.062	(0.098)	0.013	0.049
55	4.58	0.23	0.062	(0.097)	0.013	0.049
56	4.67	0.23	0.062	(0.097)	0.013	0.049
57	4.75	0.23	0.062	(0.097)	0.013	0.049
58	4.83	0.27	0.071	(0.096)	0.015	0.056
59	4.92	0.27	0.071	(0.096)	0.015	0.056
60	5.00	0.27	0.071	(0.095)	0.015	0.056
61	5.08	0.20	0.054	(0.095)	0.011	0.042
62	5.17	0.20	0.054	(0.094)	0.011	0.042
63	5.25	0.20	0.054	(0.094)	0.011	0.042
64	5.33	0.23	0.062	(0.094)	0.013	0.049
65	5.42	0.23	0.062	(0.093)	0.013	0.049
66	5.50	0.23	0.062	(0.093)	0.013	0.049
67	5.58	0.27	0.071	(0.092)	0.015	0.056
68	5.67	0.27	0.071	(0.092)	0.015	0.056
69	5.75	0.27	0.071	(0.092)	0.015	0.056

70	5.83	0.27	0.071	(0.091)	0.015	0.056
71	5.92	0.27	0.071	(0.091)	0.015	0.056
72	6.00	0.27	0.071	(0.090)	0.015	0.056
73	6.08	0.30	0.080	(0.090)	0.017	0.063
74	6.17	0.30	0.080	(0.090)	0.017	0.063
75	6.25	0.30	0.080	(0.089)	0.017	0.063
76	6.33	0.30	0.080	(0.089)	0.017	0.063
77	6.42	0.30	0.080	(0.088)	0.017	0.063
78	6.50	0.30	0.080	(0.088)	0.017	0.063
79	6.58	0.33	0.089	(0.088)	0.019	0.071
80	6.67	0.33	0.089	(0.087)	0.019	0.071
81	6.75	0.33	0.089	(0.087)	0.019	0.071
82	6.83	0.33	0.089	(0.086)	0.019	0.071
83	6.92	0.33	0.089	(0.086)	0.019	0.071
84	7.00	0.33	0.089	(0.086)	0.019	0.071
85	7.08	0.33	0.089	(0.085)	0.019	0.071
86	7.17	0.33	0.089	(0.085)	0.019	0.071
87	7.25	0.33	0.089	(0.084)	0.019	0.071
88	7.33	0.37	0.098	(0.084)	0.021	0.078
89	7.42	0.37	0.098	(0.084)	0.021	0.078
90	7.50	0.37	0.098	(0.083)	0.021	0.078
91	7.58	0.40	0.107	(0.083)	0.022	0.085
92	7.67	0.40	0.107	(0.083)	0.022	0.085
93	7.75	0.40	0.107	(0.082)	0.022	0.085
94	7.83	0.43	0.116	(0.082)	0.024	0.092
95	7.92	0.43	0.116	(0.081)	0.024	0.092
96	8.00	0.43	0.116	(0.081)	0.024	0.092
97	8.08	0.50	0.134	(0.081)	0.028	0.106
98	8.17	0.50	0.134	(0.080)	0.028	0.106
99	8.25	0.50	0.134	(0.080)	0.028	0.106
100	8.33	0.50	0.134	(0.080)	0.028	0.106
101	8.42	0.50	0.134	(0.079)	0.028	0.106
102	8.50	0.50	0.134	(0.079)	0.028	0.106
103	8.58	0.53	0.143	(0.078)	0.030	0.113
104	8.67	0.53	0.143	(0.078)	0.030	0.113
105	8.75	0.53	0.143	(0.078)	0.030	0.113
106	8.83	0.57	0.152	(0.077)	0.032	0.120
107	8.92	0.57	0.152	(0.077)	0.032	0.120
108	9.00	0.57	0.152	(0.077)	0.032	0.120
109	9.08	0.63	0.170	(0.076)	0.036	0.134
110	9.17	0.63	0.170	(0.076)	0.036	0.134
111	9.25	0.63	0.170	(0.076)	0.036	0.134
112	9.33	0.67	0.179	(0.075)	0.037	0.141
113	9.42	0.67	0.179	(0.075)	0.037	0.141
114	9.50	0.67	0.179	(0.074)	0.037	0.141
115	9.58	0.70	0.187	(0.074)	0.039	0.148
116	9.67	0.70	0.187	(0.074)	0.039	0.148
117	9.75	0.70	0.187	(0.073)	0.039	0.148
118	9.83	0.73	0.196	(0.073)	0.041	0.155
119	9.92	0.73	0.196	(0.073)	0.041	0.155
120	10.00	0.73	0.196	(0.072)	0.041	0.155
121	10.08	0.50	0.134	(0.072)	0.028	0.106
122	10.17	0.50	0.134	(0.072)	0.028	0.106
123	10.25	0.50	0.134	(0.071)	0.028	0.106
124	10.33	0.50	0.134	(0.071)	0.028	0.106
125	10.42	0.50	0.134	(0.071)	0.028	0.106
126	10.50	0.50	0.134	(0.070)	0.028	0.106

127	10.58	0.67	0.179	(0.070)	0.037	0.141
128	10.67	0.67	0.179	(0.070)	0.037	0.141
129	10.75	0.67	0.179	(0.069)	0.037	0.141
130	10.83	0.67	0.179	(0.069)	0.037	0.141
131	10.92	0.67	0.179	(0.069)	0.037	0.141
132	11.00	0.67	0.179	(0.068)	0.037	0.141
133	11.08	0.63	0.170	(0.068)	0.036	0.134
134	11.17	0.63	0.170	(0.068)	0.036	0.134
135	11.25	0.63	0.170	(0.067)	0.036	0.134
136	11.33	0.63	0.170	(0.067)	0.036	0.134
137	11.42	0.63	0.170	(0.067)	0.036	0.134
138	11.50	0.63	0.170	(0.066)	0.036	0.134
139	11.58	0.57	0.152	(0.066)	0.032	0.120
140	11.67	0.57	0.152	(0.066)	0.032	0.120
141	11.75	0.57	0.152	(0.065)	0.032	0.120
142	11.83	0.60	0.161	(0.065)	0.034	0.127
143	11.92	0.60	0.161	(0.065)	0.034	0.127
144	12.00	0.60	0.161	(0.064)	0.034	0.127
145	12.08	0.83	0.223	(0.064)	0.047	0.176
146	12.17	0.83	0.223	(0.064)	0.047	0.176
147	12.25	0.83	0.223	(0.063)	0.047	0.176
148	12.33	0.87	0.232	(0.063)	0.049	0.183
149	12.42	0.87	0.232	(0.063)	0.049	0.183
150	12.50	0.87	0.232	(0.062)	0.049	0.183
151	12.58	0.93	0.250	(0.062)	0.052	0.197
152	12.67	0.93	0.250	(0.062)	0.052	0.197
153	12.75	0.93	0.250	(0.061)	0.052	0.197
154	12.83	0.97	0.259	(0.061)	0.054	0.204
155	12.92	0.97	0.259	(0.061)	0.054	0.204
156	13.00	0.97	0.259	(0.060)	0.054	0.204
157	13.08	1.13	0.303	0.060	(0.064)	0.243
158	13.17	1.13	0.303	0.060	(0.064)	0.244
159	13.25	1.13	0.303	0.060	(0.064)	0.244
160	13.33	1.13	0.303	0.059	(0.064)	0.244
161	13.42	1.13	0.303	0.059	(0.064)	0.245
162	13.50	1.13	0.303	0.059	(0.064)	0.245
163	13.58	0.77	0.205	(0.058)	0.043	0.162
164	13.67	0.77	0.205	(0.058)	0.043	0.162
165	13.75	0.77	0.205	(0.058)	0.043	0.162
166	13.83	0.77	0.205	(0.057)	0.043	0.162
167	13.92	0.77	0.205	(0.057)	0.043	0.162
168	14.00	0.77	0.205	(0.057)	0.043	0.162
169	14.08	0.90	0.241	(0.057)	0.051	0.190
170	14.17	0.90	0.241	(0.056)	0.051	0.190
171	14.25	0.90	0.241	(0.056)	0.051	0.190
172	14.33	0.87	0.232	(0.056)	0.049	0.183
173	14.42	0.87	0.232	(0.055)	0.049	0.183
174	14.50	0.87	0.232	(0.055)	0.049	0.183
175	14.58	0.87	0.232	(0.055)	0.049	0.183
176	14.67	0.87	0.232	(0.055)	0.049	0.183
177	14.75	0.87	0.232	(0.054)	0.049	0.183
178	14.83	0.83	0.223	(0.054)	0.047	0.176
179	14.92	0.83	0.223	(0.054)	0.047	0.176
180	15.00	0.83	0.223	(0.053)	0.047	0.176
181	15.08	0.80	0.214	(0.053)	0.045	0.169
182	15.17	0.80	0.214	(0.053)	0.045	0.169
183	15.25	0.80	0.214	(0.053)	0.045	0.169

184	15.33	0.77	0.205	(0.052)	0.043	0.162
185	15.42	0.77	0.205	(0.052)	0.043	0.162
186	15.50	0.77	0.205	(0.052)	0.043	0.162
187	15.58	0.63	0.170	(0.052)	0.036	0.134
188	15.67	0.63	0.170	(0.051)	0.036	0.134
189	15.75	0.63	0.170	(0.051)	0.036	0.134
190	15.83	0.63	0.170	(0.051)	0.036	0.134
191	15.92	0.63	0.170	(0.051)	0.036	0.134
192	16.00	0.63	0.170	(0.050)	0.036	0.134
193	16.08	0.13	0.036	(0.050)	0.007	0.028
194	16.17	0.13	0.036	(0.050)	0.007	0.028
195	16.25	0.13	0.036	(0.050)	0.007	0.028
196	16.33	0.13	0.036	(0.049)	0.007	0.028
197	16.42	0.13	0.036	(0.049)	0.007	0.028
198	16.50	0.13	0.036	(0.049)	0.007	0.028
199	16.58	0.10	0.027	(0.049)	0.006	0.021
200	16.67	0.10	0.027	(0.048)	0.006	0.021
201	16.75	0.10	0.027	(0.048)	0.006	0.021
202	16.83	0.10	0.027	(0.048)	0.006	0.021
203	16.92	0.10	0.027	(0.048)	0.006	0.021
204	17.00	0.10	0.027	(0.047)	0.006	0.021
205	17.08	0.17	0.045	(0.047)	0.009	0.035
206	17.17	0.17	0.045	(0.047)	0.009	0.035
207	17.25	0.17	0.045	(0.047)	0.009	0.035
208	17.33	0.17	0.045	(0.046)	0.009	0.035
209	17.42	0.17	0.045	(0.046)	0.009	0.035
210	17.50	0.17	0.045	(0.046)	0.009	0.035
211	17.58	0.17	0.045	(0.046)	0.009	0.035
212	17.67	0.17	0.045	(0.045)	0.009	0.035
213	17.75	0.17	0.045	(0.045)	0.009	0.035
214	17.83	0.13	0.036	(0.045)	0.007	0.028
215	17.92	0.13	0.036	(0.045)	0.007	0.028
216	18.00	0.13	0.036	(0.045)	0.007	0.028
217	18.08	0.13	0.036	(0.044)	0.007	0.028
218	18.17	0.13	0.036	(0.044)	0.007	0.028
219	18.25	0.13	0.036	(0.044)	0.007	0.028
220	18.33	0.13	0.036	(0.044)	0.007	0.028
221	18.42	0.13	0.036	(0.043)	0.007	0.028
222	18.50	0.13	0.036	(0.043)	0.007	0.028
223	18.58	0.10	0.027	(0.043)	0.006	0.021
224	18.67	0.10	0.027	(0.043)	0.006	0.021
225	18.75	0.10	0.027	(0.043)	0.006	0.021
226	18.83	0.07	0.018	(0.042)	0.004	0.014
227	18.92	0.07	0.018	(0.042)	0.004	0.014
228	19.00	0.07	0.018	(0.042)	0.004	0.014
229	19.08	0.10	0.027	(0.042)	0.006	0.021
230	19.17	0.10	0.027	(0.042)	0.006	0.021
231	19.25	0.10	0.027	(0.041)	0.006	0.021
232	19.33	0.13	0.036	(0.041)	0.007	0.028
233	19.42	0.13	0.036	(0.041)	0.007	0.028
234	19.50	0.13	0.036	(0.041)	0.007	0.028
235	19.58	0.10	0.027	(0.041)	0.006	0.021
236	19.67	0.10	0.027	(0.040)	0.006	0.021
237	19.75	0.10	0.027	(0.040)	0.006	0.021
238	19.83	0.07	0.018	(0.040)	0.004	0.014
239	19.92	0.07	0.018	(0.040)	0.004	0.014
240	20.00	0.07	0.018	(0.040)	0.004	0.014

241	20.08	0.10	0.027	(0.040)	0.006	0.021
242	20.17	0.10	0.027	(0.039)	0.006	0.021
243	20.25	0.10	0.027	(0.039)	0.006	0.021
244	20.33	0.10	0.027	(0.039)	0.006	0.021
245	20.42	0.10	0.027	(0.039)	0.006	0.021
246	20.50	0.10	0.027	(0.039)	0.006	0.021
247	20.58	0.10	0.027	(0.039)	0.006	0.021
248	20.67	0.10	0.027	(0.038)	0.006	0.021
249	20.75	0.10	0.027	(0.038)	0.006	0.021
250	20.83	0.07	0.018	(0.038)	0.004	0.014
251	20.92	0.07	0.018	(0.038)	0.004	0.014
252	21.00	0.07	0.018	(0.038)	0.004	0.014
253	21.08	0.10	0.027	(0.038)	0.006	0.021
254	21.17	0.10	0.027	(0.037)	0.006	0.021
255	21.25	0.10	0.027	(0.037)	0.006	0.021
256	21.33	0.07	0.018	(0.037)	0.004	0.014
257	21.42	0.07	0.018	(0.037)	0.004	0.014
258	21.50	0.07	0.018	(0.037)	0.004	0.014
259	21.58	0.10	0.027	(0.037)	0.006	0.021
260	21.67	0.10	0.027	(0.037)	0.006	0.021
261	21.75	0.10	0.027	(0.037)	0.006	0.021
262	21.83	0.07	0.018	(0.036)	0.004	0.014
263	21.92	0.07	0.018	(0.036)	0.004	0.014
264	22.00	0.07	0.018	(0.036)	0.004	0.014
265	22.08	0.10	0.027	(0.036)	0.006	0.021
266	22.17	0.10	0.027	(0.036)	0.006	0.021
267	22.25	0.10	0.027	(0.036)	0.006	0.021
268	22.33	0.07	0.018	(0.036)	0.004	0.014
269	22.42	0.07	0.018	(0.036)	0.004	0.014
270	22.50	0.07	0.018	(0.035)	0.004	0.014
271	22.58	0.07	0.018	(0.035)	0.004	0.014
272	22.67	0.07	0.018	(0.035)	0.004	0.014
273	22.75	0.07	0.018	(0.035)	0.004	0.014
274	22.83	0.07	0.018	(0.035)	0.004	0.014
275	22.92	0.07	0.018	(0.035)	0.004	0.014
276	23.00	0.07	0.018	(0.035)	0.004	0.014
277	23.08	0.07	0.018	(0.035)	0.004	0.014
278	23.17	0.07	0.018	(0.035)	0.004	0.014
279	23.25	0.07	0.018	(0.035)	0.004	0.014
280	23.33	0.07	0.018	(0.035)	0.004	0.014
281	23.42	0.07	0.018	(0.035)	0.004	0.014
282	23.50	0.07	0.018	(0.034)	0.004	0.014
283	23.58	0.07	0.018	(0.034)	0.004	0.014
284	23.67	0.07	0.018	(0.034)	0.004	0.014
285	23.75	0.07	0.018	(0.034)	0.004	0.014
286	23.83	0.07	0.018	(0.034)	0.004	0.014
287	23.92	0.07	0.018	(0.034)	0.004	0.014
288	24.00	0.07	0.018	(0.034)	0.004	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.2

Flood volume = Effective rainfall 1.77(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.47(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 2178.4 Cubic Feet
Total soil loss = 575.7 Cubic Feet

Peak flow rate of this hydrograph = 0.084(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0003	0.01	Q				
0+45	0.0004	0.01	Q				
0+50	0.0005	0.01	Q				
0+55	0.0005	0.01	Q				
1+ 0	0.0006	0.01	Q				
1+ 5	0.0006	0.01	Q				
1+10	0.0007	0.01	Q				
1+15	0.0007	0.01	Q				
1+20	0.0008	0.01	Q				
1+25	0.0008	0.01	Q				
1+30	0.0009	0.01	Q				
1+35	0.0009	0.01	Q				
1+40	0.0010	0.01	Q				
1+45	0.0010	0.01	Q				
1+50	0.0011	0.01	Q				
1+55	0.0012	0.01	Q				
2+ 0	0.0012	0.01	Q				
2+ 5	0.0013	0.01	QV				
2+10	0.0014	0.01	QV				
2+15	0.0014	0.01	QV				
2+20	0.0015	0.01	QV				
2+25	0.0016	0.01	QV				
2+30	0.0016	0.01	QV				
2+35	0.0017	0.01	QV				
2+40	0.0018	0.01	QV				
2+45	0.0019	0.01	QV				
2+50	0.0020	0.01	QV				
2+55	0.0021	0.01	QV				
3+ 0	0.0021	0.01	QV				
3+ 5	0.0022	0.01	QV				
3+10	0.0023	0.01	QV				
3+15	0.0024	0.01	QV				
3+20	0.0025	0.01	QV				
3+25	0.0026	0.01	Q V				
3+30	0.0026	0.01	Q V				
3+35	0.0027	0.01	Q V				
3+40	0.0028	0.01	Q V				
3+45	0.0029	0.01	Q V				

3+50	0.0030	0.01	Q V	|	|	|	|
3+55	0.0031	0.01	Q V	|	|	|	|
4+ 0	0.0032	0.01	Q V	|	|	|	|
4+ 5	0.0033	0.01	Q V	|	|	|	|
4+10	0.0034	0.01	Q V	|	|	|	|
4+15	0.0035	0.01	Q V	|	|	|	|
4+20	0.0036	0.02	Q V	|	|	|	|
4+25	0.0037	0.02	Q V	|	|	|	|
4+30	0.0038	0.02	Q V	|	|	|	|
4+35	0.0040	0.02	Q V	|	|	|	|
4+40	0.0041	0.02	Q V	|	|	|	|
4+45	0.0042	0.02	Q V	|	|	|	|
4+50	0.0043	0.02	Q V	|	|	|	|
4+55	0.0045	0.02	Q V	|	|	|	|
5+ 0	0.0046	0.02	Q V	|	|	|	|
5+ 5	0.0047	0.01	Q V	|	|	|	|
5+10	0.0048	0.01	Q V	|	|	|	|
5+15	0.0049	0.01	Q V	|	|	|	|
5+20	0.0050	0.02	Q V	|	|	|	|
5+25	0.0051	0.02	Q V	|	|	|	|
5+30	0.0052	0.02	Q V	|	|	|	|
5+35	0.0054	0.02	Q V	|	|	|	|
5+40	0.0055	0.02	Q V	|	|	|	|
5+45	0.0056	0.02	Q V	|	|	|	|
5+50	0.0058	0.02	Q V	|	|	|	|
5+55	0.0059	0.02	Q V	|	|	|	|
6+ 0	0.0060	0.02	Q V	|	|	|	|
6+ 5	0.0062	0.02	Q V	|	|	|	|
6+10	0.0063	0.02	Q V	|	|	|	|
6+15	0.0065	0.02	Q V	|	|	|	|
6+20	0.0066	0.02	Q V	|	|	|	|
6+25	0.0068	0.02	Q V	|	|	|	|
6+30	0.0069	0.02	Q V	|	|	|	|
6+35	0.0071	0.02	Q V	|	|	|	|
6+40	0.0073	0.02	Q V	|	|	|	|
6+45	0.0074	0.02	Q V	|	|	|	|
6+50	0.0076	0.02	Q V	|	|	|	|
6+55	0.0078	0.02	Q V	|	|	|	|
7+ 0	0.0079	0.02	Q V	|	|	|	|
7+ 5	0.0081	0.02	Q V	|	|	|	|
7+10	0.0083	0.02	Q V	|	|	|	|
7+15	0.0084	0.02	Q V	|	|	|	|
7+20	0.0086	0.03	Q V	|	|	|	|
7+25	0.0088	0.03	Q V	|	|	|	|
7+30	0.0090	0.03	Q V	|	|	|	|
7+35	0.0092	0.03	Q V	|	|	|	|
7+40	0.0094	0.03	Q V	|	|	|	|
7+45	0.0096	0.03	Q V	|	|	|	|
7+50	0.0098	0.03	Q V	|	|	|	|
7+55	0.0100	0.03	Q V	|	|	|	|
8+ 0	0.0102	0.03	Q V	|	|	|	|
8+ 5	0.0105	0.04	Q V	|	|	|	|
8+10	0.0107	0.04	Q V	|	|	|	|
8+15	0.0110	0.04	Q V	|	|	|	|
8+20	0.0112	0.04	Q V	|	|	|	|
8+25	0.0115	0.04	Q V	|	|	|	|
8+30	0.0117	0.04	Q V	|	|	|	|

8+35	0.0120	0.04	Q	V|	|	|	|
8+40	0.0123	0.04	Q	V|	|	|	|
8+45	0.0125	0.04	Q	V	|	|	|
8+50	0.0128	0.04	Q	V	|	|	|
8+55	0.0131	0.04	Q	V	|	|	|
9+ 0	0.0134	0.04	Q	V	|	|	|
9+ 5	0.0137	0.05	Q	V	|	|	|
9+10	0.0140	0.05	Q	|V	|	|	|
9+15	0.0143	0.05	Q	|V	|	|	|
9+20	0.0147	0.05	Q	|V	|	|	|
9+25	0.0150	0.05	Q	|V	|	|	|
9+30	0.0153	0.05	Q	| V	|	|	|
9+35	0.0157	0.05	Q	| V	|	|	|
9+40	0.0160	0.05	Q	| V	|	|	|
9+45	0.0164	0.05	Q	| V	|	|	|
9+50	0.0167	0.05	Q	| V	|	|	|
9+55	0.0171	0.05	Q	| V	|	|	|
10+ 0	0.0175	0.05	Q	| V	|	|	|
10+ 5	0.0177	0.04	Q	| V	|	|	|
10+10	0.0180	0.04	Q	| V	|	|	|
10+15	0.0182	0.04	Q	| V	|	|	|
10+20	0.0185	0.04	Q	| V	|	|	|
10+25	0.0187	0.04	Q	| V	|	|	|
10+30	0.0190	0.04	Q	| V	|	|	|
10+35	0.0193	0.05	Q	| V	|	|	|
10+40	0.0196	0.05	Q	| V	|	|	|
10+45	0.0200	0.05	Q	| V	|	|	|
10+50	0.0203	0.05	Q	| V	|	|	|
10+55	0.0206	0.05	Q	| V	|	|	|
11+ 0	0.0210	0.05	Q	| V	|	|	|
11+ 5	0.0213	0.05	Q	| V	|	|	|
11+10	0.0216	0.05	Q	| V	|	|	|
11+15	0.0219	0.05	Q	| V	|	|	|
11+20	0.0222	0.05	Q	| V	|	|	|
11+25	0.0226	0.05	Q	| V	|	|	|
11+30	0.0229	0.05	Q	| V	|	|	|
11+35	0.0232	0.04	Q	| V	|	|	|
11+40	0.0234	0.04	Q	| V	|	|	|
11+45	0.0237	0.04	Q	| V	|	|	|
11+50	0.0240	0.04	Q	| V|	|	|	|
11+55	0.0243	0.04	Q	| V|	|	|	|
12+ 0	0.0246	0.04	Q	| V|	|	|	|
12+ 5	0.0250	0.06	Q	| V	|	|	|
12+10	0.0255	0.06	Q	| V	|	|	|
12+15	0.0259	0.06	Q	| V	|	|	|
12+20	0.0263	0.06	Q	| |V	|	|	|
12+25	0.0267	0.06	Q	| |V	|	|	|
12+30	0.0272	0.06	Q	| |V	|	|	|
12+35	0.0276	0.07	Q	| | V	|	|	|
12+40	0.0281	0.07	Q	| | V	|	|	|
12+45	0.0286	0.07	Q	| | V	|	|	|
12+50	0.0291	0.07	Q	| | V	|	|	|
12+55	0.0295	0.07	Q	| | V	|	|	|
13+ 0	0.0300	0.07	Q	| | V	|	|	|
13+ 5	0.0306	0.08	Q	| | V	|	|	|
13+10	0.0312	0.08	Q	| | V	|	|	|
13+15	0.0317	0.08	Q	| | V	|	|	|

13+20	0.0323	0.08	Q	|	|	V |	|	|
13+25	0.0329	0.08	Q	|	|	V |	|	|
13+30	0.0335	0.08	Q	|	|	V |	|	|
13+35	0.0339	0.06	Q	|	|	V |	|	|
13+40	0.0342	0.06	Q	|	|	V |	|	|
13+45	0.0346	0.06	Q	|	|	V |	|	|
13+50	0.0350	0.06	Q	|	|	V |	|	|
13+55	0.0354	0.06	Q	|	|	V |	|	|
14+ 0	0.0358	0.06	Q	|	|	V |	|	|
14+ 5	0.0362	0.07	Q	|	|	V |	|	|
14+10	0.0367	0.07	Q	|	|	V|	|	|
14+15	0.0371	0.07	Q	|	|	V|	|	|
14+20	0.0376	0.06	Q	|	|	V |	|	|
14+25	0.0380	0.06	Q	|	|	V |	|	|
14+30	0.0384	0.06	Q	|	|	V |	|	|
14+35	0.0389	0.06	Q	|	|	|V |	|	|
14+40	0.0393	0.06	Q	|	|	|V |	|	|
14+45	0.0397	0.06	Q	|	|	|V |	|	|
14+50	0.0401	0.06	Q	|	|	| V |	|	|
14+55	0.0406	0.06	Q	|	|	| V |	|	|
15+ 0	0.0410	0.06	Q	|	|	| V |	|	|
15+ 5	0.0414	0.06	Q	|	|	| V |	|	|
15+10	0.0418	0.06	Q	|	|	| V |	|	|
15+15	0.0422	0.06	Q	|	|	| V |	|	|
15+20	0.0426	0.06	Q	|	|	| V |	|	|
15+25	0.0429	0.06	Q	|	|	| V |	|	|
15+30	0.0433	0.06	Q	|	|	| V |	|	|
15+35	0.0436	0.05	Q	|	|	| V |	|	|
15+40	0.0439	0.05	Q	|	|	| V |	|	|
15+45	0.0443	0.05	Q	|	|	| V |	|	|
15+50	0.0446	0.05	Q	|	|	| V |	|	|
15+55	0.0449	0.05	Q	|	|	| V |	|	|
16+ 0	0.0452	0.05	Q	|	|	| V |	|	|
16+ 5	0.0453	0.01	Q	|	|	| V |	|	|
16+10	0.0453	0.01	Q	|	|	| V |	|	|
16+15	0.0454	0.01	Q	|	|	| V |	|	|
16+20	0.0455	0.01	Q	|	|	| V |	|	|
16+25	0.0455	0.01	Q	|	|	| V |	|	|
16+30	0.0456	0.01	Q	|	|	| V |	|	|
16+35	0.0457	0.01	Q	|	|	| V |	|	|
16+40	0.0457	0.01	Q	|	|	| V |	|	|
16+45	0.0458	0.01	Q	|	|	| V |	|	|
16+50	0.0458	0.01	Q	|	|	| V |	|	|
16+55	0.0459	0.01	Q	|	|	| V |	|	|
17+ 0	0.0459	0.01	Q	|	|	| V |	|	|
17+ 5	0.0460	0.01	Q	|	|	| V |	|	|
17+10	0.0461	0.01	Q	|	|	| V |	|	|
17+15	0.0462	0.01	Q	|	|	| V |	|	|
17+20	0.0462	0.01	Q	|	|	| V |	|	|
17+25	0.0463	0.01	Q	|	|	| V |	|	|
17+30	0.0464	0.01	Q	|	|	| V |	|	|
17+35	0.0465	0.01	Q	|	|	| V |	|	|
17+40	0.0466	0.01	Q	|	|	| V |	|	|
17+45	0.0467	0.01	Q	|	|	| V |	|	|
17+50	0.0467	0.01	Q	|	|	| V |	|	|
17+55	0.0468	0.01	Q	|	|	| V |	|	|
18+ 0	0.0469	0.01	Q	|	|	| V |	|	|

18+ 5	0.0469	0.01	Q	|	|	|	V |
18+10	0.0470	0.01	Q	|	|	|	V |
18+15	0.0471	0.01	Q	|	|	|	V |
18+20	0.0471	0.01	Q	|	|	|	V |
18+25	0.0472	0.01	Q	|	|	|	V |
18+30	0.0473	0.01	Q	|	|	|	V |
18+35	0.0473	0.01	Q	|	|	|	V |
18+40	0.0474	0.01	Q	|	|	|	V |
18+45	0.0474	0.01	Q	|	|	|	V |
18+50	0.0474	0.00	Q	|	|	|	V |
18+55	0.0475	0.00	Q	|	|	|	V |
19+ 0	0.0475	0.00	Q	|	|	|	V |
19+ 5	0.0476	0.01	Q	|	|	|	V |
19+10	0.0476	0.01	Q	|	|	|	V |
19+15	0.0477	0.01	Q	|	|	|	V |
19+20	0.0477	0.01	Q	|	|	|	V |
19+25	0.0478	0.01	Q	|	|	|	V |
19+30	0.0479	0.01	Q	|	|	|	V |
19+35	0.0479	0.01	Q	|	|	|	V |
19+40	0.0480	0.01	Q	|	|	|	V |
19+45	0.0480	0.01	Q	|	|	|	V |
19+50	0.0480	0.00	Q	|	|	|	V |
19+55	0.0481	0.00	Q	|	|	|	V |
20+ 0	0.0481	0.00	Q	|	|	|	V |
20+ 5	0.0482	0.01	Q	|	|	|	V |
20+10	0.0482	0.01	Q	|	|	|	V |
20+15	0.0483	0.01	Q	|	|	|	V |
20+20	0.0483	0.01	Q	|	|	|	V |
20+25	0.0484	0.01	Q	|	|	|	V |
20+30	0.0484	0.01	Q	|	|	|	V |
20+35	0.0485	0.01	Q	|	|	|	V |
20+40	0.0485	0.01	Q	|	|	|	V |
20+45	0.0486	0.01	Q	|	|	|	V |
20+50	0.0486	0.00	Q	|	|	|	V |
20+55	0.0486	0.00	Q	|	|	|	V |
21+ 0	0.0487	0.00	Q	|	|	|	V |
21+ 5	0.0487	0.01	Q	|	|	|	V |
21+10	0.0488	0.01	Q	|	|	|	V|
21+15	0.0488	0.01	Q	|	|	|	V|
21+20	0.0488	0.00	Q	|	|	|	V|
21+25	0.0489	0.00	Q	|	|	|	V|
21+30	0.0489	0.00	Q	|	|	|	V|
21+35	0.0490	0.01	Q	|	|	|	V|
21+40	0.0490	0.01	Q	|	|	|	V|
21+45	0.0491	0.01	Q	|	|	|	V|
21+50	0.0491	0.00	Q	|	|	|	V|
21+55	0.0491	0.00	Q	|	|	|	V|
22+ 0	0.0492	0.00	Q	|	|	|	V|
22+ 5	0.0492	0.01	Q	|	|	|	V|
22+10	0.0493	0.01	Q	|	|	|	V|
22+15	0.0493	0.01	Q	|	|	|	V|
22+20	0.0493	0.00	Q	|	|	|	V|
22+25	0.0494	0.00	Q	|	|	|	V|
22+30	0.0494	0.00	Q	|	|	|	V|
22+35	0.0494	0.00	Q	|	|	|	V|
22+40	0.0495	0.00	Q	|	|	|	V|
22+45	0.0495	0.00	Q	|	|	|	V|

22+50	0.0495	0.00	Q	|	|	|	V|
22+55	0.0496	0.00	Q	|	|	|	V|
23+ 0	0.0496	0.00	Q	|	|	|	V|
23+ 5	0.0496	0.00	Q	|	|	|	V|
23+10	0.0497	0.00	Q	|	|	|	V|
23+15	0.0497	0.00	Q	|	|	|	V|
23+20	0.0497	0.00	Q	|	|	|	V|
23+25	0.0498	0.00	Q	|	|	|	V|
23+30	0.0498	0.00	Q	|	|	|	V|
23+35	0.0498	0.00	Q	|	|	|	V|
23+40	0.0499	0.00	Q	|	|	|	V|
23+45	0.0499	0.00	Q	|	|	|	V|
23+50	0.0499	0.00	Q	|	|	|	V|
23+55	0.0500	0.00	Q	|	|	|	V|
24+ 0	0.0500	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 06/03/26 File: 19267p005S245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	1.66	1.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	4.10	2.81

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.232(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.810	0.136	1.000	0.136
					Sum (F) =	0.136

Area averaged mean soil loss (F) (In/Hr) = 0.136
Minimum soil loss rate ((In/Hr)) = 0.068
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
		Sum = 100.000	Sum=	0.690

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.240)	0.004	0.013
2	0.17	0.07	0.018	(0.240)	0.004	0.013
3	0.25	0.07	0.018	(0.239)	0.004	0.013
4	0.33	0.10	0.027	(0.238)	0.007	0.020
5	0.42	0.10	0.027	(0.237)	0.007	0.020
6	0.50	0.10	0.027	(0.236)	0.007	0.020
7	0.58	0.10	0.027	(0.235)	0.007	0.020
8	0.67	0.10	0.027	(0.234)	0.007	0.020
9	0.75	0.10	0.027	(0.233)	0.007	0.020

10	0.83	0.13	0.036	(0.232)	0.009	0.027
11	0.92	0.13	0.036	(0.231)	0.009	0.027
12	1.00	0.13	0.036	(0.230)	0.009	0.027
13	1.08	0.10	0.027	(0.229)	0.007	0.020
14	1.17	0.10	0.027	(0.229)	0.007	0.020
15	1.25	0.10	0.027	(0.228)	0.007	0.020
16	1.33	0.10	0.027	(0.227)	0.007	0.020
17	1.42	0.10	0.027	(0.226)	0.007	0.020
18	1.50	0.10	0.027	(0.225)	0.007	0.020
19	1.58	0.10	0.027	(0.224)	0.007	0.020
20	1.67	0.10	0.027	(0.223)	0.007	0.020
21	1.75	0.10	0.027	(0.222)	0.007	0.020
22	1.83	0.13	0.036	(0.221)	0.009	0.027
23	1.92	0.13	0.036	(0.220)	0.009	0.027
24	2.00	0.13	0.036	(0.220)	0.009	0.027
25	2.08	0.13	0.036	(0.219)	0.009	0.027
26	2.17	0.13	0.036	(0.218)	0.009	0.027
27	2.25	0.13	0.036	(0.217)	0.009	0.027
28	2.33	0.13	0.036	(0.216)	0.009	0.027
29	2.42	0.13	0.036	(0.215)	0.009	0.027
30	2.50	0.13	0.036	(0.214)	0.009	0.027
31	2.58	0.17	0.045	(0.213)	0.011	0.033
32	2.67	0.17	0.045	(0.213)	0.011	0.033
33	2.75	0.17	0.045	(0.212)	0.011	0.033
34	2.83	0.17	0.045	(0.211)	0.011	0.033
35	2.92	0.17	0.045	(0.210)	0.011	0.033
36	3.00	0.17	0.045	(0.209)	0.011	0.033
37	3.08	0.17	0.045	(0.208)	0.011	0.033
38	3.17	0.17	0.045	(0.207)	0.011	0.033
39	3.25	0.17	0.045	(0.206)	0.011	0.033
40	3.33	0.17	0.045	(0.206)	0.011	0.033
41	3.42	0.17	0.045	(0.205)	0.011	0.033
42	3.50	0.17	0.045	(0.204)	0.011	0.033
43	3.58	0.17	0.045	(0.203)	0.011	0.033
44	3.67	0.17	0.045	(0.202)	0.011	0.033
45	3.75	0.17	0.045	(0.201)	0.011	0.033
46	3.83	0.20	0.054	(0.200)	0.013	0.040
47	3.92	0.20	0.054	(0.200)	0.013	0.040
48	4.00	0.20	0.054	(0.199)	0.013	0.040
49	4.08	0.20	0.054	(0.198)	0.013	0.040
50	4.17	0.20	0.054	(0.197)	0.013	0.040
51	4.25	0.20	0.054	(0.196)	0.013	0.040
52	4.33	0.23	0.062	(0.195)	0.016	0.047
53	4.42	0.23	0.062	(0.195)	0.016	0.047
54	4.50	0.23	0.062	(0.194)	0.016	0.047
55	4.58	0.23	0.062	(0.193)	0.016	0.047
56	4.67	0.23	0.062	(0.192)	0.016	0.047
57	4.75	0.23	0.062	(0.191)	0.016	0.047
58	4.83	0.27	0.071	(0.190)	0.018	0.054
59	4.92	0.27	0.071	(0.190)	0.018	0.054
60	5.00	0.27	0.071	(0.189)	0.018	0.054
61	5.08	0.20	0.054	(0.188)	0.013	0.040
62	5.17	0.20	0.054	(0.187)	0.013	0.040
63	5.25	0.20	0.054	(0.186)	0.013	0.040
64	5.33	0.23	0.062	(0.186)	0.016	0.047
65	5.42	0.23	0.062	(0.185)	0.016	0.047
66	5.50	0.23	0.062	(0.184)	0.016	0.047

67	5.58	0.27	0.071	(0.183)	0.018	0.054
68	5.67	0.27	0.071	(0.182)	0.018	0.054
69	5.75	0.27	0.071	(0.181)	0.018	0.054
70	5.83	0.27	0.071	(0.181)	0.018	0.054
71	5.92	0.27	0.071	(0.180)	0.018	0.054
72	6.00	0.27	0.071	(0.179)	0.018	0.054
73	6.08	0.30	0.080	(0.178)	0.020	0.060
74	6.17	0.30	0.080	(0.177)	0.020	0.060
75	6.25	0.30	0.080	(0.177)	0.020	0.060
76	6.33	0.30	0.080	(0.176)	0.020	0.060
77	6.42	0.30	0.080	(0.175)	0.020	0.060
78	6.50	0.30	0.080	(0.174)	0.020	0.060
79	6.58	0.33	0.089	(0.174)	0.022	0.067
80	6.67	0.33	0.089	(0.173)	0.022	0.067
81	6.75	0.33	0.089	(0.172)	0.022	0.067
82	6.83	0.33	0.089	(0.171)	0.022	0.067
83	6.92	0.33	0.089	(0.170)	0.022	0.067
84	7.00	0.33	0.089	(0.170)	0.022	0.067
85	7.08	0.33	0.089	(0.169)	0.022	0.067
86	7.17	0.33	0.089	(0.168)	0.022	0.067
87	7.25	0.33	0.089	(0.167)	0.022	0.067
88	7.33	0.37	0.098	(0.167)	0.025	0.074
89	7.42	0.37	0.098	(0.166)	0.025	0.074
90	7.50	0.37	0.098	(0.165)	0.025	0.074
91	7.58	0.40	0.107	(0.164)	0.027	0.080
92	7.67	0.40	0.107	(0.164)	0.027	0.080
93	7.75	0.40	0.107	(0.163)	0.027	0.080
94	7.83	0.43	0.116	(0.162)	0.029	0.087
95	7.92	0.43	0.116	(0.161)	0.029	0.087
96	8.00	0.43	0.116	(0.161)	0.029	0.087
97	8.08	0.50	0.134	(0.160)	0.033	0.100
98	8.17	0.50	0.134	(0.159)	0.033	0.100
99	8.25	0.50	0.134	(0.158)	0.033	0.100
100	8.33	0.50	0.134	(0.158)	0.033	0.100
101	8.42	0.50	0.134	(0.157)	0.033	0.100
102	8.50	0.50	0.134	(0.156)	0.033	0.100
103	8.58	0.53	0.143	(0.155)	0.036	0.107
104	8.67	0.53	0.143	(0.155)	0.036	0.107
105	8.75	0.53	0.143	(0.154)	0.036	0.107
106	8.83	0.57	0.152	(0.153)	0.038	0.114
107	8.92	0.57	0.152	(0.152)	0.038	0.114
108	9.00	0.57	0.152	(0.152)	0.038	0.114
109	9.08	0.63	0.170	(0.151)	0.042	0.127
110	9.17	0.63	0.170	(0.150)	0.042	0.127
111	9.25	0.63	0.170	(0.150)	0.042	0.127
112	9.33	0.67	0.179	(0.149)	0.045	0.134
113	9.42	0.67	0.179	(0.148)	0.045	0.134
114	9.50	0.67	0.179	(0.147)	0.045	0.134
115	9.58	0.70	0.187	(0.147)	0.047	0.141
116	9.67	0.70	0.187	(0.146)	0.047	0.141
117	9.75	0.70	0.187	(0.145)	0.047	0.141
118	9.83	0.73	0.196	(0.145)	0.049	0.147
119	9.92	0.73	0.196	(0.144)	0.049	0.147
120	10.00	0.73	0.196	(0.143)	0.049	0.147
121	10.08	0.50	0.134	(0.143)	0.033	0.100
122	10.17	0.50	0.134	(0.142)	0.033	0.100
123	10.25	0.50	0.134	(0.141)	0.033	0.100

124	10.33	0.50	0.134	(0.141)	0.033	0.100
125	10.42	0.50	0.134	(0.140)	0.033	0.100
126	10.50	0.50	0.134	(0.139)	0.033	0.100
127	10.58	0.67	0.179	(0.138)	0.045	0.134
128	10.67	0.67	0.179	(0.138)	0.045	0.134
129	10.75	0.67	0.179	(0.137)	0.045	0.134
130	10.83	0.67	0.179	(0.136)	0.045	0.134
131	10.92	0.67	0.179	(0.136)	0.045	0.134
132	11.00	0.67	0.179	(0.135)	0.045	0.134
133	11.08	0.63	0.170	(0.134)	0.042	0.127
134	11.17	0.63	0.170	(0.134)	0.042	0.127
135	11.25	0.63	0.170	(0.133)	0.042	0.127
136	11.33	0.63	0.170	(0.132)	0.042	0.127
137	11.42	0.63	0.170	(0.132)	0.042	0.127
138	11.50	0.63	0.170	(0.131)	0.042	0.127
139	11.58	0.57	0.152	(0.130)	0.038	0.114
140	11.67	0.57	0.152	(0.130)	0.038	0.114
141	11.75	0.57	0.152	(0.129)	0.038	0.114
142	11.83	0.60	0.161	(0.129)	0.040	0.121
143	11.92	0.60	0.161	(0.128)	0.040	0.121
144	12.00	0.60	0.161	(0.127)	0.040	0.121
145	12.08	0.83	0.223	(0.127)	0.056	0.167
146	12.17	0.83	0.223	(0.126)	0.056	0.167
147	12.25	0.83	0.223	(0.125)	0.056	0.167
148	12.33	0.87	0.232	(0.125)	0.058	0.174
149	12.42	0.87	0.232	(0.124)	0.058	0.174
150	12.50	0.87	0.232	(0.123)	0.058	0.174
151	12.58	0.93	0.250	(0.123)	0.062	0.187
152	12.67	0.93	0.250	(0.122)	0.062	0.187
153	12.75	0.93	0.250	(0.122)	0.062	0.187
154	12.83	0.97	0.259	(0.121)	0.065	0.194
155	12.92	0.97	0.259	(0.120)	0.065	0.194
156	13.00	0.97	0.259	(0.120)	0.065	0.194
157	13.08	1.13	0.303	(0.119)	0.076	0.228
158	13.17	1.13	0.303	(0.119)	0.076	0.228
159	13.25	1.13	0.303	(0.118)	0.076	0.228
160	13.33	1.13	0.303	(0.117)	0.076	0.228
161	13.42	1.13	0.303	(0.117)	0.076	0.228
162	13.50	1.13	0.303	(0.116)	0.076	0.228
163	13.58	0.77	0.205	(0.116)	0.051	0.154
164	13.67	0.77	0.205	(0.115)	0.051	0.154
165	13.75	0.77	0.205	(0.114)	0.051	0.154
166	13.83	0.77	0.205	(0.114)	0.051	0.154
167	13.92	0.77	0.205	(0.113)	0.051	0.154
168	14.00	0.77	0.205	(0.113)	0.051	0.154
169	14.08	0.90	0.241	(0.112)	0.060	0.181
170	14.17	0.90	0.241	(0.112)	0.060	0.181
171	14.25	0.90	0.241	(0.111)	0.060	0.181
172	14.33	0.87	0.232	(0.110)	0.058	0.174
173	14.42	0.87	0.232	(0.110)	0.058	0.174
174	14.50	0.87	0.232	(0.109)	0.058	0.174
175	14.58	0.87	0.232	(0.109)	0.058	0.174
176	14.67	0.87	0.232	(0.108)	0.058	0.174
177	14.75	0.87	0.232	(0.108)	0.058	0.174
178	14.83	0.83	0.223	(0.107)	0.056	0.167
179	14.92	0.83	0.223	(0.107)	0.056	0.167
180	15.00	0.83	0.223	(0.106)	0.056	0.167

181	15.08	0.80	0.214	(0.105)	0.054	0.161
182	15.17	0.80	0.214	(0.105)	0.054	0.161
183	15.25	0.80	0.214	(0.104)	0.054	0.161
184	15.33	0.77	0.205	(0.104)	0.051	0.154
185	15.42	0.77	0.205	(0.103)	0.051	0.154
186	15.50	0.77	0.205	(0.103)	0.051	0.154
187	15.58	0.63	0.170	(0.102)	0.042	0.127
188	15.67	0.63	0.170	(0.102)	0.042	0.127
189	15.75	0.63	0.170	(0.101)	0.042	0.127
190	15.83	0.63	0.170	(0.101)	0.042	0.127
191	15.92	0.63	0.170	(0.100)	0.042	0.127
192	16.00	0.63	0.170	(0.100)	0.042	0.127
193	16.08	0.13	0.036	(0.099)	0.009	0.027
194	16.17	0.13	0.036	(0.099)	0.009	0.027
195	16.25	0.13	0.036	(0.098)	0.009	0.027
196	16.33	0.13	0.036	(0.098)	0.009	0.027
197	16.42	0.13	0.036	(0.097)	0.009	0.027
198	16.50	0.13	0.036	(0.097)	0.009	0.027
199	16.58	0.10	0.027	(0.096)	0.007	0.020
200	16.67	0.10	0.027	(0.096)	0.007	0.020
201	16.75	0.10	0.027	(0.095)	0.007	0.020
202	16.83	0.10	0.027	(0.095)	0.007	0.020
203	16.92	0.10	0.027	(0.094)	0.007	0.020
204	17.00	0.10	0.027	(0.094)	0.007	0.020
205	17.08	0.17	0.045	(0.093)	0.011	0.033
206	17.17	0.17	0.045	(0.093)	0.011	0.033
207	17.25	0.17	0.045	(0.092)	0.011	0.033
208	17.33	0.17	0.045	(0.092)	0.011	0.033
209	17.42	0.17	0.045	(0.091)	0.011	0.033
210	17.50	0.17	0.045	(0.091)	0.011	0.033
211	17.58	0.17	0.045	(0.090)	0.011	0.033
212	17.67	0.17	0.045	(0.090)	0.011	0.033
213	17.75	0.17	0.045	(0.090)	0.011	0.033
214	17.83	0.13	0.036	(0.089)	0.009	0.027
215	17.92	0.13	0.036	(0.089)	0.009	0.027
216	18.00	0.13	0.036	(0.088)	0.009	0.027
217	18.08	0.13	0.036	(0.088)	0.009	0.027
218	18.17	0.13	0.036	(0.087)	0.009	0.027
219	18.25	0.13	0.036	(0.087)	0.009	0.027
220	18.33	0.13	0.036	(0.087)	0.009	0.027
221	18.42	0.13	0.036	(0.086)	0.009	0.027
222	18.50	0.13	0.036	(0.086)	0.009	0.027
223	18.58	0.10	0.027	(0.085)	0.007	0.020
224	18.67	0.10	0.027	(0.085)	0.007	0.020
225	18.75	0.10	0.027	(0.084)	0.007	0.020
226	18.83	0.07	0.018	(0.084)	0.004	0.013
227	18.92	0.07	0.018	(0.084)	0.004	0.013
228	19.00	0.07	0.018	(0.083)	0.004	0.013
229	19.08	0.10	0.027	(0.083)	0.007	0.020
230	19.17	0.10	0.027	(0.082)	0.007	0.020
231	19.25	0.10	0.027	(0.082)	0.007	0.020
232	19.33	0.13	0.036	(0.082)	0.009	0.027
233	19.42	0.13	0.036	(0.081)	0.009	0.027
234	19.50	0.13	0.036	(0.081)	0.009	0.027
235	19.58	0.10	0.027	(0.081)	0.007	0.020
236	19.67	0.10	0.027	(0.080)	0.007	0.020
237	19.75	0.10	0.027	(0.080)	0.007	0.020

238	19.83	0.07	0.018	(0.079)	0.004	0.013
239	19.92	0.07	0.018	(0.079)	0.004	0.013
240	20.00	0.07	0.018	(0.079)	0.004	0.013
241	20.08	0.10	0.027	(0.078)	0.007	0.020
242	20.17	0.10	0.027	(0.078)	0.007	0.020
243	20.25	0.10	0.027	(0.078)	0.007	0.020
244	20.33	0.10	0.027	(0.077)	0.007	0.020
245	20.42	0.10	0.027	(0.077)	0.007	0.020
246	20.50	0.10	0.027	(0.077)	0.007	0.020
247	20.58	0.10	0.027	(0.076)	0.007	0.020
248	20.67	0.10	0.027	(0.076)	0.007	0.020
249	20.75	0.10	0.027	(0.076)	0.007	0.020
250	20.83	0.07	0.018	(0.075)	0.004	0.013
251	20.92	0.07	0.018	(0.075)	0.004	0.013
252	21.00	0.07	0.018	(0.075)	0.004	0.013
253	21.08	0.10	0.027	(0.075)	0.007	0.020
254	21.17	0.10	0.027	(0.074)	0.007	0.020
255	21.25	0.10	0.027	(0.074)	0.007	0.020
256	21.33	0.07	0.018	(0.074)	0.004	0.013
257	21.42	0.07	0.018	(0.073)	0.004	0.013
258	21.50	0.07	0.018	(0.073)	0.004	0.013
259	21.58	0.10	0.027	(0.073)	0.007	0.020
260	21.67	0.10	0.027	(0.073)	0.007	0.020
261	21.75	0.10	0.027	(0.072)	0.007	0.020
262	21.83	0.07	0.018	(0.072)	0.004	0.013
263	21.92	0.07	0.018	(0.072)	0.004	0.013
264	22.00	0.07	0.018	(0.072)	0.004	0.013
265	22.08	0.10	0.027	(0.071)	0.007	0.020
266	22.17	0.10	0.027	(0.071)	0.007	0.020
267	22.25	0.10	0.027	(0.071)	0.007	0.020
268	22.33	0.07	0.018	(0.071)	0.004	0.013
269	22.42	0.07	0.018	(0.070)	0.004	0.013
270	22.50	0.07	0.018	(0.070)	0.004	0.013
271	22.58	0.07	0.018	(0.070)	0.004	0.013
272	22.67	0.07	0.018	(0.070)	0.004	0.013
273	22.75	0.07	0.018	(0.070)	0.004	0.013
274	22.83	0.07	0.018	(0.070)	0.004	0.013
275	22.92	0.07	0.018	(0.069)	0.004	0.013
276	23.00	0.07	0.018	(0.069)	0.004	0.013
277	23.08	0.07	0.018	(0.069)	0.004	0.013
278	23.17	0.07	0.018	(0.069)	0.004	0.013
279	23.25	0.07	0.018	(0.069)	0.004	0.013
280	23.33	0.07	0.018	(0.069)	0.004	0.013
281	23.42	0.07	0.018	(0.068)	0.004	0.013
282	23.50	0.07	0.018	(0.068)	0.004	0.013
283	23.58	0.07	0.018	(0.068)	0.004	0.013
284	23.67	0.07	0.018	(0.068)	0.004	0.013
285	23.75	0.07	0.018	(0.068)	0.004	0.013
286	23.83	0.07	0.018	(0.068)	0.004	0.013
287	23.92	0.07	0.018	(0.068)	0.004	0.013
288	24.00	0.07	0.018	(0.068)	0.004	0.013

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.1

Flood volume = Effective rainfall 1.67(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.56(In)
Total soil loss = 0.032(Ac.Ft)

Total rainfall = 2.23(In)
Flood volume = 4161.6 Cubic Feet
Total soil loss = 1387.2 Cubic Feet

Peak flow rate of this hydrograph = 0.157(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.01	Q				
0+35	0.0005	0.01	Q				
0+40	0.0006	0.01	Q				
0+45	0.0007	0.01	Q				
0+50	0.0008	0.02	Q				
0+55	0.0009	0.02	Q				
1+ 0	0.0011	0.02	Q				
1+ 5	0.0012	0.02	Q				
1+10	0.0013	0.01	Q				
1+15	0.0014	0.01	Q				
1+20	0.0015	0.01	Q				
1+25	0.0016	0.01	Q				
1+30	0.0017	0.01	Q				
1+35	0.0018	0.01	Q				
1+40	0.0019	0.01	Q				
1+45	0.0019	0.01	Q				
1+50	0.0021	0.02	Q				
1+55	0.0022	0.02	Q				
2+ 0	0.0023	0.02	Q				
2+ 5	0.0024	0.02	QV				
2+10	0.0026	0.02	QV				
2+15	0.0027	0.02	QV				
2+20	0.0028	0.02	QV				
2+25	0.0029	0.02	QV				
2+30	0.0031	0.02	QV				
2+35	0.0032	0.02	QV				
2+40	0.0034	0.02	QV				
2+45	0.0035	0.02	QV				
2+50	0.0037	0.02	QV				
2+55	0.0039	0.02	QV				
3+ 0	0.0040	0.02	QV				
3+ 5	0.0042	0.02	QV				
3+10	0.0043	0.02	QV				
3+15	0.0045	0.02	QV				
3+20	0.0046	0.02	QV				
3+25	0.0048	0.02	Q V				
3+30	0.0050	0.02	Q V				

3+35	0.0051	0.02	Q V	|	|	|	|
3+40	0.0053	0.02	Q V	|	|	|	|
3+45	0.0054	0.02	Q V	|	|	|	|
3+50	0.0056	0.03	Q V	|	|	|	|
3+55	0.0058	0.03	Q V	|	|	|	|
4+ 0	0.0060	0.03	Q V	|	|	|	|
4+ 5	0.0062	0.03	Q V	|	|	|	|
4+10	0.0064	0.03	Q V	|	|	|	|
4+15	0.0066	0.03	Q V	|	|	|	|
4+20	0.0068	0.03	Q V	|	|	|	|
4+25	0.0070	0.03	Q V	|	|	|	|
4+30	0.0072	0.03	Q V	|	|	|	|
4+35	0.0074	0.03	Q V	|	|	|	|
4+40	0.0077	0.03	Q V	|	|	|	|
4+45	0.0079	0.03	Q V	|	|	|	|
4+50	0.0081	0.03	Q V	|	|	|	|
4+55	0.0084	0.04	Q V	|	|	|	|
5+ 0	0.0086	0.04	Q V	|	|	|	|
5+ 5	0.0089	0.03	Q V	|	|	|	|
5+10	0.0091	0.03	Q V	|	|	|	|
5+15	0.0092	0.03	Q V	|	|	|	|
5+20	0.0095	0.03	Q V	|	|	|	|
5+25	0.0097	0.03	Q V	|	|	|	|
5+30	0.0099	0.03	Q V	|	|	|	|
5+35	0.0101	0.03	Q V	|	|	|	|
5+40	0.0104	0.04	Q V	|	|	|	|
5+45	0.0106	0.04	Q V	|	|	|	|
5+50	0.0109	0.04	Q V	|	|	|	|
5+55	0.0112	0.04	Q V	|	|	|	|
6+ 0	0.0114	0.04	Q V	|	|	|	|
6+ 5	0.0117	0.04	Q V	|	|	|	|
6+10	0.0120	0.04	Q V	|	|	|	|
6+15	0.0122	0.04	Q V	|	|	|	|
6+20	0.0125	0.04	Q V	|	|	|	|
6+25	0.0128	0.04	Q V	|	|	|	|
6+30	0.0131	0.04	Q V	|	|	|	|
6+35	0.0134	0.04	Q V	|	|	|	|
6+40	0.0137	0.05	Q V	|	|	|	|
6+45	0.0140	0.05	Q V	|	|	|	|
6+50	0.0144	0.05	Q V	|	|	|	|
6+55	0.0147	0.05	Q V	|	|	|	|
7+ 0	0.0150	0.05	Q V	|	|	|	|
7+ 5	0.0153	0.05	Q V	|	|	|	|
7+10	0.0156	0.05	Q V	|	|	|	|
7+15	0.0160	0.05	Q V	|	|	|	|
7+20	0.0163	0.05	Q V	|	|	|	|
7+25	0.0166	0.05	Q V	|	|	|	|
7+30	0.0170	0.05	Q V	|	|	|	|
7+35	0.0173	0.05	Q V	|	|	|	|
7+40	0.0177	0.06	Q V	|	|	|	|
7+45	0.0181	0.06	Q V	|	|	|	|
7+50	0.0185	0.06	Q V	|	|	|	|
7+55	0.0189	0.06	Q V	|	|	|	|
8+ 0	0.0193	0.06	Q V	|	|	|	|
8+ 5	0.0198	0.06	Q V	|	|	|	|
8+10	0.0203	0.07	Q V	|	|	|	|
8+15	0.0207	0.07	Q V	|	|	|	|

8+20	0.0212	0.07	Q	V	|	|	|	|
8+25	0.0217	0.07	Q	V	|	|	|	|
8+30	0.0222	0.07	Q	V	|	|	|	|
8+35	0.0227	0.07	Q	V	|	|	|	|
8+40	0.0232	0.07	Q	V	|	|	|	|
8+45	0.0237	0.07	Q	V	|	|	|	|
8+50	0.0242	0.08	Q	V		|	|	|
8+55	0.0247	0.08	Q	V		|	|	|
9+ 0	0.0253	0.08	Q	V		|	|	|
9+ 5	0.0258	0.08	Q	V		|	|	|
9+10	0.0264	0.09	Q	|	V	|	|	|
9+15	0.0271	0.09	Q	|	V	|	|	|
9+20	0.0277	0.09	Q	|	V	|	|	|
9+25	0.0283	0.09	Q	|	V	|	|	|
9+30	0.0289	0.09	Q	|	V	|	|	|
9+35	0.0296	0.09	Q	|	V	|	|	|
9+40	0.0303	0.10	Q	|	V	|	|	|
9+45	0.0309	0.10	Q	|	V	|	|	|
9+50	0.0316	0.10	Q	|	V	|	|	|
9+55	0.0323	0.10	Q	|	V	|	|	|
10+ 0	0.0330	0.10	Q	|	V	|	|	|
10+ 5	0.0336	0.09	Q	|	V	|	|	|
10+10	0.0341	0.07	Q	|	V	|	|	|
10+15	0.0346	0.07	Q	|	V	|	|	|
10+20	0.0351	0.07	Q	|	V	|	|	|
10+25	0.0355	0.07	Q	|	V	|	|	|
10+30	0.0360	0.07	Q	|	V	|	|	|
10+35	0.0366	0.08	Q	|	V	|	|	|
10+40	0.0372	0.09	Q	|	V	|	|	|
10+45	0.0378	0.09	Q	|	V	|	|	|
10+50	0.0385	0.09	Q	|	V	|	|	|
10+55	0.0391	0.09	Q	|	V	|	|	|
11+ 0	0.0397	0.09	Q	|	V	|	|	|
11+ 5	0.0404	0.09	Q	|	V	|	|	|
11+10	0.0410	0.09	Q	|	V	|	|	|
11+15	0.0416	0.09	Q	|	V	|	|	|
11+20	0.0422	0.09	Q	|	V	|	|	|
11+25	0.0428	0.09	Q	|	V	|	|	|
11+30	0.0434	0.09	Q	|	V	|	|	|
11+35	0.0440	0.08	Q	|	V	|	|	|
11+40	0.0445	0.08	Q	|	V	|	|	|
11+45	0.0451	0.08	Q	|	V	|	|	|
11+50	0.0456	0.08	Q	|	V	|	|	|
11+55	0.0462	0.08	Q	|	V	|	|	|
12+ 0	0.0468	0.08	Q	|	V	|	|	|
12+ 5	0.0474	0.10	Q	|	V	|	|	|
12+10	0.0482	0.11	Q	|	V	|	|	|
12+15	0.0490	0.11	Q	|	V	|	|	|
12+20	0.0498	0.12	Q	|	V	|	|	|
12+25	0.0506	0.12	Q	|	V	|	|	|
12+30	0.0515	0.12	Q	|	V	|	|	|
12+35	0.0523	0.12	Q	|	V	|	|	|
12+40	0.0532	0.13	Q	|	V	|	|	|
12+45	0.0541	0.13	Q	|	V	|	|	|
12+50	0.0550	0.13	Q	|	V	|	|	|
12+55	0.0559	0.13	Q	|	V	|	|	|
13+ 0	0.0569	0.13	Q	|	V	|	|	|

13+ 5	0.0579	0.15	Q	|	|	V |	|
13+10	0.0589	0.16	Q	|	|	V |	|
13+15	0.0600	0.16	Q	|	|	V |	|
13+20	0.0611	0.16	Q	|	|	V |	|
13+25	0.0622	0.16	Q	|	|	V |	|
13+30	0.0633	0.16	Q	|	|	V |	|
13+35	0.0642	0.13	Q	|	|	V |	|
13+40	0.0649	0.11	Q	|	|	V |	|
13+45	0.0657	0.11	Q	|	|	V |	|
13+50	0.0664	0.11	Q	|	|	V |	|
13+55	0.0671	0.11	Q	|	|	V |	|
14+ 0	0.0679	0.11	Q	|	|	V |	|
14+ 5	0.0687	0.12	Q	|	|	V |	|
14+10	0.0695	0.12	Q	|	|	V|	|
14+15	0.0704	0.12	Q	|	|	V|	|
14+20	0.0712	0.12	Q	|	|	V|	|
14+25	0.0720	0.12	Q	|	|	V	|
14+30	0.0729	0.12	Q	|	|	V	|
14+35	0.0737	0.12	Q	|	|	V	|
14+40	0.0745	0.12	Q	|	|	|V	|
14+45	0.0754	0.12	Q	|	|	|V	|
14+50	0.0762	0.12	Q	|	|	|V	|
14+55	0.0770	0.12	Q	|	|	| V	|
15+ 0	0.0778	0.12	Q	|	|	| V	|
15+ 5	0.0785	0.11	Q	|	|	| V	|
15+10	0.0793	0.11	Q	|	|	| V	|
15+15	0.0801	0.11	Q	|	|	| V	|
15+20	0.0808	0.11	Q	|	|	| V	|
15+25	0.0816	0.11	Q	|	|	| V	|
15+30	0.0823	0.11	Q	|	|	| V	|
15+35	0.0830	0.10	Q	|	|	| V	|
15+40	0.0836	0.09	Q	|	|	| V	|
15+45	0.0842	0.09	Q	|	|	| V	|
15+50	0.0848	0.09	Q	|	|	| V	|
15+55	0.0854	0.09	Q	|	|	| V	|
16+ 0	0.0860	0.09	Q	|	|	| V	|
16+ 5	0.0864	0.05	Q	|	|	| V	|
16+10	0.0865	0.02	Q	|	|	| V	|
16+15	0.0867	0.02	Q	|	|	| V	|
16+20	0.0868	0.02	Q	|	|	| V	|
16+25	0.0869	0.02	Q	|	|	| V	|
16+30	0.0871	0.02	Q	|	|	| V	|
16+35	0.0872	0.02	Q	|	|	| V	|
16+40	0.0873	0.01	Q	|	|	| V	|
16+45	0.0874	0.01	Q	|	|	| V	|
16+50	0.0875	0.01	Q	|	|	| V	|
16+55	0.0875	0.01	Q	|	|	| V	|
17+ 0	0.0876	0.01	Q	|	|	| V	|
17+ 5	0.0878	0.02	Q	|	|	| V	|
17+10	0.0879	0.02	Q	|	|	| V	|
17+15	0.0881	0.02	Q	|	|	| V	|
17+20	0.0882	0.02	Q	|	|	| V	|
17+25	0.0884	0.02	Q	|	|	| V	|
17+30	0.0886	0.02	Q	|	|	| V	|
17+35	0.0887	0.02	Q	|	|	| V	|
17+40	0.0889	0.02	Q	|	|	| V	|
17+45	0.0890	0.02	Q	|	|	| V	|

17+50	0.0892	0.02	Q	|	|	|	V |
17+55	0.0893	0.02	Q	|	|	|	V |
18+ 0	0.0894	0.02	Q	|	|	|	V |
18+ 5	0.0896	0.02	Q	|	|	|	V |
18+10	0.0897	0.02	Q	|	|	|	V |
18+15	0.0898	0.02	Q	|	|	|	V |
18+20	0.0899	0.02	Q	|	|	|	V |
18+25	0.0901	0.02	Q	|	|	|	V |
18+30	0.0902	0.02	Q	|	|	|	V |
18+35	0.0903	0.02	Q	|	|	|	V |
18+40	0.0904	0.01	Q	|	|	|	V |
18+45	0.0905	0.01	Q	|	|	|	V |
18+50	0.0906	0.01	Q	|	|	|	V |
18+55	0.0907	0.01	Q	|	|	|	V |
19+ 0	0.0907	0.01	Q	|	|	|	V |
19+ 5	0.0908	0.01	Q	|	|	|	V |
19+10	0.0909	0.01	Q	|	|	|	V |
19+15	0.0910	0.01	Q	|	|	|	V |
19+20	0.0911	0.02	Q	|	|	|	V |
19+25	0.0912	0.02	Q	|	|	|	V |
19+30	0.0914	0.02	Q	|	|	|	V |
19+35	0.0915	0.02	Q	|	|	|	V |
19+40	0.0916	0.01	Q	|	|	|	V |
19+45	0.0917	0.01	Q	|	|	|	V |
19+50	0.0917	0.01	Q	|	|	|	V |
19+55	0.0918	0.01	Q	|	|	|	V |
20+ 0	0.0919	0.01	Q	|	|	|	V |
20+ 5	0.0919	0.01	Q	|	|	|	V |
20+10	0.0920	0.01	Q	|	|	|	V |
20+15	0.0921	0.01	Q	|	|	|	V |
20+20	0.0922	0.01	Q	|	|	|	V |
20+25	0.0923	0.01	Q	|	|	|	V |
20+30	0.0924	0.01	Q	|	|	|	V |
20+35	0.0925	0.01	Q	|	|	|	V |
20+40	0.0926	0.01	Q	|	|	|	V |
20+45	0.0927	0.01	Q	|	|	|	V |
20+50	0.0928	0.01	Q	|	|	|	V |
20+55	0.0929	0.01	Q	|	|	|	V |
21+ 0	0.0929	0.01	Q	|	|	|	V |
21+ 5	0.0930	0.01	Q	|	|	|	V |
21+10	0.0931	0.01	Q	|	|	|	V |
21+15	0.0932	0.01	Q	|	|	|	V|
21+20	0.0933	0.01	Q	|	|	|	V|
21+25	0.0933	0.01	Q	|	|	|	V|
21+30	0.0934	0.01	Q	|	|	|	V|
21+35	0.0935	0.01	Q	|	|	|	V|
21+40	0.0936	0.01	Q	|	|	|	V|
21+45	0.0937	0.01	Q	|	|	|	V|
21+50	0.0937	0.01	Q	|	|	|	V|
21+55	0.0938	0.01	Q	|	|	|	V|
22+ 0	0.0939	0.01	Q	|	|	|	V|
22+ 5	0.0940	0.01	Q	|	|	|	V|
22+10	0.0940	0.01	Q	|	|	|	V|
22+15	0.0941	0.01	Q	|	|	|	V|
22+20	0.0942	0.01	Q	|	|	|	V|
22+25	0.0943	0.01	Q	|	|	|	V|
22+30	0.0944	0.01	Q	|	|	|	V|

22+35	0.0944	0.01	Q	|	|	|	V|
22+40	0.0945	0.01	Q	|	|	|	V|
22+45	0.0945	0.01	Q	|	|	|	V|
22+50	0.0946	0.01	Q	|	|	|	V|
22+55	0.0947	0.01	Q	|	|	|	V|
23+ 0	0.0947	0.01	Q	|	|	|	V|
23+ 5	0.0948	0.01	Q	|	|	|	V|
23+10	0.0949	0.01	Q	|	|	|	V|
23+15	0.0949	0.01	Q	|	|	|	V|
23+20	0.0950	0.01	Q	|	|	|	V|
23+25	0.0951	0.01	Q	|	|	|	V|
23+30	0.0951	0.01	Q	|	|	|	V|
23+35	0.0952	0.01	Q	|	|	|	V|
23+40	0.0952	0.01	Q	|	|	|	V|
23+45	0.0953	0.01	Q	|	|	|	V|
23+50	0.0954	0.01	Q	|	|	|	V|
23+55	0.0954	0.01	Q	|	|	|	V|
24+ 0	0.0955	0.01	Q	|	|	|	V|
24+ 5	0.0955	0.00	Q	|	|	|	V|
24+10	0.0955	0.00	Q	|	|	|	V|
24+15	0.0955	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 06/03/26 File: 19267p005site245.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
5-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	1.66	16.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	4.10	39.72

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.232(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.231(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	75.00	0.840

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	57.0	0.501	0.840	0.122	1.000	0.122
					Sum (F) =	0.122

Area averaged mean soil loss (F) (In/Hr) = 0.122
Minimum soil loss rate ((In/Hr)) = 0.061
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	9.764
		Sum = 100.000	Sum= 9.764

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.018	(0.217)	0.004	0.014
2	0.17	0.07	0.018	(0.216)	0.004	0.014
3	0.25	0.07	0.018	(0.215)	0.004	0.014
4	0.33	0.10	0.027	(0.214)	0.006	0.021
5	0.42	0.10	0.027	(0.213)	0.006	0.021
6	0.50	0.10	0.027	(0.212)	0.006	0.021
7	0.58	0.10	0.027	(0.212)	0.006	0.021
8	0.67	0.10	0.027	(0.211)	0.006	0.021
9	0.75	0.10	0.027	(0.210)	0.006	0.021
10	0.83	0.13	0.036	(0.209)	0.008	0.027
11	0.92	0.13	0.036	(0.208)	0.008	0.027
12	1.00	0.13	0.036	(0.207)	0.008	0.027

13	1.08	0.10	0.027	(0.207)	0.006	0.021
14	1.17	0.10	0.027	(0.206)	0.006	0.021
15	1.25	0.10	0.027	(0.205)	0.006	0.021
16	1.33	0.10	0.027	(0.204)	0.006	0.021
17	1.42	0.10	0.027	(0.203)	0.006	0.021
18	1.50	0.10	0.027	(0.203)	0.006	0.021
19	1.58	0.10	0.027	(0.202)	0.006	0.021
20	1.67	0.10	0.027	(0.201)	0.006	0.021
21	1.75	0.10	0.027	(0.200)	0.006	0.021
22	1.83	0.13	0.036	(0.199)	0.008	0.027
23	1.92	0.13	0.036	(0.198)	0.008	0.027
24	2.00	0.13	0.036	(0.198)	0.008	0.027
25	2.08	0.13	0.036	(0.197)	0.008	0.027
26	2.17	0.13	0.036	(0.196)	0.008	0.027
27	2.25	0.13	0.036	(0.195)	0.008	0.027
28	2.33	0.13	0.036	(0.194)	0.008	0.027
29	2.42	0.13	0.036	(0.194)	0.008	0.027
30	2.50	0.13	0.036	(0.193)	0.008	0.027
31	2.58	0.17	0.045	(0.192)	0.010	0.034
32	2.67	0.17	0.045	(0.191)	0.010	0.034
33	2.75	0.17	0.045	(0.191)	0.010	0.034
34	2.83	0.17	0.045	(0.190)	0.010	0.034
35	2.92	0.17	0.045	(0.189)	0.010	0.034
36	3.00	0.17	0.045	(0.188)	0.010	0.034
37	3.08	0.17	0.045	(0.187)	0.010	0.034
38	3.17	0.17	0.045	(0.187)	0.010	0.034
39	3.25	0.17	0.045	(0.186)	0.010	0.034
40	3.33	0.17	0.045	(0.185)	0.010	0.034
41	3.42	0.17	0.045	(0.184)	0.010	0.034
42	3.50	0.17	0.045	(0.184)	0.010	0.034
43	3.58	0.17	0.045	(0.183)	0.010	0.034
44	3.67	0.17	0.045	(0.182)	0.010	0.034
45	3.75	0.17	0.045	(0.181)	0.010	0.034
46	3.83	0.20	0.054	(0.180)	0.012	0.041
47	3.92	0.20	0.054	(0.180)	0.012	0.041
48	4.00	0.20	0.054	(0.179)	0.012	0.041
49	4.08	0.20	0.054	(0.178)	0.012	0.041
50	4.17	0.20	0.054	(0.177)	0.012	0.041
51	4.25	0.20	0.054	(0.177)	0.012	0.041
52	4.33	0.23	0.062	(0.176)	0.014	0.048
53	4.42	0.23	0.062	(0.175)	0.014	0.048
54	4.50	0.23	0.062	(0.174)	0.014	0.048
55	4.58	0.23	0.062	(0.174)	0.014	0.048
56	4.67	0.23	0.062	(0.173)	0.014	0.048
57	4.75	0.23	0.062	(0.172)	0.014	0.048
58	4.83	0.27	0.071	(0.171)	0.016	0.055
59	4.92	0.27	0.071	(0.171)	0.016	0.055
60	5.00	0.27	0.071	(0.170)	0.016	0.055
61	5.08	0.20	0.054	(0.169)	0.012	0.041
62	5.17	0.20	0.054	(0.168)	0.012	0.041
63	5.25	0.20	0.054	(0.168)	0.012	0.041
64	5.33	0.23	0.062	(0.167)	0.014	0.048
65	5.42	0.23	0.062	(0.166)	0.014	0.048
66	5.50	0.23	0.062	(0.166)	0.014	0.048
67	5.58	0.27	0.071	(0.165)	0.016	0.055
68	5.67	0.27	0.071	(0.164)	0.016	0.055
69	5.75	0.27	0.071	(0.163)	0.016	0.055

70	5.83	0.27	0.071	(0.163)	0.016	0.055
71	5.92	0.27	0.071	(0.162)	0.016	0.055
72	6.00	0.27	0.071	(0.161)	0.016	0.055
73	6.08	0.30	0.080	(0.161)	0.018	0.062
74	6.17	0.30	0.080	(0.160)	0.018	0.062
75	6.25	0.30	0.080	(0.159)	0.018	0.062
76	6.33	0.30	0.080	(0.158)	0.018	0.062
77	6.42	0.30	0.080	(0.158)	0.018	0.062
78	6.50	0.30	0.080	(0.157)	0.018	0.062
79	6.58	0.33	0.089	(0.156)	0.021	0.069
80	6.67	0.33	0.089	(0.156)	0.021	0.069
81	6.75	0.33	0.089	(0.155)	0.021	0.069
82	6.83	0.33	0.089	(0.154)	0.021	0.069
83	6.92	0.33	0.089	(0.153)	0.021	0.069
84	7.00	0.33	0.089	(0.153)	0.021	0.069
85	7.08	0.33	0.089	(0.152)	0.021	0.069
86	7.17	0.33	0.089	(0.151)	0.021	0.069
87	7.25	0.33	0.089	(0.151)	0.021	0.069
88	7.33	0.37	0.098	(0.150)	0.023	0.076
89	7.42	0.37	0.098	(0.149)	0.023	0.076
90	7.50	0.37	0.098	(0.149)	0.023	0.076
91	7.58	0.40	0.107	(0.148)	0.025	0.082
92	7.67	0.40	0.107	(0.147)	0.025	0.082
93	7.75	0.40	0.107	(0.147)	0.025	0.082
94	7.83	0.43	0.116	(0.146)	0.027	0.089
95	7.92	0.43	0.116	(0.145)	0.027	0.089
96	8.00	0.43	0.116	(0.145)	0.027	0.089
97	8.08	0.50	0.134	(0.144)	0.031	0.103
98	8.17	0.50	0.134	(0.143)	0.031	0.103
99	8.25	0.50	0.134	(0.143)	0.031	0.103
100	8.33	0.50	0.134	(0.142)	0.031	0.103
101	8.42	0.50	0.134	(0.141)	0.031	0.103
102	8.50	0.50	0.134	(0.141)	0.031	0.103
103	8.58	0.53	0.143	(0.140)	0.033	0.110
104	8.67	0.53	0.143	(0.139)	0.033	0.110
105	8.75	0.53	0.143	(0.139)	0.033	0.110
106	8.83	0.57	0.152	(0.138)	0.035	0.117
107	8.92	0.57	0.152	(0.137)	0.035	0.117
108	9.00	0.57	0.152	(0.137)	0.035	0.117
109	9.08	0.63	0.170	(0.136)	0.039	0.131
110	9.17	0.63	0.170	(0.135)	0.039	0.131
111	9.25	0.63	0.170	(0.135)	0.039	0.131
112	9.33	0.67	0.179	(0.134)	0.041	0.137
113	9.42	0.67	0.179	(0.133)	0.041	0.137
114	9.50	0.67	0.179	(0.133)	0.041	0.137
115	9.58	0.70	0.187	(0.132)	0.043	0.144
116	9.67	0.70	0.187	(0.132)	0.043	0.144
117	9.75	0.70	0.187	(0.131)	0.043	0.144
118	9.83	0.73	0.196	(0.130)	0.045	0.151
119	9.92	0.73	0.196	(0.130)	0.045	0.151
120	10.00	0.73	0.196	(0.129)	0.045	0.151
121	10.08	0.50	0.134	(0.128)	0.031	0.103
122	10.17	0.50	0.134	(0.128)	0.031	0.103
123	10.25	0.50	0.134	(0.127)	0.031	0.103
124	10.33	0.50	0.134	(0.127)	0.031	0.103
125	10.42	0.50	0.134	(0.126)	0.031	0.103
126	10.50	0.50	0.134	(0.125)	0.031	0.103

127	10.58	0.67	0.179	(0.125)	0.041	0.137
128	10.67	0.67	0.179	(0.124)	0.041	0.137
129	10.75	0.67	0.179	(0.123)	0.041	0.137
130	10.83	0.67	0.179	(0.123)	0.041	0.137
131	10.92	0.67	0.179	(0.122)	0.041	0.137
132	11.00	0.67	0.179	(0.122)	0.041	0.137
133	11.08	0.63	0.170	(0.121)	0.039	0.131
134	11.17	0.63	0.170	(0.120)	0.039	0.131
135	11.25	0.63	0.170	(0.120)	0.039	0.131
136	11.33	0.63	0.170	(0.119)	0.039	0.131
137	11.42	0.63	0.170	(0.119)	0.039	0.131
138	11.50	0.63	0.170	(0.118)	0.039	0.131
139	11.58	0.57	0.152	(0.117)	0.035	0.117
140	11.67	0.57	0.152	(0.117)	0.035	0.117
141	11.75	0.57	0.152	(0.116)	0.035	0.117
142	11.83	0.60	0.161	(0.116)	0.037	0.124
143	11.92	0.60	0.161	(0.115)	0.037	0.124
144	12.00	0.60	0.161	(0.115)	0.037	0.124
145	12.08	0.83	0.223	(0.114)	0.051	0.172
146	12.17	0.83	0.223	(0.113)	0.051	0.172
147	12.25	0.83	0.223	(0.113)	0.051	0.172
148	12.33	0.87	0.232	(0.112)	0.053	0.179
149	12.42	0.87	0.232	(0.112)	0.053	0.179
150	12.50	0.87	0.232	(0.111)	0.053	0.179
151	12.58	0.93	0.250	(0.111)	0.057	0.192
152	12.67	0.93	0.250	(0.110)	0.057	0.192
153	12.75	0.93	0.250	(0.110)	0.057	0.192
154	12.83	0.97	0.259	(0.109)	0.060	0.199
155	12.92	0.97	0.259	(0.108)	0.060	0.199
156	13.00	0.97	0.259	(0.108)	0.060	0.199
157	13.08	1.13	0.303	(0.107)	0.070	0.234
158	13.17	1.13	0.303	(0.107)	0.070	0.234
159	13.25	1.13	0.303	(0.106)	0.070	0.234
160	13.33	1.13	0.303	(0.106)	0.070	0.234
161	13.42	1.13	0.303	(0.105)	0.070	0.234
162	13.50	1.13	0.303	(0.105)	0.070	0.234
163	13.58	0.77	0.205	(0.104)	0.047	0.158
164	13.67	0.77	0.205	(0.104)	0.047	0.158
165	13.75	0.77	0.205	(0.103)	0.047	0.158
166	13.83	0.77	0.205	(0.103)	0.047	0.158
167	13.92	0.77	0.205	(0.102)	0.047	0.158
168	14.00	0.77	0.205	(0.101)	0.047	0.158
169	14.08	0.90	0.241	(0.101)	0.055	0.186
170	14.17	0.90	0.241	(0.100)	0.055	0.186
171	14.25	0.90	0.241	(0.100)	0.055	0.186
172	14.33	0.87	0.232	(0.099)	0.053	0.179
173	14.42	0.87	0.232	(0.099)	0.053	0.179
174	14.50	0.87	0.232	(0.098)	0.053	0.179
175	14.58	0.87	0.232	(0.098)	0.053	0.179
176	14.67	0.87	0.232	(0.097)	0.053	0.179
177	14.75	0.87	0.232	(0.097)	0.053	0.179
178	14.83	0.83	0.223	(0.096)	0.051	0.172
179	14.92	0.83	0.223	(0.096)	0.051	0.172
180	15.00	0.83	0.223	(0.095)	0.051	0.172
181	15.08	0.80	0.214	(0.095)	0.049	0.165
182	15.17	0.80	0.214	(0.094)	0.049	0.165
183	15.25	0.80	0.214	(0.094)	0.049	0.165

184	15.33	0.77	0.205	(0.093)	0.047	0.158
185	15.42	0.77	0.205	(0.093)	0.047	0.158
186	15.50	0.77	0.205	(0.093)	0.047	0.158
187	15.58	0.63	0.170	(0.092)	0.039	0.131
188	15.67	0.63	0.170	(0.092)	0.039	0.131
189	15.75	0.63	0.170	(0.091)	0.039	0.131
190	15.83	0.63	0.170	(0.091)	0.039	0.131
191	15.92	0.63	0.170	(0.090)	0.039	0.131
192	16.00	0.63	0.170	(0.090)	0.039	0.131
193	16.08	0.13	0.036	(0.089)	0.008	0.027
194	16.17	0.13	0.036	(0.089)	0.008	0.027
195	16.25	0.13	0.036	(0.088)	0.008	0.027
196	16.33	0.13	0.036	(0.088)	0.008	0.027
197	16.42	0.13	0.036	(0.087)	0.008	0.027
198	16.50	0.13	0.036	(0.087)	0.008	0.027
199	16.58	0.10	0.027	(0.087)	0.006	0.021
200	16.67	0.10	0.027	(0.086)	0.006	0.021
201	16.75	0.10	0.027	(0.086)	0.006	0.021
202	16.83	0.10	0.027	(0.085)	0.006	0.021
203	16.92	0.10	0.027	(0.085)	0.006	0.021
204	17.00	0.10	0.027	(0.084)	0.006	0.021
205	17.08	0.17	0.045	(0.084)	0.010	0.034
206	17.17	0.17	0.045	(0.084)	0.010	0.034
207	17.25	0.17	0.045	(0.083)	0.010	0.034
208	17.33	0.17	0.045	(0.083)	0.010	0.034
209	17.42	0.17	0.045	(0.082)	0.010	0.034
210	17.50	0.17	0.045	(0.082)	0.010	0.034
211	17.58	0.17	0.045	(0.081)	0.010	0.034
212	17.67	0.17	0.045	(0.081)	0.010	0.034
213	17.75	0.17	0.045	(0.081)	0.010	0.034
214	17.83	0.13	0.036	(0.080)	0.008	0.027
215	17.92	0.13	0.036	(0.080)	0.008	0.027
216	18.00	0.13	0.036	(0.079)	0.008	0.027
217	18.08	0.13	0.036	(0.079)	0.008	0.027
218	18.17	0.13	0.036	(0.079)	0.008	0.027
219	18.25	0.13	0.036	(0.078)	0.008	0.027
220	18.33	0.13	0.036	(0.078)	0.008	0.027
221	18.42	0.13	0.036	(0.078)	0.008	0.027
222	18.50	0.13	0.036	(0.077)	0.008	0.027
223	18.58	0.10	0.027	(0.077)	0.006	0.021
224	18.67	0.10	0.027	(0.076)	0.006	0.021
225	18.75	0.10	0.027	(0.076)	0.006	0.021
226	18.83	0.07	0.018	(0.076)	0.004	0.014
227	18.92	0.07	0.018	(0.075)	0.004	0.014
228	19.00	0.07	0.018	(0.075)	0.004	0.014
229	19.08	0.10	0.027	(0.075)	0.006	0.021
230	19.17	0.10	0.027	(0.074)	0.006	0.021
231	19.25	0.10	0.027	(0.074)	0.006	0.021
232	19.33	0.13	0.036	(0.074)	0.008	0.027
233	19.42	0.13	0.036	(0.073)	0.008	0.027
234	19.50	0.13	0.036	(0.073)	0.008	0.027
235	19.58	0.10	0.027	(0.073)	0.006	0.021
236	19.67	0.10	0.027	(0.072)	0.006	0.021
237	19.75	0.10	0.027	(0.072)	0.006	0.021
238	19.83	0.07	0.018	(0.072)	0.004	0.014
239	19.92	0.07	0.018	(0.071)	0.004	0.014
240	20.00	0.07	0.018	(0.071)	0.004	0.014

241	20.08	0.10	0.027	(0.071)	0.006	0.021
242	20.17	0.10	0.027	(0.070)	0.006	0.021
243	20.25	0.10	0.027	(0.070)	0.006	0.021
244	20.33	0.10	0.027	(0.070)	0.006	0.021
245	20.42	0.10	0.027	(0.069)	0.006	0.021
246	20.50	0.10	0.027	(0.069)	0.006	0.021
247	20.58	0.10	0.027	(0.069)	0.006	0.021
248	20.67	0.10	0.027	(0.069)	0.006	0.021
249	20.75	0.10	0.027	(0.068)	0.006	0.021
250	20.83	0.07	0.018	(0.068)	0.004	0.014
251	20.92	0.07	0.018	(0.068)	0.004	0.014
252	21.00	0.07	0.018	(0.067)	0.004	0.014
253	21.08	0.10	0.027	(0.067)	0.006	0.021
254	21.17	0.10	0.027	(0.067)	0.006	0.021
255	21.25	0.10	0.027	(0.067)	0.006	0.021
256	21.33	0.07	0.018	(0.066)	0.004	0.014
257	21.42	0.07	0.018	(0.066)	0.004	0.014
258	21.50	0.07	0.018	(0.066)	0.004	0.014
259	21.58	0.10	0.027	(0.066)	0.006	0.021
260	21.67	0.10	0.027	(0.065)	0.006	0.021
261	21.75	0.10	0.027	(0.065)	0.006	0.021
262	21.83	0.07	0.018	(0.065)	0.004	0.014
263	21.92	0.07	0.018	(0.065)	0.004	0.014
264	22.00	0.07	0.018	(0.064)	0.004	0.014
265	22.08	0.10	0.027	(0.064)	0.006	0.021
266	22.17	0.10	0.027	(0.064)	0.006	0.021
267	22.25	0.10	0.027	(0.064)	0.006	0.021
268	22.33	0.07	0.018	(0.064)	0.004	0.014
269	22.42	0.07	0.018	(0.063)	0.004	0.014
270	22.50	0.07	0.018	(0.063)	0.004	0.014
271	22.58	0.07	0.018	(0.063)	0.004	0.014
272	22.67	0.07	0.018	(0.063)	0.004	0.014
273	22.75	0.07	0.018	(0.063)	0.004	0.014
274	22.83	0.07	0.018	(0.063)	0.004	0.014
275	22.92	0.07	0.018	(0.062)	0.004	0.014
276	23.00	0.07	0.018	(0.062)	0.004	0.014
277	23.08	0.07	0.018	(0.062)	0.004	0.014
278	23.17	0.07	0.018	(0.062)	0.004	0.014
279	23.25	0.07	0.018	(0.062)	0.004	0.014
280	23.33	0.07	0.018	(0.062)	0.004	0.014
281	23.42	0.07	0.018	(0.062)	0.004	0.014
282	23.50	0.07	0.018	(0.062)	0.004	0.014
283	23.58	0.07	0.018	(0.061)	0.004	0.014
284	23.67	0.07	0.018	(0.061)	0.004	0.014
285	23.75	0.07	0.018	(0.061)	0.004	0.014
286	23.83	0.07	0.018	(0.061)	0.004	0.014
287	23.92	0.07	0.018	(0.061)	0.004	0.014
288	24.00	0.07	0.018	(0.061)	0.004	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.6

Flood volume = Effective rainfall 1.72(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.414(Ac.Ft)
Total rainfall = 2.23(In)
Flood volume = 60425.7 Cubic Feet
Total soil loss = 18049.2 Cubic Feet

Peak flow rate of this hydrograph = 2.283(CFS)

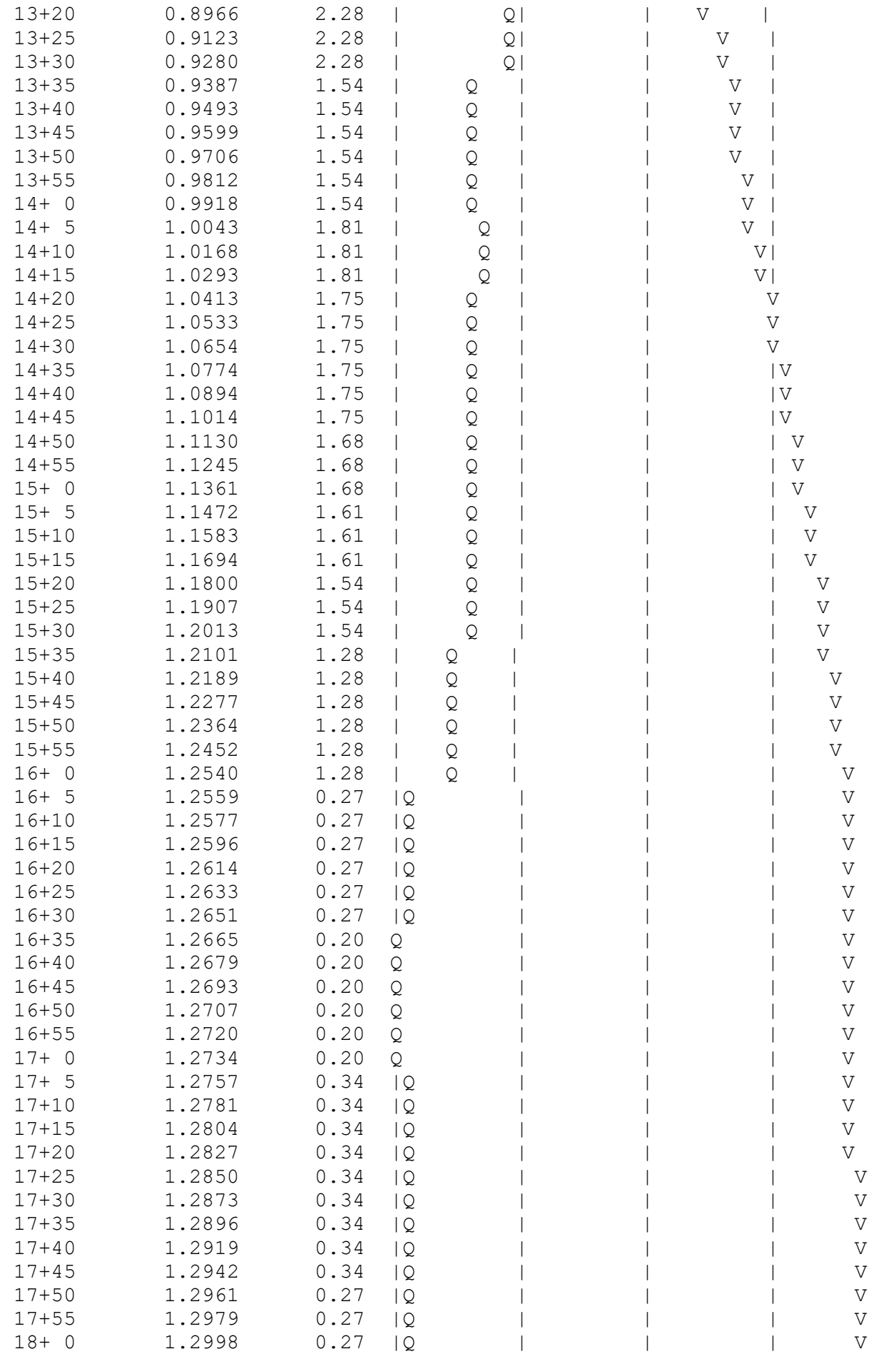
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0009	0.13	Q				
0+10	0.0018	0.13	Q				
0+15	0.0028	0.13	Q				
0+20	0.0042	0.20	Q				
0+25	0.0055	0.20	Q				
0+30	0.0069	0.20	Q				
0+35	0.0083	0.20	Q				
0+40	0.0097	0.20	Q				
0+45	0.0111	0.20	Q				
0+50	0.0129	0.27	VQ				
0+55	0.0148	0.27	VQ				
1+ 0	0.0166	0.27	VQ				
1+ 5	0.0180	0.20	Q				
1+10	0.0194	0.20	Q				
1+15	0.0208	0.20	Q				
1+20	0.0222	0.20	Q				
1+25	0.0236	0.20	Q				
1+30	0.0250	0.20	Q				
1+35	0.0264	0.20	Q				
1+40	0.0277	0.20	Q				
1+45	0.0291	0.20	Q				
1+50	0.0310	0.27	VQ				
1+55	0.0328	0.27	VQ				
2+ 0	0.0347	0.27	VQ				
2+ 5	0.0365	0.27	|Q				
2+10	0.0384	0.27	|Q				
2+15	0.0402	0.27	|Q				
2+20	0.0421	0.27	|Q				
2+25	0.0439	0.27	|Q				
2+30	0.0458	0.27	|Q				
2+35	0.0481	0.34	|Q				
2+40	0.0504	0.34	|Q				
2+45	0.0527	0.34	|Q				
2+50	0.0550	0.34	|Q				
2+55	0.0573	0.34	|Q				
3+ 0	0.0596	0.34	|Q				
3+ 5	0.0620	0.34	|Q				
3+10	0.0643	0.34	|Q				
3+15	0.0666	0.34	|Q				
3+20	0.0689	0.34	|Q				
3+25	0.0712	0.34	|QV				
3+30	0.0735	0.34	|QV				
3+35	0.0758	0.34	|QV				
3+40	0.0781	0.34	|QV				
3+45	0.0805	0.34	|QV				

```
3+50       0.0832      0.40  |QV       |          |          |          |
3+55       0.0860      0.40  |QV       |          |          |          |
4+ 0       0.0888      0.40  |QV       |          |          |          |
4+ 5       0.0916      0.40  |QV       |          |          |          |
4+10       0.0943      0.40  |QV       |          |          |          |
4+15       0.0971      0.40  |QV       |          |          |          |
4+20       0.1003      0.47  |QV       |          |          |          |
4+25       0.1036      0.47  |QV       |          |          |          |
4+30       0.1068      0.47  |Q V      |          |          |          |
4+35       0.1100      0.47  |Q V      |          |          |          |
4+40       0.1133      0.47  |Q V      |          |          |          |
4+45       0.1165      0.47  |Q V      |          |          |          |
4+50       0.1202      0.54  | QV      |          |          |          |
4+55       0.1239      0.54  | QV      |          |          |          |
5+ 0       0.1276      0.54  | QV      |          |          |          |
5+ 5       0.1304      0.40  |Q V      |          |          |          |
5+10       0.1332      0.40  |Q V      |          |          |          |
5+15       0.1359      0.40  |Q V      |          |          |          |
5+20       0.1392      0.47  |Q  V     |          |          |          |
5+25       0.1424      0.47  |Q  V     |          |          |          |
5+30       0.1457      0.47  |Q  V     |          |          |          |
5+35       0.1494      0.54  | Q V     |          |          |          |
5+40       0.1531      0.54  | Q V     |          |          |          |
5+45       0.1568      0.54  | Q V     |          |          |          |
5+50       0.1605      0.54  | Q V     |          |          |          |
5+55       0.1641      0.54  | Q V     |          |          |          |
6+ 0       0.1678      0.54  | Q V     |          |          |          |
6+ 5       0.1720      0.60  | Q V     |          |          |          |
6+10       0.1762      0.60  | Q  V    |          |          |          |
6+15       0.1803      0.60  | Q  V    |          |          |          |
6+20       0.1845      0.60  | Q  V    |          |          |          |
6+25       0.1887      0.60  | Q  V    |          |          |          |
6+30       0.1928      0.60  | Q  V    |          |          |          |
6+35       0.1974      0.67  | Q  V    |          |          |          |
6+40       0.2021      0.67  | Q  V    |          |          |          |
6+45       0.2067      0.67  | Q  V    |          |          |          |
6+50       0.2113      0.67  | Q   V   |          |          |          |
6+55       0.2159      0.67  | Q   V   |          |          |          |
7+ 0       0.2206      0.67  | Q   V   |          |          |          |
7+ 5       0.2252      0.67  | Q   V   |          |          |          |
7+10       0.2298      0.67  | Q   V   |          |          |          |
7+15       0.2344      0.67  | Q   V   |          |          |          |
7+20       0.2395      0.74  | Q   V   |          |          |          |
7+25       0.2446      0.74  | Q    V  |          |          |          |
7+30       0.2497      0.74  | Q    V  |          |          |          |
7+35       0.2552      0.81  |  Q   V  |          |          |          |
7+40       0.2608      0.81  |  Q   V  |          |          |          |
7+45       0.2663      0.81  |  Q   V  |          |          |          |
7+50       0.2724      0.87  |  Q   V  |          |          |          |
7+55       0.2784      0.87  |  Q    V |          |          |          |
8+ 0       0.2844      0.87  |  Q    V |          |          |          |
8+ 5       0.2913      1.01  |   Q   V |          |          |          |
8+10       0.2982      1.01  |   Q   V |          |          |          |
8+15       0.3052      1.01  |   Q   V |          |          |          |
8+20       0.3121      1.01  |   Q   V |          |          |          |
8+25       0.3191      1.01  |   Q    V|          |          |          |
8+30       0.3260      1.01  |   Q    V|          |          |          |
```

8+35	0.3334	1.07	Q V				
8+40	0.3408	1.07	Q V				
8+45	0.3482	1.07	Q V				
8+50	0.3560	1.14	Q V				
8+55	0.3639	1.14	Q V				
9+ 0	0.3718	1.14	Q V				
9+ 5	0.3806	1.28	Q V				
9+10	0.3893	1.28	Q V				
9+15	0.3981	1.28	Q V				
9+20	0.4074	1.34	Q V				
9+25	0.4166	1.34	Q V				
9+30	0.4259	1.34	Q V				
9+35	0.4356	1.41	Q V				
9+40	0.4453	1.41	Q V				
9+45	0.4550	1.41	Q V				
9+50	0.4652	1.48	Q V				
9+55	0.4753	1.48	Q V				
10+ 0	0.4855	1.48	Q V				
10+ 5	0.4924	1.01	Q V				
10+10	0.4994	1.01	Q V				
10+15	0.5063	1.01	Q V				
10+20	0.5133	1.01	Q V				
10+25	0.5202	1.01	Q V				
10+30	0.5271	1.01	Q V				
10+35	0.5364	1.34	Q V				
10+40	0.5456	1.34	Q V				
10+45	0.5549	1.34	Q V				
10+50	0.5641	1.34	Q V				
10+55	0.5734	1.34	Q V				
11+ 0	0.5826	1.34	Q V				
11+ 5	0.5914	1.28	Q V				
11+10	0.6002	1.28	Q V				
11+15	0.6090	1.28	Q V				
11+20	0.6178	1.28	Q V				
11+25	0.6265	1.28	Q V				
11+30	0.6353	1.28	Q V				
11+35	0.6432	1.14	Q V				
11+40	0.6511	1.14	Q V				
11+45	0.6589	1.14	Q V				
11+50	0.6672	1.21	Q V				
11+55	0.6756	1.21	Q V				
12+ 0	0.6839	1.21	Q V				
12+ 5	0.6954	1.68	Q V				
12+10	0.7070	1.68	Q V				
12+15	0.7186	1.68	Q V				
12+20	0.7306	1.75	Q V				
12+25	0.7426	1.75	Q V				
12+30	0.7546	1.75	Q V				
12+35	0.7676	1.88	Q V				
12+40	0.7805	1.88	Q V				
12+45	0.7935	1.88	Q V				
12+50	0.8069	1.95	Q V				
12+55	0.8203	1.95	Q V				
13+ 0	0.8337	1.95	Q V				
13+ 5	0.8494	2.28	Q V				
13+10	0.8651	2.28	Q V				
13+15	0.8809	2.28	Q V				



18+ 5	1.3016	0.27	|Q	|	|	|	V |
18+10	1.3035	0.27	|Q	|	|	|	V |
18+15	1.3053	0.27	|Q	|	|	|	V |
18+20	1.3072	0.27	|Q	|	|	|	V |
18+25	1.3090	0.27	|Q	|	|	|	V |
18+30	1.3109	0.27	|Q	|	|	|	V |
18+35	1.3123	0.20	Q	|	|	|	V |
18+40	1.3137	0.20	Q	|	|	|	V |
18+45	1.3150	0.20	Q	|	|	|	V |
18+50	1.3160	0.13	Q	|	|	|	V |
18+55	1.3169	0.13	Q	|	|	|	V |
19+ 0	1.3178	0.13	Q	|	|	|	V |
19+ 5	1.3192	0.20	Q	|	|	|	V |
19+10	1.3206	0.20	Q	|	|	|	V |
19+15	1.3220	0.20	Q	|	|	|	V |
19+20	1.3238	0.27	|Q	|	|	|	V |
19+25	1.3257	0.27	|Q	|	|	|	V |
19+30	1.3275	0.27	|Q	|	|	|	V |
19+35	1.3289	0.20	Q	|	|	|	V |
19+40	1.3303	0.20	Q	|	|	|	V |
19+45	1.3317	0.20	Q	|	|	|	V |
19+50	1.3326	0.13	Q	|	|	|	V |
19+55	1.3335	0.13	Q	|	|	|	V |
20+ 0	1.3345	0.13	Q	|	|	|	V |
20+ 5	1.3359	0.20	Q	|	|	|	V |
20+10	1.3372	0.20	Q	|	|	|	V |
20+15	1.3386	0.20	Q	|	|	|	V |
20+20	1.3400	0.20	Q	|	|	|	V |
20+25	1.3414	0.20	Q	|	|	|	V |
20+30	1.3428	0.20	Q	|	|	|	V |
20+35	1.3442	0.20	Q	|	|	|	V |
20+40	1.3456	0.20	Q	|	|	|	V |
20+45	1.3470	0.20	Q	|	|	|	V |
20+50	1.3479	0.13	Q	|	|	|	V |
20+55	1.3488	0.13	Q	|	|	|	V |
21+ 0	1.3497	0.13	Q	|	|	|	V |
21+ 5	1.3511	0.20	Q	|	|	|	V |
21+10	1.3525	0.20	Q	|	|	|	V |
21+15	1.3539	0.20	Q	|	|	|	V|
21+20	1.3548	0.13	Q	|	|	|	V|
21+25	1.3557	0.13	Q	|	|	|	V|
21+30	1.3567	0.13	Q	|	|	|	V|
21+35	1.3581	0.20	Q	|	|	|	V|
21+40	1.3594	0.20	Q	|	|	|	V|
21+45	1.3608	0.20	Q	|	|	|	V|
21+50	1.3618	0.13	Q	|	|	|	V|
21+55	1.3627	0.13	Q	|	|	|	V|
22+ 0	1.3636	0.13	Q	|	|	|	V|
22+ 5	1.3650	0.20	Q	|	|	|	V|
22+10	1.3664	0.20	Q	|	|	|	V|
22+15	1.3678	0.20	Q	|	|	|	V|
22+20	1.3687	0.13	Q	|	|	|	V|
22+25	1.3696	0.13	Q	|	|	|	V|
22+30	1.3705	0.13	Q	|	|	|	V|
22+35	1.3715	0.13	Q	|	|	|	V|
22+40	1.3724	0.13	Q	|	|	|	V|
22+45	1.3733	0.13	Q	|	|	|	V|

22+50	1.3742	0.13	Q	|	|	|	V|
22+55	1.3752	0.13	Q	|	|	|	V|
23+ 0	1.3761	0.13	Q	|	|	|	V|
23+ 5	1.3770	0.13	Q	|	|	|	V|
23+10	1.3779	0.13	Q	|	|	|	V|
23+15	1.3789	0.13	Q	|	|	|	V|
23+20	1.3798	0.13	Q	|	|	|	V|
23+25	1.3807	0.13	Q	|	|	|	V|
23+30	1.3816	0.13	Q	|	|	|	V|
23+35	1.3826	0.13	Q	|	|	|	V|
23+40	1.3835	0.13	Q	|	|	|	V|
23+45	1.3844	0.13	Q	|	|	|	V|
23+50	1.3853	0.13	Q	|	|	|	V|
23+55	1.3863	0.13	Q	|	|	|	V|
24+ 0	1.3872	0.13	Q	|	|	|	V|

Proposed Condition

10-year return – 1-, 3-, 6-, 24-hour duration

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 06/03/26 File: 19267p010AL110.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	0.42	0.61

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	1.22	1.76

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.749(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.749(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

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

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

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
			Sum = 100.000	Sum= 1.456

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.296	(0.058)	0.053	0.243
2	0.17	4.20	0.377	0.058	(0.068)	0.320
3	0.25	4.40	0.395	0.058	(0.071)	0.338
4	0.33	4.80	0.431	0.058	(0.078)	0.374
5	0.42	5.20	0.467	0.058	(0.084)	0.410
6	0.50	6.20	0.557	0.058	(0.100)	0.499
7	0.58	6.80	0.611	0.058	(0.110)	0.553
8	0.67	8.80	0.790	0.058	(0.142)	0.733
9	0.75	13.90	1.249	0.058	(0.225)	1.191

```
 10   0.83    31.40      2.820          0.058    (  0.508)        2.763
 11   0.92     7.20      0.647          0.058    (  0.116)        0.589
 12   1.00     3.80      0.341          0.058    (  0.061)        0.284
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.3
    Flood volume = Effective rainfall      0.69(In)
     times area       1.4(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.007(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =        3626.2 Cubic Feet
    Total soil loss =         300.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      3.581(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0020      0.29  VQ        |         |         |         |
   0+10       0.0050      0.44  |QV       |         |         |         |
   0+15       0.0084      0.49  |Q  V     |         |         |         |
   0+20       0.0121      0.53  | Q  V    |         |         |         |
   0+25       0.0161      0.59  | Q    V  |         |         |         |
   0+30       0.0209      0.70  | Q       V         |         |         |
   0+35       0.0264      0.79  |  Q      | V       |         |         |
   0+40       0.0334      1.02  |   Q     |     V   |         |         |
   0+45       0.0444      1.61  |     Q   |         |V        |         |
   0+50       0.0691      3.58  |         |   Q     |         |  V      |
   0+55       0.0792      1.47  |   Q     |         |         |       V |
   1+ 0       0.0827      0.50  |Q        |         |         |        V|
   1+ 5       0.0832      0.08  Q         |         |         |        V|
------------------------------------------------------------------------
```

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

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Study date 06/03/26 File: 19267p010B110.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	0.42	1.36

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.25             1.22                 3.96

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.245           75.00          0.870
 Total Area Entered =      3.25(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.870        0.066        1.000      0.066
                                                    Sum (F) =   0.066
Area averaged mean soil loss (F) (In/Hr) =  0.066
Minimum soil loss rate ((In/Hr)) =  0.033
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.200
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        964.758        100.000             3.270
                               Sum = 100.000   Sum=       3.270
------------------------------------------------------------------------
```

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	3.30	0.296	(0.066)	0.059	0.237
2	0.17	4.20	0.377	0.066	(0.075)	0.312
3	0.25	4.40	0.395	0.066	(0.079)	0.329
4	0.33	4.80	0.431	0.066	(0.086)	0.365
5	0.42	5.20	0.467	0.066	(0.093)	0.401
6	0.50	6.20	0.557	0.066	(0.111)	0.491
7	0.58	6.80	0.611	0.066	(0.122)	0.545
8	0.67	8.80	0.790	0.066	(0.158)	0.725
9	0.75	13.90	1.249	0.066	(0.250)	1.183
10	0.83	31.40	2.820	0.066	(0.564)	2.755

```
 11   0.92     7.20      0.647          0.066    (  0.129)        0.581
 12   1.00     3.80      0.341          0.066    (  0.068)        0.276
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.2
     Flood volume = Effective rainfall      0.68(In)
      times area       3.2(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
     Total soil loss =      0.07(In)
     Total soil loss =     0.018(Ac.Ft)
     Total rainfall =      0.75(In)
     Flood volume =        8048.9 Cubic Feet
     Total soil loss =         768.2 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      9.013(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0053      0.78  |V Q      |         |         |         |
    0+10       0.0124      1.02  | V Q     |         |         |         |
    0+15       0.0198      1.08  |   Q     |         |         |         |
    0+20       0.0280      1.20  |   Q V   |         |         |         |
    0+25       0.0371      1.31  |    Q  V |         |         |         |
    0+30       0.0481      1.61  |     Q   V         |         |         |
    0+35       0.0604      1.78  |      Q  |  V      |         |         |
    0+40       0.0767      2.37  |        Q|     V   |         |         |
    0+45       0.1034      3.87  |         |    Q    | V       |         |
    0+50       0.1655      9.01  |         |         |         |    VQ   |
    0+55       0.1786      1.90  |      Q  |         |         |       V |
    1+ 0       0.1848      0.90  |  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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	0.42	0.53

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        1.25             1.22                 1.53

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     1.254           75.00          0.790
 Total Area Entered =      1.25(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.790        0.088        1.000      0.088
                                                    Sum (F) =   0.088
Area averaged mean soil loss (F) (In/Hr) =  0.088
Minimum soil loss rate ((In/Hr)) =  0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.270
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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       1293.145        100.000             1.264
                               Sum = 100.000   Sum=       1.264
------------------------------------------------------------------------
```

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	3.30	0.296	(0.088)	0.080	0.216
2	0.17	4.20	0.377	0.088	(0.102)	0.290
3	0.25	4.40	0.395	0.088	(0.107)	0.308
4	0.33	4.80	0.431	0.088	(0.116)	0.344
5	0.42	5.20	0.467	0.088	(0.126)	0.380
6	0.50	6.20	0.557	0.088	(0.150)	0.469
7	0.58	6.80	0.611	0.088	(0.165)	0.523
8	0.67	8.80	0.790	0.088	(0.213)	0.703
9	0.75	13.90	1.249	0.088	(0.337)	1.161
10	0.83	31.40	2.820	0.088	(0.762)	2.733

```
 11   0.92     7.20      0.647          0.088    (  0.175)        0.559
 12   1.00     3.80      0.341          0.088    (  0.092)        0.254
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     7.9
     Flood volume = Effective rainfall      0.66(In)
      times area       1.3(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
     Total soil loss =      0.09(In)
     Total soil loss =     0.009(Ac.Ft)
     Total rainfall =      0.75(In)
     Flood volume =        3011.6 Cubic Feet
     Total soil loss =         395.7 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      3.456(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0019      0.27  |Q        |         |         |         |
    0+10       0.0044      0.37  |QV       |         |         |         |
    0+15       0.0071      0.39  |Q  V     |         |         |         |
    0+20       0.0101      0.43  |Q   V    |         |         |         |
    0+25       0.0134      0.48  |Q     V  |         |         |         |
    0+30       0.0175      0.59  | Q       V         |         |         |
    0+35       0.0220      0.66  | Q       | V       |         |         |
    0+40       0.0281      0.89  |  Q      |     V   |         |         |
    0+45       0.0383      1.47  |    Q    |         | V       |         |
    0+50       0.0621      3.46  |         |  Q      |         |    V    |
    0+55       0.0669      0.71  | Q       |         |         |       V |
    1+ 0       0.0691      0.32  |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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
0.33	0.42	0.14

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        0.33             1.22                 0.41

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     0.332           75.00          0.880
 Total Area Entered =      0.33(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.880        0.063        1.000      0.063
                                                    Sum (F) =   0.063
Area averaged mean soil loss (F) (In/Hr) =  0.063
Minimum soil loss rate ((In/Hr)) =  0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.200
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        699.916         78.557             0.263
    2   0.167       1399.832         21.443             0.072
                               Sum = 100.000   Sum=       0.335
------------------------------------------------------------------------
```

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	3.30	0.296	(0.063)	0.059	0.237
2	0.17	4.20	0.377	0.063	(0.075)	0.314
3	0.25	4.40	0.395	0.063	(0.079)	0.332
4	0.33	4.80	0.431	0.063	(0.086)	0.368
5	0.42	5.20	0.467	0.063	(0.093)	0.404
6	0.50	6.20	0.557	0.063	(0.111)	0.494
7	0.58	6.80	0.611	0.063	(0.122)	0.548
8	0.67	8.80	0.790	0.063	(0.158)	0.727
9	0.75	13.90	1.249	0.063	(0.250)	1.186

```
 10   0.83    31.40      2.820          0.063    (  0.564)        2.757
 11   0.92     7.20      0.647          0.063    (  0.129)        0.584
 12   1.00     3.80      0.341          0.063    (  0.068)        0.278
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.2
    Flood volume = Effective rainfall      0.69(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.002(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =         826.5 Cubic Feet
    Total soil loss =          75.6 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.810(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0004      0.06  Q          |         |         |         |
   0+10       0.0011      0.10  Q V        |         |         |         |
   0+15       0.0019      0.11  Q  V       |         |         |         |
   0+20       0.0027      0.12  Q   V      |         |         |         |
   0+25       0.0036      0.13  Q      V   |         |         |         |
   0+30       0.0047      0.16  Q        V |         |         |         |
   0+35       0.0059      0.18  Q          | V       |         |         |
   0+40       0.0075      0.23  Q          |   V     |         |         |
   0+45       0.0100      0.36  |Q         |         |V        |         |
   0+50       0.0156      0.81  |  Q       |         |         | V       |
   0+55       0.0180      0.35  |Q         |         |         |       V |
   1+ 0       0.0188      0.12  Q          |         |         |        V|
   1+ 5       0.0190      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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	0.42	0.16

100 YEAR Area rainfall data:

```
    Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
            0.38             1.22                 0.47

    STORM EVENT (YEAR) =   10.00
    Area Averaged 2-Year Rainfall =    0.419(In)
    Area Averaged 100-Year Rainfall =    1.220(In)

    Point rain (area averaged) =    0.749(In)
    Areal adjustment factor =  100.00 %
    Adjusted average point rain =    0.749(In)

    Sub-Area Data:
    Area(Ac.)         Runoff Index   Impervious %
         0.382           75.00          0.880
     Total Area Entered =      0.38(Ac.)


    RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
    AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
    75.0  75.0      0.303     0.880        0.063        1.000      0.063
                                                        Sum (F) =   0.063
    Area averaged mean soil loss (F) (In/Hr) =  0.063
    Minimum soil loss rate ((In/Hr)) =  0.032
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.200
    ------------------------------------------------------------------------
    Slope of intensity-duration curve for a 1 hour storm =0.5500
    ------------------------------------------------------------------------

               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       1040.009        100.000             0.385
                                  Sum = 100.000   Sum=       0.385
------------------------------------------------------------------------
```

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	3.30	0.296	(0.063)	0.059	0.237
2	0.17	4.20	0.377	0.063	(0.075)	0.314
3	0.25	4.40	0.395	0.063	(0.079)	0.332
4	0.33	4.80	0.431	0.063	(0.086)	0.368
5	0.42	5.20	0.467	0.063	(0.093)	0.404
6	0.50	6.20	0.557	0.063	(0.111)	0.494
7	0.58	6.80	0.611	0.063	(0.122)	0.548
8	0.67	8.80	0.790	0.063	(0.158)	0.727
9	0.75	13.90	1.249	0.063	(0.250)	1.186
10	0.83	31.40	2.820	0.063	(0.564)	2.757

```
 11   0.92     7.20      0.647          0.063    (  0.129)        0.584
 12   1.00     3.80      0.341          0.063    (  0.068)        0.278
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.2
     Flood volume = Effective rainfall      0.69(In)
      times area       0.4(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
     Total soil loss =      0.06(In)
     Total soil loss =     0.002(Ac.Ft)
     Total rainfall =      0.75(In)
     Flood volume =         951.0 Cubic Feet
     Total soil loss =          87.0 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      1.062(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0006      0.09  QV        |         |         |         |
    0+10       0.0015      0.12  Q V       |         |         |         |
    0+15       0.0023      0.13  Q   V     |         |         |         |
    0+20       0.0033      0.14  Q     V   |         |         |         |
    0+25       0.0044      0.16  Q       V |         |         |         |
    0+30       0.0057      0.19  Q         V         |         |         |
    0+35       0.0072      0.21  Q         |  V      |         |         |
    0+40       0.0091      0.28  |Q        |     V   |         |         |
    0+45       0.0122      0.46  |Q        |         | V       |         |
    0+50       0.0195      1.06  |   Q     |         |         |    V    |
    0+55       0.0211      0.22  Q         |         |         |       V |
    1+ 0       0.0218      0.11  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 06/03/26 File: 19267p010GH110.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	0.42	0.46

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        1.11             1.22                 1.35

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     1.105           75.00          0.840
 Total Area Entered =      1.11(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.840        0.074        1.000      0.074
                                                    Sum (F) =   0.074
Area averaged mean soil loss (F) (In/Hr) =  0.074
Minimum soil loss rate ((In/Hr)) =  0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.230
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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       1261.013        100.000             1.114
                                Sum = 100.000   Sum=       1.114
------------------------------------------------------------------------
```

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	3.30	0.296	(0.074)	0.068	0.228
2	0.17	4.20	0.377	0.074	(0.087)	0.303
3	0.25	4.40	0.395	0.074	(0.091)	0.321
4	0.33	4.80	0.431	0.074	(0.099)	0.357
5	0.42	5.20	0.467	0.074	(0.107)	0.393
6	0.50	6.20	0.557	0.074	(0.128)	0.483
7	0.58	6.80	0.611	0.074	(0.140)	0.537
8	0.67	8.80	0.790	0.074	(0.182)	0.717
9	0.75	13.90	1.249	0.074	(0.287)	1.175
10	0.83	31.40	2.820	0.074	(0.649)	2.747

```
 11   0.92     7.20      0.647          0.074    (  0.149)        0.573
 12   1.00     3.80      0.341          0.074    (  0.079)        0.267
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.1
     Flood volume = Effective rainfall      0.68(In)
      times area       1.1(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
     Total soil loss =      0.07(In)
     Total soil loss =     0.007(Ac.Ft)
     Total rainfall =      0.75(In)
     Flood volume =        2707.8 Cubic Feet
     Total soil loss =         294.6 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      3.060(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        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0018      0.25  |Q        |         |         |         |
    0+10       0.0041      0.34  |QV       |         |         |         |
    0+15       0.0065      0.36  |Q  V     |         |         |         |
    0+20       0.0093      0.40  |Q   V    |         |         |         |
    0+25       0.0123      0.44  |Q     V  |         |         |         |
    0+30       0.0160      0.54  | Q       V         |         |         |
    0+35       0.0201      0.60  | Q       | V       |         |         |
    0+40       0.0256      0.80  |  Q      |     V   |         |         |
    0+45       0.0346      1.31  |    Q    |         | V       |         |
    0+50       0.0557      3.06  |         | Q       |         |    V    |
    0+55       0.0601      0.64  | Q       |         |         |       V |
    1+ 0       0.0622      0.30  |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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	0.42	0.38

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        0.90             1.22                 1.10

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     0.900           75.00          0.830
 Total Area Entered =      0.90(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.830        0.077        1.000      0.077
                                                    Sum (F) =   0.077
Area averaged mean soil loss (F) (In/Hr) =  0.077
Minimum soil loss rate ((In/Hr)) =  0.038
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.240
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        633.203         76.439             0.693
    2   0.167       1266.406         23.561             0.214
                               Sum = 100.000   Sum=       0.907
------------------------------------------------------------------------
```

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	3.30	0.296	(0.077)	0.071	0.225
2	0.17	4.20	0.377	0.077	(0.091)	0.301
3	0.25	4.40	0.395	0.077	(0.095)	0.319
4	0.33	4.80	0.431	0.077	(0.103)	0.354
5	0.42	5.20	0.467	0.077	(0.112)	0.390
6	0.50	6.20	0.557	0.077	(0.134)	0.480
7	0.58	6.80	0.611	0.077	(0.147)	0.534
8	0.67	8.80	0.790	0.077	(0.190)	0.714
9	0.75	13.90	1.249	0.077	(0.300)	1.172

```
 10   0.83    31.40      2.820          0.077    (  0.677)        2.744
 11   0.92     7.20      0.647          0.077    (  0.155)        0.570
 12   1.00     3.80      0.341          0.077    (  0.082)        0.265
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =     8.1
    Flood volume = Effective rainfall      0.67(In)
     times area       0.9(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.08(In)
    Total soil loss =     0.006(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =        2196.5 Cubic Feet
    Total soil loss =         248.9 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      2.154(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0011      0.16  Q         |         |         |         |
   0+10       0.0028      0.26  |QV       |         |         |         |
   0+15       0.0048      0.29  |Q V      |         |         |         |
   0+20       0.0070      0.31  |Q   V    |         |         |         |
   0+25       0.0094      0.35  |Q     V  |         |         |         |
   0+30       0.0122      0.42  |Q       V|         |         |         |
   0+35       0.0155      0.47  |Q        | V       |         |         |
   0+40       0.0197      0.61  | Q       |   V     |         |         |
   0+45       0.0263      0.97  |  Q      |         V         |         |
   0+50       0.0412      2.15  |       Q |         |         | V       |
   0+55       0.0479      0.98  |  Q      |         |         |       V |
   1+ 0       0.0500      0.31  |Q        |         |         |        V|
   1+ 5       0.0504      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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	0.42	0.14

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        0.34             1.22                 0.41

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     0.340           75.00          0.860
 Total Area Entered =      0.34(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.860        0.068        1.000      0.068
                                                    Sum (F) =   0.068
Area averaged mean soil loss (F) (In/Hr) =  0.068
Minimum soil loss rate ((In/Hr)) =  0.034
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.210
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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       1304.735        100.000             0.343
                               Sum = 100.000   Sum=       0.343
------------------------------------------------------------------------
```

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	3.30	0.296	(0.068)	0.062	0.234
2	0.17	4.20	0.377	0.068	(0.079)	0.309
3	0.25	4.40	0.395	0.068	(0.083)	0.327
4	0.33	4.80	0.431	0.068	(0.091)	0.363
5	0.42	5.20	0.467	0.068	(0.098)	0.399
6	0.50	6.20	0.557	0.068	(0.117)	0.488
7	0.58	6.80	0.611	0.068	(0.128)	0.542
8	0.67	8.80	0.790	0.068	(0.166)	0.722
9	0.75	13.90	1.249	0.068	(0.262)	1.180
10	0.83	31.40	2.820	0.068	(0.592)	2.752

```
 11   0.92     7.20      0.647          0.068    (  0.136)        0.578
 12   1.00     3.80      0.341          0.068    (  0.072)        0.273
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.2
    Flood volume = Effective rainfall      0.68(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.07(In)
    Total soil loss =     0.002(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =         840.0 Cubic Feet
    Total soil loss =          83.9 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.943(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0006      0.08  QV        |         |         |         |
   0+10       0.0013      0.11  Q V       |         |         |         |
   0+15       0.0021      0.11  Q   V     |         |         |         |
   0+20       0.0029      0.12  Q     V   |         |         |         |
   0+25       0.0039      0.14  Q      V  |         |         |         |
   0+30       0.0050      0.17  Q         V         |         |         |
   0+35       0.0063      0.19  Q         |  V      |         |         |
   0+40       0.0080      0.25  Q         |     V   |         |         |
   0+45       0.0108      0.40  |Q        |         | V       |         |
   0+50       0.0173      0.94  |  Q      |         |         |    V    |
   0+55       0.0186      0.20  Q         |         |         |       V |
   1+ 0       0.0193      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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	0.42	0.29

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	1.22	0.84

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.419(In)
Area Averaged 100-Year Rainfall = 1.220(In)

Point rain (area averaged) = 0.749(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.749(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
		Sum = 100.000	Sum=	0.690

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	3.30	0.296	(0.082)	0.074	0.222
2	0.17	4.20	0.377	0.082	(0.094)	0.295
3	0.25	4.40	0.395	0.082	(0.099)	0.313
4	0.33	4.80	0.431	0.082	(0.108)	0.349
5	0.42	5.20	0.467	0.082	(0.117)	0.385
6	0.50	6.20	0.557	0.082	(0.139)	0.475
7	0.58	6.80	0.611	0.082	(0.153)	0.529

8	0.67	8.80	0.790	0.082	(	0.198)	0.708
9	0.75	13.90	1.249	0.082	(	0.312)	1.166
10	0.83	31.40	2.820	0.082	(	0.705)	2.738
11	0.92	7.20	0.647	0.082	(	0.162)	0.565
12	1.00	3.80	0.341	0.082	(	0.085)	0.259

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.0

Flood volume = Effective rainfall 0.67(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.08(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 0.75(In)
Flood volume = 1658.7 Cubic Feet
Total soil loss = 202.5 Cubic Feet

Peak flow rate of this hydrograph = 1.323(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0005	0.08	Q				
0+10	0.0017	0.16	QV				
0+15	0.0031	0.20	Q V				
0+20	0.0046	0.23	Q V				
0+25	0.0064	0.25	|Q V				
0+30	0.0084	0.29	|Q V				
0+35	0.0107	0.34	|Q |V				
0+40	0.0136	0.42	|Q | V				
0+45	0.0180	0.64	| Q | V				
0+50	0.0271	1.32	| Q | V				
0+55	0.0342	1.03	| Q | V				
1+ 0	0.0369	0.40	|Q | V				
1+ 5	0.0379	0.14	Q | V				
1+10	0.0381	0.02	Q | V				
1+15	0.0381	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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	0.42	4.06

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.69             1.22                11.82

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.419(In)
Area Averaged 100-Year Rainfall =    1.220(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.748(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     9.688           75.00          0.840
 Total Area Entered =      9.69(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
75.0  75.0      0.303     0.840        0.074        1.000      0.074
                                                    Sum (F) =   0.074
Area averaged mean soil loss (F) (In/Hr) =  0.074
Minimum soil loss rate ((In/Hr)) =  0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.230
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
------------------------------------------------------------------------

           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        964.758        100.000             9.764
                               Sum = 100.000   Sum=       9.764
------------------------------------------------------------------------
```

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	3.30	0.296	(0.074)	0.068	0.228
2	0.17	4.20	0.377	0.074	(0.087)	0.303
3	0.25	4.40	0.395	0.074	(0.091)	0.321
4	0.33	4.80	0.431	0.074	(0.099)	0.357
5	0.42	5.20	0.467	0.074	(0.107)	0.393
6	0.50	6.20	0.557	0.074	(0.128)	0.483
7	0.58	6.80	0.611	0.074	(0.140)	0.537
8	0.67	8.80	0.790	0.074	(0.182)	0.716
9	0.75	13.90	1.248	0.074	(0.287)	1.175
10	0.83	31.40	2.820	0.074	(0.649)	2.746

```
 11   0.92     7.20      0.647          0.074    (  0.149)        0.573
 12   1.00     3.80      0.341          0.074    (  0.078)        0.267
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.1
     Flood volume = Effective rainfall      0.68(In)
      times area       9.7(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
     Total soil loss =      0.07(In)
     Total soil loss =     0.059(Ac.Ft)
     Total rainfall =      0.75(In)
     Flood volume =       23738.7 Cubic Feet
     Total soil loss =        2583.1 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     26.828(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       0.0154      2.23  |VQ       |         |         |         |
    0+10       0.0358      2.96  | VQ      |         |         |         |
    0+15       0.0574      3.14  |   Q     |         |         |         |
    0+20       0.0814      3.49  |   QV    |         |         |         |
    0+25       0.1079      3.84  |    Q V  |         |         |         |
    0+30       0.1403      4.72  |     Q   V         |         |         |
    0+35       0.1765      5.24  |     Q   | V       |         |         |
    0+40       0.2247      7.00  |        Q|     V   |         |         |
    0+45       0.3037     11.47  |         |    Q    | V       |         |
    0+50       0.4884     26.83  |         |         |         |    Q    |
    0+55       0.5270      5.60  |      Q  |         |         |       V |
    1+ 0       0.5450      2.61  |  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 06/03/26 File: 19267p010AL310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 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]
1.45	0.71	1.02

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	1.75	2.53

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

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

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

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
			Sum = 100.000 Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.177	(0.058) 0.032	0.145
2	0.17	1.30	0.177	(0.058) 0.032	0.145
3	0.25	1.10	0.150	(0.058) 0.027	0.123
4	0.33	1.50	0.205	(0.058) 0.037	0.168
5	0.42	1.50	0.205	(0.058) 0.037	0.168
6	0.50	1.80	0.246	(0.058) 0.044	0.201
7	0.58	1.50	0.205	(0.058) 0.037	0.168
8	0.67	1.80	0.246	(0.058) 0.044	0.201
9	0.75	1.80	0.246	(0.058) 0.044	0.201
10	0.83	1.50	0.205	(0.058) 0.037	0.168
11	0.92	1.60	0.218	(0.058) 0.039	0.179

12	1.00	1.80	0.246	(0.058)	0.044	0.201
13	1.08	2.20	0.300	(0.058)	0.054	0.246
14	1.17	2.20	0.300	(0.058)	0.054	0.246
15	1.25	2.20	0.300	(0.058)	0.054	0.246
16	1.33	2.00	0.273	(0.058)	0.049	0.224
17	1.42	2.60	0.355	0.058	(0.064)	0.297
18	1.50	2.70	0.368	0.058	(0.066)	0.311
19	1.58	2.40	0.327	0.058	(0.059)	0.270
20	1.67	2.70	0.368	0.058	(0.066)	0.311
21	1.75	3.30	0.450	0.058	(0.081)	0.393
22	1.83	3.10	0.423	0.058	(0.076)	0.365
23	1.92	2.90	0.396	0.058	(0.071)	0.338
24	2.00	3.00	0.409	0.058	(0.074)	0.352
25	2.08	3.10	0.423	0.058	(0.076)	0.365
26	2.17	4.20	0.573	0.058	(0.103)	0.515
27	2.25	5.00	0.682	0.058	(0.123)	0.624
28	2.33	3.50	0.477	0.058	(0.086)	0.420
29	2.42	6.80	0.928	0.058	(0.167)	0.870
30	2.50	7.30	0.996	0.058	(0.179)	0.938
31	2.58	8.20	1.118	0.058	(0.201)	1.061
32	2.67	5.90	0.805	0.058	(0.145)	0.747
33	2.75	2.00	0.273	(0.058)	0.049	0.224
34	2.83	1.80	0.246	(0.058)	0.044	0.201
35	2.92	1.80	0.246	(0.058)	0.044	0.201
36	3.00	0.60	0.082	(0.058)	0.015	0.067

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.9

Flood volume = Effective rainfall 0.99(In)
times area 1.4(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.14(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 5202.3 Cubic Feet
Total soil loss = 760.0 Cubic Feet

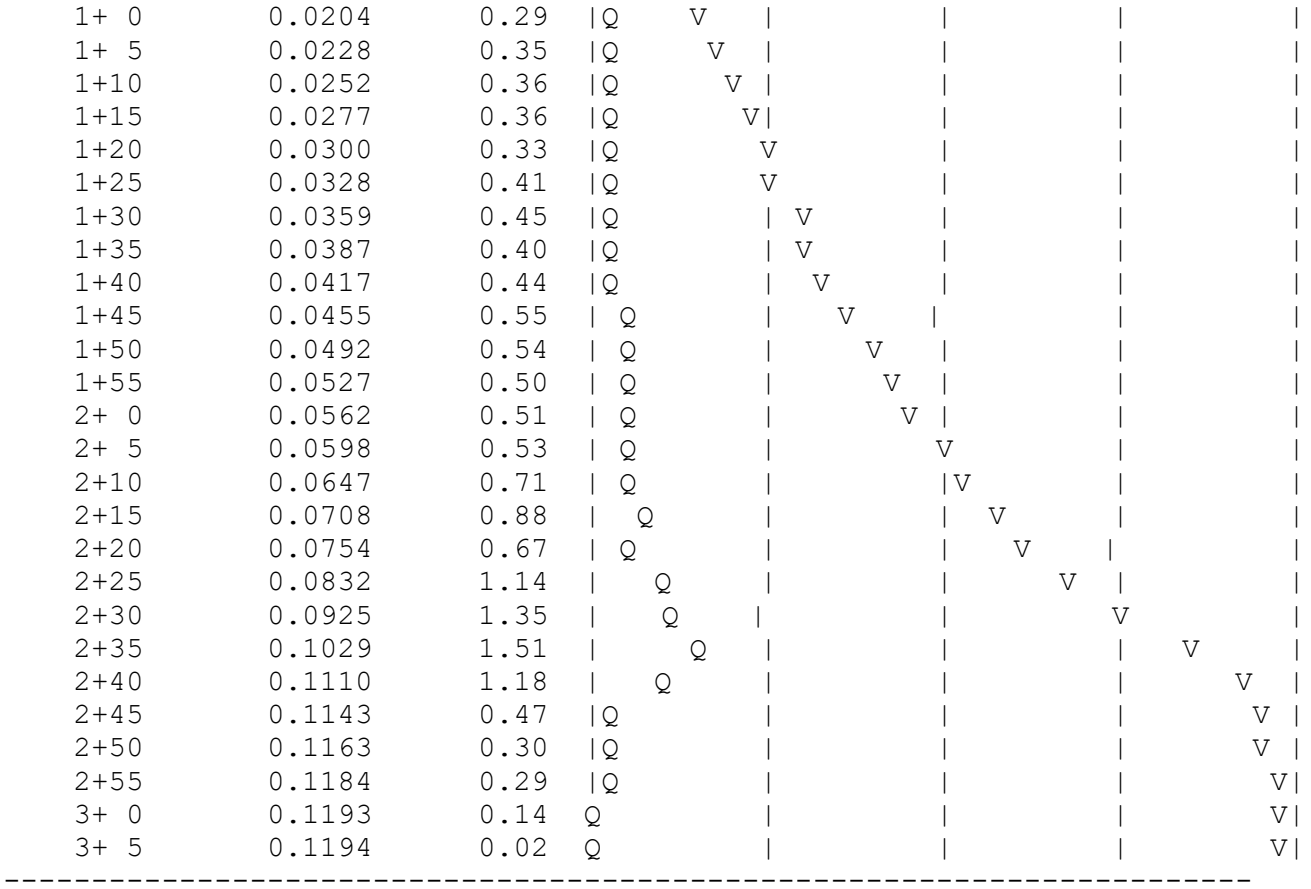
Peak flow rate of this hydrograph = 1.511(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0012	0.17	Q				
0+10	0.0026	0.21	Q				
0+15	0.0039	0.19	QV				
0+20	0.0055	0.23	QV				
0+25	0.0072	0.24	Q V				
0+30	0.0091	0.28	|Q V				
0+35	0.0109	0.25	|Q V				
0+40	0.0129	0.28	|Q V				
0+45	0.0149	0.29	|Q V				
0+50	0.0166	0.25	|Q V				
0+55	0.0184	0.26	|Q V				


1+ 0 0.0204 0.29
1+ 5 0.0228 0.35
1+10 0.0252 0.36
1+15 0.0277 0.36
1+20 0.0300 0.33
1+25 0.0328 0.41
1+30 0.0359 0.45
1+35 0.0387 0.40
1+40 0.0417 0.44
1+45 0.0455 0.55
1+50 0.0492 0.54
1+55 0.0527 0.50
2+ 0 0.0562 0.51
2+ 5 0.0598 0.53
2+10 0.0647 0.71
2+15 0.0708 0.88
2+20 0.0754 0.67
2+25 0.0832 1.14
2+30 0.0925 1.35
2+35 0.1029 1.51
2+40 0.1110 1.18
2+45 0.1143 0.47
2+50 0.1163 0.30
2+55 0.1184 0.29
3+ 0 0.1193 0.14
3+ 5 0.1194 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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	0.71	2.30

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.25	1.75	5.68

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.245	75.00	0.870

Total Area Entered = 3.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.870	0.066	1.000	0.066
					Sum (F) =	0.066

Area averaged mean soil loss (F) (In/Hr) = 0.066
Minimum soil loss rate ((In/Hr)) = 0.033
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	3.270
		Sum = 100.000	Sum= 3.270

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	0.177	(0.066)	0.035	0.142
2	0.17	1.30	0.177	(0.066)	0.035	0.142
3	0.25	1.10	0.150	(0.066)	0.030	0.120
4	0.33	1.50	0.205	(0.066)	0.041	0.164
5	0.42	1.50	0.205	(0.066)	0.041	0.164
6	0.50	1.80	0.246	(0.066)	0.049	0.196
7	0.58	1.50	0.205	(0.066)	0.041	0.164
8	0.67	1.80	0.246	(0.066)	0.049	0.196
9	0.75	1.80	0.246	(0.066)	0.049	0.196
10	0.83	1.50	0.205	(0.066)	0.041	0.164
11	0.92	1.60	0.218	(0.066)	0.044	0.175
12	1.00	1.80	0.246	(0.066)	0.049	0.196

13	1.08	2.20	0.300	(	0.066)	0.060	0.240
14	1.17	2.20	0.300	(	0.066)	0.060	0.240
15	1.25	2.20	0.300	(	0.066)	0.060	0.240
16	1.33	2.00	0.273	(	0.066)	0.055	0.218
17	1.42	2.60	0.355		0.066	(0.071)	0.289
18	1.50	2.70	0.368		0.066	(0.074)	0.303
19	1.58	2.40	0.327	(	0.066)	0.065	0.262
20	1.67	2.70	0.368		0.066	(0.074)	0.303
21	1.75	3.30	0.450		0.066	(0.090)	0.384
22	1.83	3.10	0.423		0.066	(0.085)	0.357
23	1.92	2.90	0.396		0.066	(0.079)	0.330
24	2.00	3.00	0.409		0.066	(0.082)	0.343
25	2.08	3.10	0.423		0.066	(0.085)	0.357
26	2.17	4.20	0.573		0.066	(0.115)	0.507
27	2.25	5.00	0.682		0.066	(0.136)	0.616
28	2.33	3.50	0.477		0.066	(0.095)	0.412
29	2.42	6.80	0.928		0.066	(0.186)	0.862
30	2.50	7.30	0.996		0.066	(0.199)	0.930
31	2.58	8.20	1.118		0.066	(0.224)	1.053
32	2.67	5.90	0.805		0.066	(0.161)	0.739
33	2.75	2.00	0.273	(	0.066)	0.055	0.218
34	2.83	1.80	0.246	(	0.066)	0.049	0.196
35	2.92	1.80	0.246	(	0.066)	0.049	0.196
36	3.00	0.60	0.082	(	0.066)	0.016	0.065

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.7

Flood volume = Effective rainfall 0.97(In)
times area 3.2(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.044(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 11465.1 Cubic Feet
Total soil loss = 1924.1 Cubic Feet

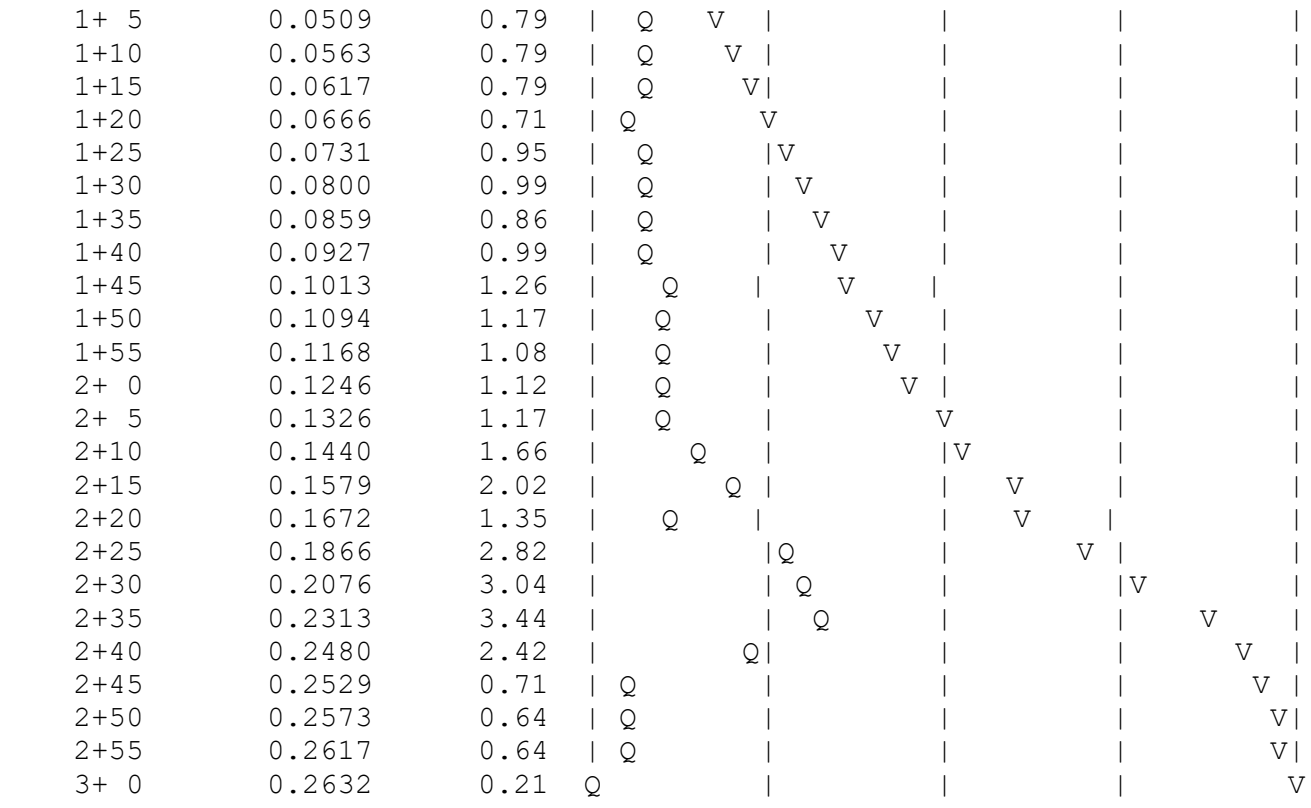
Peak flow rate of this hydrograph = 3.445(CFS)

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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 2.5 5.0 7.5 10.0
0+ 5	0.0032	0.46	VQ | | | |
0+10	0.0064	0.46	VQ | | | |
0+15	0.0091	0.39	|Q | | | |
0+20	0.0128	0.54	|VQ | | | |
0+25	0.0165	0.54	| Q | | | |
0+30	0.0209	0.64	| QV | | | |
0+35	0.0246	0.54	| QV | | | |
0+40	0.0290	0.64	| Q V | | | |
0+45	0.0334	0.64	| Q V | | | |
0+50	0.0371	0.54	| Q V | | | |
0+55	0.0411	0.57	| Q V | | | |
1+ 0	0.0455	0.64	| Q V | | | |


1+ 5 0.0509 0.79
1+10 0.0563 0.79
1+15 0.0617 0.79
1+20 0.0666 0.71
1+25 0.0731 0.95
1+30 0.0800 0.99
1+35 0.0859 0.86
1+40 0.0927 0.99
1+45 0.1013 1.26
1+50 0.1094 1.17
1+55 0.1168 1.08
2+ 0 0.1246 1.12
2+ 5 0.1326 1.17
2+10 0.1440 1.66
2+15 0.1579 2.02
2+20 0.1672 1.35
2+25 0.1866 2.82
2+30 0.2076 3.04
2+35 0.2313 3.44
2+40 0.2480 2.42
2+45 0.2529 0.71
2+50 0.2573 0.64
2+55 0.2617 0.64
3+ 0 0.2632 0.21

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 06/03/26 File: 19267p010CD310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
1.25	0.71	0.89

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	1.75	2.19

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.254	75.00	0.790

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.790	0.088	1.000	0.088
					Sum (F) =	0.088

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1293.145	100.000	1.264
		Sum = 100.000	Sum= 1.264

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	0.177	(0.088)	0.048	0.129
2	0.17	1.30	0.177	(0.088)	0.048	0.129
3	0.25	1.10	0.150	(0.088)	0.041	0.110
4	0.33	1.50	0.205	(0.088)	0.055	0.149
5	0.42	1.50	0.205	(0.088)	0.055	0.149
6	0.50	1.80	0.246	(0.088)	0.066	0.179
7	0.58	1.50	0.205	(0.088)	0.055	0.149
8	0.67	1.80	0.246	(0.088)	0.066	0.179
9	0.75	1.80	0.246	(0.088)	0.066	0.179
10	0.83	1.50	0.205	(0.088)	0.055	0.149
11	0.92	1.60	0.218	(0.088)	0.059	0.159
12	1.00	1.80	0.246	(0.088)	0.066	0.179

13	1.08	2.20	0.300	(	0.088)	0.081	0.219
14	1.17	2.20	0.300	(	0.088)	0.081	0.219
15	1.25	2.20	0.300	(	0.088)	0.081	0.219
16	1.33	2.00	0.273	(	0.088)	0.074	0.199
17	1.42	2.60	0.355		0.088	(0.096)	0.267
18	1.50	2.70	0.368		0.088	(0.099)	0.281
19	1.58	2.40	0.327		0.088	(0.088)	0.240
20	1.67	2.70	0.368		0.088	(0.099)	0.281
21	1.75	3.30	0.450		0.088	(0.122)	0.363
22	1.83	3.10	0.423		0.088	(0.114)	0.335
23	1.92	2.90	0.396		0.088	(0.107)	0.308
24	2.00	3.00	0.409		0.088	(0.110)	0.322
25	2.08	3.10	0.423		0.088	(0.114)	0.335
26	2.17	4.20	0.573		0.088	(0.155)	0.485
27	2.25	5.00	0.682		0.088	(0.184)	0.594
28	2.33	3.50	0.477		0.088	(0.129)	0.390
29	2.42	6.80	0.928		0.088	(0.250)	0.840
30	2.50	7.30	0.996		0.088	(0.269)	0.908
31	2.58	8.20	1.118		0.088	(0.302)	1.031
32	2.67	5.90	0.805		0.088	(0.217)	0.717
33	2.75	2.00	0.273	(	0.088)	0.074	0.199
34	2.83	1.80	0.246	(	0.088)	0.066	0.179
35	2.92	1.80	0.246	(	0.088)	0.066	0.179
36	3.00	0.60	0.082	(	0.088)	0.022	0.060

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.0

Flood volume = Effective rainfall 0.92(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.22(In)
Total soil loss = 0.023(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 4177.5 Cubic Feet
Total soil loss = 996.7 Cubic Feet

Peak flow rate of this hydrograph = 1.304(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	2.5	5.0	7.5	10.0
0+ 5	0.0011	0.16	Q				
0+10	0.0023	0.16	Q				
0+15	0.0032	0.14	QV				
0+20	0.0045	0.19	QV				
0+25	0.0058	0.19	Q V				
0+30	0.0074	0.23	Q V				
0+35	0.0087	0.19	Q V				
0+40	0.0102	0.23	Q V				
0+45	0.0118	0.23	Q V				
0+50	0.0131	0.19	Q V				
0+55	0.0145	0.20	Q V				
1+ 0	0.0160	0.23	Q V				

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    1+ 5       0.0179      0.28  |Q     V  |          |          |          |
    1+10       0.0199      0.28  |Q      V |          |          |          |
    1+15       0.0218      0.28  |Q       V|          |          |          |
    1+20       0.0235      0.25  |Q       V|          |          |          |
    1+25       0.0258      0.34  |Q        V          |          |          |
    1+30       0.0283      0.35  |Q        |V         |          |          |
    1+35       0.0304      0.30  |Q        | V        |          |          |
    1+40       0.0328      0.35  |Q        |  V       |          |          |
    1+45       0.0360      0.46  |Q        |   V      |          |          |
    1+50       0.0389      0.42  |Q        |     V    |          |          |
    1+55       0.0416      0.39  |Q        |      V   |          |          |
    2+ 0       0.0444      0.41  |Q        |       V  |          |          |
    2+ 5       0.0473      0.42  |Q        |        V |          |          |
    2+10       0.0515      0.61  | Q       |          |V         |          |
    2+15       0.0567      0.75  |  Q      |          |  V       |          |
    2+20       0.0601      0.49  |Q        |          |   V      |          |
    2+25       0.0674      1.06  |   Q     |          |        V |          |
    2+30       0.0753      1.15  |   Q     |          |          |V         |
    2+35       0.0843      1.30  |    Q    |          |          |    V     |
    2+40       0.0905      0.91  |  Q      |          |          |      V   |
    2+45       0.0923      0.25  |Q        |          |          |       V  |
    2+50       0.0938      0.23  Q         |          |          |        V |
    2+55       0.0954      0.23  Q         |          |          |        V |
    3+ 0       0.0959      0.08  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 06/03/26 File: 19267p010EK310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 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]
0.33	0.71	0.23

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	1.75	0.58

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.706(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.136(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.136(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.332	75.00	0.880

Total Area Entered = 0.33(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	699.916	78.557	0.263
2	0.167	1399.832	21.443	0.072
			Sum = 100.000 Sum=	0.335

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	0.177	(0.063)		0.035	0.142
2	0.17	1.30	0.177	(0.063)		0.035	0.142
3	0.25	1.10	0.150	(0.063)		0.030	0.120
4	0.33	1.50	0.204	(0.063)		0.041	0.164
5	0.42	1.50	0.204	(0.063)		0.041	0.164
6	0.50	1.80	0.245	(0.063)		0.049	0.196
7	0.58	1.50	0.204	(0.063)		0.041	0.164
8	0.67	1.80	0.245	(0.063)		0.049	0.196
9	0.75	1.80	0.245	(0.063)		0.049	0.196
10	0.83	1.50	0.204	(0.063)		0.041	0.164
11	0.92	1.60	0.218	(0.063)		0.044	0.174

12	1.00	1.80	0.245	(	0.063)	0.049	0.196
13	1.08	2.20	0.300	(	0.063)	0.060	0.240
14	1.17	2.20	0.300	(	0.063)	0.060	0.240
15	1.25	2.20	0.300	(	0.063)	0.060	0.240
16	1.33	2.00	0.273	(	0.063)	0.055	0.218
17	1.42	2.60	0.354		0.063	(0.071)	0.291
18	1.50	2.70	0.368		0.063	(0.074)	0.305
19	1.58	2.40	0.327		0.063	(0.065)	0.264
20	1.67	2.70	0.368		0.063	(0.074)	0.305
21	1.75	3.30	0.450		0.063	(0.090)	0.387
22	1.83	3.10	0.422		0.063	(0.084)	0.359
23	1.92	2.90	0.395		0.063	(0.079)	0.332
24	2.00	3.00	0.409		0.063	(0.082)	0.346
25	2.08	3.10	0.422		0.063	(0.084)	0.359
26	2.17	4.20	0.572		0.063	(0.114)	0.509
27	2.25	5.00	0.681		0.063	(0.136)	0.618
28	2.33	3.50	0.477		0.063	(0.095)	0.414
29	2.42	6.80	0.927		0.063	(0.185)	0.864
30	2.50	7.30	0.995		0.063	(0.199)	0.932
31	2.58	8.20	1.117		0.063	(0.223)	1.054
32	2.67	5.90	0.804		0.063	(0.161)	0.741
33	2.75	2.00	0.273	(	0.063)	0.055	0.218
34	2.83	1.80	0.245	(	0.063)	0.049	0.196
35	2.92	1.80	0.245	(	0.063)	0.049	0.196
36	3.00	0.60	0.082	(	0.063)	0.016	0.065

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.7

Flood volume = Effective rainfall 0.98(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.004(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 1176.1 Cubic Feet
Total soil loss = 192.4 Cubic Feet

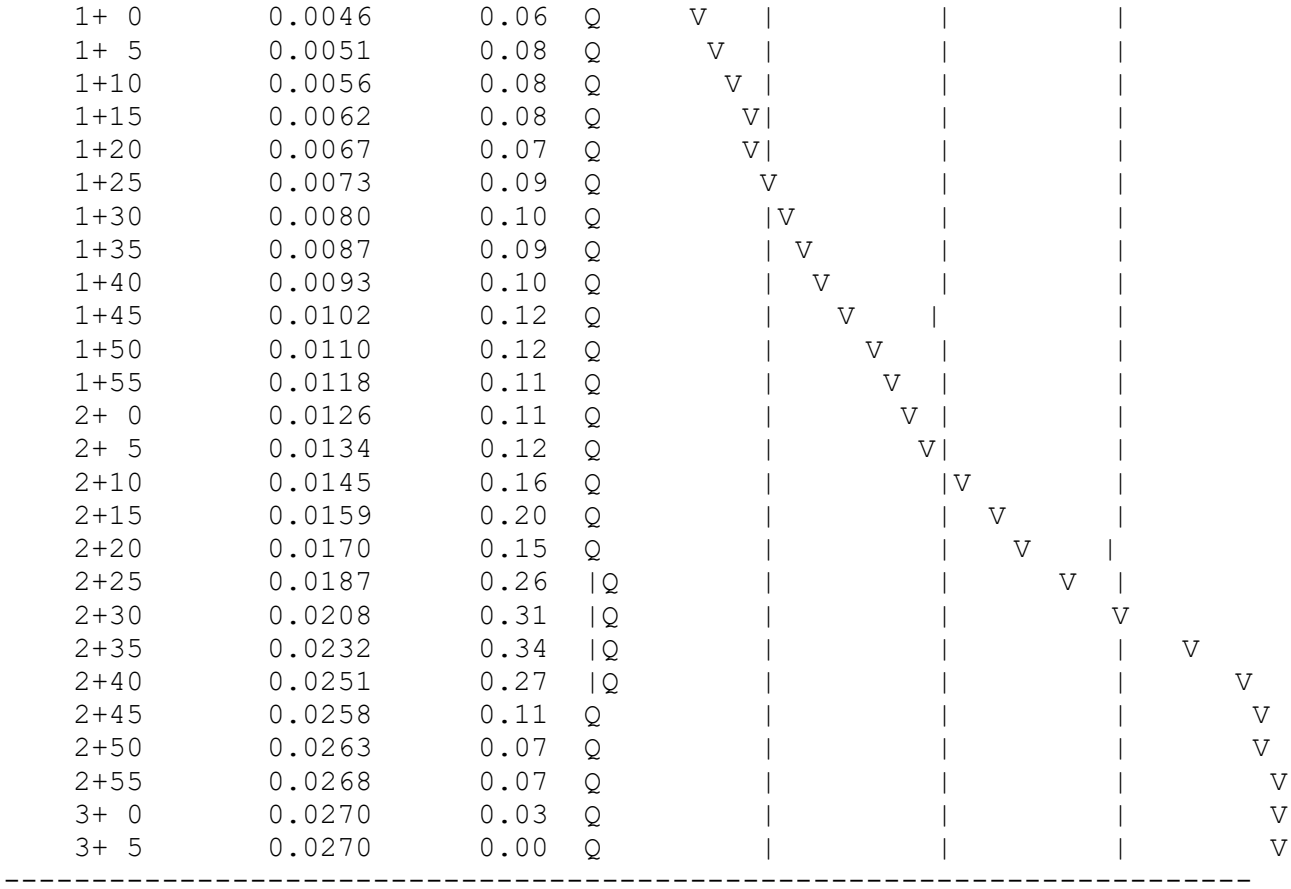
Peak flow rate of this hydrograph = 0.344(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q				
0+10	0.0006	0.05	Q				
0+15	0.0009	0.04	QV				
0+20	0.0012	0.05	QV				
0+25	0.0016	0.05	Q V				
0+30	0.0020	0.06	Q V				
0+35	0.0024	0.06	Q V				
0+40	0.0029	0.06	Q V				
0+45	0.0033	0.07	Q V				
0+50	0.0037	0.06	Q V				
0+55	0.0041	0.06	Q V				


1+ 0 0.0046 0.06 Q
1+ 5 0.0051 0.08 Q
1+10 0.0056 0.08 Q
1+15 0.0062 0.08 Q
1+20 0.0067 0.07 Q
1+25 0.0073 0.09 Q
1+30 0.0080 0.10 Q
1+35 0.0087 0.09 Q
1+40 0.0093 0.10 Q
1+45 0.0102 0.12 Q
1+50 0.0110 0.12 Q
1+55 0.0118 0.11 Q
2+ 0 0.0126 0.11 Q
2+ 5 0.0134 0.12 Q
2+10 0.0145 0.16 Q
2+15 0.0159 0.20 Q
2+20 0.0170 0.15 Q
2+25 0.0187 0.26 |Q
2+30 0.0208 0.31 |Q
2+35 0.0232 0.34 |Q
2+40 0.0251 0.27 |Q
2+45 0.0258 0.11 Q
2+50 0.0263 0.07 Q
2+55 0.0268 0.07 Q
3+ 0 0.0270 0.03 Q
3+ 5 0.0270 0.00 Q

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

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Study date 06/03/26 File: 19267p010F310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	0.71	0.27

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.38	1.75	0.67

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.382	75.00	0.880

Total Area Entered = 0.38(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1040.009	100.000	0.385
		Sum = 100.000	Sum=	0.385

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	0.177	(0.063)	0.035	0.142
2	0.17	1.30	0.177	(0.063)	0.035	0.142
3	0.25	1.10	0.150	(0.063)	0.030	0.120
4	0.33	1.50	0.205	(0.063)	0.041	0.164
5	0.42	1.50	0.205	(0.063)	0.041	0.164
6	0.50	1.80	0.246	(0.063)	0.049	0.196
7	0.58	1.50	0.205	(0.063)	0.041	0.164
8	0.67	1.80	0.246	(0.063)	0.049	0.196
9	0.75	1.80	0.246	(0.063)	0.049	0.196
10	0.83	1.50	0.205	(0.063)	0.041	0.164
11	0.92	1.60	0.218	(0.063)	0.044	0.175
12	1.00	1.80	0.246	(0.063)	0.049	0.196

13	1.08	2.20	0.300	(	0.063)	0.060	0.240
14	1.17	2.20	0.300	(	0.063)	0.060	0.240
15	1.25	2.20	0.300	(	0.063)	0.060	0.240
16	1.33	2.00	0.273	(	0.063)	0.055	0.218
17	1.42	2.60	0.355		0.063	(0.071)	0.292
18	1.50	2.70	0.368		0.063	(0.074)	0.305
19	1.58	2.40	0.327		0.063	(0.065)	0.264
20	1.67	2.70	0.368		0.063	(0.074)	0.305
21	1.75	3.30	0.450		0.063	(0.090)	0.387
22	1.83	3.10	0.423		0.063	(0.085)	0.360
23	1.92	2.90	0.396		0.063	(0.079)	0.333
24	2.00	3.00	0.409		0.063	(0.082)	0.346
25	2.08	3.10	0.423		0.063	(0.085)	0.360
26	2.17	4.20	0.573		0.063	(0.115)	0.510
27	2.25	5.00	0.682		0.063	(0.136)	0.619
28	2.33	3.50	0.477		0.063	(0.095)	0.414
29	2.42	6.80	0.928		0.063	(0.186)	0.865
30	2.50	7.30	0.996		0.063	(0.199)	0.933
31	2.58	8.20	1.118		0.063	(0.224)	1.055
32	2.67	5.90	0.805		0.063	(0.161)	0.742
33	2.75	2.00	0.273	(	0.063)	0.055	0.218
34	2.83	1.80	0.246	(	0.063)	0.049	0.196
35	2.92	1.80	0.246	(	0.063)	0.049	0.196
36	3.00	0.60	0.082	(	0.063)	0.016	0.065

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.7

Flood volume = Effective rainfall 0.98(In)
times area 0.4(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 1354.7 Cubic Feet
Total soil loss = 221.5 Cubic Feet

Peak flow rate of this hydrograph = 0.407(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	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.05	Q				
0+10	0.0008	0.05	Q				
0+15	0.0011	0.05	QV				
0+20	0.0015	0.06	QV				
0+25	0.0019	0.06	Q V				
0+30	0.0025	0.08	Q V				
0+35	0.0029	0.06	Q V				
0+40	0.0034	0.08	Q V				
0+45	0.0039	0.08	Q V				
0+50	0.0044	0.06	Q V				
0+55	0.0048	0.07	Q V				
1+ 0	0.0054	0.08	Q V				

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    1+ 5       0.0060      0.09  Q      V  |          |          |          |
    1+10       0.0066      0.09  Q       V |          |          |          |
    1+15       0.0073      0.09  Q        V|          |          |          |
    1+20       0.0078      0.08  Q         V          |          |          |
    1+25       0.0086      0.11  Q          |V         |          |          |
    1+30       0.0094      0.12  Q          | V        |          |          |
    1+35       0.0101      0.10  Q          |  V       |          |          |
    1+40       0.0109      0.12  Q          |   V      |          |          |
    1+45       0.0120      0.15  Q          |    V     |          |          |
    1+50       0.0129      0.14  Q          |     V    |          |          |
    1+55       0.0138      0.13  Q          |      V   |          |          |
    2+ 0       0.0147      0.13  Q          |       V  |          |          |
    2+ 5       0.0157      0.14  Q          |          V          |          |
    2+10       0.0170      0.20  Q          |          |V         |          |
    2+15       0.0187      0.24  Q          |          |   V      |          |
    2+20       0.0198      0.16  Q          |          |    V     |          |
    2+25       0.0221      0.33  |Q         |          |       V  |          |
    2+30       0.0245      0.36  |Q         |          |          |V         |
    2+35       0.0273      0.41  |Q         |          |          |    V     |
    2+40       0.0293      0.29  |Q         |          |          |      V   |
    2+45       0.0299      0.08  Q          |          |          |       V  |
    2+50       0.0304      0.08  Q          |          |          |        V |
    2+55       0.0309      0.08  Q          |          |          |        V |
    3+ 0       0.0311      0.03  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 06/03/26 File: 19267p010GH310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 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]
1.11	0.71	0.78

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	1.75	1.93

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.105	75.00	0.840

Total Area Entered = 1.11(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.840	0.074	1.000	0.074
					Sum (F) =	0.074

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1261.013	100.000	1.114
		Sum = 100.000	Sum=	1.114

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	0.177	(0.074)	0.041	0.137
2	0.17	1.30	0.177	(0.074)	0.041	0.137
3	0.25	1.10	0.150	(0.074)	0.035	0.116
4	0.33	1.50	0.205	(0.074)	0.047	0.158
5	0.42	1.50	0.205	(0.074)	0.047	0.158
6	0.50	1.80	0.246	(0.074)	0.056	0.189
7	0.58	1.50	0.205	(0.074)	0.047	0.158
8	0.67	1.80	0.246	(0.074)	0.056	0.189
9	0.75	1.80	0.246	(0.074)	0.056	0.189
10	0.83	1.50	0.205	(0.074)	0.047	0.158
11	0.92	1.60	0.218	(0.074)	0.050	0.168
12	1.00	1.80	0.246	(0.074)	0.056	0.189

13	1.08	2.20	0.300	(	0.074)	0.069	0.231
14	1.17	2.20	0.300	(	0.074)	0.069	0.231
15	1.25	2.20	0.300	(	0.074)	0.069	0.231
16	1.33	2.00	0.273	(	0.074)	0.063	0.210
17	1.42	2.60	0.355		0.074	(0.082)	0.281
18	1.50	2.70	0.368		0.074	(0.085)	0.294
19	1.58	2.40	0.327		0.074	(0.075)	0.253
20	1.67	2.70	0.368		0.074	(0.085)	0.294
21	1.75	3.30	0.450		0.074	(0.104)	0.376
22	1.83	3.10	0.423		0.074	(0.097)	0.349
23	1.92	2.90	0.396		0.074	(0.091)	0.322
24	2.00	3.00	0.409		0.074	(0.094)	0.335
25	2.08	3.10	0.423		0.074	(0.097)	0.349
26	2.17	4.20	0.573		0.074	(0.132)	0.499
27	2.25	5.00	0.682		0.074	(0.157)	0.608
28	2.33	3.50	0.477		0.074	(0.110)	0.403
29	2.42	6.80	0.928		0.074	(0.213)	0.854
30	2.50	7.30	0.996		0.074	(0.229)	0.922
31	2.58	8.20	1.118		0.074	(0.257)	1.045
32	2.67	5.90	0.805		0.074	(0.185)	0.731
33	2.75	2.00	0.273	(	0.074)	0.063	0.210
34	2.83	1.80	0.246	(	0.074)	0.056	0.189
35	2.92	1.80	0.246	(	0.074)	0.056	0.189
36	3.00	0.60	0.082	(	0.074)	0.019	0.063

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.4

Flood volume = Effective rainfall 0.95(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.19(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 3814.8 Cubic Feet
Total soil loss = 744.6 Cubic Feet

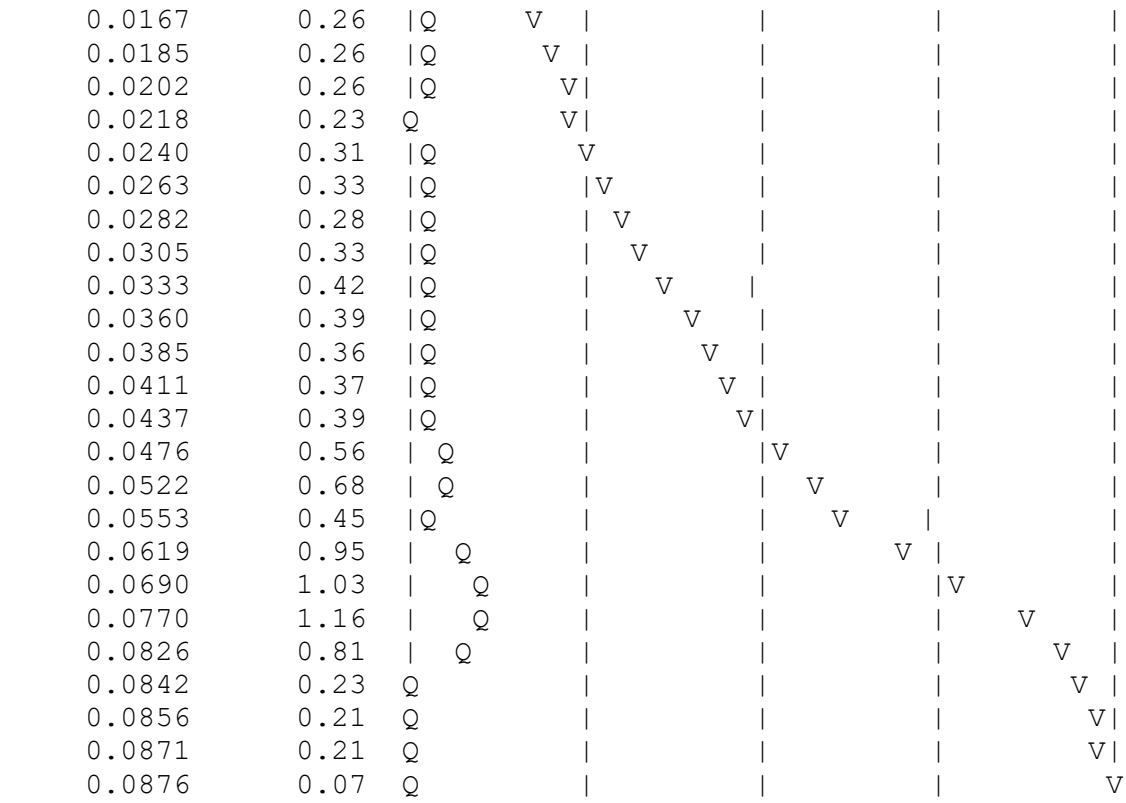
Peak flow rate of this hydrograph = 1.164(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0010	0.15	Q	|	|	|	|
0+10	0.0021	0.15	Q	|	|	|	|
0+15	0.0030	0.13	QV	|	|	|	|
0+20	0.0042	0.18	QV	|	|	|	|
0+25	0.0054	0.18	Q V	|	|	|	|
0+30	0.0069	0.21	Q V	|	|	|	|
0+35	0.0081	0.18	Q V	|	|	|	|
0+40	0.0095	0.21	Q V	|	|	|	|
0+45	0.0110	0.21	Q V	|	|	|	|
0+50	0.0122	0.18	Q V	|	|	|	|
0+55	0.0135	0.19	Q V	|	|	|	|
1+ 0	0.0149	0.21	Q V	|	|	|	|

1+ 5	0.0167	0.26	
1+10	0.0185	0.26	
1+15	0.0202	0.26	
1+20	0.0218	0.23	
1+25	0.0240	0.31	
1+30	0.0263	0.33	
1+35	0.0282	0.28	
1+40	0.0305	0.33	
1+45	0.0333	0.42	
1+50	0.0360	0.39	
1+55	0.0385	0.36	
2+ 0	0.0411	0.37	
2+ 5	0.0437	0.39	
2+10	0.0476	0.56	
2+15	0.0522	0.68	
2+20	0.0553	0.45	
2+25	0.0619	0.95	
2+30	0.0690	1.03	
2+35	0.0770	1.16	
2+40	0.0826	0.81	
2+45	0.0842	0.23	
2+50	0.0856	0.21	
2+55	0.0871	0.21	
3+ 0	0.0876	0.07	

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 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	0.71	0.64

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.00	1.75	0.00

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.830	0.077	1.000	0.077
					Sum (F) =	0.077

Area averaged mean soil loss (F) (In/Hr) = 0.077
Minimum soil loss rate ((In/Hr)) = 0.038
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
		Sum = 100.000	Sum=	0.907

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	0.177	(0.077)	0.043	0.135
2	0.17	1.30	0.177	(0.077)	0.043	0.135
3	0.25	1.10	0.150	(0.077)	0.036	0.114
4	0.33	1.50	0.205	(0.077)	0.049	0.155
5	0.42	1.50	0.205	(0.077)	0.049	0.155
6	0.50	1.80	0.246	(0.077)	0.059	0.187
7	0.58	1.50	0.205	(0.077)	0.049	0.155
8	0.67	1.80	0.246	(0.077)	0.059	0.187
9	0.75	1.80	0.246	(0.077)	0.059	0.187
10	0.83	1.50	0.205	(0.077)	0.049	0.155
11	0.92	1.60	0.218	(0.077)	0.052	0.166

12	1.00	1.80	0.246	(0.077)	0.059	0.187
13	1.08	2.20	0.300	(0.077)	0.072	0.228
14	1.17	2.20	0.300	(0.077)	0.072	0.228
15	1.25	2.20	0.300	(0.077)	0.072	0.228
16	1.33	2.00	0.273	(0.077)	0.065	0.207
17	1.42	2.60	0.355	0.077	(0.085)	0.278
18	1.50	2.70	0.368	0.077	(0.088)	0.292
19	1.58	2.40	0.327	0.077	(0.079)	0.251
20	1.67	2.70	0.368	0.077	(0.088)	0.292
21	1.75	3.30	0.450	0.077	(0.108)	0.373
22	1.83	3.10	0.423	0.077	(0.101)	0.346
23	1.92	2.90	0.396	0.077	(0.095)	0.319
24	2.00	3.00	0.409	0.077	(0.098)	0.333
25	2.08	3.10	0.423	0.077	(0.101)	0.346
26	2.17	4.20	0.573	0.077	(0.137)	0.496
27	2.25	5.00	0.682	0.077	(0.164)	0.605
28	2.33	3.50	0.477	0.077	(0.115)	0.401
29	2.42	6.80	0.928	0.077	(0.223)	0.851
30	2.50	7.30	0.996	0.077	(0.239)	0.919
31	2.58	8.20	1.118	0.077	(0.268)	1.042
32	2.67	5.90	0.805	0.077	(0.193)	0.728
33	2.75	2.00	0.273	(0.077)	0.065	0.207
34	2.83	1.80	0.246	(0.077)	0.059	0.187
35	2.92	1.80	0.246	(0.077)	0.059	0.187
36	3.00	0.60	0.082	(0.077)	0.020	0.062

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.3

Flood volume = Effective rainfall 0.94(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.19(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 3082.8 Cubic Feet
Total soil loss = 630.7 Cubic Feet

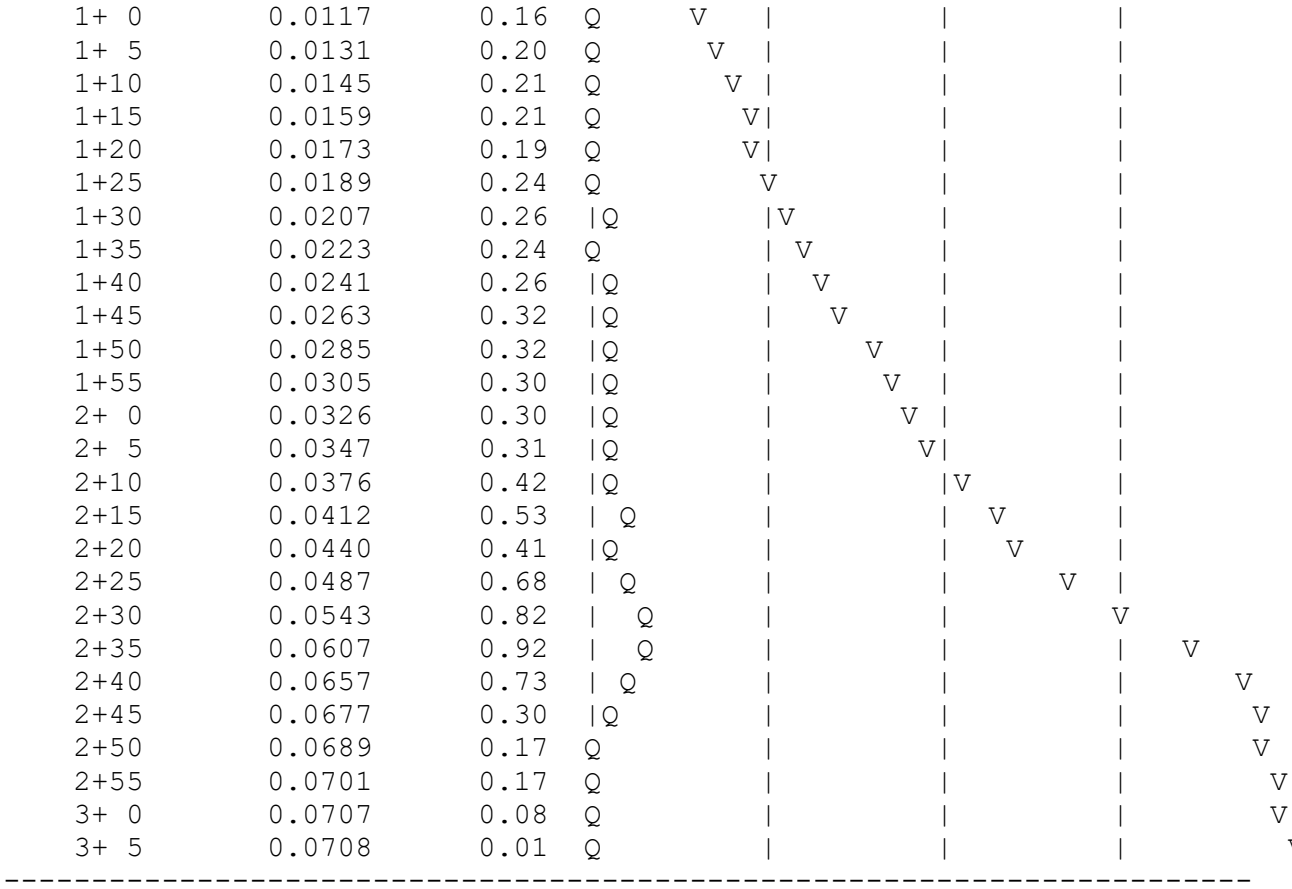
Peak flow rate of this hydrograph = 0.919(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0006	0.09	Q	|	|	|	|
0+10	0.0015	0.12	Q	|	|	|	|
0+15	0.0022	0.11	QV	|	|	|	|
0+20	0.0031	0.13	QV	|	|	|	|
0+25	0.0041	0.14	Q V	|	|	|	|
0+30	0.0052	0.16	Q V	|	|	|	|
0+35	0.0063	0.15	Q V	|	|	|	|
0+40	0.0074	0.16	Q V	|	|	|	|
0+45	0.0085	0.17	Q V	|	|	|	|
0+50	0.0096	0.15	Q V	|	|	|	|
0+55	0.0106	0.15	Q V	|	|	|	|


1+ 0 0.0117 0.16
1+ 5 0.0131 0.20
1+10 0.0145 0.21
1+15 0.0159 0.21
1+20 0.0173 0.19
1+25 0.0189 0.24
1+30 0.0207 0.26
1+35 0.0223 0.24
1+40 0.0241 0.26
1+45 0.0263 0.32
1+50 0.0285 0.32
1+55 0.0305 0.30
2+ 0 0.0326 0.30
2+ 5 0.0347 0.31
2+10 0.0376 0.42
2+15 0.0412 0.53
2+20 0.0440 0.41
2+25 0.0487 0.68
2+30 0.0543 0.82
2+35 0.0607 0.92
2+40 0.0657 0.73
2+45 0.0677 0.30
2+50 0.0689 0.17
2+55 0.0701 0.17
3+ 0 0.0707 0.08
3+ 5 0.0708 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 06/03/26 File: 19267p010J310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	0.71	0.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.34	1.75	0.60

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.340	75.00	0.860

Total Area Entered = 0.34(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.860	0.068	1.000	0.068
					Sum (F) =	0.068

Area averaged mean soil loss (F) (In/Hr) = 0.068
Minimum soil loss rate ((In/Hr)) = 0.034
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.210

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1304.735	100.000	0.343
		Sum = 100.000	Sum=	0.343

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	0.177	(0.068)	0.037	0.140
2	0.17	1.30	0.177	(0.068)	0.037	0.140
3	0.25	1.10	0.150	(0.068)	0.032	0.119
4	0.33	1.50	0.205	(0.068)	0.043	0.162
5	0.42	1.50	0.205	(0.068)	0.043	0.162
6	0.50	1.80	0.246	(0.068)	0.052	0.194
7	0.58	1.50	0.205	(0.068)	0.043	0.162
8	0.67	1.80	0.246	(0.068)	0.052	0.194
9	0.75	1.80	0.246	(0.068)	0.052	0.194
10	0.83	1.50	0.205	(0.068)	0.043	0.162
11	0.92	1.60	0.218	(0.068)	0.046	0.172
12	1.00	1.80	0.246	(0.068)	0.052	0.194

13	1.08	2.20	0.300	(	0.068)	0.063	0.237
14	1.17	2.20	0.300	(	0.068)	0.063	0.237
15	1.25	2.20	0.300	(	0.068)	0.063	0.237
16	1.33	2.00	0.273	(	0.068)	0.057	0.216
17	1.42	2.60	0.355		0.068	(0.074)	0.286
18	1.50	2.70	0.368		0.068	(0.077)	0.300
19	1.58	2.40	0.327		0.068	(0.069)	0.259
20	1.67	2.70	0.368		0.068	(0.077)	0.300
21	1.75	3.30	0.450		0.068	(0.095)	0.382
22	1.83	3.10	0.423		0.068	(0.089)	0.354
23	1.92	2.90	0.396		0.068	(0.083)	0.327
24	2.00	3.00	0.409		0.068	(0.086)	0.341
25	2.08	3.10	0.423		0.068	(0.089)	0.354
26	2.17	4.20	0.573		0.068	(0.120)	0.504
27	2.25	5.00	0.682		0.068	(0.143)	0.614
28	2.33	3.50	0.477		0.068	(0.100)	0.409
29	2.42	6.80	0.928		0.068	(0.195)	0.859
30	2.50	7.30	0.996		0.068	(0.209)	0.927
31	2.58	8.20	1.118		0.068	(0.235)	1.050
32	2.67	5.90	0.805		0.068	(0.169)	0.736
33	2.75	2.00	0.273	(	0.068)	0.057	0.216
34	2.83	1.80	0.246	(	0.068)	0.052	0.194
35	2.92	1.80	0.246	(	0.068)	0.052	0.194
36	3.00	0.60	0.082	(	0.068)	0.017	0.065

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.6

Flood volume = Effective rainfall 0.97(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.005(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 1192.1 Cubic Feet
Total soil loss = 210.8 Cubic Feet

Peak flow rate of this hydrograph = 0.360(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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q	|	|	|	|
0+10	0.0007	0.05	Q	|	|	|	|
0+15	0.0009	0.04	QV	|	|	|	|
0+20	0.0013	0.06	QV	|	|	|	|
0+25	0.0017	0.06	Q V	|	|	|	|
0+30	0.0022	0.07	Q V	|	|	|	|
0+35	0.0025	0.06	Q V	|	|	|	|
0+40	0.0030	0.07	Q V	|	|	|	|
0+45	0.0035	0.07	Q V	|	|	|	|
0+50	0.0038	0.06	Q V	|	|	|	|
0+55	0.0042	0.06	Q V	|	|	|	|
1+ 0	0.0047	0.07	Q V	|	|	|	|

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    1+ 5       0.0053      0.08  Q      V  |          |          |          |
    1+10       0.0058      0.08  Q       V |          |          |          |
    1+15       0.0064      0.08  Q        V|          |          |          |
    1+20       0.0069      0.07  Q         V          |          |          |
    1+25       0.0076      0.10  Q          |V         |          |          |
    1+30       0.0083      0.10  Q          | V        |          |          |
    1+35       0.0089      0.09  Q          | V        |          |          |
    1+40       0.0096      0.10  Q          |   V      |          |          |
    1+45       0.0105      0.13  Q          |    V     |          |          |
    1+50       0.0113      0.12  Q          |     V    |          |          |
    1+55       0.0121      0.11  Q          |      V   |          |          |
    2+ 0       0.0129      0.12  Q          |       V  |          |          |
    2+ 5       0.0137      0.12  Q          |          V          |          |
    2+10       0.0149      0.17  Q          |          |V         |          |
    2+15       0.0164      0.21  Q          |          |  V       |          |
    2+20       0.0174      0.14  Q          |          |   V      |          |
    2+25       0.0194      0.29  |Q         |          |       V  |          |
    2+30       0.0216      0.32  |Q         |          |          |V         |
    2+35       0.0241      0.36  |Q         |          |          |    V     |
    2+40       0.0258      0.25  |Q         |          |          |      V   |
    2+45       0.0263      0.07  Q          |          |          |       V  |
    2+50       0.0268      0.07  Q          |          |          |        V |
    2+55       0.0272      0.07  Q          |          |          |        V |
    3+ 0       0.0274      0.02  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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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	0.71	0.48

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	1.75	1.20

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
			Sum = 100.000 Sum=	0.690

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	0.177	(0.082)	0.044	0.133
2	0.17	1.30	0.177	(0.082)	0.044	0.133
3	0.25	1.10	0.150	(0.082)	0.038	0.113
4	0.33	1.50	0.205	(0.082)	0.051	0.153
5	0.42	1.50	0.205	(0.082)	0.051	0.153
6	0.50	1.80	0.246	(0.082)	0.061	0.184
7	0.58	1.50	0.205	(0.082)	0.051	0.153
8	0.67	1.80	0.246	(0.082)	0.061	0.184
9	0.75	1.80	0.246	(0.082)	0.061	0.184

10	0.83	1.50	0.205	(	0.082)	0.051	0.153
11	0.92	1.60	0.218	(	0.082)	0.055	0.164
12	1.00	1.80	0.246	(	0.082)	0.061	0.184
13	1.08	2.20	0.300	(	0.082)	0.075	0.225
14	1.17	2.20	0.300	(	0.082)	0.075	0.225
15	1.25	2.20	0.300	(	0.082)	0.075	0.225
16	1.33	2.00	0.273	(	0.082)	0.068	0.205
17	1.42	2.60	0.355		0.082	(0.089)	0.273
18	1.50	2.70	0.368		0.082	(0.092)	0.286
19	1.58	2.40	0.327	(	0.082)	0.082	0.246
20	1.67	2.70	0.368		0.082	(0.092)	0.286
21	1.75	3.30	0.450		0.082	(0.113)	0.368
22	1.83	3.10	0.423		0.082	(0.106)	0.341
23	1.92	2.90	0.396		0.082	(0.099)	0.313
24	2.00	3.00	0.409		0.082	(0.102)	0.327
25	2.08	3.10	0.423		0.082	(0.106)	0.341
26	2.17	4.20	0.573		0.082	(0.143)	0.491
27	2.25	5.00	0.682		0.082	(0.171)	0.600
28	2.33	3.50	0.477		0.082	(0.119)	0.395
29	2.42	6.80	0.928		0.082	(0.232)	0.845
30	2.50	7.30	0.996		0.082	(0.249)	0.914
31	2.58	8.20	1.118		0.082	(0.280)	1.036
32	2.67	5.90	0.805		0.082	(0.201)	0.723
33	2.75	2.00	0.273	(	0.082)	0.068	0.205
34	2.83	1.80	0.246	(	0.082)	0.061	0.184
35	2.92	1.80	0.246	(	0.082)	0.061	0.184
36	3.00	0.60	0.082	(	0.082)	0.020	0.061

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.2

Flood volume = Effective rainfall 0.93(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.20(In)
Total soil loss = 0.012(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 2318.9 Cubic Feet
Total soil loss = 507.5 Cubic Feet

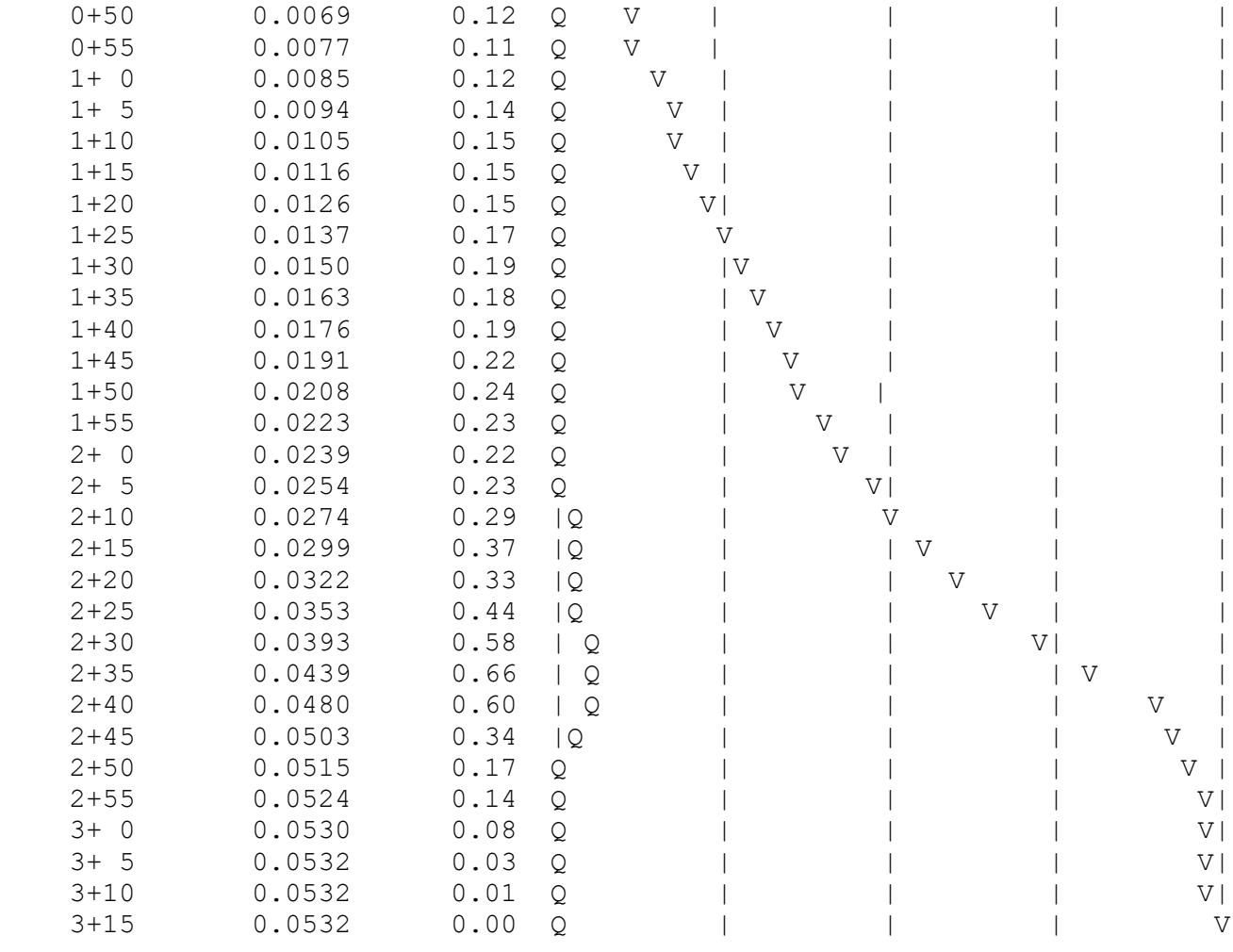
Peak flow rate of this hydrograph = 0.663(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q				
0+10	0.0009	0.08	Q				
0+15	0.0015	0.08	QV				
0+20	0.0021	0.09	QV				
0+25	0.0028	0.10	Q V				
0+30	0.0036	0.12	Q V				
0+35	0.0044	0.11	Q V				
0+40	0.0052	0.12	Q V				
0+45	0.0061	0.13	Q V				


0+50 0.0069 0.12
0+55 0.0077 0.11
1+ 0 0.0085 0.12
1+ 5 0.0094 0.14
1+10 0.0105 0.15
1+15 0.0116 0.15
1+20 0.0126 0.15
1+25 0.0137 0.17
1+30 0.0150 0.19
1+35 0.0163 0.18
1+40 0.0176 0.19
1+45 0.0191 0.22
1+50 0.0208 0.24
1+55 0.0223 0.23
2+ 0 0.0239 0.22
2+ 5 0.0254 0.23
2+10 0.0274 0.29
2+15 0.0299 0.37
2+20 0.0322 0.33
2+25 0.0353 0.44
2+30 0.0393 0.58
2+35 0.0439 0.66
2+40 0.0480 0.60
2+45 0.0503 0.34
2+50 0.0515 0.17
2+55 0.0524 0.14
3+ 0 0.0530 0.08
3+ 5 0.0532 0.03
3+10 0.0532 0.01
3+15 0.0532 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 06/03/26 File: 19267p010site310.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	0.71	6.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	1.75	16.95

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.708(In)
Area Averaged 100-Year Rainfall = 1.750(In)

Point rain (area averaged) = 1.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	75.00	0.840

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.840	0.074	1.000	0.074
					Sum (F) =	0.074

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	9.764
		Sum = 100.000	Sum= 9.764

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	0.177	(0.074)	0.041	0.137
2	0.17	1.30	0.177	(0.074)	0.041	0.137
3	0.25	1.10	0.150	(0.074)	0.035	0.116
4	0.33	1.50	0.205	(0.074)	0.047	0.158
5	0.42	1.50	0.205	(0.074)	0.047	0.158
6	0.50	1.80	0.246	(0.074)	0.056	0.189
7	0.58	1.50	0.205	(0.074)	0.047	0.158
8	0.67	1.80	0.246	(0.074)	0.056	0.189
9	0.75	1.80	0.246	(0.074)	0.056	0.189
10	0.83	1.50	0.205	(0.074)	0.047	0.158
11	0.92	1.60	0.218	(0.074)	0.050	0.168
12	1.00	1.80	0.246	(0.074)	0.056	0.189

13	1.08	2.20	0.300	(	0.074)	0.069	0.231
14	1.17	2.20	0.300	(	0.074)	0.069	0.231
15	1.25	2.20	0.300	(	0.074)	0.069	0.231
16	1.33	2.00	0.273	(	0.074)	0.063	0.210
17	1.42	2.60	0.355		0.074	(0.082)	0.281
18	1.50	2.70	0.368		0.074	(0.085)	0.294
19	1.58	2.40	0.327		0.074	(0.075)	0.253
20	1.67	2.70	0.368		0.074	(0.085)	0.294
21	1.75	3.30	0.450		0.074	(0.104)	0.376
22	1.83	3.10	0.423		0.074	(0.097)	0.349
23	1.92	2.90	0.396		0.074	(0.091)	0.322
24	2.00	3.00	0.409		0.074	(0.094)	0.335
25	2.08	3.10	0.423		0.074	(0.097)	0.349
26	2.17	4.20	0.573		0.074	(0.132)	0.499
27	2.25	5.00	0.682		0.074	(0.157)	0.608
28	2.33	3.50	0.477		0.074	(0.110)	0.403
29	2.42	6.80	0.927		0.074	(0.213)	0.854
30	2.50	7.30	0.996		0.074	(0.229)	0.922
31	2.58	8.20	1.118		0.074	(0.257)	1.045
32	2.67	5.90	0.805		0.074	(0.185)	0.731
33	2.75	2.00	0.273	(	0.074)	0.063	0.210
34	2.83	1.80	0.246	(	0.074)	0.056	0.189
35	2.92	1.80	0.246	(	0.074)	0.056	0.189
36	3.00	0.60	0.082	(	0.074)	0.019	0.063

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.4

Flood volume = Effective rainfall 0.95(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.19(In)
Total soil loss = 0.150(Ac.Ft)
Total rainfall = 1.14(In)
Flood volume = 33444.5 Cubic Feet
Total soil loss = 6528.2 Cubic Feet

Peak flow rate of this hydrograph = 10.204(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	0.0092	1.33	V Q				
0+10	0.0184	1.33	V Q				
0+15	0.0261	1.13	|VQ				
0+20	0.0367	1.54	|V Q				
0+25	0.0473	1.54	| VQ				
0+30	0.0601	1.85	| Q				
0+35	0.0707	1.54	| Q				
0+40	0.0834	1.85	| QV				
0+45	0.0961	1.85	| Q V				
0+50	0.1067	1.54	| Q V				
0+55	0.1180	1.64	| Q V				
1+ 0	0.1307	1.85	| Q V				

1+ 5	0.1463	2.26	| Q V |	|	|	|
1+10	0.1618	2.26	| Q V |	|	|	|
1+15	0.1774	2.26	| Q V|	|	|	|
1+20	0.1915	2.05	| Q V|	|	|	|
1+25	0.2104	2.74	| Q V	|	|	|
1+30	0.2302	2.88	| Q |V	|	|	|
1+35	0.2472	2.48	| Q | V	|	|	|
1+40	0.2670	2.88	| Q | V	|	|	|
1+45	0.2923	3.67	| Q | V |	|	|	|
1+50	0.3158	3.41	| Q | V |	|	|	|
1+55	0.3374	3.14	| Q | V |	|	|	|
2+ 0	0.3600	3.28	| Q | V |	|	|	|
2+ 5	0.3835	3.41	| Q | V|	|	|	|
2+10	0.4170	4.87	| Q| |V	|	|	|
2+15	0.4579	5.94	| |Q | V	|	|	|
2+20	0.4851	3.94	| Q | | V |	|	|	|
2+25	0.5425	8.34	| | Q | V |	|	|	|
2+30	0.6045	9.00	| | Q | |	|	|V	|
2+35	0.6748	10.20	| | Q |	|	| V	|
2+40	0.7240	7.14	| | Q |	|	| V	|
2+45	0.7381	2.05	| Q |	|	|	| V |
2+50	0.7508	1.85	| Q |	|	|	| V|
2+55	0.7635	1.85	| Q |	|	|	| V|
3+ 0	0.7678	0.62	|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 06/03/26 File: 19267p010AL610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 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]
1.45	0.95	1.38

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	2.26	3.27

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

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

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

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
			Sum = 100.000 Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.058)	0.016	0.073
2	0.17	0.60	0.107	(0.058)	0.019	0.088
3	0.25	0.60	0.107	(0.058)	0.019	0.088
4	0.33	0.60	0.107	(0.058)	0.019	0.088
5	0.42	0.60	0.107	(0.058)	0.019	0.088
6	0.50	0.70	0.125	(0.058)	0.023	0.103
7	0.58	0.70	0.125	(0.058)	0.023	0.103
8	0.67	0.70	0.125	(0.058)	0.023	0.103
9	0.75	0.70	0.125	(0.058)	0.023	0.103
10	0.83	0.70	0.125	(0.058)	0.023	0.103
11	0.92	0.70	0.125	(0.058)	0.023	0.103

12	1.00	0.80	0.143	(0.058)	0.026	0.117
13	1.08	0.80	0.143	(0.058)	0.026	0.117
14	1.17	0.80	0.143	(0.058)	0.026	0.117
15	1.25	0.80	0.143	(0.058)	0.026	0.117
16	1.33	0.80	0.143	(0.058)	0.026	0.117
17	1.42	0.80	0.143	(0.058)	0.026	0.117
18	1.50	0.80	0.143	(0.058)	0.026	0.117
19	1.58	0.80	0.143	(0.058)	0.026	0.117
20	1.67	0.80	0.143	(0.058)	0.026	0.117
21	1.75	0.80	0.143	(0.058)	0.026	0.117
22	1.83	0.80	0.143	(0.058)	0.026	0.117
23	1.92	0.80	0.143	(0.058)	0.026	0.117
24	2.00	0.90	0.161	(0.058)	0.029	0.132
25	2.08	0.80	0.143	(0.058)	0.026	0.117
26	2.17	0.90	0.161	(0.058)	0.029	0.132
27	2.25	0.90	0.161	(0.058)	0.029	0.132
28	2.33	0.90	0.161	(0.058)	0.029	0.132
29	2.42	0.90	0.161	(0.058)	0.029	0.132
30	2.50	0.90	0.161	(0.058)	0.029	0.132
31	2.58	0.90	0.161	(0.058)	0.029	0.132
32	2.67	0.90	0.161	(0.058)	0.029	0.132
33	2.75	1.00	0.179	(0.058)	0.032	0.147
34	2.83	1.00	0.179	(0.058)	0.032	0.147
35	2.92	1.00	0.179	(0.058)	0.032	0.147
36	3.00	1.00	0.179	(0.058)	0.032	0.147
37	3.08	1.00	0.179	(0.058)	0.032	0.147
38	3.17	1.10	0.197	(0.058)	0.035	0.161
39	3.25	1.10	0.197	(0.058)	0.035	0.161
40	3.33	1.10	0.197	(0.058)	0.035	0.161
41	3.42	1.20	0.215	(0.058)	0.039	0.176
42	3.50	1.30	0.233	(0.058)	0.042	0.191
43	3.58	1.40	0.251	(0.058)	0.045	0.205
44	3.67	1.40	0.251	(0.058)	0.045	0.205
45	3.75	1.50	0.268	(0.058)	0.048	0.220
46	3.83	1.50	0.268	(0.058)	0.048	0.220
47	3.92	1.60	0.286	(0.058)	0.052	0.235
48	4.00	1.60	0.286	(0.058)	0.052	0.235
49	4.08	1.70	0.304	(0.058)	0.055	0.249
50	4.17	1.80	0.322	0.058	(0.058)	0.265
51	4.25	1.90	0.340	0.058	(0.061)	0.282
52	4.33	2.00	0.358	0.058	(0.064)	0.300
53	4.42	2.10	0.376	0.058	(0.068)	0.318
54	4.50	2.10	0.376	0.058	(0.068)	0.318
55	4.58	2.20	0.394	0.058	(0.071)	0.336
56	4.67	2.30	0.412	0.058	(0.074)	0.354
57	4.75	2.40	0.429	0.058	(0.077)	0.372
58	4.83	2.40	0.429	0.058	(0.077)	0.372
59	4.92	2.50	0.447	0.058	(0.081)	0.390
60	5.00	2.60	0.465	0.058	(0.084)	0.408
61	5.08	3.10	0.555	0.058	(0.100)	0.497
62	5.17	3.60	0.644	0.058	(0.116)	0.587
63	5.25	3.90	0.698	0.058	(0.126)	0.640
64	5.33	4.20	0.752	0.058	(0.135)	0.694
65	5.42	4.70	0.841	0.058	(0.151)	0.784
66	5.50	5.60	1.002	0.058	(0.180)	0.945
67	5.58	1.90	0.340	0.058	(0.061)	0.282
68	5.67	0.90	0.161	(0.058)	0.029	0.132

69	5.75	0.60	0.107	(0.058)	0.019	0.088
70	5.83	0.50	0.089	(0.058)	0.016	0.073
71	5.92	0.30	0.054	(0.058)	0.010	0.044
72	6.00	0.20	0.036	(0.058)	0.006	0.029

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.3

Flood volume = Effective rainfall 1.27(In)
times area 1.4(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.22(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 1.49(In)
Flood volume = 6683.7 Cubic Feet
Total soil loss = 1138.7 Cubic Feet

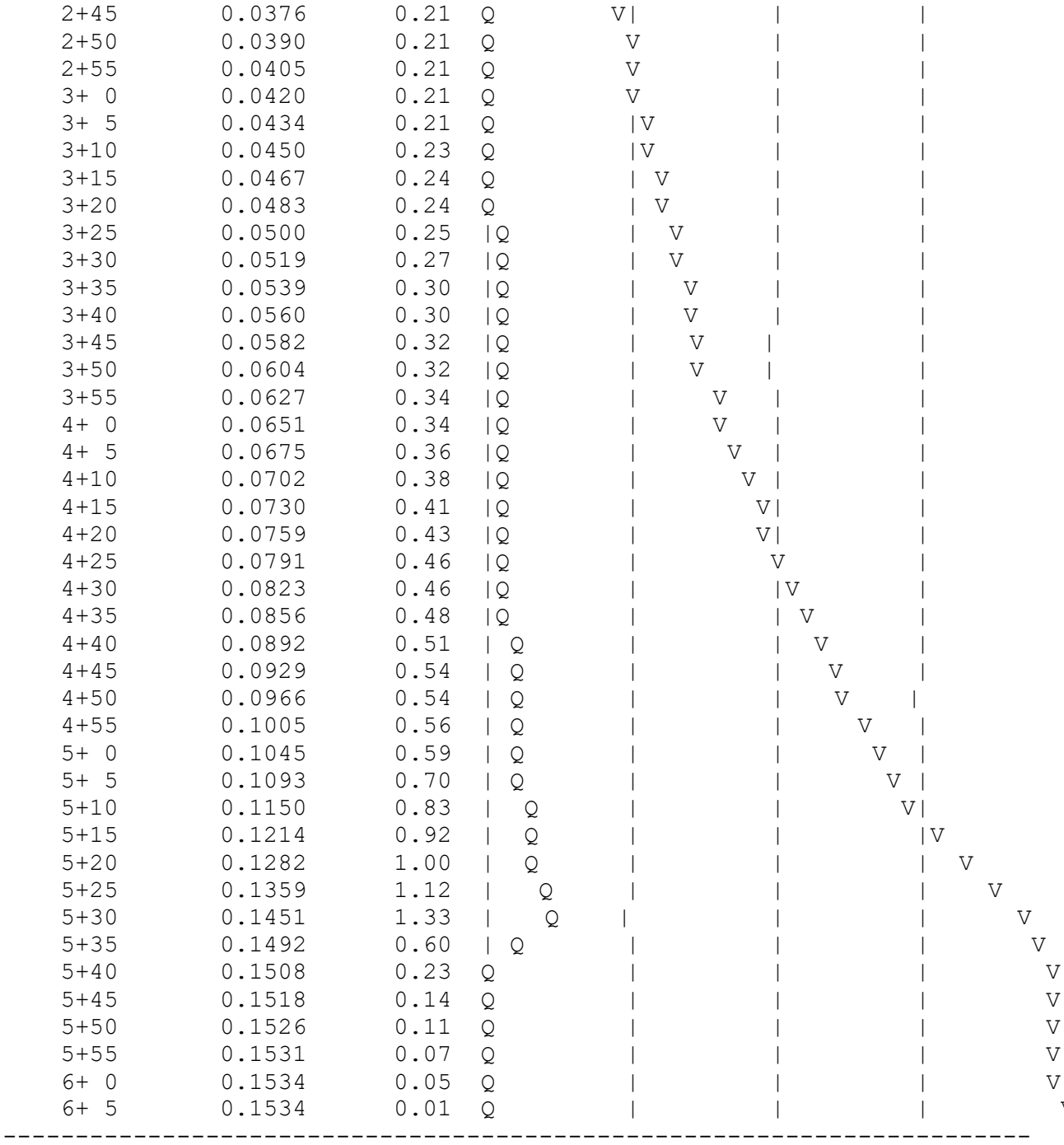
Peak flow rate of this hydrograph = 1.331(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0006	0.09	Q				
0+10	0.0014	0.12	Q				
0+15	0.0023	0.13	Q				
0+20	0.0032	0.13	Q				
0+25	0.0041	0.13	QV				
0+30	0.0051	0.15	QV				
0+35	0.0061	0.15	QV				
0+40	0.0072	0.15	QV				
0+45	0.0082	0.15	Q V				
0+50	0.0092	0.15	Q V				
0+55	0.0103	0.15	Q V				
1+ 0	0.0114	0.17	Q V				
1+ 5	0.0126	0.17	Q V				
1+10	0.0138	0.17	Q V				
1+15	0.0149	0.17	Q V				
1+20	0.0161	0.17	Q V				
1+25	0.0173	0.17	Q V				
1+30	0.0185	0.17	Q V				
1+35	0.0197	0.17	Q V				
1+40	0.0208	0.17	Q V				
1+45	0.0220	0.17	Q V				
1+50	0.0232	0.17	Q V				
1+55	0.0244	0.17	Q V				
2+ 0	0.0257	0.19	Q V				
2+ 5	0.0269	0.18	Q V				
2+10	0.0282	0.19	Q V				
2+15	0.0295	0.19	Q V				
2+20	0.0308	0.19	Q V				
2+25	0.0321	0.19	Q V				
2+30	0.0335	0.19	Q V				
2+35	0.0348	0.19	Q V				
2+40	0.0361	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 06/03/26 File: 19267p010B610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	0.95	3.10

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.25	2.26	7.33

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.245	75.00	0.870

Total Area Entered = 3.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.870	0.066	1.000	0.066
					Sum (F) =	0.066

Area averaged mean soil loss (F) (In/Hr) = 0.066
Minimum soil loss rate ((In/Hr)) = 0.033
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	3.270
		Sum = 100.000	Sum= 3.270

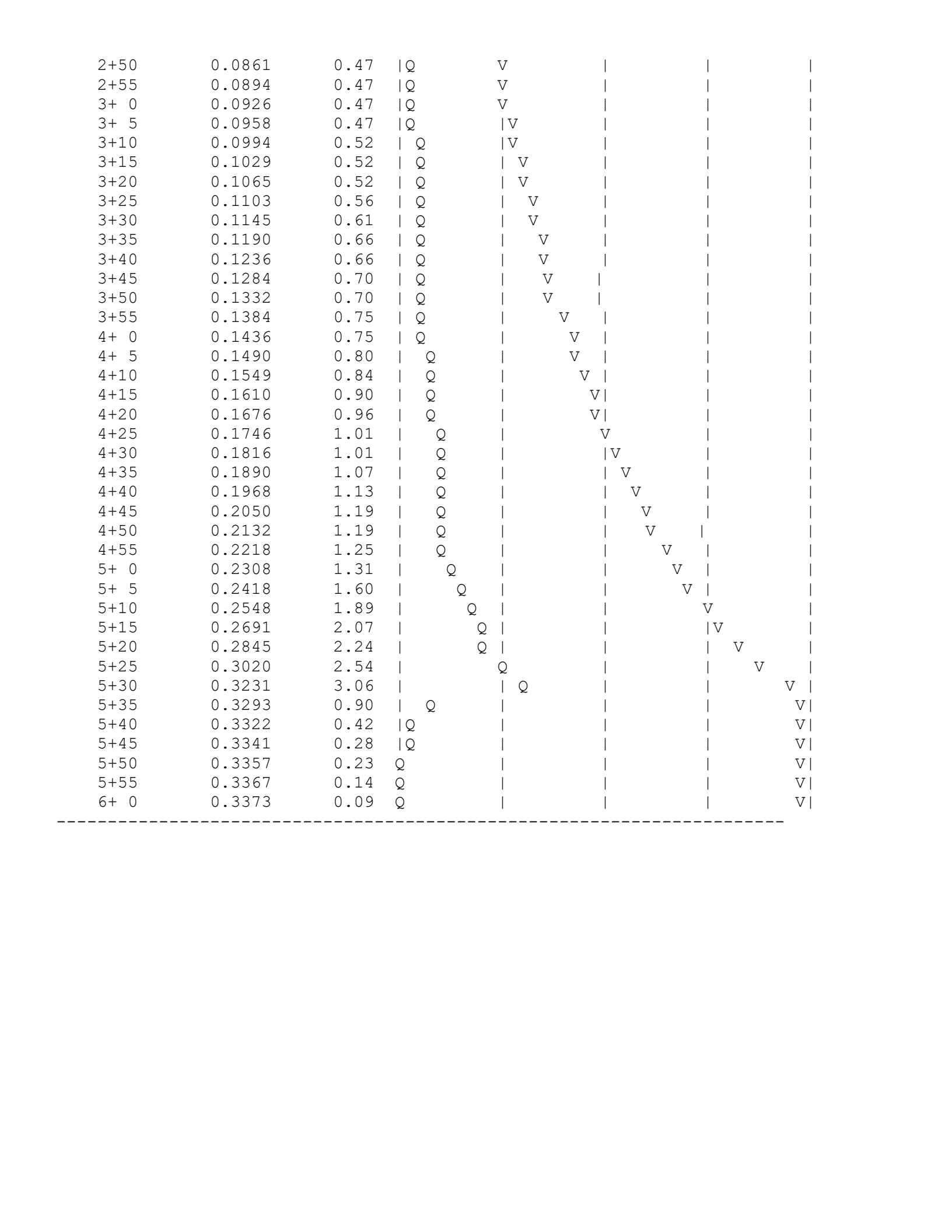
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.066)	0.018	0.072
2	0.17	0.60	0.107	(0.066)	0.021	0.086
3	0.25	0.60	0.107	(0.066)	0.021	0.086
4	0.33	0.60	0.107	(0.066)	0.021	0.086
5	0.42	0.60	0.107	(0.066)	0.021	0.086
6	0.50	0.70	0.125	(0.066)	0.025	0.100
7	0.58	0.70	0.125	(0.066)	0.025	0.100
8	0.67	0.70	0.125	(0.066)	0.025	0.100
9	0.75	0.70	0.125	(0.066)	0.025	0.100
10	0.83	0.70	0.125	(0.066)	0.025	0.100
11	0.92	0.70	0.125	(0.066)	0.025	0.100
12	1.00	0.80	0.143	(0.066)	0.029	0.115

13	1.08	0.80	0.143	(0.066)	0.029	0.115
14	1.17	0.80	0.143	(0.066)	0.029	0.115
15	1.25	0.80	0.143	(0.066)	0.029	0.115
16	1.33	0.80	0.143	(0.066)	0.029	0.115
17	1.42	0.80	0.143	(0.066)	0.029	0.115
18	1.50	0.80	0.143	(0.066)	0.029	0.115
19	1.58	0.80	0.143	(0.066)	0.029	0.115
20	1.67	0.80	0.143	(0.066)	0.029	0.115
21	1.75	0.80	0.143	(0.066)	0.029	0.115
22	1.83	0.80	0.143	(0.066)	0.029	0.115
23	1.92	0.80	0.143	(0.066)	0.029	0.115
24	2.00	0.90	0.161	(0.066)	0.032	0.129
25	2.08	0.80	0.143	(0.066)	0.029	0.115
26	2.17	0.90	0.161	(0.066)	0.032	0.129
27	2.25	0.90	0.161	(0.066)	0.032	0.129
28	2.33	0.90	0.161	(0.066)	0.032	0.129
29	2.42	0.90	0.161	(0.066)	0.032	0.129
30	2.50	0.90	0.161	(0.066)	0.032	0.129
31	2.58	0.90	0.161	(0.066)	0.032	0.129
32	2.67	0.90	0.161	(0.066)	0.032	0.129
33	2.75	1.00	0.179	(0.066)	0.036	0.143
34	2.83	1.00	0.179	(0.066)	0.036	0.143
35	2.92	1.00	0.179	(0.066)	0.036	0.143
36	3.00	1.00	0.179	(0.066)	0.036	0.143
37	3.08	1.00	0.179	(0.066)	0.036	0.143
38	3.17	1.10	0.197	(0.066)	0.039	0.157
39	3.25	1.10	0.197	(0.066)	0.039	0.157
40	3.33	1.10	0.197	(0.066)	0.039	0.157
41	3.42	1.20	0.215	(0.066)	0.043	0.172
42	3.50	1.30	0.233	(0.066)	0.047	0.186
43	3.58	1.40	0.251	(0.066)	0.050	0.200
44	3.67	1.40	0.251	(0.066)	0.050	0.200
45	3.75	1.50	0.268	(0.066)	0.054	0.215
46	3.83	1.50	0.268	(0.066)	0.054	0.215
47	3.92	1.60	0.286	(0.066)	0.057	0.229
48	4.00	1.60	0.286	(0.066)	0.057	0.229
49	4.08	1.70	0.304	(0.066)	0.061	0.243
50	4.17	1.80	0.322	(0.066)	0.064	0.258
51	4.25	1.90	0.340	0.066	(0.068)	0.274
52	4.33	2.00	0.358	0.066	(0.072)	0.292
53	4.42	2.10	0.376	0.066	(0.075)	0.310
54	4.50	2.10	0.376	0.066	(0.075)	0.310
55	4.58	2.20	0.394	0.066	(0.079)	0.328
56	4.67	2.30	0.412	0.066	(0.082)	0.346
57	4.75	2.40	0.429	0.066	(0.086)	0.364
58	4.83	2.40	0.429	0.066	(0.086)	0.364
59	4.92	2.50	0.447	0.066	(0.089)	0.382
60	5.00	2.60	0.465	0.066	(0.093)	0.400
61	5.08	3.10	0.555	0.066	(0.111)	0.489
62	5.17	3.60	0.644	0.066	(0.129)	0.578
63	5.25	3.90	0.698	0.066	(0.140)	0.632
64	5.33	4.20	0.752	0.066	(0.150)	0.686
65	5.42	4.70	0.841	0.066	(0.168)	0.775
66	5.50	5.60	1.002	0.066	(0.200)	0.936
67	5.58	1.90	0.340	0.066	(0.068)	0.274
68	5.67	0.90	0.161	(0.066)	0.032	0.129
69	5.75	0.60	0.107	(0.066)	0.021	0.086

```
70   5.83     0.50      0.089       (  0.066)       0.018        0.072
71   5.92     0.30      0.054       (  0.066)       0.011        0.043
72   6.00     0.20      0.036       (  0.066)       0.007        0.029
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    15.0
    Flood volume = Effective rainfall      1.25(In)
     times area       3.2(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.24(In)
    Total soil loss =     0.066(Ac.Ft)
    Total rainfall =      1.49(In)
    Flood volume =       14694.9 Cubic Feet
    Total soil loss =        2871.4 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      3.064(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       0.0016      0.23  Q         |         |         |         |
  0+10       0.0035      0.28  VQ        |         |         |         |
  0+15       0.0055      0.28  VQ        |         |         |         |
  0+20       0.0074      0.28  VQ        |         |         |         |
  0+25       0.0094      0.28  |Q        |         |         |         |
  0+30       0.0116      0.33  |Q        |         |         |         |
  0+35       0.0139      0.33  |Q        |         |         |         |
  0+40       0.0161      0.33  |Q        |         |         |         |
  0+45       0.0184      0.33  |QV       |         |         |         |
  0+50       0.0206      0.33  |QV       |         |         |         |
  0+55       0.0229      0.33  |QV       |         |         |         |
  1+ 0       0.0255      0.37  |Q V      |         |         |         |
  1+ 5       0.0281      0.37  |Q V      |         |         |         |
  1+10       0.0306      0.37  |Q V      |         |         |         |
  1+15       0.0332      0.37  |Q V      |         |         |         |
  1+20       0.0358      0.37  |Q  V     |         |         |         |
  1+25       0.0384      0.37  |Q  V     |         |         |         |
  1+30       0.0410      0.37  |Q  V     |         |         |         |
  1+35       0.0436      0.37  |Q   V    |         |         |         |
  1+40       0.0461      0.37  |Q   V    |         |         |         |
  1+45       0.0487      0.37  |Q   V    |         |         |         |
  1+50       0.0513      0.37  |Q    V   |         |         |         |
  1+55       0.0539      0.37  |Q    V   |         |         |         |
  2+ 0       0.0568      0.42  |Q    V   |         |         |         |
  2+ 5       0.0594      0.37  |Q     V  |         |         |         |
  2+10       0.0623      0.42  |Q     V  |         |         |         |
  2+15       0.0652      0.42  |Q     V  |         |         |         |
  2+20       0.0681      0.42  |Q      V |         |         |         |
  2+25       0.0710      0.42  |Q      V |         |         |         |
  2+30       0.0739      0.42  |Q      V |         |         |         |
  2+35       0.0768      0.42  |Q       V|         |         |         |
  2+40       0.0797      0.42  |Q       V|         |         |         |
  2+45       0.0829      0.47  |Q       V|         |         |         |
```


2+50 0.0861 0.47
2+55 0.0894 0.47
3+ 0 0.0926 0.47
3+ 5 0.0958 0.47
3+10 0.0994 0.52
3+15 0.1029 0.52
3+20 0.1065 0.52
3+25 0.1103 0.56
3+30 0.1145 0.61
3+35 0.1190 0.66
3+40 0.1236 0.66
3+45 0.1284 0.70
3+50 0.1332 0.70
3+55 0.1384 0.75
4+ 0 0.1436 0.75
4+ 5 0.1490 0.80
4+10 0.1549 0.84
4+15 0.1610 0.90
4+20 0.1676 0.96
4+25 0.1746 1.01
4+30 0.1816 1.01
4+35 0.1890 1.07
4+40 0.1968 1.13
4+45 0.2050 1.19
4+50 0.2132 1.19
4+55 0.2218 1.25
5+ 0 0.2308 1.31
5+ 5 0.2418 1.60
5+10 0.2548 1.89
5+15 0.2691 2.07
5+20 0.2845 2.24
5+25 0.3020 2.54
5+30 0.3231 3.06
5+35 0.3293 0.90
5+40 0.3322 0.42
5+45 0.3341 0.28
5+50 0.3357 0.23
5+55 0.3367 0.14
6+ 0 0.3373 0.09

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 06/03/26 File: 19267p010CD610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
1.25	0.95	1.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	2.26	2.83

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.254	75.00	0.790

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.790	0.088	1.000	0.088
					Sum (F) =	0.088

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1293.145	100.000	1.264
		Sum = 100.000	Sum= 1.264

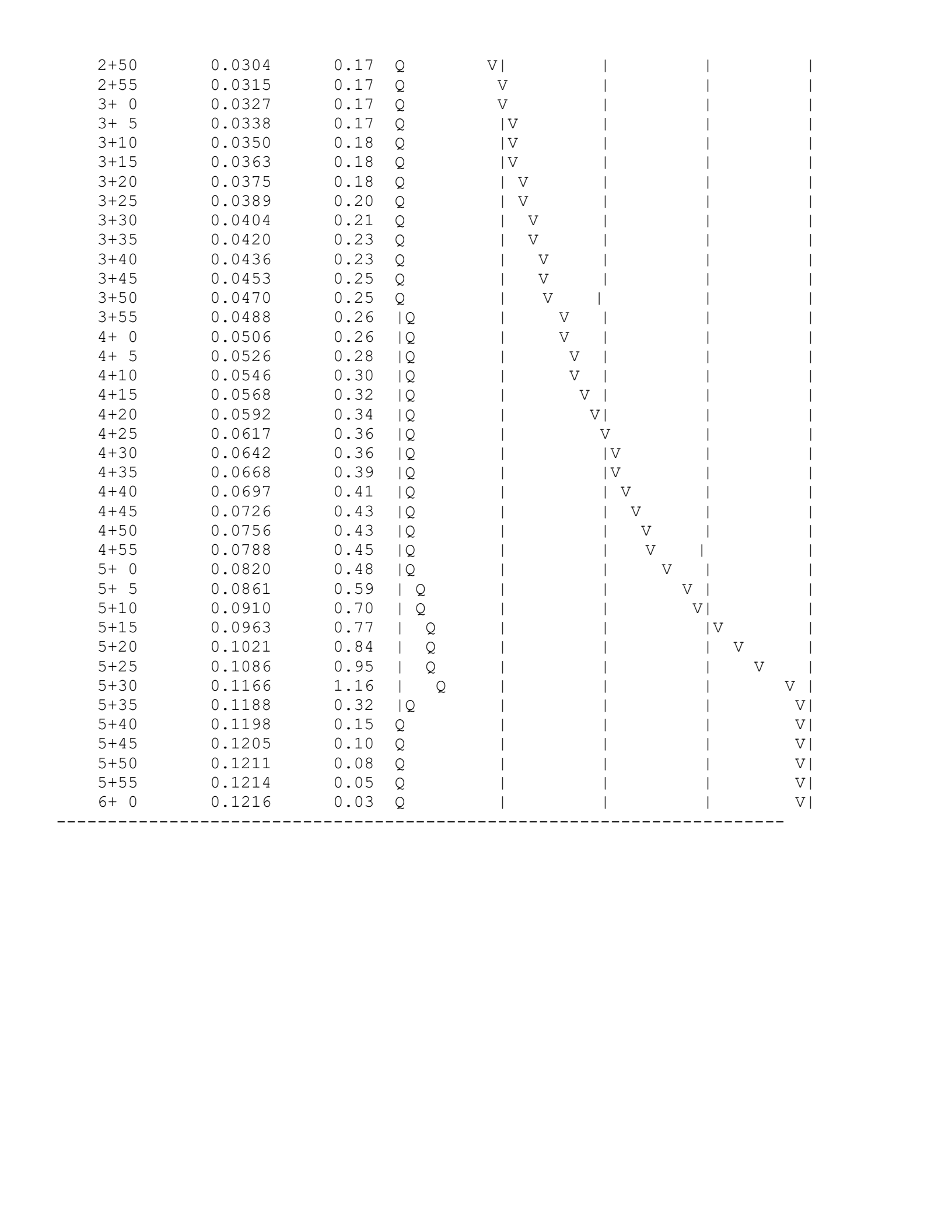
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.088)	0.024	0.065
2	0.17	0.60	0.107	(0.088)	0.029	0.078
3	0.25	0.60	0.107	(0.088)	0.029	0.078
4	0.33	0.60	0.107	(0.088)	0.029	0.078
5	0.42	0.60	0.107	(0.088)	0.029	0.078
6	0.50	0.70	0.125	(0.088)	0.034	0.091
7	0.58	0.70	0.125	(0.088)	0.034	0.091
8	0.67	0.70	0.125	(0.088)	0.034	0.091
9	0.75	0.70	0.125	(0.088)	0.034	0.091
10	0.83	0.70	0.125	(0.088)	0.034	0.091
11	0.92	0.70	0.125	(0.088)	0.034	0.091
12	1.00	0.80	0.143	(0.088)	0.039	0.105

13	1.08	0.80	0.143	(0.088)	0.039	0.105
14	1.17	0.80	0.143	(0.088)	0.039	0.105
15	1.25	0.80	0.143	(0.088)	0.039	0.105
16	1.33	0.80	0.143	(0.088)	0.039	0.105
17	1.42	0.80	0.143	(0.088)	0.039	0.105
18	1.50	0.80	0.143	(0.088)	0.039	0.105
19	1.58	0.80	0.143	(0.088)	0.039	0.105
20	1.67	0.80	0.143	(0.088)	0.039	0.105
21	1.75	0.80	0.143	(0.088)	0.039	0.105
22	1.83	0.80	0.143	(0.088)	0.039	0.105
23	1.92	0.80	0.143	(0.088)	0.039	0.105
24	2.00	0.90	0.161	(0.088)	0.043	0.118
25	2.08	0.80	0.143	(0.088)	0.039	0.105
26	2.17	0.90	0.161	(0.088)	0.043	0.118
27	2.25	0.90	0.161	(0.088)	0.043	0.118
28	2.33	0.90	0.161	(0.088)	0.043	0.118
29	2.42	0.90	0.161	(0.088)	0.043	0.118
30	2.50	0.90	0.161	(0.088)	0.043	0.118
31	2.58	0.90	0.161	(0.088)	0.043	0.118
32	2.67	0.90	0.161	(0.088)	0.043	0.118
33	2.75	1.00	0.179	(0.088)	0.048	0.131
34	2.83	1.00	0.179	(0.088)	0.048	0.131
35	2.92	1.00	0.179	(0.088)	0.048	0.131
36	3.00	1.00	0.179	(0.088)	0.048	0.131
37	3.08	1.00	0.179	(0.088)	0.048	0.131
38	3.17	1.10	0.197	(0.088)	0.053	0.144
39	3.25	1.10	0.197	(0.088)	0.053	0.144
40	3.33	1.10	0.197	(0.088)	0.053	0.144
41	3.42	1.20	0.215	(0.088)	0.058	0.157
42	3.50	1.30	0.233	(0.088)	0.063	0.170
43	3.58	1.40	0.251	(0.088)	0.068	0.183
44	3.67	1.40	0.251	(0.088)	0.068	0.183
45	3.75	1.50	0.268	(0.088)	0.072	0.196
46	3.83	1.50	0.268	(0.088)	0.072	0.196
47	3.92	1.60	0.286	(0.088)	0.077	0.209
48	4.00	1.60	0.286	(0.088)	0.077	0.209
49	4.08	1.70	0.304	(0.088)	0.082	0.222
50	4.17	1.80	0.322	(0.088)	0.087	0.235
51	4.25	1.90	0.340	0.088	(0.092)	0.252
52	4.33	2.00	0.358	0.088	(0.097)	0.270
53	4.42	2.10	0.376	0.088	(0.101)	0.288
54	4.50	2.10	0.376	0.088	(0.101)	0.288
55	4.58	2.20	0.394	0.088	(0.106)	0.306
56	4.67	2.30	0.412	0.088	(0.111)	0.324
57	4.75	2.40	0.429	0.088	(0.116)	0.342
58	4.83	2.40	0.429	0.088	(0.116)	0.342
59	4.92	2.50	0.447	0.088	(0.121)	0.360
60	5.00	2.60	0.465	0.088	(0.126)	0.378
61	5.08	3.10	0.555	0.088	(0.150)	0.467
62	5.17	3.60	0.644	0.088	(0.174)	0.557
63	5.25	3.90	0.698	0.088	(0.188)	0.610
64	5.33	4.20	0.752	0.088	(0.203)	0.664
65	5.42	4.70	0.841	0.088	(0.227)	0.754
66	5.50	5.60	1.002	0.088	(0.271)	0.915
67	5.58	1.90	0.340	0.088	(0.092)	0.252
68	5.67	0.90	0.161	(0.088)	0.043	0.118
69	5.75	0.60	0.107	(0.088)	0.029	0.078

```
70   5.83     0.50      0.089       (  0.088)       0.024        0.065
71   5.92     0.30      0.054       (  0.088)       0.014        0.039
72   6.00     0.20      0.036       (  0.088)       0.010        0.026
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    14.0
    Flood volume = Effective rainfall      1.16(In)
     times area       1.3(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.33(In)
    Total soil loss =     0.034(Ac.Ft)
    Total rainfall =      1.49(In)
    Flood volume =        5298.1 Cubic Feet
    Total soil loss =        1490.3 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.156(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       0.0006      0.08  Q         |         |         |         |
  0+10       0.0013      0.10  Q         |         |         |         |
  0+15       0.0019      0.10  Q         |         |         |         |
  0+20       0.0026      0.10  Q         |         |         |         |
  0+25       0.0033      0.10  QV        |         |         |         |
  0+30       0.0041      0.12  QV        |         |         |         |
  0+35       0.0049      0.12  QV        |         |         |         |
  0+40       0.0057      0.12  QV        |         |         |         |
  0+45       0.0065      0.12  Q V       |         |         |         |
  0+50       0.0073      0.12  Q V       |         |         |         |
  0+55       0.0081      0.12  Q V       |         |         |         |
  1+ 0       0.0090      0.13  Q V       |         |         |         |
  1+ 5       0.0099      0.13  Q  V      |         |         |         |
  1+10       0.0108      0.13  Q  V      |         |         |         |
  1+15       0.0117      0.13  Q  V      |         |         |         |
  1+20       0.0126      0.13  Q   V     |         |         |         |
  1+25       0.0135      0.13  Q   V     |         |         |         |
  1+30       0.0144      0.13  Q   V     |         |         |         |
  1+35       0.0154      0.13  Q    V    |         |         |         |
  1+40       0.0163      0.13  Q    V    |         |         |         |
  1+45       0.0172      0.13  Q    V    |         |         |         |
  1+50       0.0181      0.13  Q    V    |         |         |         |
  1+55       0.0190      0.13  Q     V   |         |         |         |
  2+ 0       0.0200      0.15  Q     V   |         |         |         |
  2+ 5       0.0209      0.13  Q     V   |         |         |         |
  2+10       0.0220      0.15  Q      V  |         |         |         |
  2+15       0.0230      0.15  Q      V  |         |         |         |
  2+20       0.0240      0.15  Q      V  |         |         |         |
  2+25       0.0250      0.15  Q       V |         |         |         |
  2+30       0.0261      0.15  Q       V |         |         |         |
  2+35       0.0271      0.15  Q       V |         |         |         |
  2+40       0.0281      0.15  Q        V|         |         |         |
  2+45       0.0292      0.17  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 06/03/26 File: 19267p010EK610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	0.95	0.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	2.26	0.75

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.332	75.00	0.880

Total Area Entered = 0.33(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	699.916	78.557	0.263
2	0.167	1399.832	21.443	0.072
			Sum = 100.000 Sum=	0.335

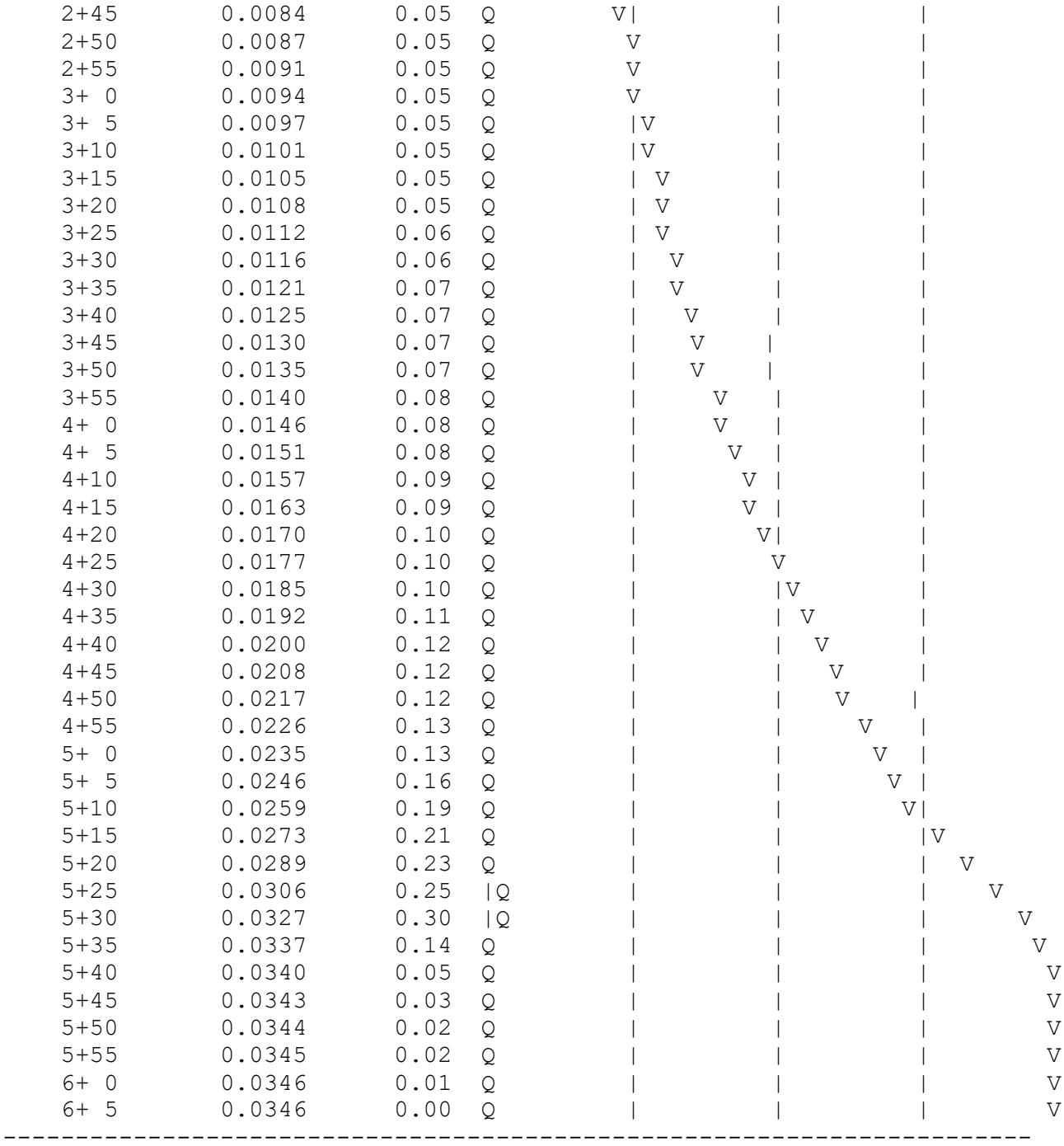
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.063)	0.018	0.072
2	0.17	0.60	0.107	(0.063)	0.021	0.086
3	0.25	0.60	0.107	(0.063)	0.021	0.086
4	0.33	0.60	0.107	(0.063)	0.021	0.086
5	0.42	0.60	0.107	(0.063)	0.021	0.086
6	0.50	0.70	0.125	(0.063)	0.025	0.100
7	0.58	0.70	0.125	(0.063)	0.025	0.100
8	0.67	0.70	0.125	(0.063)	0.025	0.100
9	0.75	0.70	0.125	(0.063)	0.025	0.100
10	0.83	0.70	0.125	(0.063)	0.025	0.100
11	0.92	0.70	0.125	(0.063)	0.025	0.100

12	1.00	0.80	0.143	(0.063)	0.029	0.115
13	1.08	0.80	0.143	(0.063)	0.029	0.115
14	1.17	0.80	0.143	(0.063)	0.029	0.115
15	1.25	0.80	0.143	(0.063)	0.029	0.115
16	1.33	0.80	0.143	(0.063)	0.029	0.115
17	1.42	0.80	0.143	(0.063)	0.029	0.115
18	1.50	0.80	0.143	(0.063)	0.029	0.115
19	1.58	0.80	0.143	(0.063)	0.029	0.115
20	1.67	0.80	0.143	(0.063)	0.029	0.115
21	1.75	0.80	0.143	(0.063)	0.029	0.115
22	1.83	0.80	0.143	(0.063)	0.029	0.115
23	1.92	0.80	0.143	(0.063)	0.029	0.115
24	2.00	0.90	0.161	(0.063)	0.032	0.129
25	2.08	0.80	0.143	(0.063)	0.029	0.115
26	2.17	0.90	0.161	(0.063)	0.032	0.129
27	2.25	0.90	0.161	(0.063)	0.032	0.129
28	2.33	0.90	0.161	(0.063)	0.032	0.129
29	2.42	0.90	0.161	(0.063)	0.032	0.129
30	2.50	0.90	0.161	(0.063)	0.032	0.129
31	2.58	0.90	0.161	(0.063)	0.032	0.129
32	2.67	0.90	0.161	(0.063)	0.032	0.129
33	2.75	1.00	0.179	(0.063)	0.036	0.143
34	2.83	1.00	0.179	(0.063)	0.036	0.143
35	2.92	1.00	0.179	(0.063)	0.036	0.143
36	3.00	1.00	0.179	(0.063)	0.036	0.143
37	3.08	1.00	0.179	(0.063)	0.036	0.143
38	3.17	1.10	0.197	(0.063)	0.039	0.157
39	3.25	1.10	0.197	(0.063)	0.039	0.157
40	3.33	1.10	0.197	(0.063)	0.039	0.157
41	3.42	1.20	0.215	(0.063)	0.043	0.172
42	3.50	1.30	0.233	(0.063)	0.047	0.186
43	3.58	1.40	0.251	(0.063)	0.050	0.200
44	3.67	1.40	0.251	(0.063)	0.050	0.200
45	3.75	1.50	0.268	(0.063)	0.054	0.215
46	3.83	1.50	0.268	(0.063)	0.054	0.215
47	3.92	1.60	0.286	(0.063)	0.057	0.229
48	4.00	1.60	0.286	(0.063)	0.057	0.229
49	4.08	1.70	0.304	(0.063)	0.061	0.243
50	4.17	1.80	0.322	0.063	(0.064)	0.259
51	4.25	1.90	0.340	0.063	(0.068)	0.277
52	4.33	2.00	0.358	0.063	(0.072)	0.295
53	4.42	2.10	0.376	0.063	(0.075)	0.313
54	4.50	2.10	0.376	0.063	(0.075)	0.313
55	4.58	2.20	0.394	0.063	(0.079)	0.331
56	4.67	2.30	0.412	0.063	(0.082)	0.349
57	4.75	2.40	0.429	0.063	(0.086)	0.366
58	4.83	2.40	0.429	0.063	(0.086)	0.366
59	4.92	2.50	0.447	0.063	(0.089)	0.384
60	5.00	2.60	0.465	0.063	(0.093)	0.402
61	5.08	3.10	0.555	0.063	(0.111)	0.492
62	5.17	3.60	0.644	0.063	(0.129)	0.581
63	5.25	3.90	0.698	0.063	(0.140)	0.635
64	5.33	4.20	0.752	0.063	(0.150)	0.689
65	5.42	4.70	0.841	0.063	(0.168)	0.778
66	5.50	5.60	1.002	0.063	(0.200)	0.939
67	5.58	1.90	0.340	0.063	(0.068)	0.277
68	5.67	0.90	0.161	(0.063)	0.032	0.129

```
69   5.75     0.60      0.107       (  0.063)       0.021        0.086
70   5.83     0.50      0.089       (  0.063)       0.018        0.072
71   5.92     0.30      0.054       (  0.063)       0.011        0.043
72   6.00     0.20      0.036       (  0.063)       0.007        0.029
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    15.0
    Flood volume = Effective rainfall      1.25(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.24(In)
    Total soil loss =     0.007(Ac.Ft)
    Total rainfall =      1.49(In)
    Flood volume =        1508.3 Cubic Feet
    Total soil loss =         289.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.303(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.02  Q         |         |         |         |
  0+10       0.0003      0.03  Q         |         |         |         |
  0+15       0.0005      0.03  Q         |         |         |         |
  0+20       0.0007      0.03  Q         |         |         |         |
  0+25       0.0009      0.03  QV        |         |         |         |
  0+30       0.0011      0.03  QV        |         |         |         |
  0+35       0.0014      0.03  QV        |         |         |         |
  0+40       0.0016      0.03  QV        |         |         |         |
  0+45       0.0018      0.03  Q V       |         |         |         |
  0+50       0.0021      0.03  Q V       |         |         |         |
  0+55       0.0023      0.03  Q V       |         |         |         |
  1+ 0       0.0026      0.04  Q V       |         |         |         |
  1+ 5       0.0028      0.04  Q  V      |         |         |         |
  1+10       0.0031      0.04  Q  V      |         |         |         |
  1+15       0.0033      0.04  Q  V      |         |         |         |
  1+20       0.0036      0.04  Q   V     |         |         |         |
  1+25       0.0039      0.04  Q   V     |         |         |         |
  1+30       0.0041      0.04  Q   V     |         |         |         |
  1+35       0.0044      0.04  Q    V    |         |         |         |
  1+40       0.0047      0.04  Q    V    |         |         |         |
  1+45       0.0049      0.04  Q    V    |         |         |         |
  1+50       0.0052      0.04  Q     V   |         |         |         |
  1+55       0.0055      0.04  Q     V   |         |         |         |
  2+ 0       0.0057      0.04  Q     V   |         |         |         |
  2+ 5       0.0060      0.04  Q     V   |         |         |         |
  2+10       0.0063      0.04  Q      V  |         |         |         |
  2+15       0.0066      0.04  Q      V  |         |         |         |
  2+20       0.0069      0.04  Q      V  |         |         |         |
  2+25       0.0072      0.04  Q       V |         |         |         |
  2+30       0.0075      0.04  Q       V |         |         |         |
  2+35       0.0078      0.04  Q        V|         |         |         |
  2+40       0.0081      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 06/03/26 File: 19267p010F610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	0.95	0.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.38	2.26	0.86

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.382	75.00	0.880

Total Area Entered = 0.38(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1040.009	100.000	0.385
		Sum = 100.000	Sum=	0.385

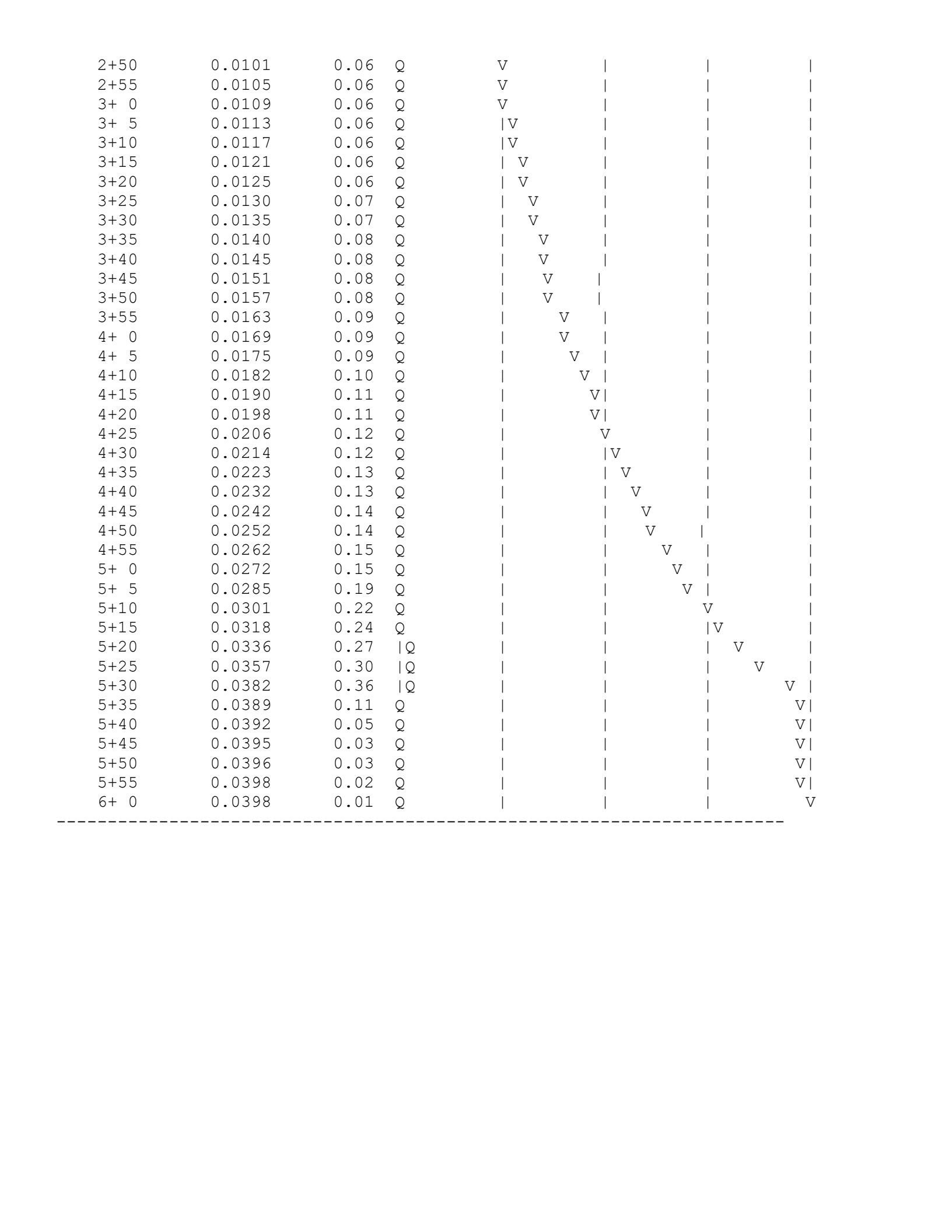
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.063)	0.018	0.072
2	0.17	0.60	0.107	(0.063)	0.021	0.086
3	0.25	0.60	0.107	(0.063)	0.021	0.086
4	0.33	0.60	0.107	(0.063)	0.021	0.086
5	0.42	0.60	0.107	(0.063)	0.021	0.086
6	0.50	0.70	0.125	(0.063)	0.025	0.100
7	0.58	0.70	0.125	(0.063)	0.025	0.100
8	0.67	0.70	0.125	(0.063)	0.025	0.100
9	0.75	0.70	0.125	(0.063)	0.025	0.100
10	0.83	0.70	0.125	(0.063)	0.025	0.100
11	0.92	0.70	0.125	(0.063)	0.025	0.100
12	1.00	0.80	0.143	(0.063)	0.029	0.115

13	1.08	0.80	0.143	(0.063)	0.029	0.115
14	1.17	0.80	0.143	(0.063)	0.029	0.115
15	1.25	0.80	0.143	(0.063)	0.029	0.115
16	1.33	0.80	0.143	(0.063)	0.029	0.115
17	1.42	0.80	0.143	(0.063)	0.029	0.115
18	1.50	0.80	0.143	(0.063)	0.029	0.115
19	1.58	0.80	0.143	(0.063)	0.029	0.115
20	1.67	0.80	0.143	(0.063)	0.029	0.115
21	1.75	0.80	0.143	(0.063)	0.029	0.115
22	1.83	0.80	0.143	(0.063)	0.029	0.115
23	1.92	0.80	0.143	(0.063)	0.029	0.115
24	2.00	0.90	0.161	(0.063)	0.032	0.129
25	2.08	0.80	0.143	(0.063)	0.029	0.115
26	2.17	0.90	0.161	(0.063)	0.032	0.129
27	2.25	0.90	0.161	(0.063)	0.032	0.129
28	2.33	0.90	0.161	(0.063)	0.032	0.129
29	2.42	0.90	0.161	(0.063)	0.032	0.129
30	2.50	0.90	0.161	(0.063)	0.032	0.129
31	2.58	0.90	0.161	(0.063)	0.032	0.129
32	2.67	0.90	0.161	(0.063)	0.032	0.129
33	2.75	1.00	0.179	(0.063)	0.036	0.143
34	2.83	1.00	0.179	(0.063)	0.036	0.143
35	2.92	1.00	0.179	(0.063)	0.036	0.143
36	3.00	1.00	0.179	(0.063)	0.036	0.143
37	3.08	1.00	0.179	(0.063)	0.036	0.143
38	3.17	1.10	0.197	(0.063)	0.039	0.157
39	3.25	1.10	0.197	(0.063)	0.039	0.157
40	3.33	1.10	0.197	(0.063)	0.039	0.157
41	3.42	1.20	0.215	(0.063)	0.043	0.172
42	3.50	1.30	0.233	(0.063)	0.047	0.186
43	3.58	1.40	0.251	(0.063)	0.050	0.200
44	3.67	1.40	0.251	(0.063)	0.050	0.200
45	3.75	1.50	0.268	(0.063)	0.054	0.215
46	3.83	1.50	0.268	(0.063)	0.054	0.215
47	3.92	1.60	0.286	(0.063)	0.057	0.229
48	4.00	1.60	0.286	(0.063)	0.057	0.229
49	4.08	1.70	0.304	(0.063)	0.061	0.243
50	4.17	1.80	0.322	0.063	(0.064)	0.259
51	4.25	1.90	0.340	0.063	(0.068)	0.277
52	4.33	2.00	0.358	0.063	(0.072)	0.295
53	4.42	2.10	0.376	0.063	(0.075)	0.313
54	4.50	2.10	0.376	0.063	(0.075)	0.313
55	4.58	2.20	0.394	0.063	(0.079)	0.331
56	4.67	2.30	0.412	0.063	(0.082)	0.349
57	4.75	2.40	0.429	0.063	(0.086)	0.366
58	4.83	2.40	0.429	0.063	(0.086)	0.366
59	4.92	2.50	0.447	0.063	(0.089)	0.384
60	5.00	2.60	0.465	0.063	(0.093)	0.402
61	5.08	3.10	0.555	0.063	(0.111)	0.492
62	5.17	3.60	0.644	0.063	(0.129)	0.581
63	5.25	3.90	0.698	0.063	(0.140)	0.635
64	5.33	4.20	0.752	0.063	(0.150)	0.689
65	5.42	4.70	0.841	0.063	(0.168)	0.778
66	5.50	5.60	1.002	0.063	(0.200)	0.939
67	5.58	1.90	0.340	0.063	(0.068)	0.277
68	5.67	0.90	0.161	(0.063)	0.032	0.129
69	5.75	0.60	0.107	(0.063)	0.021	0.086

```
70   5.83     0.50      0.089       (  0.063)       0.018        0.072
71   5.92     0.30      0.054       (  0.063)       0.011        0.043
72   6.00     0.20      0.036       (  0.063)       0.007        0.029
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    15.0
    Flood volume = Effective rainfall      1.25(In)
     times area       0.4(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.24(In)
    Total soil loss =     0.008(Ac.Ft)
    Total rainfall =      1.49(In)
    Flood volume =        1735.4 Cubic Feet
    Total soil loss =         332.5 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.362(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.03  Q         |         |         |         |
  0+10       0.0004      0.03  Q         |         |         |         |
  0+15       0.0006      0.03  Q         |         |         |         |
  0+20       0.0009      0.03  Q         |         |         |         |
  0+25       0.0011      0.03  QV        |         |         |         |
  0+30       0.0014      0.04  QV        |         |         |         |
  0+35       0.0016      0.04  QV        |         |         |         |
  0+40       0.0019      0.04  QV        |         |         |         |
  0+45       0.0022      0.04  Q V       |         |         |         |
  0+50       0.0024      0.04  Q V       |         |         |         |
  0+55       0.0027      0.04  Q V       |         |         |         |
  1+ 0       0.0030      0.04  Q  V      |         |         |         |
  1+ 5       0.0033      0.04  Q  V      |         |         |         |
  1+10       0.0036      0.04  Q  V      |         |         |         |
  1+15       0.0039      0.04  Q  V      |         |         |         |
  1+20       0.0042      0.04  Q   V     |         |         |         |
  1+25       0.0045      0.04  Q   V     |         |         |         |
  1+30       0.0048      0.04  Q   V     |         |         |         |
  1+35       0.0051      0.04  Q    V    |         |         |         |
  1+40       0.0054      0.04  Q    V    |         |         |         |
  1+45       0.0057      0.04  Q    V    |         |         |         |
  1+50       0.0060      0.04  Q     V   |         |         |         |
  1+55       0.0063      0.04  Q     V   |         |         |         |
  2+ 0       0.0067      0.05  Q     V   |         |         |         |
  2+ 5       0.0070      0.04  Q      V  |         |         |         |
  2+10       0.0073      0.05  Q      V  |         |         |         |
  2+15       0.0077      0.05  Q      V  |         |         |         |
  2+20       0.0080      0.05  Q       V |         |         |         |
  2+25       0.0084      0.05  Q       V |         |         |         |
  2+30       0.0087      0.05  Q       V |         |         |         |
  2+35       0.0090      0.05  Q        V|         |         |         |
  2+40       0.0094      0.05  Q        V|         |         |         |
  2+45       0.0098      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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Study date 06/03/26 File: 19267p010GH610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 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]
1.11	0.95	1.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	2.26	2.50

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.105	75.00	0.840

Total Area Entered = 1.11(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.840	0.074	1.000	0.074
					Sum (F) =	0.074

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1261.013	100.000	1.114
		Sum =	100.000	Sum= 1.114

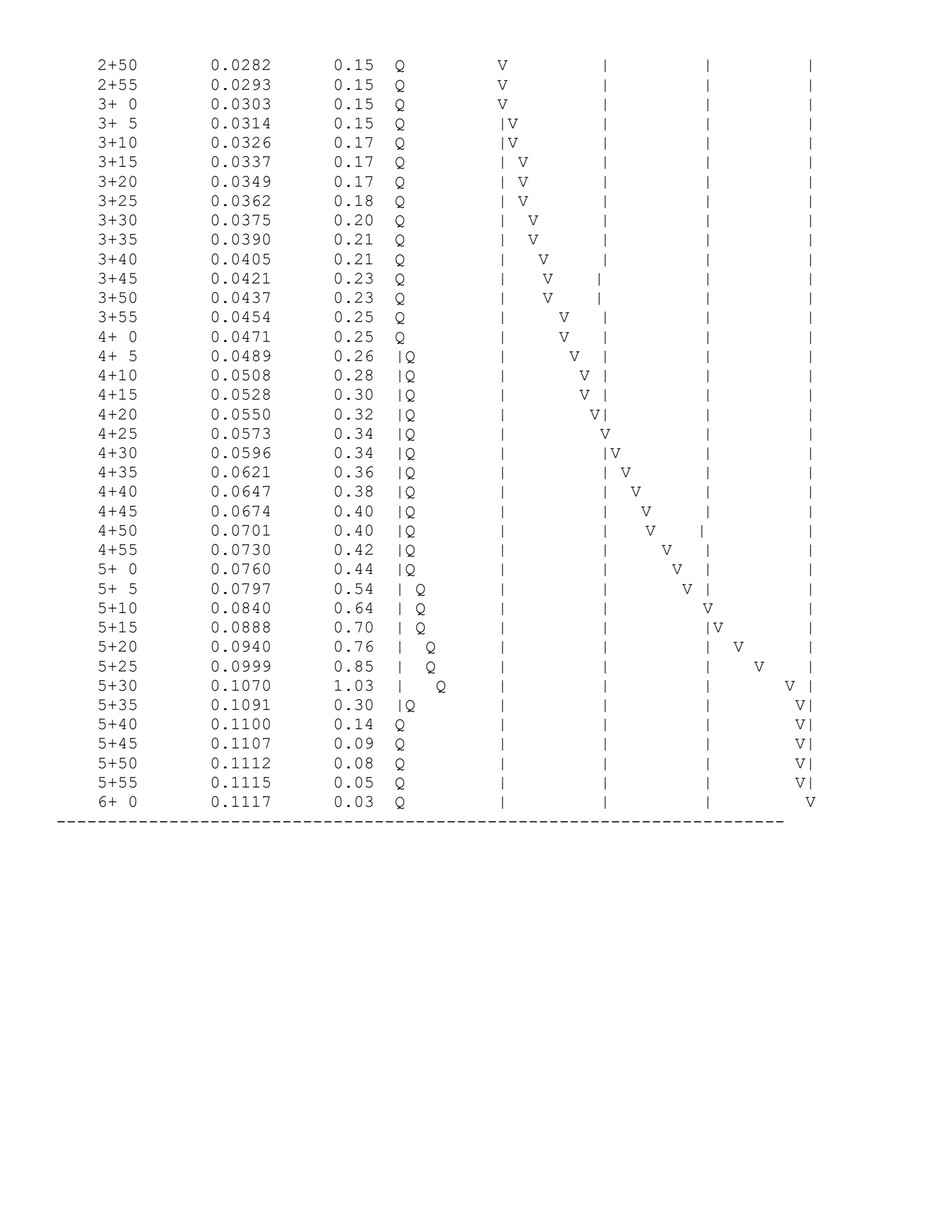
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.074)	0.021	0.069
2	0.17	0.60	0.107	(0.074)	0.025	0.083
3	0.25	0.60	0.107	(0.074)	0.025	0.083
4	0.33	0.60	0.107	(0.074)	0.025	0.083
5	0.42	0.60	0.107	(0.074)	0.025	0.083
6	0.50	0.70	0.125	(0.074)	0.029	0.096
7	0.58	0.70	0.125	(0.074)	0.029	0.096
8	0.67	0.70	0.125	(0.074)	0.029	0.096
9	0.75	0.70	0.125	(0.074)	0.029	0.096
10	0.83	0.70	0.125	(0.074)	0.029	0.096
11	0.92	0.70	0.125	(0.074)	0.029	0.096
12	1.00	0.80	0.143	(0.074)	0.033	0.110

13	1.08	0.80	0.143	(0.074)	0.033	0.110
14	1.17	0.80	0.143	(0.074)	0.033	0.110
15	1.25	0.80	0.143	(0.074)	0.033	0.110
16	1.33	0.80	0.143	(0.074)	0.033	0.110
17	1.42	0.80	0.143	(0.074)	0.033	0.110
18	1.50	0.80	0.143	(0.074)	0.033	0.110
19	1.58	0.80	0.143	(0.074)	0.033	0.110
20	1.67	0.80	0.143	(0.074)	0.033	0.110
21	1.75	0.80	0.143	(0.074)	0.033	0.110
22	1.83	0.80	0.143	(0.074)	0.033	0.110
23	1.92	0.80	0.143	(0.074)	0.033	0.110
24	2.00	0.90	0.161	(0.074)	0.037	0.124
25	2.08	0.80	0.143	(0.074)	0.033	0.110
26	2.17	0.90	0.161	(0.074)	0.037	0.124
27	2.25	0.90	0.161	(0.074)	0.037	0.124
28	2.33	0.90	0.161	(0.074)	0.037	0.124
29	2.42	0.90	0.161	(0.074)	0.037	0.124
30	2.50	0.90	0.161	(0.074)	0.037	0.124
31	2.58	0.90	0.161	(0.074)	0.037	0.124
32	2.67	0.90	0.161	(0.074)	0.037	0.124
33	2.75	1.00	0.179	(0.074)	0.041	0.138
34	2.83	1.00	0.179	(0.074)	0.041	0.138
35	2.92	1.00	0.179	(0.074)	0.041	0.138
36	3.00	1.00	0.179	(0.074)	0.041	0.138
37	3.08	1.00	0.179	(0.074)	0.041	0.138
38	3.17	1.10	0.197	(0.074)	0.045	0.152
39	3.25	1.10	0.197	(0.074)	0.045	0.152
40	3.33	1.10	0.197	(0.074)	0.045	0.152
41	3.42	1.20	0.215	(0.074)	0.049	0.165
42	3.50	1.30	0.233	(0.074)	0.054	0.179
43	3.58	1.40	0.251	(0.074)	0.058	0.193
44	3.67	1.40	0.251	(0.074)	0.058	0.193
45	3.75	1.50	0.268	(0.074)	0.062	0.207
46	3.83	1.50	0.268	(0.074)	0.062	0.207
47	3.92	1.60	0.286	(0.074)	0.066	0.220
48	4.00	1.60	0.286	(0.074)	0.066	0.220
49	4.08	1.70	0.304	(0.074)	0.070	0.234
50	4.17	1.80	0.322	0.074	(0.074)	0.248
51	4.25	1.90	0.340	0.074	(0.078)	0.266
52	4.33	2.00	0.358	0.074	(0.082)	0.284
53	4.42	2.10	0.376	0.074	(0.086)	0.302
54	4.50	2.10	0.376	0.074	(0.086)	0.302
55	4.58	2.20	0.394	0.074	(0.091)	0.320
56	4.67	2.30	0.412	0.074	(0.095)	0.338
57	4.75	2.40	0.429	0.074	(0.099)	0.356
58	4.83	2.40	0.429	0.074	(0.099)	0.356
59	4.92	2.50	0.447	0.074	(0.103)	0.373
60	5.00	2.60	0.465	0.074	(0.107)	0.391
61	5.08	3.10	0.555	0.074	(0.128)	0.481
62	5.17	3.60	0.644	0.074	(0.148)	0.570
63	5.25	3.90	0.698	0.074	(0.161)	0.624
64	5.33	4.20	0.752	0.074	(0.173)	0.678
65	5.42	4.70	0.841	0.074	(0.193)	0.767
66	5.50	5.60	1.002	0.074	(0.230)	0.928
67	5.58	1.90	0.340	0.074	(0.078)	0.266
68	5.67	0.90	0.161	(0.074)	0.037	0.124
69	5.75	0.60	0.107	(0.074)	0.025	0.083

```
70   5.83     0.50      0.089       (  0.074)       0.021        0.069
71   5.92     0.30      0.054       (  0.074)       0.012        0.041
72   6.00     0.20      0.036       (  0.074)       0.008        0.028
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    14.6
    Flood volume = Effective rainfall      1.21(In)
     times area       1.1(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.28(In)
    Total soil loss =     0.026(Ac.Ft)
    Total rainfall =      1.49(In)
    Flood volume =        4867.0 Cubic Feet
    Total soil loss =        1114.9 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.034(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       0.0005      0.08  Q         |         |         |         |
  0+10       0.0012      0.09  Q         |         |         |         |
  0+15       0.0018      0.09  Q         |         |         |         |
  0+20       0.0024      0.09  Q         |         |         |         |
  0+25       0.0031      0.09  QV        |         |         |         |
  0+30       0.0038      0.11  QV        |         |         |         |
  0+35       0.0045      0.11  QV        |         |         |         |
  0+40       0.0053      0.11  QV        |         |         |         |
  0+45       0.0060      0.11  Q V       |         |         |         |
  0+50       0.0068      0.11  Q V       |         |         |         |
  0+55       0.0075      0.11  Q V       |         |         |         |
  1+ 0       0.0084      0.12  Q V       |         |         |         |
  1+ 5       0.0092      0.12  Q  V      |         |         |         |
  1+10       0.0100      0.12  Q  V      |         |         |         |
  1+15       0.0109      0.12  Q  V      |         |         |         |
  1+20       0.0117      0.12  Q   V     |         |         |         |
  1+25       0.0126      0.12  Q   V     |         |         |         |
  1+30       0.0134      0.12  Q   V     |         |         |         |
  1+35       0.0143      0.12  Q    V    |         |         |         |
  1+40       0.0151      0.12  Q    V    |         |         |         |
  1+45       0.0160      0.12  Q    V    |         |         |         |
  1+50       0.0168      0.12  Q     V   |         |         |         |
  1+55       0.0177      0.12  Q     V   |         |         |         |
  2+ 0       0.0186      0.14  Q     V   |         |         |         |
  2+ 5       0.0195      0.12  Q     V   |         |         |         |
  2+10       0.0204      0.14  Q      V  |         |         |         |
  2+15       0.0214      0.14  Q      V  |         |         |         |
  2+20       0.0223      0.14  Q      V  |         |         |         |
  2+25       0.0233      0.14  Q       V |         |         |         |
  2+30       0.0242      0.14  Q       V |         |         |         |
  2+35       0.0252      0.14  Q        V|         |         |         |
  2+40       0.0261      0.14  Q        V|         |         |         |
  2+45       0.0272      0.15  Q        V|         |         |         |
```



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

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Study date 06/03/26 File: 19267p010I610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	0.95	0.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.90	2.26	2.03

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.830	0.077	1.000	0.077
					Sum (F) =	0.077

Area averaged mean soil loss (F) (In/Hr) = 0.077
Minimum soil loss rate ((In/Hr)) = 0.038
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
		Sum = 100.000	Sum=	0.907

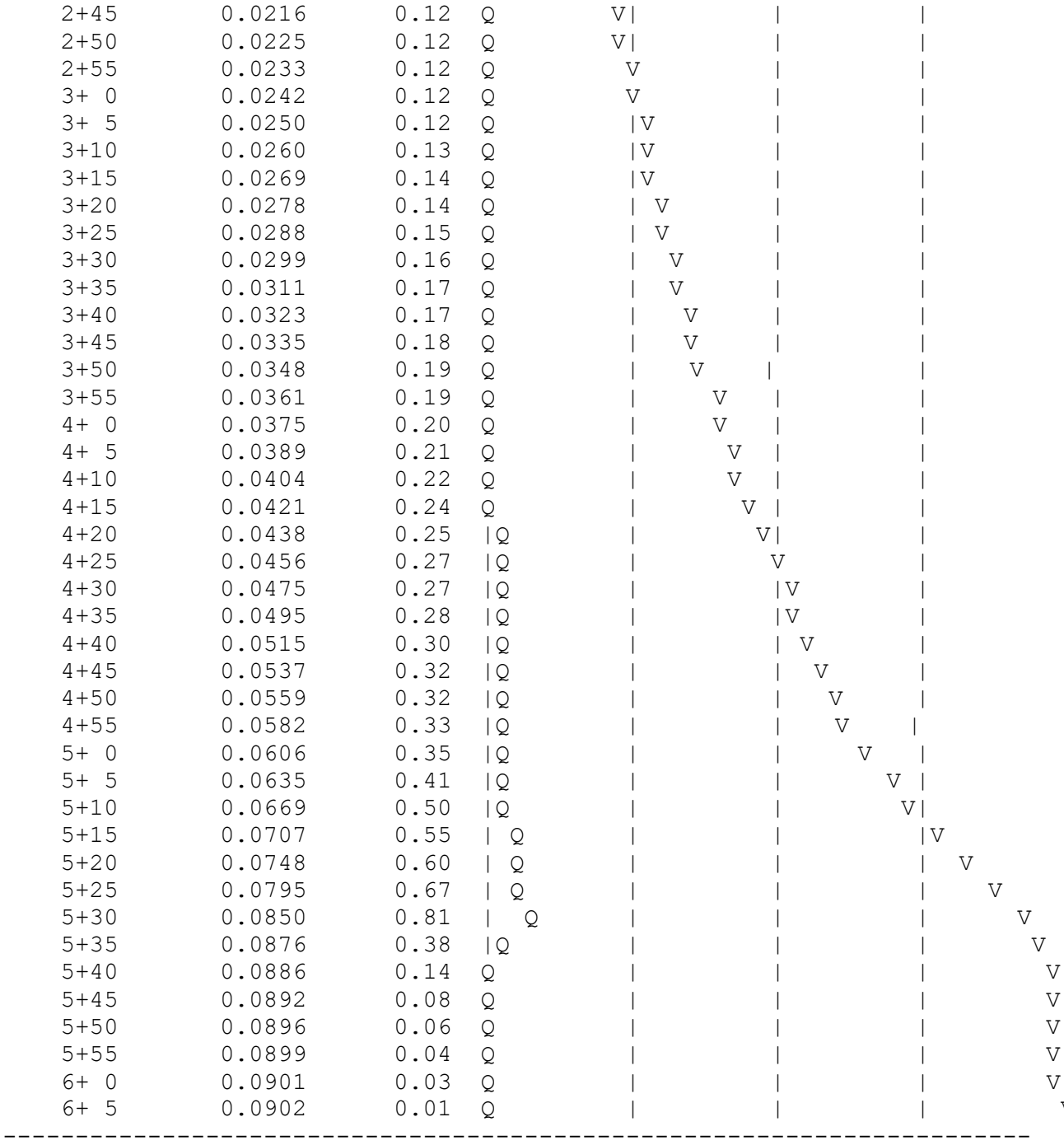
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.077)	0.021	0.068
2	0.17	0.60	0.107	(0.077)	0.026	0.082
3	0.25	0.60	0.107	(0.077)	0.026	0.082
4	0.33	0.60	0.107	(0.077)	0.026	0.082
5	0.42	0.60	0.107	(0.077)	0.026	0.082
6	0.50	0.70	0.125	(0.077)	0.030	0.095
7	0.58	0.70	0.125	(0.077)	0.030	0.095
8	0.67	0.70	0.125	(0.077)	0.030	0.095
9	0.75	0.70	0.125	(0.077)	0.030	0.095
10	0.83	0.70	0.125	(0.077)	0.030	0.095
11	0.92	0.70	0.125	(0.077)	0.030	0.095

12	1.00	0.80	0.143	(0.077)	0.034	0.109
13	1.08	0.80	0.143	(0.077)	0.034	0.109
14	1.17	0.80	0.143	(0.077)	0.034	0.109
15	1.25	0.80	0.143	(0.077)	0.034	0.109
16	1.33	0.80	0.143	(0.077)	0.034	0.109
17	1.42	0.80	0.143	(0.077)	0.034	0.109
18	1.50	0.80	0.143	(0.077)	0.034	0.109
19	1.58	0.80	0.143	(0.077)	0.034	0.109
20	1.67	0.80	0.143	(0.077)	0.034	0.109
21	1.75	0.80	0.143	(0.077)	0.034	0.109
22	1.83	0.80	0.143	(0.077)	0.034	0.109
23	1.92	0.80	0.143	(0.077)	0.034	0.109
24	2.00	0.90	0.161	(0.077)	0.039	0.122
25	2.08	0.80	0.143	(0.077)	0.034	0.109
26	2.17	0.90	0.161	(0.077)	0.039	0.122
27	2.25	0.90	0.161	(0.077)	0.039	0.122
28	2.33	0.90	0.161	(0.077)	0.039	0.122
29	2.42	0.90	0.161	(0.077)	0.039	0.122
30	2.50	0.90	0.161	(0.077)	0.039	0.122
31	2.58	0.90	0.161	(0.077)	0.039	0.122
32	2.67	0.90	0.161	(0.077)	0.039	0.122
33	2.75	1.00	0.179	(0.077)	0.043	0.136
34	2.83	1.00	0.179	(0.077)	0.043	0.136
35	2.92	1.00	0.179	(0.077)	0.043	0.136
36	3.00	1.00	0.179	(0.077)	0.043	0.136
37	3.08	1.00	0.179	(0.077)	0.043	0.136
38	3.17	1.10	0.197	(0.077)	0.047	0.150
39	3.25	1.10	0.197	(0.077)	0.047	0.150
40	3.33	1.10	0.197	(0.077)	0.047	0.150
41	3.42	1.20	0.215	(0.077)	0.052	0.163
42	3.50	1.30	0.233	(0.077)	0.056	0.177
43	3.58	1.40	0.251	(0.077)	0.060	0.190
44	3.67	1.40	0.251	(0.077)	0.060	0.190
45	3.75	1.50	0.268	(0.077)	0.064	0.204
46	3.83	1.50	0.268	(0.077)	0.064	0.204
47	3.92	1.60	0.286	(0.077)	0.069	0.218
48	4.00	1.60	0.286	(0.077)	0.069	0.218
49	4.08	1.70	0.304	(0.077)	0.073	0.231
50	4.17	1.80	0.322	0.077	(0.077)	0.245
51	4.25	1.90	0.340	0.077	(0.082)	0.263
52	4.33	2.00	0.358	0.077	(0.086)	0.281
53	4.42	2.10	0.376	0.077	(0.090)	0.299
54	4.50	2.10	0.376	0.077	(0.090)	0.299
55	4.58	2.20	0.394	0.077	(0.094)	0.317
56	4.67	2.30	0.412	0.077	(0.099)	0.335
57	4.75	2.40	0.429	0.077	(0.103)	0.353
58	4.83	2.40	0.429	0.077	(0.103)	0.353
59	4.92	2.50	0.447	0.077	(0.107)	0.371
60	5.00	2.60	0.465	0.077	(0.112)	0.389
61	5.08	3.10	0.555	0.077	(0.133)	0.478
62	5.17	3.60	0.644	0.077	(0.155)	0.568
63	5.25	3.90	0.698	0.077	(0.168)	0.621
64	5.33	4.20	0.752	0.077	(0.180)	0.675
65	5.42	4.70	0.841	0.077	(0.202)	0.764
66	5.50	5.60	1.002	0.077	(0.241)	0.925
67	5.58	1.90	0.340	0.077	(0.082)	0.263
68	5.67	0.90	0.161	(0.077)	0.039	0.122

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69   5.75     0.60      0.107       (  0.077)       0.026        0.082
70   5.83     0.50      0.089       (  0.077)       0.021        0.068
71   5.92     0.30      0.054       (  0.077)       0.013        0.041
72   6.00     0.20      0.036       (  0.077)       0.009        0.027
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    14.4
    Flood volume = Effective rainfall      1.20(In)
     times area       0.9(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.29(In)
    Total soil loss =     0.022(Ac.Ft)
    Total rainfall =      1.49(In)
    Flood volume =        3926.9 Cubic Feet
    Total soil loss =         945.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.805(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       0.0003      0.05  Q         |         |         |         |
  0+10       0.0008      0.07  Q         |         |         |         |
  0+15       0.0013      0.07  Q         |         |         |         |
  0+20       0.0018      0.07  Q         |         |         |         |
  0+25       0.0023      0.07  QV        |         |         |         |
  0+30       0.0029      0.08  QV        |         |         |         |
  0+35       0.0035      0.09  QV        |         |         |         |
  0+40       0.0041      0.09  QV        |         |         |         |
  0+45       0.0047      0.09  Q V       |         |         |         |
  0+50       0.0053      0.09  Q V       |         |         |         |
  0+55       0.0059      0.09  Q V       |         |         |         |
  1+ 0       0.0066      0.10  Q V       |         |         |         |
  1+ 5       0.0072      0.10  Q  V      |         |         |         |
  1+10       0.0079      0.10  Q  V      |         |         |         |
  1+15       0.0086      0.10  Q  V      |         |         |         |
  1+20       0.0093      0.10  Q   V     |         |         |         |
  1+25       0.0100      0.10  Q   V     |         |         |         |
  1+30       0.0106      0.10  Q   V     |         |         |         |
  1+35       0.0113      0.10  Q    V    |         |         |         |
  1+40       0.0120      0.10  Q    V    |         |         |         |
  1+45       0.0127      0.10  Q    V    |         |         |         |
  1+50       0.0134      0.10  Q    V    |         |         |         |
  1+55       0.0140      0.10  Q     V   |         |         |         |
  2+ 0       0.0148      0.11  Q     V   |         |         |         |
  2+ 5       0.0155      0.10  Q     V   |         |         |         |
  2+10       0.0162      0.11  Q      V  |         |         |         |
  2+15       0.0170      0.11  Q      V  |         |         |         |
  2+20       0.0178      0.11  Q      V  |         |         |         |
  2+25       0.0185      0.11  Q       V |         |         |         |
  2+30       0.0193      0.11  Q       V |         |         |         |
  2+35       0.0201      0.11  Q       V |         |         |         |
  2+40       0.0208      0.11  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 06/03/26 File: 19267p010J610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	0.95	0.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.34	2.26	0.77

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.340	75.00	0.860

Total Area Entered = 0.34(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.860	0.068	1.000	0.068
					Sum (F) =	0.068

Area averaged mean soil loss (F) (In/Hr) = 0.068
Minimum soil loss rate ((In/Hr)) = 0.034
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.210

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1304.735	100.000	0.343
		Sum = 100.000	Sum= 0.343

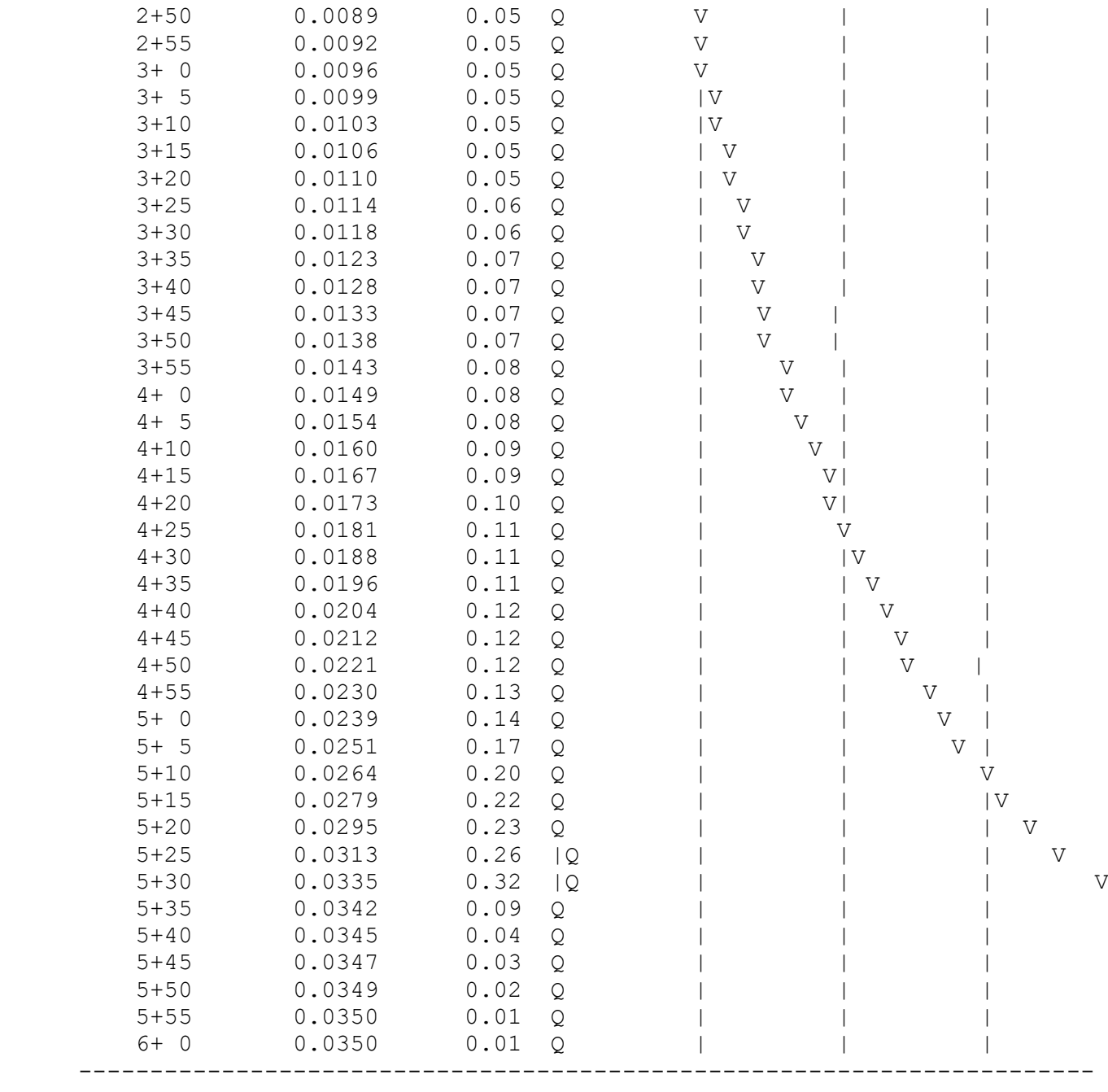
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.068)	0.019	0.071
2	0.17	0.60	0.107	(0.068)	0.023	0.085
3	0.25	0.60	0.107	(0.068)	0.023	0.085
4	0.33	0.60	0.107	(0.068)	0.023	0.085
5	0.42	0.60	0.107	(0.068)	0.023	0.085
6	0.50	0.70	0.125	(0.068)	0.026	0.099
7	0.58	0.70	0.125	(0.068)	0.026	0.099
8	0.67	0.70	0.125	(0.068)	0.026	0.099
9	0.75	0.70	0.125	(0.068)	0.026	0.099
10	0.83	0.70	0.125	(0.068)	0.026	0.099
11	0.92	0.70	0.125	(0.068)	0.026	0.099
12	1.00	0.80	0.143	(0.068)	0.030	0.113

13	1.08	0.80	0.143	(0.068)	0.030	0.113
14	1.17	0.80	0.143	(0.068)	0.030	0.113
15	1.25	0.80	0.143	(0.068)	0.030	0.113
16	1.33	0.80	0.143	(0.068)	0.030	0.113
17	1.42	0.80	0.143	(0.068)	0.030	0.113
18	1.50	0.80	0.143	(0.068)	0.030	0.113
19	1.58	0.80	0.143	(0.068)	0.030	0.113
20	1.67	0.80	0.143	(0.068)	0.030	0.113
21	1.75	0.80	0.143	(0.068)	0.030	0.113
22	1.83	0.80	0.143	(0.068)	0.030	0.113
23	1.92	0.80	0.143	(0.068)	0.030	0.113
24	2.00	0.90	0.161	(0.068)	0.034	0.127
25	2.08	0.80	0.143	(0.068)	0.030	0.113
26	2.17	0.90	0.161	(0.068)	0.034	0.127
27	2.25	0.90	0.161	(0.068)	0.034	0.127
28	2.33	0.90	0.161	(0.068)	0.034	0.127
29	2.42	0.90	0.161	(0.068)	0.034	0.127
30	2.50	0.90	0.161	(0.068)	0.034	0.127
31	2.58	0.90	0.161	(0.068)	0.034	0.127
32	2.67	0.90	0.161	(0.068)	0.034	0.127
33	2.75	1.00	0.179	(0.068)	0.038	0.141
34	2.83	1.00	0.179	(0.068)	0.038	0.141
35	2.92	1.00	0.179	(0.068)	0.038	0.141
36	3.00	1.00	0.179	(0.068)	0.038	0.141
37	3.08	1.00	0.179	(0.068)	0.038	0.141
38	3.17	1.10	0.197	(0.068)	0.041	0.156
39	3.25	1.10	0.197	(0.068)	0.041	0.156
40	3.33	1.10	0.197	(0.068)	0.041	0.156
41	3.42	1.20	0.215	(0.068)	0.045	0.170
42	3.50	1.30	0.233	(0.068)	0.049	0.184
43	3.58	1.40	0.251	(0.068)	0.053	0.198
44	3.67	1.40	0.251	(0.068)	0.053	0.198
45	3.75	1.50	0.268	(0.068)	0.056	0.212
46	3.83	1.50	0.268	(0.068)	0.056	0.212
47	3.92	1.60	0.286	(0.068)	0.060	0.226
48	4.00	1.60	0.286	(0.068)	0.060	0.226
49	4.08	1.70	0.304	(0.068)	0.064	0.240
50	4.17	1.80	0.322	(0.068)	0.068	0.254
51	4.25	1.90	0.340	0.068	(0.071)	0.272
52	4.33	2.00	0.358	0.068	(0.075)	0.289
53	4.42	2.10	0.376	0.068	(0.079)	0.307
54	4.50	2.10	0.376	0.068	(0.079)	0.307
55	4.58	2.20	0.394	0.068	(0.083)	0.325
56	4.67	2.30	0.412	0.068	(0.086)	0.343
57	4.75	2.40	0.429	0.068	(0.090)	0.361
58	4.83	2.40	0.429	0.068	(0.090)	0.361
59	4.92	2.50	0.447	0.068	(0.094)	0.379
60	5.00	2.60	0.465	0.068	(0.098)	0.397
61	5.08	3.10	0.555	0.068	(0.117)	0.486
62	5.17	3.60	0.644	0.068	(0.135)	0.576
63	5.25	3.90	0.698	0.068	(0.147)	0.629
64	5.33	4.20	0.752	0.068	(0.158)	0.683
65	5.42	4.70	0.841	0.068	(0.177)	0.773
66	5.50	5.60	1.002	0.068	(0.210)	0.934
67	5.58	1.90	0.340	0.068	(0.071)	0.272
68	5.67	0.90	0.161	(0.068)	0.034	0.127
69	5.75	0.60	0.107	(0.068)	0.023	0.085

```
70   5.83     0.50      0.089       (  0.068)       0.019        0.071
71   5.92     0.30      0.054       (  0.068)       0.011        0.042
72   6.00     0.20      0.036       (  0.068)       0.008        0.028
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    14.8
    Flood volume = Effective rainfall      1.24(In)
     times area       0.3(Ac.)/[(In)/(Ft.)] =       0.0(Ac.Ft)
    Total soil loss =      0.26(In)
    Total soil loss =     0.007(Ac.Ft)
    Total rainfall =      1.49(In)
    Flood volume =        1525.6 Cubic Feet
    Total soil loss =         314.9 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      0.320(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.02  Q         |         |         |         |
  0+10       0.0004      0.03  Q         |         |         |         |
  0+15       0.0006      0.03  Q         |         |         |         |
  0+20       0.0008      0.03  Q         |         |         |         |
  0+25       0.0010      0.03  QV        |         |         |         |
  0+30       0.0012      0.03  QV        |         |         |         |
  0+35       0.0014      0.03  QV        |         |         |         |
  0+40       0.0017      0.03  QV        |         |         |         |
  0+45       0.0019      0.03  Q V       |         |         |         |
  0+50       0.0021      0.03  Q V       |         |         |         |
  0+55       0.0024      0.03  Q V       |         |         |         |
  1+ 0       0.0026      0.04  Q  V      |         |         |         |
  1+ 5       0.0029      0.04  Q  V      |         |         |         |
  1+10       0.0032      0.04  Q  V      |         |         |         |
  1+15       0.0034      0.04  Q  V      |         |         |         |
  1+20       0.0037      0.04  Q   V     |         |         |         |
  1+25       0.0040      0.04  Q   V     |         |         |         |
  1+30       0.0042      0.04  Q   V     |         |         |         |
  1+35       0.0045      0.04  Q    V    |         |         |         |
  1+40       0.0048      0.04  Q    V    |         |         |         |
  1+45       0.0050      0.04  Q    V    |         |         |         |
  1+50       0.0053      0.04  Q     V   |         |         |         |
  1+55       0.0056      0.04  Q     V   |         |         |         |
  2+ 0       0.0059      0.04  Q     V   |         |         |         |
  2+ 5       0.0061      0.04  Q      V  |         |         |         |
  2+10       0.0064      0.04  Q      V  |         |         |         |
  2+15       0.0067      0.04  Q      V  |         |         |         |
  2+20       0.0070      0.04  Q       V |         |         |         |
  2+25       0.0073      0.04  Q       V |         |         |         |
  2+30       0.0076      0.04  Q       V |         |         |         |
  2+35       0.0079      0.04  Q        V|         |         |         |
  2+40       0.0082      0.04  Q        V|         |         |         |
  2+45       0.0086      0.05  Q        V|         |         |         |
```



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

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Study date 06/03/26 File: 19267p010S610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	0.95	0.65

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	2.26	1.55

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
			Sum = 100.000 Sum=	0.690

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

Unit Time	(Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.082)		0.022	0.067
2	0.17	0.60	0.107	(0.082)		0.027	0.081
3	0.25	0.60	0.107	(0.082)		0.027	0.081
4	0.33	0.60	0.107	(0.082)		0.027	0.081
5	0.42	0.60	0.107	(0.082)		0.027	0.081
6	0.50	0.70	0.125	(0.082)		0.031	0.094
7	0.58	0.70	0.125	(0.082)		0.031	0.094
8	0.67	0.70	0.125	(0.082)		0.031	0.094
9	0.75	0.70	0.125	(0.082)		0.031	0.094

10	0.83	0.70	0.125	(0.082)	0.031	0.094
11	0.92	0.70	0.125	(0.082)	0.031	0.094
12	1.00	0.80	0.143	(0.082)	0.036	0.107
13	1.08	0.80	0.143	(0.082)	0.036	0.107
14	1.17	0.80	0.143	(0.082)	0.036	0.107
15	1.25	0.80	0.143	(0.082)	0.036	0.107
16	1.33	0.80	0.143	(0.082)	0.036	0.107
17	1.42	0.80	0.143	(0.082)	0.036	0.107
18	1.50	0.80	0.143	(0.082)	0.036	0.107
19	1.58	0.80	0.143	(0.082)	0.036	0.107
20	1.67	0.80	0.143	(0.082)	0.036	0.107
21	1.75	0.80	0.143	(0.082)	0.036	0.107
22	1.83	0.80	0.143	(0.082)	0.036	0.107
23	1.92	0.80	0.143	(0.082)	0.036	0.107
24	2.00	0.90	0.161	(0.082)	0.040	0.121
25	2.08	0.80	0.143	(0.082)	0.036	0.107
26	2.17	0.90	0.161	(0.082)	0.040	0.121
27	2.25	0.90	0.161	(0.082)	0.040	0.121
28	2.33	0.90	0.161	(0.082)	0.040	0.121
29	2.42	0.90	0.161	(0.082)	0.040	0.121
30	2.50	0.90	0.161	(0.082)	0.040	0.121
31	2.58	0.90	0.161	(0.082)	0.040	0.121
32	2.67	0.90	0.161	(0.082)	0.040	0.121
33	2.75	1.00	0.179	(0.082)	0.045	0.134
34	2.83	1.00	0.179	(0.082)	0.045	0.134
35	2.92	1.00	0.179	(0.082)	0.045	0.134
36	3.00	1.00	0.179	(0.082)	0.045	0.134
37	3.08	1.00	0.179	(0.082)	0.045	0.134
38	3.17	1.10	0.197	(0.082)	0.049	0.148
39	3.25	1.10	0.197	(0.082)	0.049	0.148
40	3.33	1.10	0.197	(0.082)	0.049	0.148
41	3.42	1.20	0.215	(0.082)	0.054	0.161
42	3.50	1.30	0.233	(0.082)	0.058	0.174
43	3.58	1.40	0.251	(0.082)	0.063	0.188
44	3.67	1.40	0.251	(0.082)	0.063	0.188
45	3.75	1.50	0.268	(0.082)	0.067	0.201
46	3.83	1.50	0.268	(0.082)	0.067	0.201
47	3.92	1.60	0.286	(0.082)	0.072	0.215
48	4.00	1.60	0.286	(0.082)	0.072	0.215
49	4.08	1.70	0.304	(0.082)	0.076	0.228
50	4.17	1.80	0.322	(0.082)	0.081	0.242
51	4.25	1.90	0.340	0.082	(0.085)	0.258
52	4.33	2.00	0.358	0.082	(0.089)	0.276
53	4.42	2.10	0.376	0.082	(0.094)	0.294
54	4.50	2.10	0.376	0.082	(0.094)	0.294
55	4.58	2.20	0.394	0.082	(0.098)	0.312
56	4.67	2.30	0.412	0.082	(0.103)	0.329
57	4.75	2.40	0.429	0.082	(0.107)	0.347
58	4.83	2.40	0.429	0.082	(0.107)	0.347
59	4.92	2.50	0.447	0.082	(0.112)	0.365
60	5.00	2.60	0.465	0.082	(0.116)	0.383
61	5.08	3.10	0.555	0.082	(0.139)	0.473
62	5.17	3.60	0.644	0.082	(0.161)	0.562
63	5.25	3.90	0.698	0.082	(0.174)	0.616
64	5.33	4.20	0.752	0.082	(0.188)	0.669
65	5.42	4.70	0.841	0.082	(0.210)	0.759
66	5.50	5.60	1.002	0.082	(0.251)	0.920

67	5.58	1.90	0.340	0.082	(0.085)	0.258
68	5.67	0.90	0.161	(0.082)	0.040	0.121
69	5.75	0.60	0.107	(0.082)	0.027	0.081
70	5.83	0.50	0.089	(0.082)	0.022	0.067
71	5.92	0.30	0.054	(0.082)	0.013	0.040
72	6.00	0.20	0.036	(0.082)	0.009	0.027

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.2

Flood volume = Effective rainfall 1.19(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.30(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.49(In)
Flood volume = 2950.8 Cubic Feet
Total soil loss = 757.4 Cubic Feet

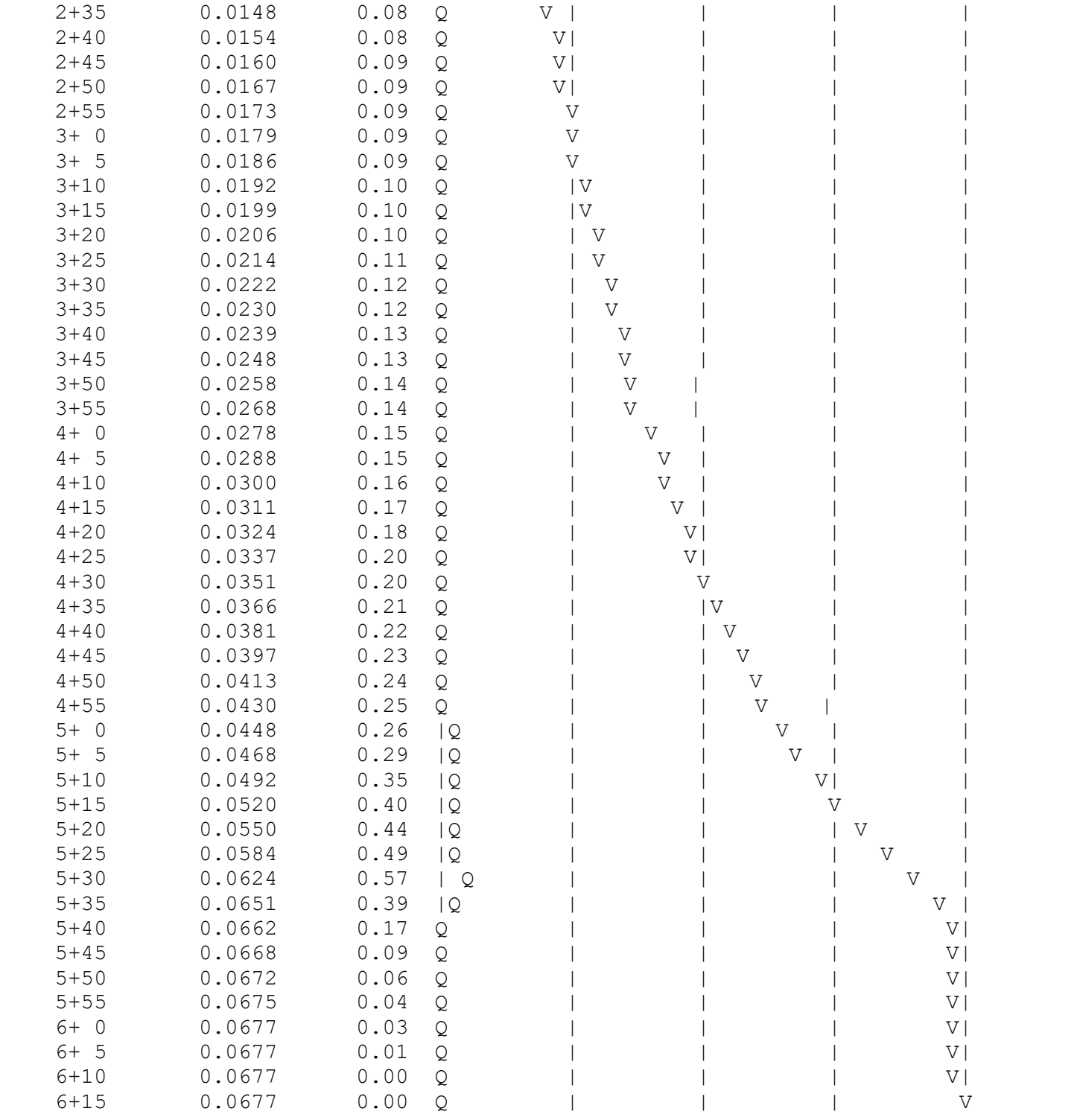
Peak flow rate of this hydrograph = 0.574(CFS)

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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	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.02	Q				
0+10	0.0005	0.05	Q				
0+15	0.0009	0.05	Q				
0+20	0.0012	0.06	Q				
0+25	0.0016	0.06	Q				
0+30	0.0020	0.06	QV				
0+35	0.0025	0.06	QV				
0+40	0.0029	0.06	QV				
0+45	0.0034	0.06	QV				
0+50	0.0038	0.06	Q V				
0+55	0.0043	0.06	Q V				
1+ 0	0.0047	0.07	Q V				
1+ 5	0.0052	0.07	Q V				
1+10	0.0058	0.07	Q V				
1+15	0.0063	0.07	Q V				
1+20	0.0068	0.07	Q V				
1+25	0.0073	0.07	Q V				
1+30	0.0078	0.07	Q V				
1+35	0.0083	0.07	Q V				
1+40	0.0088	0.07	Q V				
1+45	0.0093	0.07	Q V				
1+50	0.0098	0.07	Q V				
1+55	0.0104	0.07	Q V				
2+ 0	0.0109	0.08	Q V				
2+ 5	0.0114	0.08	Q V				
2+10	0.0120	0.08	Q V				
2+15	0.0125	0.08	Q V				
2+20	0.0131	0.08	Q V				
2+25	0.0137	0.08	Q V				
2+30	0.0143	0.08	Q V				



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

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Study date 06/03/26 File: 19267p010site610.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	0.95	9.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	2.26	21.89

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.954(In)
Area Averaged 100-Year Rainfall = 2.260(In)

Point rain (area averaged) = 1.491(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.491(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	75.00	0.840

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.840	0.074	1.000	0.074
					Sum (F) =	0.074

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	9.764
		Sum = 100.000	Sum= 9.764

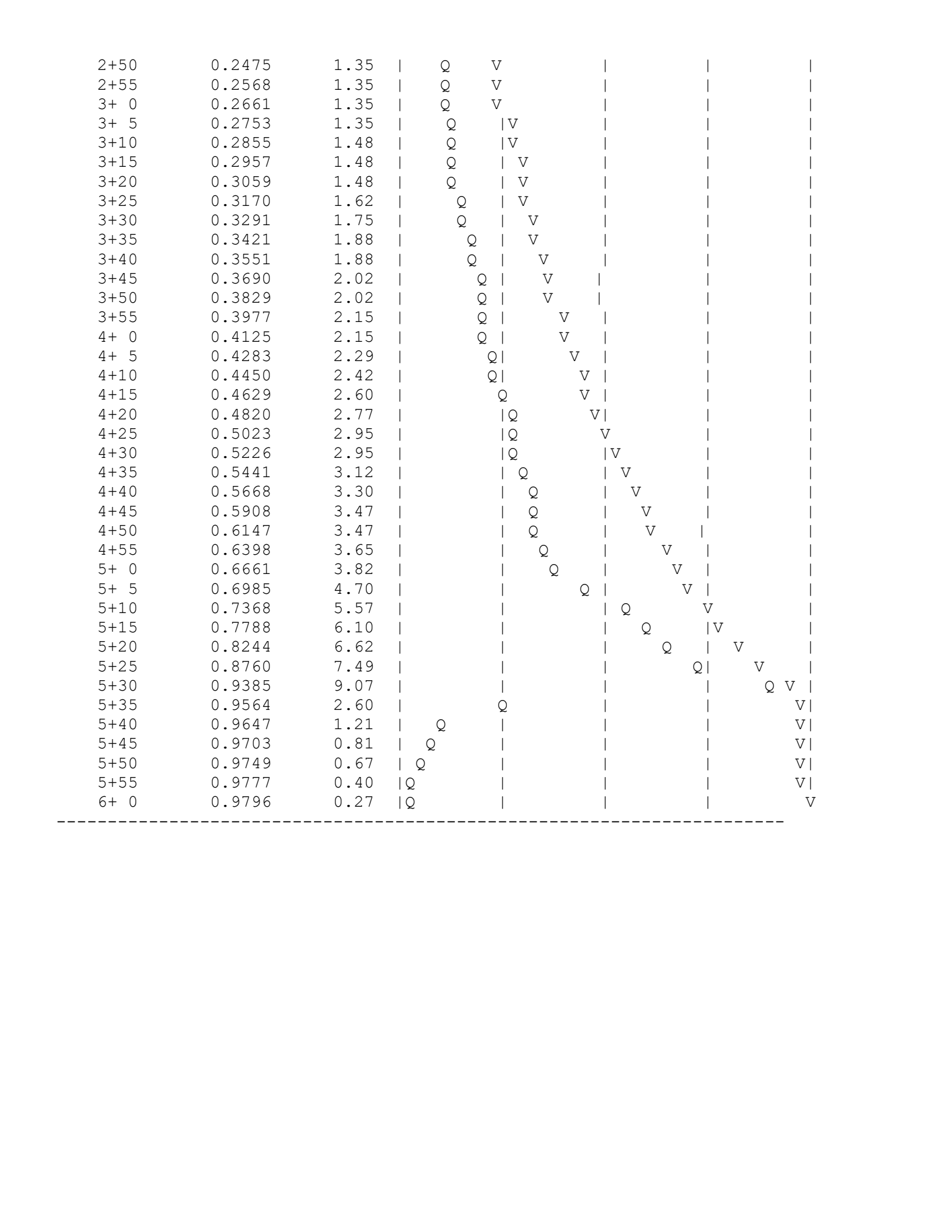
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.089	(0.074)	0.021	0.069
2	0.17	0.60	0.107	(0.074)	0.025	0.083
3	0.25	0.60	0.107	(0.074)	0.025	0.083
4	0.33	0.60	0.107	(0.074)	0.025	0.083
5	0.42	0.60	0.107	(0.074)	0.025	0.083
6	0.50	0.70	0.125	(0.074)	0.029	0.096
7	0.58	0.70	0.125	(0.074)	0.029	0.096
8	0.67	0.70	0.125	(0.074)	0.029	0.096
9	0.75	0.70	0.125	(0.074)	0.029	0.096
10	0.83	0.70	0.125	(0.074)	0.029	0.096
11	0.92	0.70	0.125	(0.074)	0.029	0.096
12	1.00	0.80	0.143	(0.074)	0.033	0.110

13	1.08	0.80	0.143	(0.074)	0.033	0.110
14	1.17	0.80	0.143	(0.074)	0.033	0.110
15	1.25	0.80	0.143	(0.074)	0.033	0.110
16	1.33	0.80	0.143	(0.074)	0.033	0.110
17	1.42	0.80	0.143	(0.074)	0.033	0.110
18	1.50	0.80	0.143	(0.074)	0.033	0.110
19	1.58	0.80	0.143	(0.074)	0.033	0.110
20	1.67	0.80	0.143	(0.074)	0.033	0.110
21	1.75	0.80	0.143	(0.074)	0.033	0.110
22	1.83	0.80	0.143	(0.074)	0.033	0.110
23	1.92	0.80	0.143	(0.074)	0.033	0.110
24	2.00	0.90	0.161	(0.074)	0.037	0.124
25	2.08	0.80	0.143	(0.074)	0.033	0.110
26	2.17	0.90	0.161	(0.074)	0.037	0.124
27	2.25	0.90	0.161	(0.074)	0.037	0.124
28	2.33	0.90	0.161	(0.074)	0.037	0.124
29	2.42	0.90	0.161	(0.074)	0.037	0.124
30	2.50	0.90	0.161	(0.074)	0.037	0.124
31	2.58	0.90	0.161	(0.074)	0.037	0.124
32	2.67	0.90	0.161	(0.074)	0.037	0.124
33	2.75	1.00	0.179	(0.074)	0.041	0.138
34	2.83	1.00	0.179	(0.074)	0.041	0.138
35	2.92	1.00	0.179	(0.074)	0.041	0.138
36	3.00	1.00	0.179	(0.074)	0.041	0.138
37	3.08	1.00	0.179	(0.074)	0.041	0.138
38	3.17	1.10	0.197	(0.074)	0.045	0.152
39	3.25	1.10	0.197	(0.074)	0.045	0.152
40	3.33	1.10	0.197	(0.074)	0.045	0.152
41	3.42	1.20	0.215	(0.074)	0.049	0.165
42	3.50	1.30	0.233	(0.074)	0.054	0.179
43	3.58	1.40	0.251	(0.074)	0.058	0.193
44	3.67	1.40	0.251	(0.074)	0.058	0.193
45	3.75	1.50	0.268	(0.074)	0.062	0.207
46	3.83	1.50	0.268	(0.074)	0.062	0.207
47	3.92	1.60	0.286	(0.074)	0.066	0.220
48	4.00	1.60	0.286	(0.074)	0.066	0.220
49	4.08	1.70	0.304	(0.074)	0.070	0.234
50	4.17	1.80	0.322	0.074	(0.074)	0.248
51	4.25	1.90	0.340	0.074	(0.078)	0.266
52	4.33	2.00	0.358	0.074	(0.082)	0.284
53	4.42	2.10	0.376	0.074	(0.086)	0.302
54	4.50	2.10	0.376	0.074	(0.086)	0.302
55	4.58	2.20	0.394	0.074	(0.091)	0.320
56	4.67	2.30	0.412	0.074	(0.095)	0.338
57	4.75	2.40	0.429	0.074	(0.099)	0.356
58	4.83	2.40	0.429	0.074	(0.099)	0.356
59	4.92	2.50	0.447	0.074	(0.103)	0.373
60	5.00	2.60	0.465	0.074	(0.107)	0.391
61	5.08	3.10	0.555	0.074	(0.128)	0.481
62	5.17	3.60	0.644	0.074	(0.148)	0.570
63	5.25	3.90	0.698	0.074	(0.161)	0.624
64	5.33	4.20	0.752	0.074	(0.173)	0.678
65	5.42	4.70	0.841	0.074	(0.193)	0.767
66	5.50	5.60	1.002	0.074	(0.230)	0.928
67	5.58	1.90	0.340	0.074	(0.078)	0.266
68	5.67	0.90	0.161	(0.074)	0.037	0.124
69	5.75	0.60	0.107	(0.074)	0.025	0.083

```
70   5.83     0.50      0.089       (  0.074)       0.021        0.069
71   5.92     0.30      0.054       (  0.074)       0.012        0.041
72   6.00     0.20      0.036       (  0.074)       0.008        0.028
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    14.6
    Flood volume = Effective rainfall      1.21(In)
     times area       9.7(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
    Total soil loss =      0.28(In)
    Total soil loss =     0.224(Ac.Ft)
    Total rainfall =      1.49(In)
    Flood volume =       42669.2 Cubic Feet
    Total soil loss =        9774.2 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      9.067(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       0.0046      0.67  V Q       |         |         |         |
  0+10       0.0102      0.81  V  Q      |         |         |         |
  0+15       0.0158      0.81  V  Q      |         |         |         |
  0+20       0.0213      0.81  V  Q      |         |         |         |
  0+25       0.0269      0.81  |V Q      |         |         |         |
  0+30       0.0334      0.94  |V Q      |         |         |         |
  0+35       0.0399      0.94  |V Q      |         |         |         |
  0+40       0.0464      0.94  |V Q      |         |         |         |
  0+45       0.0528      0.94  | VQ      |         |         |         |
  0+50       0.0593      0.94  | VQ      |         |         |         |
  0+55       0.0658      0.94  | VQ      |         |         |         |
  1+ 0       0.0732      1.08  | V Q     |         |         |         |
  1+ 5       0.0807      1.08  |  VQ     |         |         |         |
  1+10       0.0881      1.08  |  VQ     |         |         |         |
  1+15       0.0955      1.08  |  VQ     |         |         |         |
  1+20       0.1029      1.08  |   Q     |         |         |         |
  1+25       0.1103      1.08  |   Q     |         |         |         |
  1+30       0.1177      1.08  |   Q     |         |         |         |
  1+35       0.1251      1.08  |   QV    |         |         |         |
  1+40       0.1326      1.08  |   QV    |         |         |         |
  1+45       0.1400      1.08  |   QV    |         |         |         |
  1+50       0.1474      1.08  |   Q V   |         |         |         |
  1+55       0.1548      1.08  |   Q V   |         |         |         |
  2+ 0       0.1632      1.21  |   Q V   |         |         |         |
  2+ 5       0.1706      1.08  |   Q V   |         |         |         |
  2+10       0.1789      1.21  |   Q  V  |         |         |         |
  2+15       0.1873      1.21  |   Q  V  |         |         |         |
  2+20       0.1956      1.21  |   Q  V  |         |         |         |
  2+25       0.2039      1.21  |   Q   V |         |         |         |
  2+30       0.2123      1.21  |   Q   V |         |         |         |
  2+35       0.2206      1.21  |   Q    V|         |         |         |
  2+40       0.2290      1.21  |   Q    V|         |         |         |
  2+45       0.2382      1.35  |    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 06/03/26 File: 19267p010AL2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area AL

Drainage Area = 1.45(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.45(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 176.00(Ft.)
Length along longest watercourse measured to centroid = 96.00(Ft.)
Length along longest watercourse = 0.033 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.30(Ft.)
Slope along watercourse = 39.0000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.011 Hr.
Lag time = 0.64 Min.
25% of lag time = 0.16 Min.
40% of lag time = 0.26 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	1.66	2.40

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.45	4.10	5.92

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.445	75.00	0.900

Total Area Entered = 1.45(Ac.)

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

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

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	775.287	80.581	1.173
2	0.167	1550.574	19.419	0.283
			Sum = 100.000 Sum=	1.456

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.102)	0.004	0.017
2	0.17	0.07	0.021	(0.102)	0.004	0.017
3	0.25	0.07	0.021	(0.101)	0.004	0.017
4	0.33	0.10	0.032	(0.101)	0.006	0.026
5	0.42	0.10	0.032	(0.100)	0.006	0.026
6	0.50	0.10	0.032	(0.100)	0.006	0.026
7	0.58	0.10	0.032	(0.100)	0.006	0.026
8	0.67	0.10	0.032	(0.099)	0.006	0.026
9	0.75	0.10	0.032	(0.099)	0.006	0.026
10	0.83	0.13	0.043	(0.099)	0.008	0.035
11	0.92	0.13	0.043	(0.098)	0.008	0.035

12	1.00	0.13	0.043	(0.098)	0.008	0.035
13	1.08	0.10	0.032	(0.097)	0.006	0.026
14	1.17	0.10	0.032	(0.097)	0.006	0.026
15	1.25	0.10	0.032	(0.097)	0.006	0.026
16	1.33	0.10	0.032	(0.096)	0.006	0.026
17	1.42	0.10	0.032	(0.096)	0.006	0.026
18	1.50	0.10	0.032	(0.095)	0.006	0.026
19	1.58	0.10	0.032	(0.095)	0.006	0.026
20	1.67	0.10	0.032	(0.095)	0.006	0.026
21	1.75	0.10	0.032	(0.094)	0.006	0.026
22	1.83	0.13	0.043	(0.094)	0.008	0.035
23	1.92	0.13	0.043	(0.094)	0.008	0.035
24	2.00	0.13	0.043	(0.093)	0.008	0.035
25	2.08	0.13	0.043	(0.093)	0.008	0.035
26	2.17	0.13	0.043	(0.092)	0.008	0.035
27	2.25	0.13	0.043	(0.092)	0.008	0.035
28	2.33	0.13	0.043	(0.092)	0.008	0.035
29	2.42	0.13	0.043	(0.091)	0.008	0.035
30	2.50	0.13	0.043	(0.091)	0.008	0.035
31	2.58	0.17	0.053	(0.091)	0.010	0.044
32	2.67	0.17	0.053	(0.090)	0.010	0.044
33	2.75	0.17	0.053	(0.090)	0.010	0.044
34	2.83	0.17	0.053	(0.089)	0.010	0.044
35	2.92	0.17	0.053	(0.089)	0.010	0.044
36	3.00	0.17	0.053	(0.089)	0.010	0.044
37	3.08	0.17	0.053	(0.088)	0.010	0.044
38	3.17	0.17	0.053	(0.088)	0.010	0.044
39	3.25	0.17	0.053	(0.088)	0.010	0.044
40	3.33	0.17	0.053	(0.087)	0.010	0.044
41	3.42	0.17	0.053	(0.087)	0.010	0.044
42	3.50	0.17	0.053	(0.087)	0.010	0.044
43	3.58	0.17	0.053	(0.086)	0.010	0.044
44	3.67	0.17	0.053	(0.086)	0.010	0.044
45	3.75	0.17	0.053	(0.085)	0.010	0.044
46	3.83	0.20	0.064	(0.085)	0.012	0.052
47	3.92	0.20	0.064	(0.085)	0.012	0.052
48	4.00	0.20	0.064	(0.084)	0.012	0.052
49	4.08	0.20	0.064	(0.084)	0.012	0.052
50	4.17	0.20	0.064	(0.084)	0.012	0.052
51	4.25	0.20	0.064	(0.083)	0.012	0.052
52	4.33	0.23	0.075	(0.083)	0.013	0.061
53	4.42	0.23	0.075	(0.083)	0.013	0.061
54	4.50	0.23	0.075	(0.082)	0.013	0.061
55	4.58	0.23	0.075	(0.082)	0.013	0.061
56	4.67	0.23	0.075	(0.082)	0.013	0.061
57	4.75	0.23	0.075	(0.081)	0.013	0.061
58	4.83	0.27	0.085	(0.081)	0.015	0.070
59	4.92	0.27	0.085	(0.080)	0.015	0.070
60	5.00	0.27	0.085	(0.080)	0.015	0.070
61	5.08	0.20	0.064	(0.080)	0.012	0.052
62	5.17	0.20	0.064	(0.079)	0.012	0.052
63	5.25	0.20	0.064	(0.079)	0.012	0.052
64	5.33	0.23	0.075	(0.079)	0.013	0.061
65	5.42	0.23	0.075	(0.078)	0.013	0.061
66	5.50	0.23	0.075	(0.078)	0.013	0.061
67	5.58	0.27	0.085	(0.078)	0.015	0.070
68	5.67	0.27	0.085	(0.077)	0.015	0.070

69	5.75	0.27	0.085	(0.077)	0.015	0.070
70	5.83	0.27	0.085	(0.077)	0.015	0.070
71	5.92	0.27	0.085	(0.076)	0.015	0.070
72	6.00	0.27	0.085	(0.076)	0.015	0.070
73	6.08	0.30	0.096	(0.076)	0.017	0.079
74	6.17	0.30	0.096	(0.075)	0.017	0.079
75	6.25	0.30	0.096	(0.075)	0.017	0.079
76	6.33	0.30	0.096	(0.075)	0.017	0.079
77	6.42	0.30	0.096	(0.074)	0.017	0.079
78	6.50	0.30	0.096	(0.074)	0.017	0.079
79	6.58	0.33	0.107	(0.074)	0.019	0.087
80	6.67	0.33	0.107	(0.073)	0.019	0.087
81	6.75	0.33	0.107	(0.073)	0.019	0.087
82	6.83	0.33	0.107	(0.073)	0.019	0.087
83	6.92	0.33	0.107	(0.072)	0.019	0.087
84	7.00	0.33	0.107	(0.072)	0.019	0.087
85	7.08	0.33	0.107	(0.072)	0.019	0.087
86	7.17	0.33	0.107	(0.071)	0.019	0.087
87	7.25	0.33	0.107	(0.071)	0.019	0.087
88	7.33	0.37	0.117	(0.071)	0.021	0.096
89	7.42	0.37	0.117	(0.070)	0.021	0.096
90	7.50	0.37	0.117	(0.070)	0.021	0.096
91	7.58	0.40	0.128	(0.070)	0.023	0.105
92	7.67	0.40	0.128	(0.069)	0.023	0.105
93	7.75	0.40	0.128	(0.069)	0.023	0.105
94	7.83	0.43	0.139	(0.069)	0.025	0.114
95	7.92	0.43	0.139	(0.068)	0.025	0.114
96	8.00	0.43	0.139	(0.068)	0.025	0.114
97	8.08	0.50	0.160	(0.068)	0.029	0.131
98	8.17	0.50	0.160	(0.067)	0.029	0.131
99	8.25	0.50	0.160	(0.067)	0.029	0.131
100	8.33	0.50	0.160	(0.067)	0.029	0.131
101	8.42	0.50	0.160	(0.067)	0.029	0.131
102	8.50	0.50	0.160	(0.066)	0.029	0.131
103	8.58	0.53	0.170	(0.066)	0.031	0.140
104	8.67	0.53	0.170	(0.066)	0.031	0.140
105	8.75	0.53	0.170	(0.065)	0.031	0.140
106	8.83	0.57	0.181	(0.065)	0.033	0.149
107	8.92	0.57	0.181	(0.065)	0.033	0.149
108	9.00	0.57	0.181	(0.064)	0.033	0.149
109	9.08	0.63	0.202	(0.064)	0.036	0.166
110	9.17	0.63	0.202	(0.064)	0.036	0.166
111	9.25	0.63	0.202	(0.063)	0.036	0.166
112	9.33	0.67	0.213	(0.063)	0.038	0.175
113	9.42	0.67	0.213	(0.063)	0.038	0.175
114	9.50	0.67	0.213	(0.063)	0.038	0.175
115	9.58	0.70	0.224	(0.062)	0.040	0.183
116	9.67	0.70	0.224	(0.062)	0.040	0.183
117	9.75	0.70	0.224	(0.062)	0.040	0.183
118	9.83	0.73	0.234	(0.061)	0.042	0.192
119	9.92	0.73	0.234	(0.061)	0.042	0.192
120	10.00	0.73	0.234	(0.061)	0.042	0.192
121	10.08	0.50	0.160	(0.060)	0.029	0.131
122	10.17	0.50	0.160	(0.060)	0.029	0.131
123	10.25	0.50	0.160	(0.060)	0.029	0.131
124	10.33	0.50	0.160	(0.060)	0.029	0.131
125	10.42	0.50	0.160	(0.059)	0.029	0.131

126	10.50	0.50	0.160	(0.059)	0.029	0.131
127	10.58	0.67	0.213	(0.059)	0.038	0.175
128	10.67	0.67	0.213	(0.058)	0.038	0.175
129	10.75	0.67	0.213	(0.058)	0.038	0.175
130	10.83	0.67	0.213	(0.058)	0.038	0.175
131	10.92	0.67	0.213	(0.058)	0.038	0.175
132	11.00	0.67	0.213	(0.057)	0.038	0.175
133	11.08	0.63	0.202	(0.057)	0.036	0.166
134	11.17	0.63	0.202	(0.057)	0.036	0.166
135	11.25	0.63	0.202	(0.056)	0.036	0.166
136	11.33	0.63	0.202	(0.056)	0.036	0.166
137	11.42	0.63	0.202	(0.056)	0.036	0.166
138	11.50	0.63	0.202	(0.056)	0.036	0.166
139	11.58	0.57	0.181	(0.055)	0.033	0.149
140	11.67	0.57	0.181	(0.055)	0.033	0.149
141	11.75	0.57	0.181	(0.055)	0.033	0.149
142	11.83	0.60	0.192	(0.055)	0.035	0.157
143	11.92	0.60	0.192	(0.054)	0.035	0.157
144	12.00	0.60	0.192	(0.054)	0.035	0.157
145	12.08	0.83	0.266	(0.054)	0.048	0.218
146	12.17	0.83	0.266	(0.053)	0.048	0.218
147	12.25	0.83	0.266	(0.053)	0.048	0.218
148	12.33	0.87	0.277	(0.053)	0.050	0.227
149	12.42	0.87	0.277	(0.053)	0.050	0.227
150	12.50	0.87	0.277	(0.052)	0.050	0.227
151	12.58	0.93	0.298	0.052	(0.054)	0.246
152	12.67	0.93	0.298	0.052	(0.054)	0.246
153	12.75	0.93	0.298	0.052	(0.054)	0.247
154	12.83	0.97	0.309	0.051	(0.056)	0.258
155	12.92	0.97	0.309	0.051	(0.056)	0.258
156	13.00	0.97	0.309	0.051	(0.056)	0.258
157	13.08	1.13	0.362	0.051	(0.065)	0.312
158	13.17	1.13	0.362	0.050	(0.065)	0.312
159	13.25	1.13	0.362	0.050	(0.065)	0.312
160	13.33	1.13	0.362	0.050	(0.065)	0.312
161	13.42	1.13	0.362	0.050	(0.065)	0.313
162	13.50	1.13	0.362	0.049	(0.065)	0.313
163	13.58	0.77	0.245	(0.049)	0.044	0.201
164	13.67	0.77	0.245	(0.049)	0.044	0.201
165	13.75	0.77	0.245	(0.049)	0.044	0.201
166	13.83	0.77	0.245	(0.048)	0.044	0.201
167	13.92	0.77	0.245	(0.048)	0.044	0.201
168	14.00	0.77	0.245	(0.048)	0.044	0.201
169	14.08	0.90	0.288	0.048	(0.052)	0.240
170	14.17	0.90	0.288	0.047	(0.052)	0.240
171	14.25	0.90	0.288	0.047	(0.052)	0.241
172	14.33	0.87	0.277	0.047	(0.050)	0.230
173	14.42	0.87	0.277	0.047	(0.050)	0.230
174	14.50	0.87	0.277	0.046	(0.050)	0.231
175	14.58	0.87	0.277	0.046	(0.050)	0.231
176	14.67	0.87	0.277	0.046	(0.050)	0.231
177	14.75	0.87	0.277	0.046	(0.050)	0.231
178	14.83	0.83	0.266	0.045	(0.048)	0.221
179	14.92	0.83	0.266	0.045	(0.048)	0.221
180	15.00	0.83	0.266	0.045	(0.048)	0.221
181	15.08	0.80	0.256	0.045	(0.046)	0.211
182	15.17	0.80	0.256	0.045	(0.046)	0.211

183	15.25	0.80	0.256	0.044	(0.046)	0.211
184	15.33	0.77	0.245	0.044	(0.044)	0.201
185	15.42	0.77	0.245	0.044	(0.044)	0.201
186	15.50	0.77	0.245	0.044	(0.044)	0.201
187	15.58	0.63	0.202	(0.043)	0.036	0.166
188	15.67	0.63	0.202	(0.043)	0.036	0.166
189	15.75	0.63	0.202	(0.043)	0.036	0.166
190	15.83	0.63	0.202	(0.043)	0.036	0.166
191	15.92	0.63	0.202	(0.042)	0.036	0.166
192	16.00	0.63	0.202	(0.042)	0.036	0.166
193	16.08	0.13	0.043	(0.042)	0.008	0.035
194	16.17	0.13	0.043	(0.042)	0.008	0.035
195	16.25	0.13	0.043	(0.042)	0.008	0.035
196	16.33	0.13	0.043	(0.041)	0.008	0.035
197	16.42	0.13	0.043	(0.041)	0.008	0.035
198	16.50	0.13	0.043	(0.041)	0.008	0.035
199	16.58	0.10	0.032	(0.041)	0.006	0.026
200	16.67	0.10	0.032	(0.041)	0.006	0.026
201	16.75	0.10	0.032	(0.040)	0.006	0.026
202	16.83	0.10	0.032	(0.040)	0.006	0.026
203	16.92	0.10	0.032	(0.040)	0.006	0.026
204	17.00	0.10	0.032	(0.040)	0.006	0.026
205	17.08	0.17	0.053	(0.040)	0.010	0.044
206	17.17	0.17	0.053	(0.039)	0.010	0.044
207	17.25	0.17	0.053	(0.039)	0.010	0.044
208	17.33	0.17	0.053	(0.039)	0.010	0.044
209	17.42	0.17	0.053	(0.039)	0.010	0.044
210	17.50	0.17	0.053	(0.039)	0.010	0.044
211	17.58	0.17	0.053	(0.038)	0.010	0.044
212	17.67	0.17	0.053	(0.038)	0.010	0.044
213	17.75	0.17	0.053	(0.038)	0.010	0.044
214	17.83	0.13	0.043	(0.038)	0.008	0.035
215	17.92	0.13	0.043	(0.038)	0.008	0.035
216	18.00	0.13	0.043	(0.037)	0.008	0.035
217	18.08	0.13	0.043	(0.037)	0.008	0.035
218	18.17	0.13	0.043	(0.037)	0.008	0.035
219	18.25	0.13	0.043	(0.037)	0.008	0.035
220	18.33	0.13	0.043	(0.037)	0.008	0.035
221	18.42	0.13	0.043	(0.037)	0.008	0.035
222	18.50	0.13	0.043	(0.036)	0.008	0.035
223	18.58	0.10	0.032	(0.036)	0.006	0.026
224	18.67	0.10	0.032	(0.036)	0.006	0.026
225	18.75	0.10	0.032	(0.036)	0.006	0.026
226	18.83	0.07	0.021	(0.036)	0.004	0.017
227	18.92	0.07	0.021	(0.035)	0.004	0.017
228	19.00	0.07	0.021	(0.035)	0.004	0.017
229	19.08	0.10	0.032	(0.035)	0.006	0.026
230	19.17	0.10	0.032	(0.035)	0.006	0.026
231	19.25	0.10	0.032	(0.035)	0.006	0.026
232	19.33	0.13	0.043	(0.035)	0.008	0.035
233	19.42	0.13	0.043	(0.035)	0.008	0.035
234	19.50	0.13	0.043	(0.034)	0.008	0.035
235	19.58	0.10	0.032	(0.034)	0.006	0.026
236	19.67	0.10	0.032	(0.034)	0.006	0.026
237	19.75	0.10	0.032	(0.034)	0.006	0.026
238	19.83	0.07	0.021	(0.034)	0.004	0.017
239	19.92	0.07	0.021	(0.034)	0.004	0.017

240	20.00	0.07	0.021	(0.033)	0.004	0.017
241	20.08	0.10	0.032	(0.033)	0.006	0.026
242	20.17	0.10	0.032	(0.033)	0.006	0.026
243	20.25	0.10	0.032	(0.033)	0.006	0.026
244	20.33	0.10	0.032	(0.033)	0.006	0.026
245	20.42	0.10	0.032	(0.033)	0.006	0.026
246	20.50	0.10	0.032	(0.033)	0.006	0.026
247	20.58	0.10	0.032	(0.032)	0.006	0.026
248	20.67	0.10	0.032	(0.032)	0.006	0.026
249	20.75	0.10	0.032	(0.032)	0.006	0.026
250	20.83	0.07	0.021	(0.032)	0.004	0.017
251	20.92	0.07	0.021	(0.032)	0.004	0.017
252	21.00	0.07	0.021	(0.032)	0.004	0.017
253	21.08	0.10	0.032	(0.032)	0.006	0.026
254	21.17	0.10	0.032	(0.032)	0.006	0.026
255	21.25	0.10	0.032	(0.031)	0.006	0.026
256	21.33	0.07	0.021	(0.031)	0.004	0.017
257	21.42	0.07	0.021	(0.031)	0.004	0.017
258	21.50	0.07	0.021	(0.031)	0.004	0.017
259	21.58	0.10	0.032	(0.031)	0.006	0.026
260	21.67	0.10	0.032	(0.031)	0.006	0.026
261	21.75	0.10	0.032	(0.031)	0.006	0.026
262	21.83	0.07	0.021	(0.031)	0.004	0.017
263	21.92	0.07	0.021	(0.030)	0.004	0.017
264	22.00	0.07	0.021	(0.030)	0.004	0.017
265	22.08	0.10	0.032	(0.030)	0.006	0.026
266	22.17	0.10	0.032	(0.030)	0.006	0.026
267	22.25	0.10	0.032	(0.030)	0.006	0.026
268	22.33	0.07	0.021	(0.030)	0.004	0.017
269	22.42	0.07	0.021	(0.030)	0.004	0.017
270	22.50	0.07	0.021	(0.030)	0.004	0.017
271	22.58	0.07	0.021	(0.030)	0.004	0.017
272	22.67	0.07	0.021	(0.030)	0.004	0.017
273	22.75	0.07	0.021	(0.030)	0.004	0.017
274	22.83	0.07	0.021	(0.029)	0.004	0.017
275	22.92	0.07	0.021	(0.029)	0.004	0.017
276	23.00	0.07	0.021	(0.029)	0.004	0.017
277	23.08	0.07	0.021	(0.029)	0.004	0.017
278	23.17	0.07	0.021	(0.029)	0.004	0.017
279	23.25	0.07	0.021	(0.029)	0.004	0.017
280	23.33	0.07	0.021	(0.029)	0.004	0.017
281	23.42	0.07	0.021	(0.029)	0.004	0.017
282	23.50	0.07	0.021	(0.029)	0.004	0.017
283	23.58	0.07	0.021	(0.029)	0.004	0.017
284	23.67	0.07	0.021	(0.029)	0.004	0.017
285	23.75	0.07	0.021	(0.029)	0.004	0.017
286	23.83	0.07	0.021	(0.029)	0.004	0.017
287	23.92	0.07	0.021	(0.029)	0.004	0.017
288	24.00	0.07	0.021	(0.029)	0.004	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 26.4

Flood volume = Effective rainfall 2.20(In)
times area 1.4(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.47(In)
Total soil loss = 0.056(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 11527.3 Cubic Feet

Total soil loss = 2445.4 Cubic Feet

Peak flow rate of this hydrograph = 0.456(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	0.0001	0.02	Q				
0+10	0.0003	0.03	Q				
0+15	0.0005	0.03	Q				
0+20	0.0007	0.04	Q				
0+25	0.0010	0.04	Q				
0+30	0.0013	0.04	Q				
0+35	0.0015	0.04	Q				
0+40	0.0018	0.04	Q				
0+45	0.0021	0.04	Q				
0+50	0.0024	0.05	Q				
0+55	0.0027	0.05	Q				
1+ 0	0.0031	0.05	Q				
1+ 5	0.0034	0.04	Q				
1+10	0.0036	0.04	Q				
1+15	0.0039	0.04	Q				
1+20	0.0042	0.04	Q				
1+25	0.0044	0.04	Q				
1+30	0.0047	0.04	Q				
1+35	0.0049	0.04	Q				
1+40	0.0052	0.04	Q				
1+45	0.0055	0.04	Q				
1+50	0.0058	0.05	Q				
1+55	0.0062	0.05	Q				
2+ 0	0.0065	0.05	Q				
2+ 5	0.0069	0.05	QV				
2+10	0.0072	0.05	QV				
2+15	0.0076	0.05	QV				
2+20	0.0079	0.05	QV				
2+25	0.0083	0.05	QV				
2+30	0.0086	0.05	QV				
2+35	0.0090	0.06	QV				
2+40	0.0095	0.06	QV				
2+45	0.0099	0.06	QV				
2+50	0.0103	0.06	QV				
2+55	0.0108	0.06	QV				
3+ 0	0.0112	0.06	QV				
3+ 5	0.0117	0.06	QV				
3+10	0.0121	0.06	QV				
3+15	0.0125	0.06	QV				
3+20	0.0130	0.06	QV				
3+25	0.0134	0.06	Q V				
3+30	0.0139	0.06	Q V				
3+35	0.0143	0.06	Q V				
3+40	0.0147	0.06	Q V				

3+45	0.0152	0.06	Q V	|	|	|	|
3+50	0.0157	0.07	Q V	|	|	|	|
3+55	0.0162	0.08	Q V	|	|	|	|
4+ 0	0.0167	0.08	Q V	|	|	|	|
4+ 5	0.0173	0.08	Q V	|	|	|	|
4+10	0.0178	0.08	Q V	|	|	|	|
4+15	0.0183	0.08	Q V	|	|	|	|
4+20	0.0189	0.09	Q V	|	|	|	|
4+25	0.0195	0.09	Q V	|	|	|	|
4+30	0.0201	0.09	Q V	|	|	|	|
4+35	0.0207	0.09	Q V	|	|	|	|
4+40	0.0214	0.09	Q V	|	|	|	|
4+45	0.0220	0.09	Q V	|	|	|	|
4+50	0.0227	0.10	Q V	|	|	|	|
4+55	0.0234	0.10	Q V	|	|	|	|
5+ 0	0.0241	0.10	Q V	|	|	|	|
5+ 5	0.0246	0.08	Q V	|	|	|	|
5+10	0.0251	0.08	Q V	|	|	|	|
5+15	0.0257	0.08	Q V	|	|	|	|
5+20	0.0263	0.09	Q V	|	|	|	|
5+25	0.0269	0.09	Q V	|	|	|	|
5+30	0.0275	0.09	Q V	|	|	|	|
5+35	0.0282	0.10	Q V	|	|	|	|
5+40	0.0289	0.10	Q V	|	|	|	|
5+45	0.0296	0.10	Q V	|	|	|	|
5+50	0.0303	0.10	Q V	|	|	|	|
5+55	0.0310	0.10	Q V	|	|	|	|
6+ 0	0.0317	0.10	Q V	|	|	|	|
6+ 5	0.0325	0.11	Q V	|	|	|	|
6+10	0.0333	0.11	Q V	|	|	|	|
6+15	0.0340	0.11	Q V	|	|	|	|
6+20	0.0348	0.11	Q V	|	|	|	|
6+25	0.0356	0.11	Q V	|	|	|	|
6+30	0.0364	0.11	Q V	|	|	|	|
6+35	0.0373	0.12	Q V	|	|	|	|
6+40	0.0381	0.13	Q V	|	|	|	|
6+45	0.0390	0.13	Q V	|	|	|	|
6+50	0.0399	0.13	Q V	|	|	|	|
6+55	0.0408	0.13	Q V	|	|	|	|
7+ 0	0.0417	0.13	Q V	|	|	|	|
7+ 5	0.0425	0.13	Q V	|	|	|	|
7+10	0.0434	0.13	Q V	|	|	|	|
7+15	0.0443	0.13	Q V	|	|	|	|
7+20	0.0452	0.14	Q V	|	|	|	|
7+25	0.0462	0.14	Q V	|	|	|	|
7+30	0.0472	0.14	Q V	|	|	|	|
7+35	0.0482	0.15	Q V	|	|	|	|
7+40	0.0492	0.15	Q V	|	|	|	|
7+45	0.0503	0.15	Q V	|	|	|	|
7+50	0.0514	0.16	Q V	|	|	|	|
7+55	0.0526	0.17	Q V	|	|	|	|
8+ 0	0.0537	0.17	Q V	|	|	|	|
8+ 5	0.0550	0.19	Q V	|	|	|	|
8+10	0.0563	0.19	Q V	|	|	|	|
8+15	0.0576	0.19	Q V	|	|	|	|
8+20	0.0589	0.19	Q V	|	|	|	|
8+25	0.0602	0.19	Q V	|	|	|	|

8+30	0.0616	0.19	Q	V|				
8+35	0.0629	0.20	Q	V|				
8+40	0.0643	0.20	Q	V|				
8+45	0.0657	0.20	Q	V|				
8+50	0.0672	0.21	Q	V				
8+55	0.0687	0.22	Q	V				
9+ 0	0.0702	0.22	Q	V				
9+ 5	0.0718	0.24	Q	V				
9+10	0.0735	0.24	Q	|V				
9+15	0.0752	0.24	Q	|V				
9+20	0.0769	0.25	|Q	|V				
9+25	0.0787	0.25	|Q	|V				
9+30	0.0804	0.25	|Q	| V				
9+35	0.0822	0.26	|Q	| V				
9+40	0.0841	0.27	|Q	| V				
9+45	0.0859	0.27	|Q	| V				
9+50	0.0878	0.28	|Q	| V				
9+55	0.0898	0.28	|Q	| V				
10+ 0	0.0917	0.28	|Q	| V				
10+ 5	0.0931	0.21	Q	| V				
10+10	0.0944	0.19	Q	| V				
10+15	0.0958	0.19	Q	| V				
10+20	0.0971	0.19	Q	| V				
10+25	0.0984	0.19	Q	| V				
10+30	0.0997	0.19	Q	| V |				
10+35	0.1014	0.24	Q	| V |				
10+40	0.1031	0.25	|Q	| V |				
10+45	0.1049	0.25	|Q	| V |				
10+50	0.1066	0.25	|Q	| V |				
10+55	0.1084	0.25	|Q	| V |				
11+ 0	0.1101	0.25	|Q	| V |				
11+ 5	0.1118	0.24	Q	| V |				
11+10	0.1135	0.24	Q	| V |				
11+15	0.1151	0.24	Q	| V |				
11+20	0.1168	0.24	Q	| V |				
11+25	0.1185	0.24	Q	| V |				
11+30	0.1201	0.24	Q	| V |				
11+35	0.1217	0.22	Q	| V |				
11+40	0.1232	0.22	Q	| V |				
11+45	0.1247	0.22	Q	| V |				
11+50	0.1262	0.23	Q	| V|				
11+55	0.1278	0.23	Q	| V|				
12+ 0	0.1294	0.23	Q	| V|				
12+ 5	0.1314	0.30	|Q	| V|				
12+10	0.1336	0.32	|Q	| V				
12+15	0.1358	0.32	|Q	| V				
12+20	0.1381	0.33	|Q	| V				
12+25	0.1404	0.33	|Q	| |V				
12+30	0.1426	0.33	|Q	| |V				
12+35	0.1451	0.35	|Q	| |V				
12+40	0.1476	0.36	|Q	| | V				
12+45	0.1500	0.36	|Q	| | V				
12+50	0.1526	0.37	|Q	| | V				
12+55	0.1552	0.38	|Q	| | V				
13+ 0	0.1578	0.38	|Q	| | V				
13+ 5	0.1608	0.44	|Q	| | V				
13+10	0.1639	0.45	|Q	| | V				

13+15	0.1671	0.45	|Q	|	|	V	|	|
13+20	0.1702	0.46	|Q	|	|	V	|	|
13+25	0.1733	0.46	|Q	|	|	V	|	|
13+30	0.1765	0.46	|Q	|	|	V	|	|
13+35	0.1787	0.32	|Q	|	|	V	|	|
13+40	0.1807	0.29	|Q	|	|	V	|	|
13+45	0.1827	0.29	|Q	|	|	V	|	|
13+50	0.1848	0.29	|Q	|	|	V	|	|
13+55	0.1868	0.29	|Q	|	|	V	|	|
14+ 0	0.1888	0.29	|Q	|	|	V	|	|
14+ 5	0.1911	0.34	|Q	|	|	V	|	|
14+10	0.1935	0.35	|Q	|	|	V	|	|
14+15	0.1959	0.35	|Q	|	|	V	|	|
14+20	0.1983	0.34	|Q	|	|	V	|	|
14+25	0.2006	0.34	|Q	|	|	V	|	|
14+30	0.2029	0.34	|Q	|	|	V	|	|
14+35	0.2052	0.34	|Q	|	|	V	|	|
14+40	0.2075	0.34	|Q	|	|	V	|	|
14+45	0.2099	0.34	|Q	|	|	V	|	|
14+50	0.2121	0.32	|Q	|	|	V	|	|
14+55	0.2143	0.32	|Q	|	|	V	|	|
15+ 0	0.2165	0.32	|Q	|	|	V	|	|
15+ 5	0.2187	0.31	|Q	|	|	V	|	|
15+10	0.2208	0.31	|Q	|	|	V	|	|
15+15	0.2229	0.31	|Q	|	|	V	|	|
15+20	0.2250	0.30	|Q	|	|	V	|	|
15+25	0.2270	0.29	|Q	|	|	V	|	|
15+30	0.2290	0.29	|Q	|	|	V	|	|
15+35	0.2307	0.25	|Q	|	|	V	|	|
15+40	0.2324	0.24	Q	|	|	V	|	|
15+45	0.2341	0.24	Q	|	|	V	|	|
15+50	0.2357	0.24	Q	|	|	V	|	|
15+55	0.2374	0.24	Q	|	|	V	|	|
16+ 0	0.2391	0.24	Q	|	|	V	|	|
16+ 5	0.2397	0.09	Q	|	|	V	|	|
16+10	0.2400	0.05	Q	|	|	V	|	|
16+15	0.2404	0.05	Q	|	|	V	|	|
16+20	0.2407	0.05	Q	|	|	V	|	|
16+25	0.2411	0.05	Q	|	|	V	|	|
16+30	0.2414	0.05	Q	|	|	V	|	|
16+35	0.2417	0.04	Q	|	|	V	|	|
16+40	0.2420	0.04	Q	|	|	V	|	|
16+45	0.2422	0.04	Q	|	|	V	|	|
16+50	0.2425	0.04	Q	|	|	V	|	|
16+55	0.2427	0.04	Q	|	|	V	|	|
17+ 0	0.2430	0.04	Q	|	|	V	|	|
17+ 5	0.2434	0.06	Q	|	|	V	|	|
17+10	0.2439	0.06	Q	|	|	V	|	|
17+15	0.2443	0.06	Q	|	|	V	|	|
17+20	0.2447	0.06	Q	|	|	V	|	|
17+25	0.2452	0.06	Q	|	|	V	|	|
17+30	0.2456	0.06	Q	|	|	V	|	|
17+35	0.2460	0.06	Q	|	|	V	|	|
17+40	0.2465	0.06	Q	|	|	V	|	|
17+45	0.2469	0.06	Q	|	|	V	|	|
17+50	0.2473	0.05	Q	|	|	V	|	|
17+55	0.2476	0.05	Q	|	|	V	|	|

18+ 0	0.2480	0.05	Q	|	|	|	V |
18+ 5	0.2483	0.05	Q	|	|	|	V |
18+10	0.2487	0.05	Q	|	|	|	V |
18+15	0.2490	0.05	Q	|	|	|	V |
18+20	0.2494	0.05	Q	|	|	|	V |
18+25	0.2497	0.05	Q	|	|	|	V |
18+30	0.2501	0.05	Q	|	|	|	V |
18+35	0.2504	0.04	Q	|	|	|	V |
18+40	0.2506	0.04	Q	|	|	|	V |
18+45	0.2509	0.04	Q	|	|	|	V |
18+50	0.2511	0.03	Q	|	|	|	V |
18+55	0.2513	0.03	Q	|	|	|	V |
19+ 0	0.2514	0.03	Q	|	|	|	V |
19+ 5	0.2517	0.04	Q	|	|	|	V |
19+10	0.2520	0.04	Q	|	|	|	V |
19+15	0.2522	0.04	Q	|	|	|	V |
19+20	0.2526	0.05	Q	|	|	|	V |
19+25	0.2529	0.05	Q	|	|	|	V |
19+30	0.2533	0.05	Q	|	|	|	V |
19+35	0.2535	0.04	Q	|	|	|	V |
19+40	0.2538	0.04	Q	|	|	|	V |
19+45	0.2541	0.04	Q	|	|	|	V |
19+50	0.2543	0.03	Q	|	|	|	V |
19+55	0.2544	0.03	Q	|	|	|	V |
20+ 0	0.2546	0.03	Q	|	|	|	V |
20+ 5	0.2548	0.04	Q	|	|	|	V |
20+10	0.2551	0.04	Q	|	|	|	V |
20+15	0.2554	0.04	Q	|	|	|	V |
20+20	0.2556	0.04	Q	|	|	|	V |
20+25	0.2559	0.04	Q	|	|	|	V |
20+30	0.2562	0.04	Q	|	|	|	V |
20+35	0.2564	0.04	Q	|	|	|	V |
20+40	0.2567	0.04	Q	|	|	|	V |
20+45	0.2570	0.04	Q	|	|	|	V |
20+50	0.2571	0.03	Q	|	|	|	V |
20+55	0.2573	0.03	Q	|	|	|	V |
21+ 0	0.2575	0.03	Q	|	|	|	V |
21+ 5	0.2577	0.04	Q	|	|	|	V |
21+10	0.2580	0.04	Q	|	|	|	V |
21+15	0.2583	0.04	Q	|	|	|	V|
21+20	0.2585	0.03	Q	|	|	|	V|
21+25	0.2586	0.03	Q	|	|	|	V|
21+30	0.2588	0.03	Q	|	|	|	V|
21+35	0.2591	0.04	Q	|	|	|	V|
21+40	0.2593	0.04	Q	|	|	|	V|
21+45	0.2596	0.04	Q	|	|	|	V|
21+50	0.2598	0.03	Q	|	|	|	V|
21+55	0.2599	0.03	Q	|	|	|	V|
22+ 0	0.2601	0.03	Q	|	|	|	V|
22+ 5	0.2604	0.04	Q	|	|	|	V|
22+10	0.2606	0.04	Q	|	|	|	V|
22+15	0.2609	0.04	Q	|	|	|	V|
22+20	0.2611	0.03	Q	|	|	|	V|
22+25	0.2613	0.03	Q	|	|	|	V|
22+30	0.2614	0.03	Q	|	|	|	V|
22+35	0.2616	0.03	Q	|	|	|	V|
22+40	0.2618	0.03	Q	|	|	|	V|

22+45	0.2620	0.03	Q	|	|	|	V|
22+50	0.2621	0.03	Q	|	|	|	V|
22+55	0.2623	0.03	Q	|	|	|	V|
23+ 0	0.2625	0.03	Q	|	|	|	V|
23+ 5	0.2627	0.03	Q	|	|	|	V|
23+10	0.2628	0.03	Q	|	|	|	V|
23+15	0.2630	0.03	Q	|	|	|	V|
23+20	0.2632	0.03	Q	|	|	|	V|
23+25	0.2634	0.03	Q	|	|	|	V|
23+30	0.2635	0.03	Q	|	|	|	V|
23+35	0.2637	0.03	Q	|	|	|	V|
23+40	0.2639	0.03	Q	|	|	|	V|
23+45	0.2641	0.03	Q	|	|	|	V|
23+50	0.2642	0.03	Q	|	|	|	V|
23+55	0.2644	0.03	Q	|	|	|	V|
24+ 0	0.2646	0.03	Q	|	|	|	V|
24+ 5	0.2646	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 06/03/26 File: 19267p010B2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area B

Drainage Area = 3.25(Ac.) = 0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.25(Ac.) = 0.005 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
3.25	1.66	5.39

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.25	4.10	13.30

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.245	75.00	0.870

Total Area Entered = 3.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.870	0.066	1.000	0.066
					Sum (F) =	0.066

Area averaged mean soil loss (F) (In/Hr) = 0.066
Minimum soil loss rate ((In/Hr)) = 0.033
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	3.270
		Sum = 100.000	Sum= 3.270

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.117)	0.004	0.017
2	0.17	0.07	0.021	(0.116)	0.004	0.017
3	0.25	0.07	0.021	(0.116)	0.004	0.017
4	0.33	0.10	0.032	(0.115)	0.006	0.026
5	0.42	0.10	0.032	(0.115)	0.006	0.026
6	0.50	0.10	0.032	(0.114)	0.006	0.026
7	0.58	0.10	0.032	(0.114)	0.006	0.026
8	0.67	0.10	0.032	(0.113)	0.006	0.026
9	0.75	0.10	0.032	(0.113)	0.006	0.026
10	0.83	0.13	0.043	(0.113)	0.009	0.034
11	0.92	0.13	0.043	(0.112)	0.009	0.034
12	1.00	0.13	0.043	(0.112)	0.009	0.034

13	1.08	0.10	0.032	(0.111)	0.006	0.026
14	1.17	0.10	0.032	(0.111)	0.006	0.026
15	1.25	0.10	0.032	(0.110)	0.006	0.026
16	1.33	0.10	0.032	(0.110)	0.006	0.026
17	1.42	0.10	0.032	(0.109)	0.006	0.026
18	1.50	0.10	0.032	(0.109)	0.006	0.026
19	1.58	0.10	0.032	(0.109)	0.006	0.026
20	1.67	0.10	0.032	(0.108)	0.006	0.026
21	1.75	0.10	0.032	(0.108)	0.006	0.026
22	1.83	0.13	0.043	(0.107)	0.009	0.034
23	1.92	0.13	0.043	(0.107)	0.009	0.034
24	2.00	0.13	0.043	(0.106)	0.009	0.034
25	2.08	0.13	0.043	(0.106)	0.009	0.034
26	2.17	0.13	0.043	(0.106)	0.009	0.034
27	2.25	0.13	0.043	(0.105)	0.009	0.034
28	2.33	0.13	0.043	(0.105)	0.009	0.034
29	2.42	0.13	0.043	(0.104)	0.009	0.034
30	2.50	0.13	0.043	(0.104)	0.009	0.034
31	2.58	0.17	0.053	(0.103)	0.011	0.043
32	2.67	0.17	0.053	(0.103)	0.011	0.043
33	2.75	0.17	0.053	(0.103)	0.011	0.043
34	2.83	0.17	0.053	(0.102)	0.011	0.043
35	2.92	0.17	0.053	(0.102)	0.011	0.043
36	3.00	0.17	0.053	(0.101)	0.011	0.043
37	3.08	0.17	0.053	(0.101)	0.011	0.043
38	3.17	0.17	0.053	(0.100)	0.011	0.043
39	3.25	0.17	0.053	(0.100)	0.011	0.043
40	3.33	0.17	0.053	(0.100)	0.011	0.043
41	3.42	0.17	0.053	(0.099)	0.011	0.043
42	3.50	0.17	0.053	(0.099)	0.011	0.043
43	3.58	0.17	0.053	(0.098)	0.011	0.043
44	3.67	0.17	0.053	(0.098)	0.011	0.043
45	3.75	0.17	0.053	(0.098)	0.011	0.043
46	3.83	0.20	0.064	(0.097)	0.013	0.051
47	3.92	0.20	0.064	(0.097)	0.013	0.051
48	4.00	0.20	0.064	(0.096)	0.013	0.051
49	4.08	0.20	0.064	(0.096)	0.013	0.051
50	4.17	0.20	0.064	(0.096)	0.013	0.051
51	4.25	0.20	0.064	(0.095)	0.013	0.051
52	4.33	0.23	0.075	(0.095)	0.015	0.060
53	4.42	0.23	0.075	(0.094)	0.015	0.060
54	4.50	0.23	0.075	(0.094)	0.015	0.060
55	4.58	0.23	0.075	(0.093)	0.015	0.060
56	4.67	0.23	0.075	(0.093)	0.015	0.060
57	4.75	0.23	0.075	(0.093)	0.015	0.060
58	4.83	0.27	0.085	(0.092)	0.017	0.068
59	4.92	0.27	0.085	(0.092)	0.017	0.068
60	5.00	0.27	0.085	(0.091)	0.017	0.068
61	5.08	0.20	0.064	(0.091)	0.013	0.051
62	5.17	0.20	0.064	(0.091)	0.013	0.051
63	5.25	0.20	0.064	(0.090)	0.013	0.051
64	5.33	0.23	0.075	(0.090)	0.015	0.060
65	5.42	0.23	0.075	(0.090)	0.015	0.060
66	5.50	0.23	0.075	(0.089)	0.015	0.060
67	5.58	0.27	0.085	(0.089)	0.017	0.068
68	5.67	0.27	0.085	(0.088)	0.017	0.068
69	5.75	0.27	0.085	(0.088)	0.017	0.068

70	5.83	0.27	0.085	(0.088)	0.017	0.068
71	5.92	0.27	0.085	(0.087)	0.017	0.068
72	6.00	0.27	0.085	(0.087)	0.017	0.068
73	6.08	0.30	0.096	(0.086)	0.019	0.077
74	6.17	0.30	0.096	(0.086)	0.019	0.077
75	6.25	0.30	0.096	(0.086)	0.019	0.077
76	6.33	0.30	0.096	(0.085)	0.019	0.077
77	6.42	0.30	0.096	(0.085)	0.019	0.077
78	6.50	0.30	0.096	(0.084)	0.019	0.077
79	6.58	0.33	0.107	(0.084)	0.021	0.085
80	6.67	0.33	0.107	(0.084)	0.021	0.085
81	6.75	0.33	0.107	(0.083)	0.021	0.085
82	6.83	0.33	0.107	(0.083)	0.021	0.085
83	6.92	0.33	0.107	(0.083)	0.021	0.085
84	7.00	0.33	0.107	(0.082)	0.021	0.085
85	7.08	0.33	0.107	(0.082)	0.021	0.085
86	7.17	0.33	0.107	(0.081)	0.021	0.085
87	7.25	0.33	0.107	(0.081)	0.021	0.085
88	7.33	0.37	0.117	(0.081)	0.023	0.094
89	7.42	0.37	0.117	(0.080)	0.023	0.094
90	7.50	0.37	0.117	(0.080)	0.023	0.094
91	7.58	0.40	0.128	(0.080)	0.026	0.102
92	7.67	0.40	0.128	(0.079)	0.026	0.102
93	7.75	0.40	0.128	(0.079)	0.026	0.102
94	7.83	0.43	0.139	(0.079)	0.028	0.111
95	7.92	0.43	0.139	(0.078)	0.028	0.111
96	8.00	0.43	0.139	(0.078)	0.028	0.111
97	8.08	0.50	0.160	(0.077)	0.032	0.128
98	8.17	0.50	0.160	(0.077)	0.032	0.128
99	8.25	0.50	0.160	(0.077)	0.032	0.128
100	8.33	0.50	0.160	(0.076)	0.032	0.128
101	8.42	0.50	0.160	(0.076)	0.032	0.128
102	8.50	0.50	0.160	(0.076)	0.032	0.128
103	8.58	0.53	0.170	(0.075)	0.034	0.136
104	8.67	0.53	0.170	(0.075)	0.034	0.136
105	8.75	0.53	0.170	(0.075)	0.034	0.136
106	8.83	0.57	0.181	(0.074)	0.036	0.145
107	8.92	0.57	0.181	(0.074)	0.036	0.145
108	9.00	0.57	0.181	(0.074)	0.036	0.145
109	9.08	0.63	0.202	(0.073)	0.040	0.162
110	9.17	0.63	0.202	(0.073)	0.040	0.162
111	9.25	0.63	0.202	(0.073)	0.040	0.162
112	9.33	0.67	0.213	(0.072)	0.043	0.170
113	9.42	0.67	0.213	(0.072)	0.043	0.170
114	9.50	0.67	0.213	(0.071)	0.043	0.170
115	9.58	0.70	0.224	(0.071)	0.045	0.179
116	9.67	0.70	0.224	(0.071)	0.045	0.179
117	9.75	0.70	0.224	(0.070)	0.045	0.179
118	9.83	0.73	0.234	(0.070)	0.047	0.188
119	9.92	0.73	0.234	(0.070)	0.047	0.188
120	10.00	0.73	0.234	(0.069)	0.047	0.188
121	10.08	0.50	0.160	(0.069)	0.032	0.128
122	10.17	0.50	0.160	(0.069)	0.032	0.128
123	10.25	0.50	0.160	(0.068)	0.032	0.128
124	10.33	0.50	0.160	(0.068)	0.032	0.128
125	10.42	0.50	0.160	(0.068)	0.032	0.128
126	10.50	0.50	0.160	(0.067)	0.032	0.128

127	10.58	0.67	0.213	(0.067)	0.043	0.170
128	10.67	0.67	0.213	(0.067)	0.043	0.170
129	10.75	0.67	0.213	(0.066)	0.043	0.170
130	10.83	0.67	0.213	(0.066)	0.043	0.170
131	10.92	0.67	0.213	(0.066)	0.043	0.170
132	11.00	0.67	0.213	(0.065)	0.043	0.170
133	11.08	0.63	0.202	(0.065)	0.040	0.162
134	11.17	0.63	0.202	(0.065)	0.040	0.162
135	11.25	0.63	0.202	(0.065)	0.040	0.162
136	11.33	0.63	0.202	(0.064)	0.040	0.162
137	11.42	0.63	0.202	(0.064)	0.040	0.162
138	11.50	0.63	0.202	(0.064)	0.040	0.162
139	11.58	0.57	0.181	(0.063)	0.036	0.145
140	11.67	0.57	0.181	(0.063)	0.036	0.145
141	11.75	0.57	0.181	(0.063)	0.036	0.145
142	11.83	0.60	0.192	(0.062)	0.038	0.153
143	11.92	0.60	0.192	(0.062)	0.038	0.153
144	12.00	0.60	0.192	(0.062)	0.038	0.153
145	12.08	0.83	0.266	(0.061)	0.053	0.213
146	12.17	0.83	0.266	(0.061)	0.053	0.213
147	12.25	0.83	0.266	(0.061)	0.053	0.213
148	12.33	0.87	0.277	(0.060)	0.055	0.222
149	12.42	0.87	0.277	(0.060)	0.055	0.222
150	12.50	0.87	0.277	(0.060)	0.055	0.222
151	12.58	0.93	0.298	0.060	(0.060)	0.239
152	12.67	0.93	0.298	0.059	(0.060)	0.239
153	12.75	0.93	0.298	0.059	(0.060)	0.239
154	12.83	0.97	0.309	0.059	(0.062)	0.250
155	12.92	0.97	0.309	0.058	(0.062)	0.251
156	13.00	0.97	0.309	0.058	(0.062)	0.251
157	13.08	1.13	0.362	0.058	(0.072)	0.305
158	13.17	1.13	0.362	0.057	(0.072)	0.305
159	13.25	1.13	0.362	0.057	(0.072)	0.305
160	13.33	1.13	0.362	0.057	(0.072)	0.305
161	13.42	1.13	0.362	0.057	(0.072)	0.306
162	13.50	1.13	0.362	0.056	(0.072)	0.306
163	13.58	0.77	0.245	(0.056)	0.049	0.196
164	13.67	0.77	0.245	(0.056)	0.049	0.196
165	13.75	0.77	0.245	(0.055)	0.049	0.196
166	13.83	0.77	0.245	(0.055)	0.049	0.196
167	13.92	0.77	0.245	(0.055)	0.049	0.196
168	14.00	0.77	0.245	(0.055)	0.049	0.196
169	14.08	0.90	0.288	0.054	(0.058)	0.233
170	14.17	0.90	0.288	0.054	(0.058)	0.234
171	14.25	0.90	0.288	0.054	(0.058)	0.234
172	14.33	0.87	0.277	0.054	(0.055)	0.224
173	14.42	0.87	0.277	0.053	(0.055)	0.224
174	14.50	0.87	0.277	0.053	(0.055)	0.224
175	14.58	0.87	0.277	0.053	(0.055)	0.224
176	14.67	0.87	0.277	0.052	(0.055)	0.225
177	14.75	0.87	0.277	0.052	(0.055)	0.225
178	14.83	0.83	0.266	0.052	(0.053)	0.214
179	14.92	0.83	0.266	0.052	(0.053)	0.215
180	15.00	0.83	0.266	0.051	(0.053)	0.215
181	15.08	0.80	0.256	0.051	(0.051)	0.205
182	15.17	0.80	0.256	0.051	(0.051)	0.205
183	15.25	0.80	0.256	0.051	(0.051)	0.205

184	15.33	0.77	0.245	(0.050)	0.049	0.196
185	15.42	0.77	0.245	(0.050)	0.049	0.196
186	15.50	0.77	0.245	(0.050)	0.049	0.196
187	15.58	0.63	0.202	(0.050)	0.040	0.162
188	15.67	0.63	0.202	(0.049)	0.040	0.162
189	15.75	0.63	0.202	(0.049)	0.040	0.162
190	15.83	0.63	0.202	(0.049)	0.040	0.162
191	15.92	0.63	0.202	(0.049)	0.040	0.162
192	16.00	0.63	0.202	(0.048)	0.040	0.162
193	16.08	0.13	0.043	(0.048)	0.009	0.034
194	16.17	0.13	0.043	(0.048)	0.009	0.034
195	16.25	0.13	0.043	(0.048)	0.009	0.034
196	16.33	0.13	0.043	(0.047)	0.009	0.034
197	16.42	0.13	0.043	(0.047)	0.009	0.034
198	16.50	0.13	0.043	(0.047)	0.009	0.034
199	16.58	0.10	0.032	(0.047)	0.006	0.026
200	16.67	0.10	0.032	(0.046)	0.006	0.026
201	16.75	0.10	0.032	(0.046)	0.006	0.026
202	16.83	0.10	0.032	(0.046)	0.006	0.026
203	16.92	0.10	0.032	(0.046)	0.006	0.026
204	17.00	0.10	0.032	(0.045)	0.006	0.026
205	17.08	0.17	0.053	(0.045)	0.011	0.043
206	17.17	0.17	0.053	(0.045)	0.011	0.043
207	17.25	0.17	0.053	(0.045)	0.011	0.043
208	17.33	0.17	0.053	(0.045)	0.011	0.043
209	17.42	0.17	0.053	(0.044)	0.011	0.043
210	17.50	0.17	0.053	(0.044)	0.011	0.043
211	17.58	0.17	0.053	(0.044)	0.011	0.043
212	17.67	0.17	0.053	(0.044)	0.011	0.043
213	17.75	0.17	0.053	(0.043)	0.011	0.043
214	17.83	0.13	0.043	(0.043)	0.009	0.034
215	17.92	0.13	0.043	(0.043)	0.009	0.034
216	18.00	0.13	0.043	(0.043)	0.009	0.034
217	18.08	0.13	0.043	(0.043)	0.009	0.034
218	18.17	0.13	0.043	(0.042)	0.009	0.034
219	18.25	0.13	0.043	(0.042)	0.009	0.034
220	18.33	0.13	0.043	(0.042)	0.009	0.034
221	18.42	0.13	0.043	(0.042)	0.009	0.034
222	18.50	0.13	0.043	(0.042)	0.009	0.034
223	18.58	0.10	0.032	(0.041)	0.006	0.026
224	18.67	0.10	0.032	(0.041)	0.006	0.026
225	18.75	0.10	0.032	(0.041)	0.006	0.026
226	18.83	0.07	0.021	(0.041)	0.004	0.017
227	18.92	0.07	0.021	(0.041)	0.004	0.017
228	19.00	0.07	0.021	(0.040)	0.004	0.017
229	19.08	0.10	0.032	(0.040)	0.006	0.026
230	19.17	0.10	0.032	(0.040)	0.006	0.026
231	19.25	0.10	0.032	(0.040)	0.006	0.026
232	19.33	0.13	0.043	(0.040)	0.009	0.034
233	19.42	0.13	0.043	(0.039)	0.009	0.034
234	19.50	0.13	0.043	(0.039)	0.009	0.034
235	19.58	0.10	0.032	(0.039)	0.006	0.026
236	19.67	0.10	0.032	(0.039)	0.006	0.026
237	19.75	0.10	0.032	(0.039)	0.006	0.026
238	19.83	0.07	0.021	(0.039)	0.004	0.017
239	19.92	0.07	0.021	(0.038)	0.004	0.017
240	20.00	0.07	0.021	(0.038)	0.004	0.017

241	20.08	0.10	0.032	(0.038)	0.006	0.026
242	20.17	0.10	0.032	(0.038)	0.006	0.026
243	20.25	0.10	0.032	(0.038)	0.006	0.026
244	20.33	0.10	0.032	(0.038)	0.006	0.026
245	20.42	0.10	0.032	(0.037)	0.006	0.026
246	20.50	0.10	0.032	(0.037)	0.006	0.026
247	20.58	0.10	0.032	(0.037)	0.006	0.026
248	20.67	0.10	0.032	(0.037)	0.006	0.026
249	20.75	0.10	0.032	(0.037)	0.006	0.026
250	20.83	0.07	0.021	(0.037)	0.004	0.017
251	20.92	0.07	0.021	(0.036)	0.004	0.017
252	21.00	0.07	0.021	(0.036)	0.004	0.017
253	21.08	0.10	0.032	(0.036)	0.006	0.026
254	21.17	0.10	0.032	(0.036)	0.006	0.026
255	21.25	0.10	0.032	(0.036)	0.006	0.026
256	21.33	0.07	0.021	(0.036)	0.004	0.017
257	21.42	0.07	0.021	(0.036)	0.004	0.017
258	21.50	0.07	0.021	(0.035)	0.004	0.017
259	21.58	0.10	0.032	(0.035)	0.006	0.026
260	21.67	0.10	0.032	(0.035)	0.006	0.026
261	21.75	0.10	0.032	(0.035)	0.006	0.026
262	21.83	0.07	0.021	(0.035)	0.004	0.017
263	21.92	0.07	0.021	(0.035)	0.004	0.017
264	22.00	0.07	0.021	(0.035)	0.004	0.017
265	22.08	0.10	0.032	(0.035)	0.006	0.026
266	22.17	0.10	0.032	(0.034)	0.006	0.026
267	22.25	0.10	0.032	(0.034)	0.006	0.026
268	22.33	0.07	0.021	(0.034)	0.004	0.017
269	22.42	0.07	0.021	(0.034)	0.004	0.017
270	22.50	0.07	0.021	(0.034)	0.004	0.017
271	22.58	0.07	0.021	(0.034)	0.004	0.017
272	22.67	0.07	0.021	(0.034)	0.004	0.017
273	22.75	0.07	0.021	(0.034)	0.004	0.017
274	22.83	0.07	0.021	(0.034)	0.004	0.017
275	22.92	0.07	0.021	(0.034)	0.004	0.017
276	23.00	0.07	0.021	(0.034)	0.004	0.017
277	23.08	0.07	0.021	(0.033)	0.004	0.017
278	23.17	0.07	0.021	(0.033)	0.004	0.017
279	23.25	0.07	0.021	(0.033)	0.004	0.017
280	23.33	0.07	0.021	(0.033)	0.004	0.017
281	23.42	0.07	0.021	(0.033)	0.004	0.017
282	23.50	0.07	0.021	(0.033)	0.004	0.017
283	23.58	0.07	0.021	(0.033)	0.004	0.017
284	23.67	0.07	0.021	(0.033)	0.004	0.017
285	23.75	0.07	0.021	(0.033)	0.004	0.017
286	23.83	0.07	0.021	(0.033)	0.004	0.017
287	23.92	0.07	0.021	(0.033)	0.004	0.017
288	24.00	0.07	0.021	(0.033)	0.004	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 25.7

Flood volume = Effective rainfall 2.14(In)
times area 3.2(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.141(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 25235.8 Cubic Feet
Total soil loss = 6142.2 Cubic Feet

Peak flow rate of this hydrograph = 1.001(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	0.0004	0.06	Q				
0+10	0.0008	0.06	Q				
0+15	0.0012	0.06	Q				
0+20	0.0017	0.08	Q				
0+25	0.0023	0.08	Q				
0+30	0.0029	0.08	Q				
0+35	0.0035	0.08	Q				
0+40	0.0040	0.08	Q				
0+45	0.0046	0.08	Q				
0+50	0.0054	0.11	Q				
0+55	0.0061	0.11	Q				
1+ 0	0.0069	0.11	Q				
1+ 5	0.0075	0.08	Q				
1+10	0.0081	0.08	Q				
1+15	0.0086	0.08	Q				
1+20	0.0092	0.08	Q				
1+25	0.0098	0.08	Q				
1+30	0.0104	0.08	Q				
1+35	0.0109	0.08	Q				
1+40	0.0115	0.08	Q				
1+45	0.0121	0.08	Q				
1+50	0.0129	0.11	Q				
1+55	0.0136	0.11	Q				
2+ 0	0.0144	0.11	Q				
2+ 5	0.0152	0.11	QV				
2+10	0.0159	0.11	QV				
2+15	0.0167	0.11	QV				
2+20	0.0175	0.11	QV				
2+25	0.0182	0.11	QV				
2+30	0.0190	0.11	QV				
2+35	0.0200	0.14	QV				
2+40	0.0209	0.14	QV				
2+45	0.0219	0.14	QV				
2+50	0.0229	0.14	QV				
2+55	0.0238	0.14	QV				
3+ 0	0.0248	0.14	QV				
3+ 5	0.0257	0.14	QV				
3+10	0.0267	0.14	QV				
3+15	0.0277	0.14	QV				
3+20	0.0286	0.14	QV				
3+25	0.0296	0.14	Q V				
3+30	0.0305	0.14	Q V				
3+35	0.0315	0.14	Q V				
3+40	0.0325	0.14	Q V				
3+45	0.0334	0.14	Q V				

3+50	0.0346	0.17	Q V	|	|	|	|
3+55	0.0357	0.17	Q V	|	|	|	|
4+ 0	0.0369	0.17	Q V	|	|	|	|
4+ 5	0.0380	0.17	Q V	|	|	|	|
4+10	0.0392	0.17	Q V	|	|	|	|
4+15	0.0403	0.17	Q V	|	|	|	|
4+20	0.0417	0.20	Q V	|	|	|	|
4+25	0.0430	0.20	Q V	|	|	|	|
4+30	0.0444	0.20	Q V	|	|	|	|
4+35	0.0457	0.20	Q V	|	|	|	|
4+40	0.0471	0.20	Q V	|	|	|	|
4+45	0.0484	0.20	Q V	|	|	|	|
4+50	0.0499	0.22	Q V	|	|	|	|
4+55	0.0515	0.22	Q V	|	|	|	|
5+ 0	0.0530	0.22	Q V	|	|	|	|
5+ 5	0.0542	0.17	Q V	|	|	|	|
5+10	0.0553	0.17	Q V	|	|	|	|
5+15	0.0565	0.17	Q V	|	|	|	|
5+20	0.0578	0.20	Q V	|	|	|	|
5+25	0.0592	0.20	Q V	|	|	|	|
5+30	0.0605	0.20	Q V	|	|	|	|
5+35	0.0620	0.22	Q V	|	|	|	|
5+40	0.0636	0.22	Q V	|	|	|	|
5+45	0.0651	0.22	Q V	|	|	|	|
5+50	0.0667	0.22	Q V	|	|	|	|
5+55	0.0682	0.22	Q V	|	|	|	|
6+ 0	0.0697	0.22	Q V	|	|	|	|
6+ 5	0.0715	0.25	|Q V	|	|	|	|
6+10	0.0732	0.25	|Q V	|	|	|	|
6+15	0.0749	0.25	|Q V	|	|	|	|
6+20	0.0766	0.25	|Q V	|	|	|	|
6+25	0.0784	0.25	|Q V	|	|	|	|
6+30	0.0801	0.25	|Q V	|	|	|	|
6+35	0.0820	0.28	|Q V	|	|	|	|
6+40	0.0839	0.28	|Q V	|	|	|	|
6+45	0.0859	0.28	|Q V	|	|	|	|
6+50	0.0878	0.28	|Q V	|	|	|	|
6+55	0.0897	0.28	|Q V	|	|	|	|
7+ 0	0.0916	0.28	|Q V	|	|	|	|
7+ 5	0.0935	0.28	|Q V	|	|	|	|
7+10	0.0955	0.28	|Q V	|	|	|	|
7+15	0.0974	0.28	|Q V	|	|	|	|
7+20	0.0995	0.31	|Q V	|	|	|	|
7+25	0.1016	0.31	|Q V	|	|	|	|
7+30	0.1037	0.31	|Q V	|	|	|	|
7+35	0.1060	0.33	|Q V	|	|	|	|
7+40	0.1083	0.33	|Q V	|	|	|	|
7+45	0.1106	0.33	|Q V	|	|	|	|
7+50	0.1131	0.36	|Q V	|	|	|	|
7+55	0.1156	0.36	|Q V	|	|	|	|
8+ 0	0.1181	0.36	|Q V	|	|	|	|
8+ 5	0.1210	0.42	|Q V	|	|	|	|
8+10	0.1239	0.42	|Q V	|	|	|	|
8+15	0.1268	0.42	|Q V	|	|	|	|
8+20	0.1297	0.42	|Q V	|	|	|	|
8+25	0.1325	0.42	|Q V|	|	|	|	|
8+30	0.1354	0.42	|Q V|	|	|	|	|

8+35	0.1385	0.45	Q	V			
8+40	0.1416	0.45	Q	V			
8+45	0.1446	0.45	Q	V			
8+50	0.1479	0.47	Q	V			
8+55	0.1512	0.47	Q	V			
9+ 0	0.1544	0.47	Q	V			
9+ 5	0.1581	0.53	Q	V			
9+10	0.1617	0.53	Q	V			
9+15	0.1654	0.53	Q	V			
9+20	0.1692	0.56	Q	V			
9+25	0.1731	0.56	Q	V			
9+30	0.1769	0.56	Q	V			
9+35	0.1809	0.59	Q	V			
9+40	0.1850	0.59	Q	V			
9+45	0.1890	0.59	Q	V			
9+50	0.1932	0.61	Q	V			
9+55	0.1975	0.61	Q	V			
10+ 0	0.2017	0.61	Q	V			
10+ 5	0.2046	0.42	Q	V			
10+10	0.2075	0.42	Q	V			
10+15	0.2103	0.42	Q	V			
10+20	0.2132	0.42	Q	V			
10+25	0.2161	0.42	Q	V			
10+30	0.2190	0.42	Q	V			
10+35	0.2228	0.56	Q	V			
10+40	0.2267	0.56	Q	V			
10+45	0.2305	0.56	Q	V			
10+50	0.2344	0.56	Q	V			
10+55	0.2382	0.56	Q	V			
11+ 0	0.2420	0.56	Q	V			
11+ 5	0.2457	0.53	Q	V			
11+10	0.2493	0.53	Q	V			
11+15	0.2530	0.53	Q	V			
11+20	0.2566	0.53	Q	V			
11+25	0.2603	0.53	Q	V			
11+30	0.2639	0.53	Q	V			
11+35	0.2672	0.47	Q	V			
11+40	0.2705	0.47	Q	V			
11+45	0.2737	0.47	Q	V			
11+50	0.2772	0.50	Q	V			
11+55	0.2806	0.50	Q	V			
12+ 0	0.2841	0.50	Q	V			
12+ 5	0.2889	0.70	Q	V			
12+10	0.2937	0.70	Q	V			
12+15	0.2985	0.70	Q	V			
12+20	0.3035	0.73	Q	V			
12+25	0.3085	0.73	Q	V			
12+30	0.3135	0.73	Q	V			
12+35	0.3189	0.78	Q	V			
12+40	0.3243	0.78	Q	V			
12+45	0.3297	0.78	Q	V			
12+50	0.3353	0.82	Q	V			
12+55	0.3409	0.82	Q	V			
13+ 0	0.3466	0.82	Q	V			
13+ 5	0.3535	1.00	Q	V			
13+10	0.3603	1.00	Q	V			
13+15	0.3672	1.00	Q	V			

13+20	0.3741	1.00	Q	V		
13+25	0.3810	1.00	Q	V		
13+30	0.3879	1.00	Q	V		
13+35	0.3923	0.64	Q	V		
13+40	0.3967	0.64	Q	V		
13+45	0.4011	0.64	Q	V		
13+50	0.4055	0.64	Q	V		
13+55	0.4100	0.64	Q	V		
14+ 0	0.4144	0.64	Q	V		
14+ 5	0.4196	0.76	Q	V		
14+10	0.4249	0.76	Q	V		
14+15	0.4302	0.77	Q	V		
14+20	0.4352	0.73	Q	V		
14+25	0.4403	0.73	Q	V		
14+30	0.4453	0.73	Q	V		
14+35	0.4504	0.73	Q	V		
14+40	0.4554	0.73	Q	V		
14+45	0.4605	0.74	Q	V		
14+50	0.4653	0.70	Q	V		
14+55	0.4702	0.70	Q	V		
15+ 0	0.4750	0.70	Q	V		
15+ 5	0.4796	0.67	Q	V		
15+10	0.4842	0.67	Q	V		
15+15	0.4889	0.67	Q	V		
15+20	0.4933	0.64	Q	V		
15+25	0.4977	0.64	Q	V		
15+30	0.5021	0.64	Q	V		
15+35	0.5058	0.53	Q	V		
15+40	0.5094	0.53	Q	V		
15+45	0.5131	0.53	Q	V		
15+50	0.5167	0.53	Q	V		
15+55	0.5204	0.53	Q	V		
16+ 0	0.5240	0.53	Q	V		
16+ 5	0.5248	0.11	Q	V		
16+10	0.5255	0.11	Q	V		
16+15	0.5263	0.11	Q	V		
16+20	0.5271	0.11	Q	V		
16+25	0.5279	0.11	Q	V		
16+30	0.5286	0.11	Q	V		
16+35	0.5292	0.08	Q	V		
16+40	0.5298	0.08	Q	V		
16+45	0.5304	0.08	Q	V		
16+50	0.5309	0.08	Q	V		
16+55	0.5315	0.08	Q	V		
17+ 0	0.5321	0.08	Q	V		
17+ 5	0.5330	0.14	Q	V		
17+10	0.5340	0.14	Q	V		
17+15	0.5350	0.14	Q	V		
17+20	0.5359	0.14	Q	V		
17+25	0.5369	0.14	Q	V		
17+30	0.5378	0.14	Q	V		
17+35	0.5388	0.14	Q	V		
17+40	0.5398	0.14	Q	V		
17+45	0.5407	0.14	Q	V		
17+50	0.5415	0.11	Q	V		
17+55	0.5423	0.11	Q	V		
18+ 0	0.5430	0.11	Q	V		

18+ 5	0.5438	0.11	Q	|	|	|	V |
18+10	0.5446	0.11	Q	|	|	|	V |
18+15	0.5453	0.11	Q	|	|	|	V |
18+20	0.5461	0.11	Q	|	|	|	V |
18+25	0.5469	0.11	Q	|	|	|	V |
18+30	0.5476	0.11	Q	|	|	|	V |
18+35	0.5482	0.08	Q	|	|	|	V |
18+40	0.5488	0.08	Q	|	|	|	V |
18+45	0.5494	0.08	Q	|	|	|	V |
18+50	0.5498	0.06	Q	|	|	|	V |
18+55	0.5501	0.06	Q	|	|	|	V |
19+ 0	0.5505	0.06	Q	|	|	|	V |
19+ 5	0.5511	0.08	Q	|	|	|	V |
19+10	0.5517	0.08	Q	|	|	|	V |
19+15	0.5523	0.08	Q	|	|	|	V |
19+20	0.5530	0.11	Q	|	|	|	V |
19+25	0.5538	0.11	Q	|	|	|	V |
19+30	0.5546	0.11	Q	|	|	|	V |
19+35	0.5551	0.08	Q	|	|	|	V |
19+40	0.5557	0.08	Q	|	|	|	V |
19+45	0.5563	0.08	Q	|	|	|	V |
19+50	0.5567	0.06	Q	|	|	|	V |
19+55	0.5571	0.06	Q	|	|	|	V |
20+ 0	0.5574	0.06	Q	|	|	|	V |
20+ 5	0.5580	0.08	Q	|	|	|	V |
20+10	0.5586	0.08	Q	|	|	|	V |
20+15	0.5592	0.08	Q	|	|	|	V |
20+20	0.5597	0.08	Q	|	|	|	V |
20+25	0.5603	0.08	Q	|	|	|	V |
20+30	0.5609	0.08	Q	|	|	|	V |
20+35	0.5615	0.08	Q	|	|	|	V |
20+40	0.5620	0.08	Q	|	|	|	V |
20+45	0.5626	0.08	Q	|	|	|	V |
20+50	0.5630	0.06	Q	|	|	|	V |
20+55	0.5634	0.06	Q	|	|	|	V |
21+ 0	0.5638	0.06	Q	|	|	|	V |
21+ 5	0.5644	0.08	Q	|	|	|	V |
21+10	0.5649	0.08	Q	|	|	|	V|
21+15	0.5655	0.08	Q	|	|	|	V|
21+20	0.5659	0.06	Q	|	|	|	V|
21+25	0.5663	0.06	Q	|	|	|	V|
21+30	0.5667	0.06	Q	|	|	|	V|
21+35	0.5672	0.08	Q	|	|	|	V|
21+40	0.5678	0.08	Q	|	|	|	V|
21+45	0.5684	0.08	Q	|	|	|	V|
21+50	0.5688	0.06	Q	|	|	|	V|
21+55	0.5692	0.06	Q	|	|	|	V|
22+ 0	0.5695	0.06	Q	|	|	|	V|
22+ 5	0.5701	0.08	Q	|	|	|	V|
22+10	0.5707	0.08	Q	|	|	|	V|
22+15	0.5713	0.08	Q	|	|	|	V|
22+20	0.5717	0.06	Q	|	|	|	V|
22+25	0.5720	0.06	Q	|	|	|	V|
22+30	0.5724	0.06	Q	|	|	|	V|
22+35	0.5728	0.06	Q	|	|	|	V|
22+40	0.5732	0.06	Q	|	|	|	V|
22+45	0.5736	0.06	Q	|	|	|	V|

22+50	0.5740	0.06	Q	|	|	|	V|
22+55	0.5743	0.06	Q	|	|	|	V|
23+ 0	0.5747	0.06	Q	|	|	|	V|
23+ 5	0.5751	0.06	Q	|	|	|	V|
23+10	0.5755	0.06	Q	|	|	|	V|
23+15	0.5759	0.06	Q	|	|	|	V|
23+20	0.5763	0.06	Q	|	|	|	V|
23+25	0.5766	0.06	Q	|	|	|	V|
23+30	0.5770	0.06	Q	|	|	|	V|
23+35	0.5774	0.06	Q	|	|	|	V|
23+40	0.5778	0.06	Q	|	|	|	V|
23+45	0.5782	0.06	Q	|	|	|	V|
23+50	0.5786	0.06	Q	|	|	|	V|
23+55	0.5790	0.06	Q	|	|	|	V|
24+ 0	0.5793	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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Study date 06/03/26 File: 19267p010CD2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area CD

Drainage Area = 1.25(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.25(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 185.00(Ft.)
Length along longest watercourse measured to centroid = 45.00(Ft.)
Length along longest watercourse = 0.035 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 4.90(Ft.)
Slope along watercourse = 139.8486 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.39 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	1.66	2.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.25	4.10	5.14

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.254	75.00	0.790

Total Area Entered = 1.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.790	0.088	1.000	0.088
					Sum (F) =	0.088

Area averaged mean soil loss (F) (In/Hr) = 0.088
Minimum soil loss rate ((In/Hr)) = 0.044
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1293.145	100.000	1.264
		Sum = 100.000	Sum=	1.264

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.155)	0.006	0.016
2	0.17	0.07	0.021	(0.155)	0.006	0.016
3	0.25	0.07	0.021	(0.154)	0.006	0.016
4	0.33	0.10	0.032	(0.153)	0.009	0.023
5	0.42	0.10	0.032	(0.153)	0.009	0.023
6	0.50	0.10	0.032	(0.152)	0.009	0.023
7	0.58	0.10	0.032	(0.152)	0.009	0.023
8	0.67	0.10	0.032	(0.151)	0.009	0.023
9	0.75	0.10	0.032	(0.150)	0.009	0.023
10	0.83	0.13	0.043	(0.150)	0.012	0.031
11	0.92	0.13	0.043	(0.149)	0.012	0.031
12	1.00	0.13	0.043	(0.149)	0.012	0.031

13	1.08	0.10	0.032	(0.148)	0.009	0.023
14	1.17	0.10	0.032	(0.148)	0.009	0.023
15	1.25	0.10	0.032	(0.147)	0.009	0.023
16	1.33	0.10	0.032	(0.146)	0.009	0.023
17	1.42	0.10	0.032	(0.146)	0.009	0.023
18	1.50	0.10	0.032	(0.145)	0.009	0.023
19	1.58	0.10	0.032	(0.145)	0.009	0.023
20	1.67	0.10	0.032	(0.144)	0.009	0.023
21	1.75	0.10	0.032	(0.143)	0.009	0.023
22	1.83	0.13	0.043	(0.143)	0.012	0.031
23	1.92	0.13	0.043	(0.142)	0.012	0.031
24	2.00	0.13	0.043	(0.142)	0.012	0.031
25	2.08	0.13	0.043	(0.141)	0.012	0.031
26	2.17	0.13	0.043	(0.141)	0.012	0.031
27	2.25	0.13	0.043	(0.140)	0.012	0.031
28	2.33	0.13	0.043	(0.139)	0.012	0.031
29	2.42	0.13	0.043	(0.139)	0.012	0.031
30	2.50	0.13	0.043	(0.138)	0.012	0.031
31	2.58	0.17	0.053	(0.138)	0.014	0.039
32	2.67	0.17	0.053	(0.137)	0.014	0.039
33	2.75	0.17	0.053	(0.137)	0.014	0.039
34	2.83	0.17	0.053	(0.136)	0.014	0.039
35	2.92	0.17	0.053	(0.135)	0.014	0.039
36	3.00	0.17	0.053	(0.135)	0.014	0.039
37	3.08	0.17	0.053	(0.134)	0.014	0.039
38	3.17	0.17	0.053	(0.134)	0.014	0.039
39	3.25	0.17	0.053	(0.133)	0.014	0.039
40	3.33	0.17	0.053	(0.133)	0.014	0.039
41	3.42	0.17	0.053	(0.132)	0.014	0.039
42	3.50	0.17	0.053	(0.132)	0.014	0.039
43	3.58	0.17	0.053	(0.131)	0.014	0.039
44	3.67	0.17	0.053	(0.130)	0.014	0.039
45	3.75	0.17	0.053	(0.130)	0.014	0.039
46	3.83	0.20	0.064	(0.129)	0.017	0.047
47	3.92	0.20	0.064	(0.129)	0.017	0.047
48	4.00	0.20	0.064	(0.128)	0.017	0.047
49	4.08	0.20	0.064	(0.128)	0.017	0.047
50	4.17	0.20	0.064	(0.127)	0.017	0.047
51	4.25	0.20	0.064	(0.127)	0.017	0.047
52	4.33	0.23	0.075	(0.126)	0.020	0.054
53	4.42	0.23	0.075	(0.126)	0.020	0.054
54	4.50	0.23	0.075	(0.125)	0.020	0.054
55	4.58	0.23	0.075	(0.125)	0.020	0.054
56	4.67	0.23	0.075	(0.124)	0.020	0.054
57	4.75	0.23	0.075	(0.123)	0.020	0.054
58	4.83	0.27	0.085	(0.123)	0.023	0.062
59	4.92	0.27	0.085	(0.122)	0.023	0.062
60	5.00	0.27	0.085	(0.122)	0.023	0.062
61	5.08	0.20	0.064	(0.121)	0.017	0.047
62	5.17	0.20	0.064	(0.121)	0.017	0.047
63	5.25	0.20	0.064	(0.120)	0.017	0.047
64	5.33	0.23	0.075	(0.120)	0.020	0.054
65	5.42	0.23	0.075	(0.119)	0.020	0.054
66	5.50	0.23	0.075	(0.119)	0.020	0.054
67	5.58	0.27	0.085	(0.118)	0.023	0.062
68	5.67	0.27	0.085	(0.118)	0.023	0.062
69	5.75	0.27	0.085	(0.117)	0.023	0.062

70	5.83	0.27	0.085	(0.117)	0.023	0.062
71	5.92	0.27	0.085	(0.116)	0.023	0.062
72	6.00	0.27	0.085	(0.116)	0.023	0.062
73	6.08	0.30	0.096	(0.115)	0.026	0.070
74	6.17	0.30	0.096	(0.115)	0.026	0.070
75	6.25	0.30	0.096	(0.114)	0.026	0.070
76	6.33	0.30	0.096	(0.114)	0.026	0.070
77	6.42	0.30	0.096	(0.113)	0.026	0.070
78	6.50	0.30	0.096	(0.113)	0.026	0.070
79	6.58	0.33	0.107	(0.112)	0.029	0.078
80	6.67	0.33	0.107	(0.112)	0.029	0.078
81	6.75	0.33	0.107	(0.111)	0.029	0.078
82	6.83	0.33	0.107	(0.111)	0.029	0.078
83	6.92	0.33	0.107	(0.110)	0.029	0.078
84	7.00	0.33	0.107	(0.110)	0.029	0.078
85	7.08	0.33	0.107	(0.109)	0.029	0.078
86	7.17	0.33	0.107	(0.109)	0.029	0.078
87	7.25	0.33	0.107	(0.108)	0.029	0.078
88	7.33	0.37	0.117	(0.108)	0.032	0.086
89	7.42	0.37	0.117	(0.107)	0.032	0.086
90	7.50	0.37	0.117	(0.107)	0.032	0.086
91	7.58	0.40	0.128	(0.106)	0.035	0.093
92	7.67	0.40	0.128	(0.106)	0.035	0.093
93	7.75	0.40	0.128	(0.105)	0.035	0.093
94	7.83	0.43	0.139	(0.105)	0.037	0.101
95	7.92	0.43	0.139	(0.104)	0.037	0.101
96	8.00	0.43	0.139	(0.104)	0.037	0.101
97	8.08	0.50	0.160	(0.103)	0.043	0.117
98	8.17	0.50	0.160	(0.103)	0.043	0.117
99	8.25	0.50	0.160	(0.102)	0.043	0.117
100	8.33	0.50	0.160	(0.102)	0.043	0.117
101	8.42	0.50	0.160	(0.101)	0.043	0.117
102	8.50	0.50	0.160	(0.101)	0.043	0.117
103	8.58	0.53	0.170	(0.100)	0.046	0.124
104	8.67	0.53	0.170	(0.100)	0.046	0.124
105	8.75	0.53	0.170	(0.099)	0.046	0.124
106	8.83	0.57	0.181	(0.099)	0.049	0.132
107	8.92	0.57	0.181	(0.098)	0.049	0.132
108	9.00	0.57	0.181	(0.098)	0.049	0.132
109	9.08	0.63	0.202	(0.097)	0.055	0.148
110	9.17	0.63	0.202	(0.097)	0.055	0.148
111	9.25	0.63	0.202	(0.097)	0.055	0.148
112	9.33	0.67	0.213	(0.096)	0.058	0.156
113	9.42	0.67	0.213	(0.096)	0.058	0.156
114	9.50	0.67	0.213	(0.095)	0.058	0.156
115	9.58	0.70	0.224	(0.095)	0.060	0.163
116	9.67	0.70	0.224	(0.094)	0.060	0.163
117	9.75	0.70	0.224	(0.094)	0.060	0.163
118	9.83	0.73	0.234	(0.093)	0.063	0.171
119	9.92	0.73	0.234	(0.093)	0.063	0.171
120	10.00	0.73	0.234	(0.092)	0.063	0.171
121	10.08	0.50	0.160	(0.092)	0.043	0.117
122	10.17	0.50	0.160	(0.092)	0.043	0.117
123	10.25	0.50	0.160	(0.091)	0.043	0.117
124	10.33	0.50	0.160	(0.091)	0.043	0.117
125	10.42	0.50	0.160	(0.090)	0.043	0.117
126	10.50	0.50	0.160	(0.090)	0.043	0.117

127	10.58	0.67	0.213	(0.089)	0.058	0.156
128	10.67	0.67	0.213	(0.089)	0.058	0.156
129	10.75	0.67	0.213	(0.088)	0.058	0.156
130	10.83	0.67	0.213	(0.088)	0.058	0.156
131	10.92	0.67	0.213	(0.088)	0.058	0.156
132	11.00	0.67	0.213	(0.087)	0.058	0.156
133	11.08	0.63	0.202	(0.087)	0.055	0.148
134	11.17	0.63	0.202	(0.086)	0.055	0.148
135	11.25	0.63	0.202	(0.086)	0.055	0.148
136	11.33	0.63	0.202	(0.085)	0.055	0.148
137	11.42	0.63	0.202	(0.085)	0.055	0.148
138	11.50	0.63	0.202	(0.085)	0.055	0.148
139	11.58	0.57	0.181	(0.084)	0.049	0.132
140	11.67	0.57	0.181	(0.084)	0.049	0.132
141	11.75	0.57	0.181	(0.083)	0.049	0.132
142	11.83	0.60	0.192	(0.083)	0.052	0.140
143	11.92	0.60	0.192	(0.083)	0.052	0.140
144	12.00	0.60	0.192	(0.082)	0.052	0.140
145	12.08	0.83	0.266	(0.082)	0.072	0.194
146	12.17	0.83	0.266	(0.081)	0.072	0.194
147	12.25	0.83	0.266	(0.081)	0.072	0.194
148	12.33	0.87	0.277	(0.081)	0.075	0.202
149	12.42	0.87	0.277	(0.080)	0.075	0.202
150	12.50	0.87	0.277	(0.080)	0.075	0.202
151	12.58	0.93	0.298	0.079	(0.081)	0.219
152	12.67	0.93	0.298	0.079	(0.081)	0.219
153	12.75	0.93	0.298	0.079	(0.081)	0.220
154	12.83	0.97	0.309	0.078	(0.083)	0.231
155	12.92	0.97	0.309	0.078	(0.083)	0.231
156	13.00	0.97	0.309	0.077	(0.083)	0.232
157	13.08	1.13	0.362	0.077	(0.098)	0.285
158	13.17	1.13	0.362	0.077	(0.098)	0.286
159	13.25	1.13	0.362	0.076	(0.098)	0.286
160	13.33	1.13	0.362	0.076	(0.098)	0.287
161	13.42	1.13	0.362	0.075	(0.098)	0.287
162	13.50	1.13	0.362	0.075	(0.098)	0.287
163	13.58	0.77	0.245	(0.075)	0.066	0.179
164	13.67	0.77	0.245	(0.074)	0.066	0.179
165	13.75	0.77	0.245	(0.074)	0.066	0.179
166	13.83	0.77	0.245	(0.073)	0.066	0.179
167	13.92	0.77	0.245	(0.073)	0.066	0.179
168	14.00	0.77	0.245	(0.073)	0.066	0.179
169	14.08	0.90	0.288	0.072	(0.078)	0.215
170	14.17	0.90	0.288	0.072	(0.078)	0.216
171	14.25	0.90	0.288	0.072	(0.078)	0.216
172	14.33	0.87	0.277	0.071	(0.075)	0.206
173	14.42	0.87	0.277	0.071	(0.075)	0.206
174	14.50	0.87	0.277	0.071	(0.075)	0.207
175	14.58	0.87	0.277	0.070	(0.075)	0.207
176	14.67	0.87	0.277	0.070	(0.075)	0.207
177	14.75	0.87	0.277	0.069	(0.075)	0.208
178	14.83	0.83	0.266	0.069	(0.072)	0.197
179	14.92	0.83	0.266	0.069	(0.072)	0.198
180	15.00	0.83	0.266	0.068	(0.072)	0.198
181	15.08	0.80	0.256	0.068	(0.069)	0.188
182	15.17	0.80	0.256	0.068	(0.069)	0.188
183	15.25	0.80	0.256	0.067	(0.069)	0.188

184	15.33	0.77	0.245	(0.067)	0.066	0.179
185	15.42	0.77	0.245	(0.067)	0.066	0.179
186	15.50	0.77	0.245	(0.066)	0.066	0.179
187	15.58	0.63	0.202	(0.066)	0.055	0.148
188	15.67	0.63	0.202	(0.066)	0.055	0.148
189	15.75	0.63	0.202	(0.065)	0.055	0.148
190	15.83	0.63	0.202	(0.065)	0.055	0.148
191	15.92	0.63	0.202	(0.065)	0.055	0.148
192	16.00	0.63	0.202	(0.064)	0.055	0.148
193	16.08	0.13	0.043	(0.064)	0.012	0.031
194	16.17	0.13	0.043	(0.064)	0.012	0.031
195	16.25	0.13	0.043	(0.063)	0.012	0.031
196	16.33	0.13	0.043	(0.063)	0.012	0.031
197	16.42	0.13	0.043	(0.063)	0.012	0.031
198	16.50	0.13	0.043	(0.062)	0.012	0.031
199	16.58	0.10	0.032	(0.062)	0.009	0.023
200	16.67	0.10	0.032	(0.062)	0.009	0.023
201	16.75	0.10	0.032	(0.061)	0.009	0.023
202	16.83	0.10	0.032	(0.061)	0.009	0.023
203	16.92	0.10	0.032	(0.061)	0.009	0.023
204	17.00	0.10	0.032	(0.060)	0.009	0.023
205	17.08	0.17	0.053	(0.060)	0.014	0.039
206	17.17	0.17	0.053	(0.060)	0.014	0.039
207	17.25	0.17	0.053	(0.060)	0.014	0.039
208	17.33	0.17	0.053	(0.059)	0.014	0.039
209	17.42	0.17	0.053	(0.059)	0.014	0.039
210	17.50	0.17	0.053	(0.059)	0.014	0.039
211	17.58	0.17	0.053	(0.058)	0.014	0.039
212	17.67	0.17	0.053	(0.058)	0.014	0.039
213	17.75	0.17	0.053	(0.058)	0.014	0.039
214	17.83	0.13	0.043	(0.058)	0.012	0.031
215	17.92	0.13	0.043	(0.057)	0.012	0.031
216	18.00	0.13	0.043	(0.057)	0.012	0.031
217	18.08	0.13	0.043	(0.057)	0.012	0.031
218	18.17	0.13	0.043	(0.056)	0.012	0.031
219	18.25	0.13	0.043	(0.056)	0.012	0.031
220	18.33	0.13	0.043	(0.056)	0.012	0.031
221	18.42	0.13	0.043	(0.056)	0.012	0.031
222	18.50	0.13	0.043	(0.055)	0.012	0.031
223	18.58	0.10	0.032	(0.055)	0.009	0.023
224	18.67	0.10	0.032	(0.055)	0.009	0.023
225	18.75	0.10	0.032	(0.055)	0.009	0.023
226	18.83	0.07	0.021	(0.054)	0.006	0.016
227	18.92	0.07	0.021	(0.054)	0.006	0.016
228	19.00	0.07	0.021	(0.054)	0.006	0.016
229	19.08	0.10	0.032	(0.053)	0.009	0.023
230	19.17	0.10	0.032	(0.053)	0.009	0.023
231	19.25	0.10	0.032	(0.053)	0.009	0.023
232	19.33	0.13	0.043	(0.053)	0.012	0.031
233	19.42	0.13	0.043	(0.052)	0.012	0.031
234	19.50	0.13	0.043	(0.052)	0.012	0.031
235	19.58	0.10	0.032	(0.052)	0.009	0.023
236	19.67	0.10	0.032	(0.052)	0.009	0.023
237	19.75	0.10	0.032	(0.052)	0.009	0.023
238	19.83	0.07	0.021	(0.051)	0.006	0.016
239	19.92	0.07	0.021	(0.051)	0.006	0.016
240	20.00	0.07	0.021	(0.051)	0.006	0.016

241	20.08	0.10	0.032	(0.051)	0.009	0.023
242	20.17	0.10	0.032	(0.050)	0.009	0.023
243	20.25	0.10	0.032	(0.050)	0.009	0.023
244	20.33	0.10	0.032	(0.050)	0.009	0.023
245	20.42	0.10	0.032	(0.050)	0.009	0.023
246	20.50	0.10	0.032	(0.050)	0.009	0.023
247	20.58	0.10	0.032	(0.049)	0.009	0.023
248	20.67	0.10	0.032	(0.049)	0.009	0.023
249	20.75	0.10	0.032	(0.049)	0.009	0.023
250	20.83	0.07	0.021	(0.049)	0.006	0.016
251	20.92	0.07	0.021	(0.049)	0.006	0.016
252	21.00	0.07	0.021	(0.048)	0.006	0.016
253	21.08	0.10	0.032	(0.048)	0.009	0.023
254	21.17	0.10	0.032	(0.048)	0.009	0.023
255	21.25	0.10	0.032	(0.048)	0.009	0.023
256	21.33	0.07	0.021	(0.048)	0.006	0.016
257	21.42	0.07	0.021	(0.047)	0.006	0.016
258	21.50	0.07	0.021	(0.047)	0.006	0.016
259	21.58	0.10	0.032	(0.047)	0.009	0.023
260	21.67	0.10	0.032	(0.047)	0.009	0.023
261	21.75	0.10	0.032	(0.047)	0.009	0.023
262	21.83	0.07	0.021	(0.047)	0.006	0.016
263	21.92	0.07	0.021	(0.046)	0.006	0.016
264	22.00	0.07	0.021	(0.046)	0.006	0.016
265	22.08	0.10	0.032	(0.046)	0.009	0.023
266	22.17	0.10	0.032	(0.046)	0.009	0.023
267	22.25	0.10	0.032	(0.046)	0.009	0.023
268	22.33	0.07	0.021	(0.046)	0.006	0.016
269	22.42	0.07	0.021	(0.046)	0.006	0.016
270	22.50	0.07	0.021	(0.045)	0.006	0.016
271	22.58	0.07	0.021	(0.045)	0.006	0.016
272	22.67	0.07	0.021	(0.045)	0.006	0.016
273	22.75	0.07	0.021	(0.045)	0.006	0.016
274	22.83	0.07	0.021	(0.045)	0.006	0.016
275	22.92	0.07	0.021	(0.045)	0.006	0.016
276	23.00	0.07	0.021	(0.045)	0.006	0.016
277	23.08	0.07	0.021	(0.045)	0.006	0.016
278	23.17	0.07	0.021	(0.044)	0.006	0.016
279	23.25	0.07	0.021	(0.044)	0.006	0.016
280	23.33	0.07	0.021	(0.044)	0.006	0.016
281	23.42	0.07	0.021	(0.044)	0.006	0.016
282	23.50	0.07	0.021	(0.044)	0.006	0.016
283	23.58	0.07	0.021	(0.044)	0.006	0.016
284	23.67	0.07	0.021	(0.044)	0.006	0.016
285	23.75	0.07	0.021	(0.044)	0.006	0.016
286	23.83	0.07	0.021	(0.044)	0.006	0.016
287	23.92	0.07	0.021	(0.044)	0.006	0.016
288	24.00	0.07	0.021	(0.044)	0.006	0.016
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	23.5

Flood volume = Effective rainfall 1.96(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.70(In)
Total soil loss = 0.073(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 8931.7 Cubic Feet
Total soil loss = 3194.1 Cubic Feet

Peak flow rate of this hydrograph = 0.363(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q				
0+10	0.0003	0.02	Q				
0+15	0.0004	0.02	Q				
0+20	0.0006	0.03	Q				
0+25	0.0008	0.03	Q				
0+30	0.0010	0.03	Q				
0+35	0.0012	0.03	Q				
0+40	0.0014	0.03	Q				
0+45	0.0016	0.03	Q				
0+50	0.0019	0.04	Q				
0+55	0.0022	0.04	Q				
1+ 0	0.0024	0.04	Q				
1+ 5	0.0026	0.03	Q				
1+10	0.0028	0.03	Q				
1+15	0.0030	0.03	Q				
1+20	0.0033	0.03	Q				
1+25	0.0035	0.03	Q				
1+30	0.0037	0.03	Q				
1+35	0.0039	0.03	Q				
1+40	0.0041	0.03	Q				
1+45	0.0043	0.03	Q				
1+50	0.0045	0.04	Q				
1+55	0.0048	0.04	Q				
2+ 0	0.0051	0.04	Q				
2+ 5	0.0054	0.04	QV				
2+10	0.0056	0.04	QV				
2+15	0.0059	0.04	QV				
2+20	0.0062	0.04	QV				
2+25	0.0064	0.04	QV				
2+30	0.0067	0.04	QV				
2+35	0.0070	0.05	QV				
2+40	0.0074	0.05	QV				
2+45	0.0077	0.05	QV				
2+50	0.0081	0.05	QV				
2+55	0.0084	0.05	QV				
3+ 0	0.0087	0.05	QV				
3+ 5	0.0091	0.05	QV				
3+10	0.0094	0.05	QV				
3+15	0.0098	0.05	QV				
3+20	0.0101	0.05	QV				
3+25	0.0104	0.05	Q V				
3+30	0.0108	0.05	Q V				
3+35	0.0111	0.05	Q V				
3+40	0.0114	0.05	Q V				
3+45	0.0118	0.05	Q V				

3+50	0.0122	0.06	Q V	|	|	|	|
3+55	0.0126	0.06	Q V	|	|	|	|
4+ 0	0.0130	0.06	Q V	|	|	|	|
4+ 5	0.0134	0.06	Q V	|	|	|	|
4+10	0.0138	0.06	Q V	|	|	|	|
4+15	0.0142	0.06	Q V	|	|	|	|
4+20	0.0147	0.07	Q V	|	|	|	|
4+25	0.0152	0.07	Q V	|	|	|	|
4+30	0.0156	0.07	Q V	|	|	|	|
4+35	0.0161	0.07	Q V	|	|	|	|
4+40	0.0166	0.07	Q V	|	|	|	|
4+45	0.0171	0.07	Q V	|	|	|	|
4+50	0.0176	0.08	Q V	|	|	|	|
4+55	0.0182	0.08	Q V	|	|	|	|
5+ 0	0.0187	0.08	Q V	|	|	|	|
5+ 5	0.0191	0.06	Q V	|	|	|	|
5+10	0.0195	0.06	Q V	|	|	|	|
5+15	0.0199	0.06	Q V	|	|	|	|
5+20	0.0204	0.07	Q V	|	|	|	|
5+25	0.0209	0.07	Q V	|	|	|	|
5+30	0.0213	0.07	Q V	|	|	|	|
5+35	0.0219	0.08	Q V	|	|	|	|
5+40	0.0224	0.08	Q V	|	|	|	|
5+45	0.0230	0.08	Q V	|	|	|	|
5+50	0.0235	0.08	Q V	|	|	|	|
5+55	0.0240	0.08	Q V	|	|	|	|
6+ 0	0.0246	0.08	Q V	|	|	|	|
6+ 5	0.0252	0.09	Q V	|	|	|	|
6+10	0.0258	0.09	Q V	|	|	|	|
6+15	0.0264	0.09	Q V	|	|	|	|
6+20	0.0270	0.09	Q V	|	|	|	|
6+25	0.0276	0.09	Q V	|	|	|	|
6+30	0.0282	0.09	Q V	|	|	|	|
6+35	0.0289	0.10	Q V	|	|	|	|
6+40	0.0296	0.10	Q V	|	|	|	|
6+45	0.0303	0.10	Q V	|	|	|	|
6+50	0.0310	0.10	Q V	|	|	|	|
6+55	0.0316	0.10	Q V	|	|	|	|
7+ 0	0.0323	0.10	Q V	|	|	|	|
7+ 5	0.0330	0.10	Q V	|	|	|	|
7+10	0.0337	0.10	Q V	|	|	|	|
7+15	0.0343	0.10	Q V	|	|	|	|
7+20	0.0351	0.11	Q V	|	|	|	|
7+25	0.0358	0.11	Q V	|	|	|	|
7+30	0.0366	0.11	Q V	|	|	|	|
7+35	0.0374	0.12	Q V	|	|	|	|
7+40	0.0382	0.12	Q V	|	|	|	|
7+45	0.0390	0.12	Q V	|	|	|	|
7+50	0.0399	0.13	Q V	|	|	|	|
7+55	0.0408	0.13	Q V	|	|	|	|
8+ 0	0.0417	0.13	Q V	|	|	|	|
8+ 5	0.0427	0.15	Q V	|	|	|	|
8+10	0.0437	0.15	Q V	|	|	|	|
8+15	0.0447	0.15	Q V	|	|	|	|
8+20	0.0457	0.15	Q V	|	|	|	|
8+25	0.0467	0.15	Q V	|	|	|	|
8+30	0.0478	0.15	Q V	|	|	|	|

8+35	0.0488	0.16	Q	V|	|	|	|	|
8+40	0.0499	0.16	Q	V|	|	|	|	|
8+45	0.0510	0.16	Q	V|	|	|	|	|
8+50	0.0522	0.17	Q	V	|	|	|	|
8+55	0.0533	0.17	Q	V	|	|	|	|
9+ 0	0.0545	0.17	Q	V	|	|	|	|
9+ 5	0.0557	0.19	Q	V	|	|	|	|
9+10	0.0570	0.19	Q	|V	|	|	|	|
9+15	0.0583	0.19	Q	|V	|	|	|	|
9+20	0.0597	0.20	Q	|V	|	|	|	|
9+25	0.0610	0.20	Q	|V	|	|	|	|
9+30	0.0624	0.20	Q	| V	|	|	|	|
9+35	0.0638	0.21	Q	| V	|	|	|	|
9+40	0.0652	0.21	Q	| V	|	|	|	|
9+45	0.0667	0.21	Q	| V	|	|	|	|
9+50	0.0681	0.22	Q	| V	|	|	|	|
9+55	0.0696	0.22	Q	| V	|	|	|	|
10+ 0	0.0711	0.22	Q	| V	|	|	|	|
10+ 5	0.0721	0.15	Q	| V	|	|	|	|
10+10	0.0732	0.15	Q	| V	|	|	|	|
10+15	0.0742	0.15	Q	| V	|	|	|	|
10+20	0.0752	0.15	Q	| V	|	|	|	|
10+25	0.0762	0.15	Q	| V	|	|	|	|
10+30	0.0772	0.15	Q	| V	|	|	|	|
10+35	0.0786	0.20	Q	| V	|	|	|	|
10+40	0.0799	0.20	Q	| V	|	|	|	|
10+45	0.0813	0.20	Q	| V	|	|	|	|
10+50	0.0826	0.20	Q	| V	|	|	|	|
10+55	0.0840	0.20	Q	| V	|	|	|	|
11+ 0	0.0853	0.20	Q	| V	|	|	|	|
11+ 5	0.0866	0.19	Q	| V	|	|	|	|
11+10	0.0879	0.19	Q	| V	|	|	|	|
11+15	0.0892	0.19	Q	| V	|	|	|	|
11+20	0.0905	0.19	Q	| V	|	|	|	|
11+25	0.0918	0.19	Q	| V	|	|	|	|
11+30	0.0931	0.19	Q	| V	|	|	|	|
11+35	0.0942	0.17	Q	| V	|	|	|	|
11+40	0.0954	0.17	Q	| V	|	|	|	|
11+45	0.0965	0.17	Q	| V	|	|	|	|
11+50	0.0977	0.18	Q	| V|	|	|	|	|
11+55	0.0990	0.18	Q	| V|	|	|	|	|
12+ 0	0.1002	0.18	Q	| V|	|	|	|	|
12+ 5	0.1019	0.25	Q	| V|	|	|	|	|
12+10	0.1036	0.25	Q	| V	|	|	|	|
12+15	0.1053	0.25	Q	| V	|	|	|	|
12+20	0.1070	0.26	|Q	| V	|	|	|	|
12+25	0.1088	0.26	|Q	| |V	|	|	|	|
12+30	0.1105	0.26	|Q	| |V	|	|	|	|
12+35	0.1125	0.28	|Q	| |V	|	|	|	|
12+40	0.1144	0.28	|Q	| | V	|	|	|	|
12+45	0.1163	0.28	|Q	| | V	|	|	|	|
12+50	0.1183	0.29	|Q	| | V	|	|	|	|
12+55	0.1203	0.29	|Q	| | V	|	|	|	|
13+ 0	0.1223	0.29	|Q	| | V	|	|	|	|
13+ 5	0.1248	0.36	|Q	| | V	|	|	|	|
13+10	0.1273	0.36	|Q	| | V	|	|	|	|
13+15	0.1298	0.36	|Q	| | V	|	|	|	|

13+20	0.1323	0.36	|Q	|	|	V |	|	|
13+25	0.1348	0.36	|Q	|	|	V |	|	|
13+30	0.1373	0.36	|Q	|	|	V |	|	|
13+35	0.1388	0.23	Q	|	|	V |	|	|
13+40	0.1404	0.23	Q	|	|	V |	|	|
13+45	0.1420	0.23	Q	|	|	V |	|	|
13+50	0.1435	0.23	Q	|	|	V |	|	|
13+55	0.1451	0.23	Q	|	|	V |	|	|
14+ 0	0.1466	0.23	Q	|	|	V |	|	|
14+ 5	0.1485	0.27	|Q	|	|	V |	|	|
14+10	0.1504	0.27	|Q	|	|	V|	|	|
14+15	0.1523	0.27	|Q	|	|	V|	|	|
14+20	0.1541	0.26	|Q	|	|	V |	|	|
14+25	0.1559	0.26	|Q	|	|	V |	|	|
14+30	0.1576	0.26	|Q	|	|	V |	|	|
14+35	0.1595	0.26	|Q	|	|	|V |	|	|
14+40	0.1613	0.26	|Q	|	|	|V |	|	|
14+45	0.1631	0.26	|Q	|	|	|V |	|	|
14+50	0.1648	0.25	Q	|	|	| V |	|	|
14+55	0.1665	0.25	Q	|	|	| V |	|	|
15+ 0	0.1682	0.25	|Q	|	|	| V |	|	|
15+ 5	0.1699	0.24	Q	|	|	| V |	|	|
15+10	0.1715	0.24	Q	|	|	| V |	|	|
15+15	0.1731	0.24	Q	|	|	| V |	|	|
15+20	0.1747	0.23	Q	|	|	| V |	|	|
15+25	0.1763	0.23	Q	|	|	| V |	|	|
15+30	0.1778	0.23	Q	|	|	| V |	|	|
15+35	0.1791	0.19	Q	|	|	| V |	|	|
15+40	0.1804	0.19	Q	|	|	| V |	|	|
15+45	0.1817	0.19	Q	|	|	| V |	|	|
15+50	0.1830	0.19	Q	|	|	| V |	|	|
15+55	0.1842	0.19	Q	|	|	| V |	|	|
16+ 0	0.1855	0.19	Q	|	|	| V |	|	|
16+ 5	0.1858	0.04	Q	|	|	| V |	|	|
16+10	0.1861	0.04	Q	|	|	| V |	|	|
16+15	0.1863	0.04	Q	|	|	| V |	|	|
16+20	0.1866	0.04	Q	|	|	| V |	|	|
16+25	0.1869	0.04	Q	|	|	| V |	|	|
16+30	0.1872	0.04	Q	|	|	| V |	|	|
16+35	0.1874	0.03	Q	|	|	| V |	|	|
16+40	0.1876	0.03	Q	|	|	| V |	|	|
16+45	0.1878	0.03	Q	|	|	| V |	|	|
16+50	0.1880	0.03	Q	|	|	| V |	|	|
16+55	0.1882	0.03	Q	|	|	| V |	|	|
17+ 0	0.1884	0.03	Q	|	|	| V |	|	|
17+ 5	0.1887	0.05	Q	|	|	| V |	|	|
17+10	0.1891	0.05	Q	|	|	| V |	|	|
17+15	0.1894	0.05	Q	|	|	| V |	|	|
17+20	0.1897	0.05	Q	|	|	| V |	|	|
17+25	0.1901	0.05	Q	|	|	| V |	|	|
17+30	0.1904	0.05	Q	|	|	| V |	|	|
17+35	0.1908	0.05	Q	|	|	| V |	|	|
17+40	0.1911	0.05	Q	|	|	| V |	|	|
17+45	0.1914	0.05	Q	|	|	| V |	|	|
17+50	0.1917	0.04	Q	|	|	| V |	|	|
17+55	0.1920	0.04	Q	|	|	| V |	|	|
18+ 0	0.1922	0.04	Q	|	|	| V |	|	|

18+ 5	0.1925	0.04	Q	|	|	|	V |
18+10	0.1928	0.04	Q	|	|	|	V |
18+15	0.1931	0.04	Q	|	|	|	V |
18+20	0.1933	0.04	Q	|	|	|	V |
18+25	0.1936	0.04	Q	|	|	|	V |
18+30	0.1939	0.04	Q	|	|	|	V |
18+35	0.1941	0.03	Q	|	|	|	V |
18+40	0.1943	0.03	Q	|	|	|	V |
18+45	0.1945	0.03	Q	|	|	|	V |
18+50	0.1946	0.02	Q	|	|	|	V |
18+55	0.1947	0.02	Q	|	|	|	V |
19+ 0	0.1949	0.02	Q	|	|	|	V |
19+ 5	0.1951	0.03	Q	|	|	|	V |
19+10	0.1953	0.03	Q	|	|	|	V |
19+15	0.1955	0.03	Q	|	|	|	V |
19+20	0.1958	0.04	Q	|	|	|	V |
19+25	0.1960	0.04	Q	|	|	|	V |
19+30	0.1963	0.04	Q	|	|	|	V |
19+35	0.1965	0.03	Q	|	|	|	V |
19+40	0.1967	0.03	Q	|	|	|	V |
19+45	0.1969	0.03	Q	|	|	|	V |
19+50	0.1970	0.02	Q	|	|	|	V |
19+55	0.1972	0.02	Q	|	|	|	V |
20+ 0	0.1973	0.02	Q	|	|	|	V |
20+ 5	0.1975	0.03	Q	|	|	|	V |
20+10	0.1977	0.03	Q	|	|	|	V |
20+15	0.1979	0.03	Q	|	|	|	V |
20+20	0.1981	0.03	Q	|	|	|	V |
20+25	0.1983	0.03	Q	|	|	|	V |
20+30	0.1985	0.03	Q	|	|	|	V |
20+35	0.1987	0.03	Q	|	|	|	V |
20+40	0.1989	0.03	Q	|	|	|	V |
20+45	0.1991	0.03	Q	|	|	|	V |
20+50	0.1993	0.02	Q	|	|	|	V |
20+55	0.1994	0.02	Q	|	|	|	V |
21+ 0	0.1996	0.02	Q	|	|	|	V |
21+ 5	0.1998	0.03	Q	|	|	|	V |
21+10	0.2000	0.03	Q	|	|	|	V|
21+15	0.2002	0.03	Q	|	|	|	V|
21+20	0.2003	0.02	Q	|	|	|	V|
21+25	0.2004	0.02	Q	|	|	|	V|
21+30	0.2006	0.02	Q	|	|	|	V|
21+35	0.2008	0.03	Q	|	|	|	V|
21+40	0.2010	0.03	Q	|	|	|	V|
21+45	0.2012	0.03	Q	|	|	|	V|
21+50	0.2013	0.02	Q	|	|	|	V|
21+55	0.2015	0.02	Q	|	|	|	V|
22+ 0	0.2016	0.02	Q	|	|	|	V|
22+ 5	0.2018	0.03	Q	|	|	|	V|
22+10	0.2020	0.03	Q	|	|	|	V|
22+15	0.2022	0.03	Q	|	|	|	V|
22+20	0.2023	0.02	Q	|	|	|	V|
22+25	0.2025	0.02	Q	|	|	|	V|
22+30	0.2026	0.02	Q	|	|	|	V|
22+35	0.2027	0.02	Q	|	|	|	V|
22+40	0.2029	0.02	Q	|	|	|	V|
22+45	0.2030	0.02	Q	|	|	|	V|

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  22+50       0.2031      0.02  Q          |          |          |         V|
  22+55       0.2033      0.02  Q          |          |          |         V|
  23+ 0       0.2034      0.02  Q          |          |          |         V|
  23+ 5       0.2036      0.02  Q          |          |          |         V|
  23+10       0.2037      0.02  Q          |          |          |         V|
  23+15       0.2038      0.02  Q          |          |          |         V|
  23+20       0.2040      0.02  Q          |          |          |         V|
  23+25       0.2041      0.02  Q          |          |          |         V|
  23+30       0.2042      0.02  Q          |          |          |         V|
  23+35       0.2044      0.02  Q          |          |          |         V|
  23+40       0.2045      0.02  Q          |          |          |         V|
  23+45       0.2046      0.02  Q          |          |          |         V|
  23+50       0.2048      0.02  Q          |          |          |         V|
  23+55       0.2049      0.02  Q          |          |          |         V|
  24+ 0       0.2050      0.02  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 06/03/26 File: 19267p010EK2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area EK

Drainage Area = 0.33(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.33(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 224.00(Ft.)
Length along longest watercourse measured to centroid = 94.00(Ft.)
Length along longest watercourse = 0.042 Mi.
Length along longest watercourse measured to centroid = 0.018 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 35.3571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.012 Hr.
Lag time = 0.71 Min.
25% of lag time = 0.18 Min.
40% of lag time = 0.29 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	1.66	0.55

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.33	4.10	1.36

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.332	75.00	0.880

Total Area Entered = 0.33(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	699.916	78.557	0.263
2	0.167	1399.832	21.443	0.072
			Sum = 100.000 Sum=	0.335

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.112)	0.004	0.017
2	0.17	0.07	0.021	(0.111)	0.004	0.017
3	0.25	0.07	0.021	(0.111)	0.004	0.017
4	0.33	0.10	0.032	(0.110)	0.006	0.026
5	0.42	0.10	0.032	(0.110)	0.006	0.026
6	0.50	0.10	0.032	(0.110)	0.006	0.026
7	0.58	0.10	0.032	(0.109)	0.006	0.026
8	0.67	0.10	0.032	(0.109)	0.006	0.026
9	0.75	0.10	0.032	(0.108)	0.006	0.026
10	0.83	0.13	0.043	(0.108)	0.009	0.034
11	0.92	0.13	0.043	(0.107)	0.009	0.034

12	1.00	0.13	0.043	(0.107)	0.009	0.034
13	1.08	0.10	0.032	(0.107)	0.006	0.026
14	1.17	0.10	0.032	(0.106)	0.006	0.026
15	1.25	0.10	0.032	(0.106)	0.006	0.026
16	1.33	0.10	0.032	(0.105)	0.006	0.026
17	1.42	0.10	0.032	(0.105)	0.006	0.026
18	1.50	0.10	0.032	(0.104)	0.006	0.026
19	1.58	0.10	0.032	(0.104)	0.006	0.026
20	1.67	0.10	0.032	(0.104)	0.006	0.026
21	1.75	0.10	0.032	(0.103)	0.006	0.026
22	1.83	0.13	0.043	(0.103)	0.009	0.034
23	1.92	0.13	0.043	(0.102)	0.009	0.034
24	2.00	0.13	0.043	(0.102)	0.009	0.034
25	2.08	0.13	0.043	(0.102)	0.009	0.034
26	2.17	0.13	0.043	(0.101)	0.009	0.034
27	2.25	0.13	0.043	(0.101)	0.009	0.034
28	2.33	0.13	0.043	(0.100)	0.009	0.034
29	2.42	0.13	0.043	(0.100)	0.009	0.034
30	2.50	0.13	0.043	(0.100)	0.009	0.034
31	2.58	0.17	0.053	(0.099)	0.011	0.043
32	2.67	0.17	0.053	(0.099)	0.011	0.043
33	2.75	0.17	0.053	(0.098)	0.011	0.043
34	2.83	0.17	0.053	(0.098)	0.011	0.043
35	2.92	0.17	0.053	(0.098)	0.011	0.043
36	3.00	0.17	0.053	(0.097)	0.011	0.043
37	3.08	0.17	0.053	(0.097)	0.011	0.043
38	3.17	0.17	0.053	(0.096)	0.011	0.043
39	3.25	0.17	0.053	(0.096)	0.011	0.043
40	3.33	0.17	0.053	(0.096)	0.011	0.043
41	3.42	0.17	0.053	(0.095)	0.011	0.043
42	3.50	0.17	0.053	(0.095)	0.011	0.043
43	3.58	0.17	0.053	(0.094)	0.011	0.043
44	3.67	0.17	0.053	(0.094)	0.011	0.043
45	3.75	0.17	0.053	(0.094)	0.011	0.043
46	3.83	0.20	0.064	(0.093)	0.013	0.051
47	3.92	0.20	0.064	(0.093)	0.013	0.051
48	4.00	0.20	0.064	(0.092)	0.013	0.051
49	4.08	0.20	0.064	(0.092)	0.013	0.051
50	4.17	0.20	0.064	(0.092)	0.013	0.051
51	4.25	0.20	0.064	(0.091)	0.013	0.051
52	4.33	0.23	0.075	(0.091)	0.015	0.060
53	4.42	0.23	0.075	(0.090)	0.015	0.060
54	4.50	0.23	0.075	(0.090)	0.015	0.060
55	4.58	0.23	0.075	(0.090)	0.015	0.060
56	4.67	0.23	0.075	(0.089)	0.015	0.060
57	4.75	0.23	0.075	(0.089)	0.015	0.060
58	4.83	0.27	0.085	(0.088)	0.017	0.068
59	4.92	0.27	0.085	(0.088)	0.017	0.068
60	5.00	0.27	0.085	(0.088)	0.017	0.068
61	5.08	0.20	0.064	(0.087)	0.013	0.051
62	5.17	0.20	0.064	(0.087)	0.013	0.051
63	5.25	0.20	0.064	(0.087)	0.013	0.051
64	5.33	0.23	0.075	(0.086)	0.015	0.060
65	5.42	0.23	0.075	(0.086)	0.015	0.060
66	5.50	0.23	0.075	(0.085)	0.015	0.060
67	5.58	0.27	0.085	(0.085)	0.017	0.068
68	5.67	0.27	0.085	(0.085)	0.017	0.068

69	5.75	0.27	0.085	(0.084)	0.017	0.068
70	5.83	0.27	0.085	(0.084)	0.017	0.068
71	5.92	0.27	0.085	(0.084)	0.017	0.068
72	6.00	0.27	0.085	(0.083)	0.017	0.068
73	6.08	0.30	0.096	(0.083)	0.019	0.077
74	6.17	0.30	0.096	(0.082)	0.019	0.077
75	6.25	0.30	0.096	(0.082)	0.019	0.077
76	6.33	0.30	0.096	(0.082)	0.019	0.077
77	6.42	0.30	0.096	(0.081)	0.019	0.077
78	6.50	0.30	0.096	(0.081)	0.019	0.077
79	6.58	0.33	0.107	(0.081)	0.021	0.085
80	6.67	0.33	0.107	(0.080)	0.021	0.085
81	6.75	0.33	0.107	(0.080)	0.021	0.085
82	6.83	0.33	0.107	(0.080)	0.021	0.085
83	6.92	0.33	0.107	(0.079)	0.021	0.085
84	7.00	0.33	0.107	(0.079)	0.021	0.085
85	7.08	0.33	0.107	(0.078)	0.021	0.085
86	7.17	0.33	0.107	(0.078)	0.021	0.085
87	7.25	0.33	0.107	(0.078)	0.021	0.085
88	7.33	0.37	0.117	(0.077)	0.023	0.094
89	7.42	0.37	0.117	(0.077)	0.023	0.094
90	7.50	0.37	0.117	(0.077)	0.023	0.094
91	7.58	0.40	0.128	(0.076)	0.026	0.102
92	7.67	0.40	0.128	(0.076)	0.026	0.102
93	7.75	0.40	0.128	(0.076)	0.026	0.102
94	7.83	0.43	0.139	(0.075)	0.028	0.111
95	7.92	0.43	0.139	(0.075)	0.028	0.111
96	8.00	0.43	0.139	(0.075)	0.028	0.111
97	8.08	0.50	0.160	(0.074)	0.032	0.128
98	8.17	0.50	0.160	(0.074)	0.032	0.128
99	8.25	0.50	0.160	(0.074)	0.032	0.128
100	8.33	0.50	0.160	(0.073)	0.032	0.128
101	8.42	0.50	0.160	(0.073)	0.032	0.128
102	8.50	0.50	0.160	(0.073)	0.032	0.128
103	8.58	0.53	0.170	(0.072)	0.034	0.136
104	8.67	0.53	0.170	(0.072)	0.034	0.136
105	8.75	0.53	0.170	(0.072)	0.034	0.136
106	8.83	0.57	0.181	(0.071)	0.036	0.145
107	8.92	0.57	0.181	(0.071)	0.036	0.145
108	9.00	0.57	0.181	(0.070)	0.036	0.145
109	9.08	0.63	0.202	(0.070)	0.040	0.162
110	9.17	0.63	0.202	(0.070)	0.040	0.162
111	9.25	0.63	0.202	(0.069)	0.040	0.162
112	9.33	0.67	0.213	(0.069)	0.043	0.170
113	9.42	0.67	0.213	(0.069)	0.043	0.170
114	9.50	0.67	0.213	(0.069)	0.043	0.170
115	9.58	0.70	0.224	(0.068)	0.045	0.179
116	9.67	0.70	0.224	(0.068)	0.045	0.179
117	9.75	0.70	0.224	(0.068)	0.045	0.179
118	9.83	0.73	0.234	(0.067)	0.047	0.188
119	9.92	0.73	0.234	(0.067)	0.047	0.188
120	10.00	0.73	0.234	(0.067)	0.047	0.188
121	10.08	0.50	0.160	(0.066)	0.032	0.128
122	10.17	0.50	0.160	(0.066)	0.032	0.128
123	10.25	0.50	0.160	(0.066)	0.032	0.128
124	10.33	0.50	0.160	(0.065)	0.032	0.128
125	10.42	0.50	0.160	(0.065)	0.032	0.128

126	10.50	0.50	0.160	(0.065)	0.032	0.128
127	10.58	0.67	0.213	(0.064)	0.043	0.170
128	10.67	0.67	0.213	(0.064)	0.043	0.170
129	10.75	0.67	0.213	(0.064)	0.043	0.170
130	10.83	0.67	0.213	(0.063)	0.043	0.170
131	10.92	0.67	0.213	(0.063)	0.043	0.170
132	11.00	0.67	0.213	(0.063)	0.043	0.170
133	11.08	0.63	0.202	(0.062)	0.040	0.162
134	11.17	0.63	0.202	(0.062)	0.040	0.162
135	11.25	0.63	0.202	(0.062)	0.040	0.162
136	11.33	0.63	0.202	(0.062)	0.040	0.162
137	11.42	0.63	0.202	(0.061)	0.040	0.162
138	11.50	0.63	0.202	(0.061)	0.040	0.162
139	11.58	0.57	0.181	(0.061)	0.036	0.145
140	11.67	0.57	0.181	(0.060)	0.036	0.145
141	11.75	0.57	0.181	(0.060)	0.036	0.145
142	11.83	0.60	0.192	(0.060)	0.038	0.153
143	11.92	0.60	0.192	(0.059)	0.038	0.153
144	12.00	0.60	0.192	(0.059)	0.038	0.153
145	12.08	0.83	0.266	(0.059)	0.053	0.213
146	12.17	0.83	0.266	(0.059)	0.053	0.213
147	12.25	0.83	0.266	(0.058)	0.053	0.213
148	12.33	0.87	0.277	(0.058)	0.055	0.222
149	12.42	0.87	0.277	(0.058)	0.055	0.222
150	12.50	0.87	0.277	(0.057)	0.055	0.222
151	12.58	0.93	0.298	0.057	(0.060)	0.241
152	12.67	0.93	0.298	0.057	(0.060)	0.242
153	12.75	0.93	0.298	0.057	(0.060)	0.242
154	12.83	0.97	0.309	0.056	(0.062)	0.253
155	12.92	0.97	0.309	0.056	(0.062)	0.253
156	13.00	0.97	0.309	0.056	(0.062)	0.253
157	13.08	1.13	0.362	0.055	(0.072)	0.307
158	13.17	1.13	0.362	0.055	(0.072)	0.307
159	13.25	1.13	0.362	0.055	(0.072)	0.307
160	13.33	1.13	0.362	0.055	(0.072)	0.308
161	13.42	1.13	0.362	0.054	(0.072)	0.308
162	13.50	1.13	0.362	0.054	(0.072)	0.308
163	13.58	0.77	0.245	(0.054)	0.049	0.196
164	13.67	0.77	0.245	(0.053)	0.049	0.196
165	13.75	0.77	0.245	(0.053)	0.049	0.196
166	13.83	0.77	0.245	(0.053)	0.049	0.196
167	13.92	0.77	0.245	(0.053)	0.049	0.196
168	14.00	0.77	0.245	(0.052)	0.049	0.196
169	14.08	0.90	0.288	0.052	(0.058)	0.236
170	14.17	0.90	0.288	0.052	(0.058)	0.236
171	14.25	0.90	0.288	0.052	(0.058)	0.236
172	14.33	0.87	0.277	0.051	(0.055)	0.226
173	14.42	0.87	0.277	0.051	(0.055)	0.226
174	14.50	0.87	0.277	0.051	(0.055)	0.226
175	14.58	0.87	0.277	0.051	(0.055)	0.227
176	14.67	0.87	0.277	0.050	(0.055)	0.227
177	14.75	0.87	0.277	0.050	(0.055)	0.227
178	14.83	0.83	0.266	0.050	(0.053)	0.217
179	14.92	0.83	0.266	0.049	(0.053)	0.217
180	15.00	0.83	0.266	0.049	(0.053)	0.217
181	15.08	0.80	0.256	0.049	(0.051)	0.207
182	15.17	0.80	0.256	0.049	(0.051)	0.207

183	15.25	0.80	0.256	0.048	(0.051)	0.207
184	15.33	0.77	0.245	0.048	(0.049)	0.197
185	15.42	0.77	0.245	0.048	(0.049)	0.197
186	15.50	0.77	0.245	0.048	(0.049)	0.197
187	15.58	0.63	0.202	(0.047)	0.040	0.162
188	15.67	0.63	0.202	(0.047)	0.040	0.162
189	15.75	0.63	0.202	(0.047)	0.040	0.162
190	15.83	0.63	0.202	(0.047)	0.040	0.162
191	15.92	0.63	0.202	(0.047)	0.040	0.162
192	16.00	0.63	0.202	(0.046)	0.040	0.162
193	16.08	0.13	0.043	(0.046)	0.009	0.034
194	16.17	0.13	0.043	(0.046)	0.009	0.034
195	16.25	0.13	0.043	(0.046)	0.009	0.034
196	16.33	0.13	0.043	(0.045)	0.009	0.034
197	16.42	0.13	0.043	(0.045)	0.009	0.034
198	16.50	0.13	0.043	(0.045)	0.009	0.034
199	16.58	0.10	0.032	(0.045)	0.006	0.026
200	16.67	0.10	0.032	(0.044)	0.006	0.026
201	16.75	0.10	0.032	(0.044)	0.006	0.026
202	16.83	0.10	0.032	(0.044)	0.006	0.026
203	16.92	0.10	0.032	(0.044)	0.006	0.026
204	17.00	0.10	0.032	(0.044)	0.006	0.026
205	17.08	0.17	0.053	(0.043)	0.011	0.043
206	17.17	0.17	0.053	(0.043)	0.011	0.043
207	17.25	0.17	0.053	(0.043)	0.011	0.043
208	17.33	0.17	0.053	(0.043)	0.011	0.043
209	17.42	0.17	0.053	(0.042)	0.011	0.043
210	17.50	0.17	0.053	(0.042)	0.011	0.043
211	17.58	0.17	0.053	(0.042)	0.011	0.043
212	17.67	0.17	0.053	(0.042)	0.011	0.043
213	17.75	0.17	0.053	(0.042)	0.011	0.043
214	17.83	0.13	0.043	(0.041)	0.009	0.034
215	17.92	0.13	0.043	(0.041)	0.009	0.034
216	18.00	0.13	0.043	(0.041)	0.009	0.034
217	18.08	0.13	0.043	(0.041)	0.009	0.034
218	18.17	0.13	0.043	(0.041)	0.009	0.034
219	18.25	0.13	0.043	(0.040)	0.009	0.034
220	18.33	0.13	0.043	(0.040)	0.009	0.034
221	18.42	0.13	0.043	(0.040)	0.009	0.034
222	18.50	0.13	0.043	(0.040)	0.009	0.034
223	18.58	0.10	0.032	(0.040)	0.006	0.026
224	18.67	0.10	0.032	(0.039)	0.006	0.026
225	18.75	0.10	0.032	(0.039)	0.006	0.026
226	18.83	0.07	0.021	(0.039)	0.004	0.017
227	18.92	0.07	0.021	(0.039)	0.004	0.017
228	19.00	0.07	0.021	(0.039)	0.004	0.017
229	19.08	0.10	0.032	(0.038)	0.006	0.026
230	19.17	0.10	0.032	(0.038)	0.006	0.026
231	19.25	0.10	0.032	(0.038)	0.006	0.026
232	19.33	0.13	0.043	(0.038)	0.009	0.034
233	19.42	0.13	0.043	(0.038)	0.009	0.034
234	19.50	0.13	0.043	(0.038)	0.009	0.034
235	19.58	0.10	0.032	(0.037)	0.006	0.026
236	19.67	0.10	0.032	(0.037)	0.006	0.026
237	19.75	0.10	0.032	(0.037)	0.006	0.026
238	19.83	0.07	0.021	(0.037)	0.004	0.017
239	19.92	0.07	0.021	(0.037)	0.004	0.017

240	20.00	0.07	0.021	(0.037)	0.004	0.017
241	20.08	0.10	0.032	(0.036)	0.006	0.026
242	20.17	0.10	0.032	(0.036)	0.006	0.026
243	20.25	0.10	0.032	(0.036)	0.006	0.026
244	20.33	0.10	0.032	(0.036)	0.006	0.026
245	20.42	0.10	0.032	(0.036)	0.006	0.026
246	20.50	0.10	0.032	(0.036)	0.006	0.026
247	20.58	0.10	0.032	(0.036)	0.006	0.026
248	20.67	0.10	0.032	(0.035)	0.006	0.026
249	20.75	0.10	0.032	(0.035)	0.006	0.026
250	20.83	0.07	0.021	(0.035)	0.004	0.017
251	20.92	0.07	0.021	(0.035)	0.004	0.017
252	21.00	0.07	0.021	(0.035)	0.004	0.017
253	21.08	0.10	0.032	(0.035)	0.006	0.026
254	21.17	0.10	0.032	(0.035)	0.006	0.026
255	21.25	0.10	0.032	(0.034)	0.006	0.026
256	21.33	0.07	0.021	(0.034)	0.004	0.017
257	21.42	0.07	0.021	(0.034)	0.004	0.017
258	21.50	0.07	0.021	(0.034)	0.004	0.017
259	21.58	0.10	0.032	(0.034)	0.006	0.026
260	21.67	0.10	0.032	(0.034)	0.006	0.026
261	21.75	0.10	0.032	(0.034)	0.006	0.026
262	21.83	0.07	0.021	(0.034)	0.004	0.017
263	21.92	0.07	0.021	(0.033)	0.004	0.017
264	22.00	0.07	0.021	(0.033)	0.004	0.017
265	22.08	0.10	0.032	(0.033)	0.006	0.026
266	22.17	0.10	0.032	(0.033)	0.006	0.026
267	22.25	0.10	0.032	(0.033)	0.006	0.026
268	22.33	0.07	0.021	(0.033)	0.004	0.017
269	22.42	0.07	0.021	(0.033)	0.004	0.017
270	22.50	0.07	0.021	(0.033)	0.004	0.017
271	22.58	0.07	0.021	(0.033)	0.004	0.017
272	22.67	0.07	0.021	(0.032)	0.004	0.017
273	22.75	0.07	0.021	(0.032)	0.004	0.017
274	22.83	0.07	0.021	(0.032)	0.004	0.017
275	22.92	0.07	0.021	(0.032)	0.004	0.017
276	23.00	0.07	0.021	(0.032)	0.004	0.017
277	23.08	0.07	0.021	(0.032)	0.004	0.017
278	23.17	0.07	0.021	(0.032)	0.004	0.017
279	23.25	0.07	0.021	(0.032)	0.004	0.017
280	23.33	0.07	0.021	(0.032)	0.004	0.017
281	23.42	0.07	0.021	(0.032)	0.004	0.017
282	23.50	0.07	0.021	(0.032)	0.004	0.017
283	23.58	0.07	0.021	(0.032)	0.004	0.017
284	23.67	0.07	0.021	(0.032)	0.004	0.017
285	23.75	0.07	0.021	(0.032)	0.004	0.017
286	23.83	0.07	0.021	(0.032)	0.004	0.017
287	23.92	0.07	0.021	(0.032)	0.004	0.017
288	24.00	0.07	0.021	(0.032)	0.004	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 25.8

Flood volume = Effective rainfall 2.15(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.52(In)
Total soil loss = 0.014(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 2588.4 Cubic Feet

Total soil loss = 621.9 Cubic Feet

Peak flow rate of this hydrograph = 0.103(CFS)

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24 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0004	0.01	Q				
0+45	0.0005	0.01	Q				
0+50	0.0005	0.01	Q				
0+55	0.0006	0.01	Q				
1+ 0	0.0007	0.01	Q				
1+ 5	0.0008	0.01	Q				
1+10	0.0008	0.01	Q				
1+15	0.0009	0.01	Q				
1+20	0.0009	0.01	Q				
1+25	0.0010	0.01	Q				
1+30	0.0010	0.01	Q				
1+35	0.0011	0.01	Q				
1+40	0.0012	0.01	Q				
1+45	0.0012	0.01	Q				
1+50	0.0013	0.01	Q				
1+55	0.0014	0.01	Q				
2+ 0	0.0015	0.01	Q				
2+ 5	0.0015	0.01	QV				
2+10	0.0016	0.01	QV				
2+15	0.0017	0.01	QV				
2+20	0.0018	0.01	QV				
2+25	0.0019	0.01	QV				
2+30	0.0019	0.01	QV				
2+35	0.0020	0.01	QV				
2+40	0.0021	0.01	QV				
2+45	0.0022	0.01	QV				
2+50	0.0023	0.01	QV				
2+55	0.0024	0.01	QV				
3+ 0	0.0025	0.01	QV				
3+ 5	0.0026	0.01	QV				
3+10	0.0027	0.01	QV				
3+15	0.0028	0.01	QV				
3+20	0.0029	0.01	QV				
3+25	0.0030	0.01	Q V				
3+30	0.0031	0.01	Q V				
3+35	0.0032	0.01	Q V				
3+40	0.0033	0.01	Q V				

3+45	0.0034	0.01	Q V	|	|	|	|
3+50	0.0035	0.02	Q V	|	|	|	|
3+55	0.0036	0.02	Q V	|	|	|	|
4+ 0	0.0037	0.02	Q V	|	|	|	|
4+ 5	0.0039	0.02	Q V	|	|	|	|
4+10	0.0040	0.02	Q V	|	|	|	|
4+15	0.0041	0.02	Q V	|	|	|	|
4+20	0.0042	0.02	Q V	|	|	|	|
4+25	0.0044	0.02	Q V	|	|	|	|
4+30	0.0045	0.02	Q V	|	|	|	|
4+35	0.0046	0.02	Q V	|	|	|	|
4+40	0.0048	0.02	Q V	|	|	|	|
4+45	0.0049	0.02	Q V	|	|	|	|
4+50	0.0051	0.02	Q V	|	|	|	|
4+55	0.0052	0.02	Q V	|	|	|	|
5+ 0	0.0054	0.02	Q V	|	|	|	|
5+ 5	0.0055	0.02	Q V	|	|	|	|
5+10	0.0056	0.02	Q V	|	|	|	|
5+15	0.0058	0.02	Q V	|	|	|	|
5+20	0.0059	0.02	Q V	|	|	|	|
5+25	0.0060	0.02	Q V	|	|	|	|
5+30	0.0062	0.02	Q V	|	|	|	|
5+35	0.0063	0.02	Q V	|	|	|	|
5+40	0.0065	0.02	Q V	|	|	|	|
5+45	0.0066	0.02	Q V	|	|	|	|
5+50	0.0068	0.02	Q V	|	|	|	|
5+55	0.0069	0.02	Q V	|	|	|	|
6+ 0	0.0071	0.02	Q V	|	|	|	|
6+ 5	0.0073	0.03	Q V	|	|	|	|
6+10	0.0074	0.03	Q V	|	|	|	|
6+15	0.0076	0.03	Q V	|	|	|	|
6+20	0.0078	0.03	Q V	|	|	|	|
6+25	0.0080	0.03	Q V	|	|	|	|
6+30	0.0082	0.03	Q V	|	|	|	|
6+35	0.0083	0.03	Q V	|	|	|	|
6+40	0.0085	0.03	Q V	|	|	|	|
6+45	0.0087	0.03	Q V	|	|	|	|
6+50	0.0089	0.03	Q V	|	|	|	|
6+55	0.0091	0.03	Q V	|	|	|	|
7+ 0	0.0093	0.03	Q V	|	|	|	|
7+ 5	0.0095	0.03	Q V	|	|	|	|
7+10	0.0097	0.03	Q V	|	|	|	|
7+15	0.0099	0.03	Q V	|	|	|	|
7+20	0.0101	0.03	Q V	|	|	|	|
7+25	0.0104	0.03	Q V	|	|	|	|
7+30	0.0106	0.03	Q V	|	|	|	|
7+35	0.0108	0.03	Q V	|	|	|	|
7+40	0.0110	0.03	Q V	|	|	|	|
7+45	0.0113	0.03	Q V	|	|	|	|
7+50	0.0115	0.04	Q V	|	|	|	|
7+55	0.0118	0.04	Q V	|	|	|	|
8+ 0	0.0120	0.04	Q V	|	|	|	|
8+ 5	0.0123	0.04	Q V	|	|	|	|
8+10	0.0126	0.04	Q V	|	|	|	|
8+15	0.0129	0.04	Q V	|	|	|	|
8+20	0.0132	0.04	Q V	|	|	|	|
8+25	0.0135	0.04	Q V	|	|	|	|

8+30	0.0138	0.04	Q	V|				
8+35	0.0141	0.05	Q	V|				
8+40	0.0144	0.05	Q	V|				
8+45	0.0147	0.05	Q	V|				
8+50	0.0151	0.05	Q	V				
8+55	0.0154	0.05	Q	V				
9+ 0	0.0157	0.05	Q	V				
9+ 5	0.0161	0.05	Q	V				
9+10	0.0165	0.05	Q	|V				
9+15	0.0168	0.05	Q	|V				
9+20	0.0172	0.06	Q	|V				
9+25	0.0176	0.06	Q	|V				
9+30	0.0180	0.06	Q	| V				
9+35	0.0184	0.06	Q	| V				
9+40	0.0188	0.06	Q	| V				
9+45	0.0193	0.06	Q	| V				
9+50	0.0197	0.06	Q	| V				
9+55	0.0201	0.06	Q	| V				
10+ 0	0.0205	0.06	Q	| V				
10+ 5	0.0209	0.05	Q	| V				
10+10	0.0212	0.04	Q	| V				
10+15	0.0215	0.04	Q	| V				
10+20	0.0218	0.04	Q	| V				
10+25	0.0220	0.04	Q	| V				
10+30	0.0223	0.04	Q	| V |				
10+35	0.0227	0.05	Q	| V |				
10+40	0.0231	0.06	Q	| V |				
10+45	0.0235	0.06	Q	| V |				
10+50	0.0239	0.06	Q	| V |				
10+55	0.0243	0.06	Q	| V |				
11+ 0	0.0247	0.06	Q	| V |				
11+ 5	0.0251	0.05	Q	| V |				
11+10	0.0254	0.05	Q	| V |				
11+15	0.0258	0.05	Q	| V |				
11+20	0.0262	0.05	Q	| V |				
11+25	0.0265	0.05	Q	| V |				
11+30	0.0269	0.05	Q	| V |				
11+35	0.0273	0.05	Q	| V |				
11+40	0.0276	0.05	Q	| V |				
11+45	0.0279	0.05	Q	| V |				
11+50	0.0283	0.05	Q	| V|				
11+55	0.0286	0.05	Q	| V|				
12+ 0	0.0290	0.05	Q	| V|				
12+ 5	0.0295	0.07	Q	| V|				
12+10	0.0299	0.07	Q	| V				
12+15	0.0304	0.07	Q	| V				
12+20	0.0309	0.07	Q	| V				
12+25	0.0315	0.07	Q	| |V				
12+30	0.0320	0.07	Q	| |V				
12+35	0.0325	0.08	Q	| |V				
12+40	0.0331	0.08	Q	| | V				
12+45	0.0336	0.08	Q	| | V				
12+50	0.0342	0.08	Q	| | V				
12+55	0.0348	0.08	Q	| | V				
13+ 0	0.0354	0.08	Q	| | V				
13+ 5	0.0361	0.10	Q	| | V				
13+10	0.0368	0.10	Q	| | V				

13+15	0.0375	0.10	Q			V	
13+20	0.0382	0.10	Q			V	
13+25	0.0389	0.10	Q			V	
13+30	0.0396	0.10	Q			V	
13+35	0.0401	0.07	Q			V	
13+40	0.0406	0.07	Q			V	
13+45	0.0410	0.07	Q			V	
13+50	0.0415	0.07	Q			V	
13+55	0.0419	0.07	Q			V	
14+ 0	0.0424	0.07	Q			V	
14+ 5	0.0429	0.08	Q			V	
14+10	0.0434	0.08	Q			V	
14+15	0.0440	0.08	Q			V	
14+20	0.0445	0.08	Q			V	
14+25	0.0450	0.08	Q			V	
14+30	0.0455	0.08	Q			V	
14+35	0.0461	0.08	Q			V	
14+40	0.0466	0.08	Q			V	
14+45	0.0471	0.08	Q			V	
14+50	0.0476	0.07	Q			V	
14+55	0.0481	0.07	Q			V	
15+ 0	0.0486	0.07	Q			V	
15+ 5	0.0491	0.07	Q			V	
15+10	0.0496	0.07	Q			V	
15+15	0.0501	0.07	Q			V	
15+20	0.0505	0.07	Q			V	
15+25	0.0510	0.07	Q			V	
15+30	0.0514	0.07	Q			V	
15+35	0.0518	0.06	Q			V	
15+40	0.0522	0.05	Q			V	
15+45	0.0526	0.05	Q			V	
15+50	0.0529	0.05	Q			V	
15+55	0.0533	0.05	Q			V	
16+ 0	0.0537	0.05	Q			V	
16+ 5	0.0538	0.02	Q			V	
16+10	0.0539	0.01	Q			V	
16+15	0.0540	0.01	Q			V	
16+20	0.0541	0.01	Q			V	
16+25	0.0541	0.01	Q			V	
16+30	0.0542	0.01	Q			V	
16+35	0.0543	0.01	Q			V	
16+40	0.0543	0.01	Q			V	
16+45	0.0544	0.01	Q			V	
16+50	0.0545	0.01	Q			V	
16+55	0.0545	0.01	Q			V	
17+ 0	0.0546	0.01	Q			V	
17+ 5	0.0547	0.01	Q			V	
17+10	0.0548	0.01	Q			V	
17+15	0.0549	0.01	Q			V	
17+20	0.0550	0.01	Q			V	
17+25	0.0551	0.01	Q			V	
17+30	0.0552	0.01	Q			V	
17+35	0.0553	0.01	Q			V	
17+40	0.0554	0.01	Q			V	
17+45	0.0555	0.01	Q			V	
17+50	0.0555	0.01	Q			V	
17+55	0.0556	0.01	Q			V	

18+ 0	0.0557	0.01	Q	|	|	|	V |
18+ 5	0.0558	0.01	Q	|	|	|	V |
18+10	0.0558	0.01	Q	|	|	|	V |
18+15	0.0559	0.01	Q	|	|	|	V |
18+20	0.0560	0.01	Q	|	|	|	V |
18+25	0.0561	0.01	Q	|	|	|	V |
18+30	0.0562	0.01	Q	|	|	|	V |
18+35	0.0562	0.01	Q	|	|	|	V |
18+40	0.0563	0.01	Q	|	|	|	V |
18+45	0.0563	0.01	Q	|	|	|	V |
18+50	0.0564	0.01	Q	|	|	|	V |
18+55	0.0564	0.01	Q	|	|	|	V |
19+ 0	0.0565	0.01	Q	|	|	|	V |
19+ 5	0.0565	0.01	Q	|	|	|	V |
19+10	0.0566	0.01	Q	|	|	|	V |
19+15	0.0566	0.01	Q	|	|	|	V |
19+20	0.0567	0.01	Q	|	|	|	V |
19+25	0.0568	0.01	Q	|	|	|	V |
19+30	0.0569	0.01	Q	|	|	|	V |
19+35	0.0569	0.01	Q	|	|	|	V |
19+40	0.0570	0.01	Q	|	|	|	V |
19+45	0.0571	0.01	Q	|	|	|	V |
19+50	0.0571	0.01	Q	|	|	|	V |
19+55	0.0571	0.01	Q	|	|	|	V |
20+ 0	0.0572	0.01	Q	|	|	|	V |
20+ 5	0.0572	0.01	Q	|	|	|	V |
20+10	0.0573	0.01	Q	|	|	|	V |
20+15	0.0573	0.01	Q	|	|	|	V |
20+20	0.0574	0.01	Q	|	|	|	V |
20+25	0.0575	0.01	Q	|	|	|	V |
20+30	0.0575	0.01	Q	|	|	|	V |
20+35	0.0576	0.01	Q	|	|	|	V |
20+40	0.0576	0.01	Q	|	|	|	V |
20+45	0.0577	0.01	Q	|	|	|	V |
20+50	0.0577	0.01	Q	|	|	|	V |
20+55	0.0578	0.01	Q	|	|	|	V |
21+ 0	0.0578	0.01	Q	|	|	|	V |
21+ 5	0.0579	0.01	Q	|	|	|	V |
21+10	0.0579	0.01	Q	|	|	|	V |
21+15	0.0580	0.01	Q	|	|	|	V|
21+20	0.0580	0.01	Q	|	|	|	V|
21+25	0.0581	0.01	Q	|	|	|	V|
21+30	0.0581	0.01	Q	|	|	|	V|
21+35	0.0582	0.01	Q	|	|	|	V|
21+40	0.0582	0.01	Q	|	|	|	V|
21+45	0.0583	0.01	Q	|	|	|	V|
21+50	0.0583	0.01	Q	|	|	|	V|
21+55	0.0584	0.01	Q	|	|	|	V|
22+ 0	0.0584	0.01	Q	|	|	|	V|
22+ 5	0.0585	0.01	Q	|	|	|	V|
22+10	0.0585	0.01	Q	|	|	|	V|
22+15	0.0586	0.01	Q	|	|	|	V|
22+20	0.0586	0.01	Q	|	|	|	V|
22+25	0.0587	0.01	Q	|	|	|	V|
22+30	0.0587	0.01	Q	|	|	|	V|
22+35	0.0587	0.01	Q	|	|	|	V|
22+40	0.0588	0.01	Q	|	|	|	V|

22+45	0.0588	0.01	Q	|	|	|	V|
22+50	0.0589	0.01	Q	|	|	|	V|
22+55	0.0589	0.01	Q	|	|	|	V|
23+ 0	0.0589	0.01	Q	|	|	|	V|
23+ 5	0.0590	0.01	Q	|	|	|	V|
23+10	0.0590	0.01	Q	|	|	|	V|
23+15	0.0591	0.01	Q	|	|	|	V|
23+20	0.0591	0.01	Q	|	|	|	V|
23+25	0.0591	0.01	Q	|	|	|	V|
23+30	0.0592	0.01	Q	|	|	|	V|
23+35	0.0592	0.01	Q	|	|	|	V|
23+40	0.0593	0.01	Q	|	|	|	V|
23+45	0.0593	0.01	Q	|	|	|	V|
23+50	0.0593	0.01	Q	|	|	|	V|
23+55	0.0594	0.01	Q	|	|	|	V|
24+ 0	0.0594	0.01	Q	|	|	|	V|
24+ 5	0.0594	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 06/03/26 File: 19267p010F2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area F

Drainage Area = 0.38(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.38(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 115.00(Ft.)
Length along longest watercourse measured to centroid = 114.00(Ft.)
Length along longest watercourse = 0.022 Mi.
Length along longest watercourse measured to centroid = 0.022 Mi.
Difference in elevation = 2.40(Ft.)
Slope along watercourse = 110.1913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.008 Hr.
Lag time = 0.48 Min.
25% of lag time = 0.12 Min.
40% of lag time = 0.19 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]
0.38	1.66	0.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.38	4.10	1.57

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.382	75.00	0.880

Total Area Entered = 0.38(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.880	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.032
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1040.009	100.000	0.385
		Sum = 100.000	Sum=	0.385

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.112)	0.004	0.017
2	0.17	0.07	0.021	(0.111)	0.004	0.017
3	0.25	0.07	0.021	(0.111)	0.004	0.017
4	0.33	0.10	0.032	(0.110)	0.006	0.026
5	0.42	0.10	0.032	(0.110)	0.006	0.026
6	0.50	0.10	0.032	(0.110)	0.006	0.026
7	0.58	0.10	0.032	(0.109)	0.006	0.026
8	0.67	0.10	0.032	(0.109)	0.006	0.026
9	0.75	0.10	0.032	(0.108)	0.006	0.026
10	0.83	0.13	0.043	(0.108)	0.009	0.034
11	0.92	0.13	0.043	(0.107)	0.009	0.034
12	1.00	0.13	0.043	(0.107)	0.009	0.034

13	1.08	0.10	0.032	(0.107)	0.006	0.026
14	1.17	0.10	0.032	(0.106)	0.006	0.026
15	1.25	0.10	0.032	(0.106)	0.006	0.026
16	1.33	0.10	0.032	(0.105)	0.006	0.026
17	1.42	0.10	0.032	(0.105)	0.006	0.026
18	1.50	0.10	0.032	(0.104)	0.006	0.026
19	1.58	0.10	0.032	(0.104)	0.006	0.026
20	1.67	0.10	0.032	(0.104)	0.006	0.026
21	1.75	0.10	0.032	(0.103)	0.006	0.026
22	1.83	0.13	0.043	(0.103)	0.009	0.034
23	1.92	0.13	0.043	(0.102)	0.009	0.034
24	2.00	0.13	0.043	(0.102)	0.009	0.034
25	2.08	0.13	0.043	(0.102)	0.009	0.034
26	2.17	0.13	0.043	(0.101)	0.009	0.034
27	2.25	0.13	0.043	(0.101)	0.009	0.034
28	2.33	0.13	0.043	(0.100)	0.009	0.034
29	2.42	0.13	0.043	(0.100)	0.009	0.034
30	2.50	0.13	0.043	(0.100)	0.009	0.034
31	2.58	0.17	0.053	(0.099)	0.011	0.043
32	2.67	0.17	0.053	(0.099)	0.011	0.043
33	2.75	0.17	0.053	(0.098)	0.011	0.043
34	2.83	0.17	0.053	(0.098)	0.011	0.043
35	2.92	0.17	0.053	(0.098)	0.011	0.043
36	3.00	0.17	0.053	(0.097)	0.011	0.043
37	3.08	0.17	0.053	(0.097)	0.011	0.043
38	3.17	0.17	0.053	(0.096)	0.011	0.043
39	3.25	0.17	0.053	(0.096)	0.011	0.043
40	3.33	0.17	0.053	(0.096)	0.011	0.043
41	3.42	0.17	0.053	(0.095)	0.011	0.043
42	3.50	0.17	0.053	(0.095)	0.011	0.043
43	3.58	0.17	0.053	(0.094)	0.011	0.043
44	3.67	0.17	0.053	(0.094)	0.011	0.043
45	3.75	0.17	0.053	(0.094)	0.011	0.043
46	3.83	0.20	0.064	(0.093)	0.013	0.051
47	3.92	0.20	0.064	(0.093)	0.013	0.051
48	4.00	0.20	0.064	(0.092)	0.013	0.051
49	4.08	0.20	0.064	(0.092)	0.013	0.051
50	4.17	0.20	0.064	(0.092)	0.013	0.051
51	4.25	0.20	0.064	(0.091)	0.013	0.051
52	4.33	0.23	0.075	(0.091)	0.015	0.060
53	4.42	0.23	0.075	(0.090)	0.015	0.060
54	4.50	0.23	0.075	(0.090)	0.015	0.060
55	4.58	0.23	0.075	(0.090)	0.015	0.060
56	4.67	0.23	0.075	(0.089)	0.015	0.060
57	4.75	0.23	0.075	(0.089)	0.015	0.060
58	4.83	0.27	0.085	(0.088)	0.017	0.068
59	4.92	0.27	0.085	(0.088)	0.017	0.068
60	5.00	0.27	0.085	(0.088)	0.017	0.068
61	5.08	0.20	0.064	(0.087)	0.013	0.051
62	5.17	0.20	0.064	(0.087)	0.013	0.051
63	5.25	0.20	0.064	(0.087)	0.013	0.051
64	5.33	0.23	0.075	(0.086)	0.015	0.060
65	5.42	0.23	0.075	(0.086)	0.015	0.060
66	5.50	0.23	0.075	(0.085)	0.015	0.060
67	5.58	0.27	0.085	(0.085)	0.017	0.068
68	5.67	0.27	0.085	(0.085)	0.017	0.068
69	5.75	0.27	0.085	(0.084)	0.017	0.068

70	5.83	0.27	0.085	(0.084)	0.017	0.068
71	5.92	0.27	0.085	(0.084)	0.017	0.068
72	6.00	0.27	0.085	(0.083)	0.017	0.068
73	6.08	0.30	0.096	(0.083)	0.019	0.077
74	6.17	0.30	0.096	(0.082)	0.019	0.077
75	6.25	0.30	0.096	(0.082)	0.019	0.077
76	6.33	0.30	0.096	(0.082)	0.019	0.077
77	6.42	0.30	0.096	(0.081)	0.019	0.077
78	6.50	0.30	0.096	(0.081)	0.019	0.077
79	6.58	0.33	0.107	(0.081)	0.021	0.085
80	6.67	0.33	0.107	(0.080)	0.021	0.085
81	6.75	0.33	0.107	(0.080)	0.021	0.085
82	6.83	0.33	0.107	(0.080)	0.021	0.085
83	6.92	0.33	0.107	(0.079)	0.021	0.085
84	7.00	0.33	0.107	(0.079)	0.021	0.085
85	7.08	0.33	0.107	(0.078)	0.021	0.085
86	7.17	0.33	0.107	(0.078)	0.021	0.085
87	7.25	0.33	0.107	(0.078)	0.021	0.085
88	7.33	0.37	0.117	(0.077)	0.023	0.094
89	7.42	0.37	0.117	(0.077)	0.023	0.094
90	7.50	0.37	0.117	(0.077)	0.023	0.094
91	7.58	0.40	0.128	(0.076)	0.026	0.102
92	7.67	0.40	0.128	(0.076)	0.026	0.102
93	7.75	0.40	0.128	(0.076)	0.026	0.102
94	7.83	0.43	0.139	(0.075)	0.028	0.111
95	7.92	0.43	0.139	(0.075)	0.028	0.111
96	8.00	0.43	0.139	(0.075)	0.028	0.111
97	8.08	0.50	0.160	(0.074)	0.032	0.128
98	8.17	0.50	0.160	(0.074)	0.032	0.128
99	8.25	0.50	0.160	(0.074)	0.032	0.128
100	8.33	0.50	0.160	(0.073)	0.032	0.128
101	8.42	0.50	0.160	(0.073)	0.032	0.128
102	8.50	0.50	0.160	(0.073)	0.032	0.128
103	8.58	0.53	0.170	(0.072)	0.034	0.136
104	8.67	0.53	0.170	(0.072)	0.034	0.136
105	8.75	0.53	0.170	(0.072)	0.034	0.136
106	8.83	0.57	0.181	(0.071)	0.036	0.145
107	8.92	0.57	0.181	(0.071)	0.036	0.145
108	9.00	0.57	0.181	(0.070)	0.036	0.145
109	9.08	0.63	0.202	(0.070)	0.040	0.162
110	9.17	0.63	0.202	(0.070)	0.040	0.162
111	9.25	0.63	0.202	(0.069)	0.040	0.162
112	9.33	0.67	0.213	(0.069)	0.043	0.170
113	9.42	0.67	0.213	(0.069)	0.043	0.170
114	9.50	0.67	0.213	(0.069)	0.043	0.170
115	9.58	0.70	0.224	(0.068)	0.045	0.179
116	9.67	0.70	0.224	(0.068)	0.045	0.179
117	9.75	0.70	0.224	(0.068)	0.045	0.179
118	9.83	0.73	0.234	(0.067)	0.047	0.188
119	9.92	0.73	0.234	(0.067)	0.047	0.188
120	10.00	0.73	0.234	(0.067)	0.047	0.188
121	10.08	0.50	0.160	(0.066)	0.032	0.128
122	10.17	0.50	0.160	(0.066)	0.032	0.128
123	10.25	0.50	0.160	(0.066)	0.032	0.128
124	10.33	0.50	0.160	(0.065)	0.032	0.128
125	10.42	0.50	0.160	(0.065)	0.032	0.128
126	10.50	0.50	0.160	(0.065)	0.032	0.128

127	10.58	0.67	0.213	(0.064)	0.043	0.170
128	10.67	0.67	0.213	(0.064)	0.043	0.170
129	10.75	0.67	0.213	(0.064)	0.043	0.170
130	10.83	0.67	0.213	(0.063)	0.043	0.170
131	10.92	0.67	0.213	(0.063)	0.043	0.170
132	11.00	0.67	0.213	(0.063)	0.043	0.170
133	11.08	0.63	0.202	(0.062)	0.040	0.162
134	11.17	0.63	0.202	(0.062)	0.040	0.162
135	11.25	0.63	0.202	(0.062)	0.040	0.162
136	11.33	0.63	0.202	(0.062)	0.040	0.162
137	11.42	0.63	0.202	(0.061)	0.040	0.162
138	11.50	0.63	0.202	(0.061)	0.040	0.162
139	11.58	0.57	0.181	(0.061)	0.036	0.145
140	11.67	0.57	0.181	(0.060)	0.036	0.145
141	11.75	0.57	0.181	(0.060)	0.036	0.145
142	11.83	0.60	0.192	(0.060)	0.038	0.153
143	11.92	0.60	0.192	(0.059)	0.038	0.153
144	12.00	0.60	0.192	(0.059)	0.038	0.153
145	12.08	0.83	0.266	(0.059)	0.053	0.213
146	12.17	0.83	0.266	(0.059)	0.053	0.213
147	12.25	0.83	0.266	(0.058)	0.053	0.213
148	12.33	0.87	0.277	(0.058)	0.055	0.222
149	12.42	0.87	0.277	(0.058)	0.055	0.222
150	12.50	0.87	0.277	(0.057)	0.055	0.222
151	12.58	0.93	0.298	0.057	(0.060)	0.241
152	12.67	0.93	0.298	0.057	(0.060)	0.242
153	12.75	0.93	0.298	0.057	(0.060)	0.242
154	12.83	0.97	0.309	0.056	(0.062)	0.253
155	12.92	0.97	0.309	0.056	(0.062)	0.253
156	13.00	0.97	0.309	0.056	(0.062)	0.253
157	13.08	1.13	0.362	0.055	(0.072)	0.307
158	13.17	1.13	0.362	0.055	(0.072)	0.307
159	13.25	1.13	0.362	0.055	(0.072)	0.307
160	13.33	1.13	0.362	0.055	(0.072)	0.308
161	13.42	1.13	0.362	0.054	(0.072)	0.308
162	13.50	1.13	0.362	0.054	(0.072)	0.308
163	13.58	0.77	0.245	(0.054)	0.049	0.196
164	13.67	0.77	0.245	(0.053)	0.049	0.196
165	13.75	0.77	0.245	(0.053)	0.049	0.196
166	13.83	0.77	0.245	(0.053)	0.049	0.196
167	13.92	0.77	0.245	(0.053)	0.049	0.196
168	14.00	0.77	0.245	(0.052)	0.049	0.196
169	14.08	0.90	0.288	0.052	(0.058)	0.236
170	14.17	0.90	0.288	0.052	(0.058)	0.236
171	14.25	0.90	0.288	0.052	(0.058)	0.236
172	14.33	0.87	0.277	0.051	(0.055)	0.226
173	14.42	0.87	0.277	0.051	(0.055)	0.226
174	14.50	0.87	0.277	0.051	(0.055)	0.226
175	14.58	0.87	0.277	0.051	(0.055)	0.227
176	14.67	0.87	0.277	0.050	(0.055)	0.227
177	14.75	0.87	0.277	0.050	(0.055)	0.227
178	14.83	0.83	0.266	0.050	(0.053)	0.217
179	14.92	0.83	0.266	0.049	(0.053)	0.217
180	15.00	0.83	0.266	0.049	(0.053)	0.217
181	15.08	0.80	0.256	0.049	(0.051)	0.207
182	15.17	0.80	0.256	0.049	(0.051)	0.207
183	15.25	0.80	0.256	0.048	(0.051)	0.207

184	15.33	0.77	0.245	0.048	(0.049)	0.197
185	15.42	0.77	0.245	0.048	(0.049)	0.197
186	15.50	0.77	0.245	0.048	(0.049)	0.197
187	15.58	0.63	0.202	(0.047)	0.040	0.162
188	15.67	0.63	0.202	(0.047)	0.040	0.162
189	15.75	0.63	0.202	(0.047)	0.040	0.162
190	15.83	0.63	0.202	(0.047)	0.040	0.162
191	15.92	0.63	0.202	(0.047)	0.040	0.162
192	16.00	0.63	0.202	(0.046)	0.040	0.162
193	16.08	0.13	0.043	(0.046)	0.009	0.034
194	16.17	0.13	0.043	(0.046)	0.009	0.034
195	16.25	0.13	0.043	(0.046)	0.009	0.034
196	16.33	0.13	0.043	(0.045)	0.009	0.034
197	16.42	0.13	0.043	(0.045)	0.009	0.034
198	16.50	0.13	0.043	(0.045)	0.009	0.034
199	16.58	0.10	0.032	(0.045)	0.006	0.026
200	16.67	0.10	0.032	(0.044)	0.006	0.026
201	16.75	0.10	0.032	(0.044)	0.006	0.026
202	16.83	0.10	0.032	(0.044)	0.006	0.026
203	16.92	0.10	0.032	(0.044)	0.006	0.026
204	17.00	0.10	0.032	(0.044)	0.006	0.026
205	17.08	0.17	0.053	(0.043)	0.011	0.043
206	17.17	0.17	0.053	(0.043)	0.011	0.043
207	17.25	0.17	0.053	(0.043)	0.011	0.043
208	17.33	0.17	0.053	(0.043)	0.011	0.043
209	17.42	0.17	0.053	(0.042)	0.011	0.043
210	17.50	0.17	0.053	(0.042)	0.011	0.043
211	17.58	0.17	0.053	(0.042)	0.011	0.043
212	17.67	0.17	0.053	(0.042)	0.011	0.043
213	17.75	0.17	0.053	(0.042)	0.011	0.043
214	17.83	0.13	0.043	(0.041)	0.009	0.034
215	17.92	0.13	0.043	(0.041)	0.009	0.034
216	18.00	0.13	0.043	(0.041)	0.009	0.034
217	18.08	0.13	0.043	(0.041)	0.009	0.034
218	18.17	0.13	0.043	(0.041)	0.009	0.034
219	18.25	0.13	0.043	(0.040)	0.009	0.034
220	18.33	0.13	0.043	(0.040)	0.009	0.034
221	18.42	0.13	0.043	(0.040)	0.009	0.034
222	18.50	0.13	0.043	(0.040)	0.009	0.034
223	18.58	0.10	0.032	(0.040)	0.006	0.026
224	18.67	0.10	0.032	(0.039)	0.006	0.026
225	18.75	0.10	0.032	(0.039)	0.006	0.026
226	18.83	0.07	0.021	(0.039)	0.004	0.017
227	18.92	0.07	0.021	(0.039)	0.004	0.017
228	19.00	0.07	0.021	(0.039)	0.004	0.017
229	19.08	0.10	0.032	(0.038)	0.006	0.026
230	19.17	0.10	0.032	(0.038)	0.006	0.026
231	19.25	0.10	0.032	(0.038)	0.006	0.026
232	19.33	0.13	0.043	(0.038)	0.009	0.034
233	19.42	0.13	0.043	(0.038)	0.009	0.034
234	19.50	0.13	0.043	(0.038)	0.009	0.034
235	19.58	0.10	0.032	(0.037)	0.006	0.026
236	19.67	0.10	0.032	(0.037)	0.006	0.026
237	19.75	0.10	0.032	(0.037)	0.006	0.026
238	19.83	0.07	0.021	(0.037)	0.004	0.017
239	19.92	0.07	0.021	(0.037)	0.004	0.017
240	20.00	0.07	0.021	(0.037)	0.004	0.017

241	20.08	0.10	0.032	(0.036)	0.006	0.026
242	20.17	0.10	0.032	(0.036)	0.006	0.026
243	20.25	0.10	0.032	(0.036)	0.006	0.026
244	20.33	0.10	0.032	(0.036)	0.006	0.026
245	20.42	0.10	0.032	(0.036)	0.006	0.026
246	20.50	0.10	0.032	(0.036)	0.006	0.026
247	20.58	0.10	0.032	(0.036)	0.006	0.026
248	20.67	0.10	0.032	(0.035)	0.006	0.026
249	20.75	0.10	0.032	(0.035)	0.006	0.026
250	20.83	0.07	0.021	(0.035)	0.004	0.017
251	20.92	0.07	0.021	(0.035)	0.004	0.017
252	21.00	0.07	0.021	(0.035)	0.004	0.017
253	21.08	0.10	0.032	(0.035)	0.006	0.026
254	21.17	0.10	0.032	(0.035)	0.006	0.026
255	21.25	0.10	0.032	(0.034)	0.006	0.026
256	21.33	0.07	0.021	(0.034)	0.004	0.017
257	21.42	0.07	0.021	(0.034)	0.004	0.017
258	21.50	0.07	0.021	(0.034)	0.004	0.017
259	21.58	0.10	0.032	(0.034)	0.006	0.026
260	21.67	0.10	0.032	(0.034)	0.006	0.026
261	21.75	0.10	0.032	(0.034)	0.006	0.026
262	21.83	0.07	0.021	(0.034)	0.004	0.017
263	21.92	0.07	0.021	(0.033)	0.004	0.017
264	22.00	0.07	0.021	(0.033)	0.004	0.017
265	22.08	0.10	0.032	(0.033)	0.006	0.026
266	22.17	0.10	0.032	(0.033)	0.006	0.026
267	22.25	0.10	0.032	(0.033)	0.006	0.026
268	22.33	0.07	0.021	(0.033)	0.004	0.017
269	22.42	0.07	0.021	(0.033)	0.004	0.017
270	22.50	0.07	0.021	(0.033)	0.004	0.017
271	22.58	0.07	0.021	(0.033)	0.004	0.017
272	22.67	0.07	0.021	(0.032)	0.004	0.017
273	22.75	0.07	0.021	(0.032)	0.004	0.017
274	22.83	0.07	0.021	(0.032)	0.004	0.017
275	22.92	0.07	0.021	(0.032)	0.004	0.017
276	23.00	0.07	0.021	(0.032)	0.004	0.017
277	23.08	0.07	0.021	(0.032)	0.004	0.017
278	23.17	0.07	0.021	(0.032)	0.004	0.017
279	23.25	0.07	0.021	(0.032)	0.004	0.017
280	23.33	0.07	0.021	(0.032)	0.004	0.017
281	23.42	0.07	0.021	(0.032)	0.004	0.017
282	23.50	0.07	0.021	(0.032)	0.004	0.017
283	23.58	0.07	0.021	(0.032)	0.004	0.017
284	23.67	0.07	0.021	(0.032)	0.004	0.017
285	23.75	0.07	0.021	(0.032)	0.004	0.017
286	23.83	0.07	0.021	(0.032)	0.004	0.017
287	23.92	0.07	0.021	(0.032)	0.004	0.017
288	24.00	0.07	0.021	(0.032)	0.004	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 25.8

Flood volume = Effective rainfall 2.15(In)
times area 0.4(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.52(In)
Total soil loss = 0.016(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 2978.2 Cubic Feet
Total soil loss = 715.6 Cubic Feet

Peak flow rate of this hydrograph = 0.119(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 2.5 5.0 7.5 10.0
0+ 5	0.0000	0.01	Q
0+10	0.0001	0.01	Q
0+15	0.0001	0.01	Q
0+20	0.0002	0.01	Q
0+25	0.0003	0.01	Q
0+30	0.0003	0.01	Q
0+35	0.0004	0.01	Q
0+40	0.0005	0.01	Q
0+45	0.0005	0.01	Q
0+50	0.0006	0.01	Q
0+55	0.0007	0.01	Q
1+ 0	0.0008	0.01	Q
1+ 5	0.0009	0.01	Q
1+10	0.0009	0.01	Q
1+15	0.0010	0.01	Q
1+20	0.0011	0.01	Q
1+25	0.0012	0.01	Q
1+30	0.0012	0.01	Q
1+35	0.0013	0.01	Q
1+40	0.0014	0.01	Q
1+45	0.0014	0.01	Q
1+50	0.0015	0.01	Q
1+55	0.0016	0.01	Q
2+ 0	0.0017	0.01	Q
2+ 5	0.0018	0.01	QV
2+10	0.0019	0.01	QV
2+15	0.0020	0.01	QV
2+20	0.0021	0.01	QV
2+25	0.0021	0.01	QV
2+30	0.0022	0.01	QV
2+35	0.0024	0.02	QV
2+40	0.0025	0.02	QV
2+45	0.0026	0.02	QV
2+50	0.0027	0.02	QV
2+55	0.0028	0.02	QV
3+ 0	0.0029	0.02	QV
3+ 5	0.0030	0.02	QV
3+10	0.0031	0.02	QV
3+15	0.0033	0.02	QV
3+20	0.0034	0.02	QV
3+25	0.0035	0.02	Q V
3+30	0.0036	0.02	Q V
3+35	0.0037	0.02	Q V
3+40	0.0038	0.02	Q V
3+45	0.0039	0.02	Q V

3+50	0.0041	0.02	Q V	|	|	|	|
3+55	0.0042	0.02	Q V	|	|	|	|
4+ 0	0.0043	0.02	Q V	|	|	|	|
4+ 5	0.0045	0.02	Q V	|	|	|	|
4+10	0.0046	0.02	Q V	|	|	|	|
4+15	0.0047	0.02	Q V	|	|	|	|
4+20	0.0049	0.02	Q V	|	|	|	|
4+25	0.0051	0.02	Q V	|	|	|	|
4+30	0.0052	0.02	Q V	|	|	|	|
4+35	0.0054	0.02	Q V	|	|	|	|
4+40	0.0055	0.02	Q V	|	|	|	|
4+45	0.0057	0.02	Q V	|	|	|	|
4+50	0.0059	0.03	Q V	|	|	|	|
4+55	0.0061	0.03	Q V	|	|	|	|
5+ 0	0.0062	0.03	Q V	|	|	|	|
5+ 5	0.0064	0.02	Q V	|	|	|	|
5+10	0.0065	0.02	Q V	|	|	|	|
5+15	0.0066	0.02	Q V	|	|	|	|
5+20	0.0068	0.02	Q V	|	|	|	|
5+25	0.0070	0.02	Q V	|	|	|	|
5+30	0.0071	0.02	Q V	|	|	|	|
5+35	0.0073	0.03	Q V	|	|	|	|
5+40	0.0075	0.03	Q V	|	|	|	|
5+45	0.0077	0.03	Q V	|	|	|	|
5+50	0.0078	0.03	Q V	|	|	|	|
5+55	0.0080	0.03	Q V	|	|	|	|
6+ 0	0.0082	0.03	Q V	|	|	|	|
6+ 5	0.0084	0.03	Q V	|	|	|	|
6+10	0.0086	0.03	Q V	|	|	|	|
6+15	0.0088	0.03	Q V	|	|	|	|
6+20	0.0090	0.03	Q V	|	|	|	|
6+25	0.0092	0.03	Q V	|	|	|	|
6+30	0.0094	0.03	Q V	|	|	|	|
6+35	0.0097	0.03	Q V	|	|	|	|
6+40	0.0099	0.03	Q V	|	|	|	|
6+45	0.0101	0.03	Q V	|	|	|	|
6+50	0.0103	0.03	Q V	|	|	|	|
6+55	0.0106	0.03	Q V	|	|	|	|
7+ 0	0.0108	0.03	Q V	|	|	|	|
7+ 5	0.0110	0.03	Q V	|	|	|	|
7+10	0.0112	0.03	Q V	|	|	|	|
7+15	0.0115	0.03	Q V	|	|	|	|
7+20	0.0117	0.04	Q V	|	|	|	|
7+25	0.0120	0.04	Q V	|	|	|	|
7+30	0.0122	0.04	Q V	|	|	|	|
7+35	0.0125	0.04	Q V	|	|	|	|
7+40	0.0128	0.04	Q V	|	|	|	|
7+45	0.0130	0.04	Q V	|	|	|	|
7+50	0.0133	0.04	Q V	|	|	|	|
7+55	0.0136	0.04	Q V	|	|	|	|
8+ 0	0.0139	0.04	Q V	|	|	|	|
8+ 5	0.0142	0.05	Q V	|	|	|	|
8+10	0.0146	0.05	Q V	|	|	|	|
8+15	0.0149	0.05	Q V	|	|	|	|
8+20	0.0153	0.05	Q V	|	|	|	|
8+25	0.0156	0.05	Q V	|	|	|	|
8+30	0.0159	0.05	Q V	|	|	|	|

8+35	0.0163	0.05	Q	V|				
8+40	0.0167	0.05	Q	V|				
8+45	0.0170	0.05	Q	V|				
8+50	0.0174	0.06	Q	V				
8+55	0.0178	0.06	Q	V				
9+ 0	0.0182	0.06	Q	V				
9+ 5	0.0186	0.06	Q	V				
9+10	0.0190	0.06	Q	|V				
9+15	0.0195	0.06	Q	|V				
9+20	0.0199	0.07	Q	|V				
9+25	0.0204	0.07	Q	|V				
9+30	0.0208	0.07	Q	| V				
9+35	0.0213	0.07	Q	| V				
9+40	0.0218	0.07	Q	| V				
9+45	0.0223	0.07	Q	| V				
9+50	0.0227	0.07	Q	| V				
9+55	0.0232	0.07	Q	| V				
10+ 0	0.0237	0.07	Q	| V				
10+ 5	0.0241	0.05	Q	| V				
10+10	0.0244	0.05	Q	| V				
10+15	0.0248	0.05	Q	| V				
10+20	0.0251	0.05	Q	| V				
10+25	0.0254	0.05	Q	| V				
10+30	0.0258	0.05	Q	| V				
10+35	0.0262	0.07	Q	| V				
10+40	0.0267	0.07	Q	| V				
10+45	0.0271	0.07	Q	| V				
10+50	0.0276	0.07	Q	| V				
10+55	0.0280	0.07	Q	| V				
11+ 0	0.0285	0.07	Q	| V				
11+ 5	0.0289	0.06	Q	| V				
11+10	0.0294	0.06	Q	| V				
11+15	0.0298	0.06	Q	| V				
11+20	0.0302	0.06	Q	| V				
11+25	0.0306	0.06	Q	| V				
11+30	0.0311	0.06	Q	| V				
11+35	0.0315	0.06	Q	| V				
11+40	0.0318	0.06	Q	| V				
11+45	0.0322	0.06	Q	| V				
11+50	0.0326	0.06	Q	| V				
11+55	0.0330	0.06	Q	| V				
12+ 0	0.0334	0.06	Q	| V				
12+ 5	0.0340	0.08	Q	| V				
12+10	0.0346	0.08	Q	| V				
12+15	0.0351	0.08	Q	| V				
12+20	0.0357	0.09	Q	| V				
12+25	0.0363	0.09	Q	| V				
12+30	0.0369	0.09	Q	| V				
12+35	0.0375	0.09	Q	| V				
12+40	0.0382	0.09	Q	| V				
12+45	0.0388	0.09	Q	| V				
12+50	0.0395	0.10	Q	| V				
12+55	0.0402	0.10	Q	| V				
13+ 0	0.0408	0.10	Q	| V				
13+ 5	0.0417	0.12	Q	| V				
13+10	0.0425	0.12	Q	| V				
13+15	0.0433	0.12	Q	| V				

13+20	0.0441	0.12	Q	|	|	V	|	|
13+25	0.0449	0.12	Q	|	|	V	|	|
13+30	0.0457	0.12	Q	|	|	V	|	|
13+35	0.0463	0.08	Q	|	|	V	|	|
13+40	0.0468	0.08	Q	|	|	V	|	|
13+45	0.0473	0.08	Q	|	|	V	|	|
13+50	0.0478	0.08	Q	|	|	V	|	|
13+55	0.0483	0.08	Q	|	|	V	|	|
14+ 0	0.0489	0.08	Q	|	|	V	|	|
14+ 5	0.0495	0.09	Q	|	|	V	|	|
14+10	0.0501	0.09	Q	|	|	V	|	|
14+15	0.0507	0.09	Q	|	|	V	|	|
14+20	0.0513	0.09	Q	|	|	V	|	|
14+25	0.0519	0.09	Q	|	|	V	|	|
14+30	0.0525	0.09	Q	|	|	V	|	|
14+35	0.0531	0.09	Q	|	|	V	|	|
14+40	0.0537	0.09	Q	|	|	V	|	|
14+45	0.0543	0.09	Q	|	|	V	|	|
14+50	0.0549	0.08	Q	|	|	V	|	|
14+55	0.0555	0.08	Q	|	|	V	|	|
15+ 0	0.0561	0.08	Q	|	|	V	|	|
15+ 5	0.0566	0.08	Q	|	|	V	|	|
15+10	0.0572	0.08	Q	|	|	V	|	|
15+15	0.0577	0.08	Q	|	|	V	|	|
15+20	0.0582	0.08	Q	|	|	V	|	|
15+25	0.0588	0.08	Q	|	|	V	|	|
15+30	0.0593	0.08	Q	|	|	V	|	|
15+35	0.0597	0.06	Q	|	|	V	|	|
15+40	0.0601	0.06	Q	|	|	V	|	|
15+45	0.0606	0.06	Q	|	|	V	|	|
15+50	0.0610	0.06	Q	|	|	V	|	|
15+55	0.0614	0.06	Q	|	|	V	|	|
16+ 0	0.0619	0.06	Q	|	|	V	|	|
16+ 5	0.0619	0.01	Q	|	|	V	|	|
16+10	0.0620	0.01	Q	|	|	V	|	|
16+15	0.0621	0.01	Q	|	|	V	|	|
16+20	0.0622	0.01	Q	|	|	V	|	|
16+25	0.0623	0.01	Q	|	|	V	|	|
16+30	0.0624	0.01	Q	|	|	V	|	|
16+35	0.0625	0.01	Q	|	|	V	|	|
16+40	0.0625	0.01	Q	|	|	V	|	|
16+45	0.0626	0.01	Q	|	|	V	|	|
16+50	0.0627	0.01	Q	|	|	V	|	|
16+55	0.0627	0.01	Q	|	|	V	|	|
17+ 0	0.0628	0.01	Q	|	|	V	|	|
17+ 5	0.0629	0.02	Q	|	|	V	|	|
17+10	0.0630	0.02	Q	|	|	V	|	|
17+15	0.0631	0.02	Q	|	|	V	|	|
17+20	0.0633	0.02	Q	|	|	V	|	|
17+25	0.0634	0.02	Q	|	|	V	|	|
17+30	0.0635	0.02	Q	|	|	V	|	|
17+35	0.0636	0.02	Q	|	|	V	|	|
17+40	0.0637	0.02	Q	|	|	V	|	|
17+45	0.0638	0.02	Q	|	|	V	|	|
17+50	0.0639	0.01	Q	|	|	V	|	|
17+55	0.0640	0.01	Q	|	|	V	|	|
18+ 0	0.0641	0.01	Q	|	|	V	|	|

18+ 5	0.0642	0.01	Q	|	|	|	V |
18+10	0.0643	0.01	Q	|	|	|	V |
18+15	0.0644	0.01	Q	|	|	|	V |
18+20	0.0645	0.01	Q	|	|	|	V |
18+25	0.0645	0.01	Q	|	|	|	V |
18+30	0.0646	0.01	Q	|	|	|	V |
18+35	0.0647	0.01	Q	|	|	|	V |
18+40	0.0648	0.01	Q	|	|	|	V |
18+45	0.0648	0.01	Q	|	|	|	V |
18+50	0.0649	0.01	Q	|	|	|	V |
18+55	0.0649	0.01	Q	|	|	|	V |
19+ 0	0.0650	0.01	Q	|	|	|	V |
19+ 5	0.0650	0.01	Q	|	|	|	V |
19+10	0.0651	0.01	Q	|	|	|	V |
19+15	0.0652	0.01	Q	|	|	|	V |
19+20	0.0653	0.01	Q	|	|	|	V |
19+25	0.0654	0.01	Q	|	|	|	V |
19+30	0.0655	0.01	Q	|	|	|	V |
19+35	0.0655	0.01	Q	|	|	|	V |
19+40	0.0656	0.01	Q	|	|	|	V |
19+45	0.0657	0.01	Q	|	|	|	V |
19+50	0.0657	0.01	Q	|	|	|	V |
19+55	0.0657	0.01	Q	|	|	|	V |
20+ 0	0.0658	0.01	Q	|	|	|	V |
20+ 5	0.0659	0.01	Q	|	|	|	V |
20+10	0.0659	0.01	Q	|	|	|	V |
20+15	0.0660	0.01	Q	|	|	|	V |
20+20	0.0661	0.01	Q	|	|	|	V |
20+25	0.0661	0.01	Q	|	|	|	V |
20+30	0.0662	0.01	Q	|	|	|	V |
20+35	0.0663	0.01	Q	|	|	|	V |
20+40	0.0663	0.01	Q	|	|	|	V |
20+45	0.0664	0.01	Q	|	|	|	V |
20+50	0.0664	0.01	Q	|	|	|	V |
20+55	0.0665	0.01	Q	|	|	|	V |
21+ 0	0.0665	0.01	Q	|	|	|	V |
21+ 5	0.0666	0.01	Q	|	|	|	V |
21+10	0.0667	0.01	Q	|	|	|	V|
21+15	0.0667	0.01	Q	|	|	|	V|
21+20	0.0668	0.01	Q	|	|	|	V|
21+25	0.0668	0.01	Q	|	|	|	V|
21+30	0.0669	0.01	Q	|	|	|	V|
21+35	0.0669	0.01	Q	|	|	|	V|
21+40	0.0670	0.01	Q	|	|	|	V|
21+45	0.0671	0.01	Q	|	|	|	V|
21+50	0.0671	0.01	Q	|	|	|	V|
21+55	0.0672	0.01	Q	|	|	|	V|
22+ 0	0.0672	0.01	Q	|	|	|	V|
22+ 5	0.0673	0.01	Q	|	|	|	V|
22+10	0.0674	0.01	Q	|	|	|	V|
22+15	0.0674	0.01	Q	|	|	|	V|
22+20	0.0675	0.01	Q	|	|	|	V|
22+25	0.0675	0.01	Q	|	|	|	V|
22+30	0.0676	0.01	Q	|	|	|	V|
22+35	0.0676	0.01	Q	|	|	|	V|
22+40	0.0676	0.01	Q	|	|	|	V|
22+45	0.0677	0.01	Q	|	|	|	V|

22+50	0.0677	0.01	Q	|	|	|	V|
22+55	0.0678	0.01	Q	|	|	|	V|
23+ 0	0.0678	0.01	Q	|	|	|	V|
23+ 5	0.0679	0.01	Q	|	|	|	V|
23+10	0.0679	0.01	Q	|	|	|	V|
23+15	0.0680	0.01	Q	|	|	|	V|
23+20	0.0680	0.01	Q	|	|	|	V|
23+25	0.0681	0.01	Q	|	|	|	V|
23+30	0.0681	0.01	Q	|	|	|	V|
23+35	0.0681	0.01	Q	|	|	|	V|
23+40	0.0682	0.01	Q	|	|	|	V|
23+45	0.0682	0.01	Q	|	|	|	V|
23+50	0.0683	0.01	Q	|	|	|	V|
23+55	0.0683	0.01	Q	|	|	|	V|
24+ 0	0.0684	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 06/03/26 File: 19267p010GH2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area GH

Drainage Area = 1.11(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.11(Ac.) = 0.002 Sq. Mi.
Length along longest watercourse = 179.00(Ft.)
Length along longest watercourse measured to centroid = 25.00(Ft.)
Length along longest watercourse = 0.034 Mi.
Length along longest watercourse measured to centroid = 0.005 Mi.
Difference in elevation = 1.20(Ft.)
Slope along watercourse = 35.3966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.007 Hr.
Lag time = 0.40 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.16 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	1.66	1.83

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.11	4.10	4.53

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.105	75.00	0.840

Total Area Entered = 1.11(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.840	0.074	1.000	0.074
					Sum (F) =	0.074

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1261.013	100.000	1.114
		Sum = 100.000	Sum= 1.114

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.131)	0.005	0.016
2	0.17	0.07	0.021	(0.131)	0.005	0.016
3	0.25	0.07	0.021	(0.130)	0.005	0.016
4	0.33	0.10	0.032	(0.130)	0.007	0.025
5	0.42	0.10	0.032	(0.129)	0.007	0.025
6	0.50	0.10	0.032	(0.129)	0.007	0.025
7	0.58	0.10	0.032	(0.128)	0.007	0.025
8	0.67	0.10	0.032	(0.128)	0.007	0.025
9	0.75	0.10	0.032	(0.127)	0.007	0.025
10	0.83	0.13	0.043	(0.127)	0.010	0.033
11	0.92	0.13	0.043	(0.126)	0.010	0.033
12	1.00	0.13	0.043	(0.126)	0.010	0.033

13	1.08	0.10	0.032	(0.125)	0.007	0.025
14	1.17	0.10	0.032	(0.125)	0.007	0.025
15	1.25	0.10	0.032	(0.124)	0.007	0.025
16	1.33	0.10	0.032	(0.124)	0.007	0.025
17	1.42	0.10	0.032	(0.123)	0.007	0.025
18	1.50	0.10	0.032	(0.123)	0.007	0.025
19	1.58	0.10	0.032	(0.122)	0.007	0.025
20	1.67	0.10	0.032	(0.122)	0.007	0.025
21	1.75	0.10	0.032	(0.121)	0.007	0.025
22	1.83	0.13	0.043	(0.121)	0.010	0.033
23	1.92	0.13	0.043	(0.120)	0.010	0.033
24	2.00	0.13	0.043	(0.120)	0.010	0.033
25	2.08	0.13	0.043	(0.119)	0.010	0.033
26	2.17	0.13	0.043	(0.119)	0.010	0.033
27	2.25	0.13	0.043	(0.118)	0.010	0.033
28	2.33	0.13	0.043	(0.118)	0.010	0.033
29	2.42	0.13	0.043	(0.117)	0.010	0.033
30	2.50	0.13	0.043	(0.117)	0.010	0.033
31	2.58	0.17	0.053	(0.116)	0.012	0.041
32	2.67	0.17	0.053	(0.116)	0.012	0.041
33	2.75	0.17	0.053	(0.115)	0.012	0.041
34	2.83	0.17	0.053	(0.115)	0.012	0.041
35	2.92	0.17	0.053	(0.114)	0.012	0.041
36	3.00	0.17	0.053	(0.114)	0.012	0.041
37	3.08	0.17	0.053	(0.113)	0.012	0.041
38	3.17	0.17	0.053	(0.113)	0.012	0.041
39	3.25	0.17	0.053	(0.112)	0.012	0.041
40	3.33	0.17	0.053	(0.112)	0.012	0.041
41	3.42	0.17	0.053	(0.112)	0.012	0.041
42	3.50	0.17	0.053	(0.111)	0.012	0.041
43	3.58	0.17	0.053	(0.111)	0.012	0.041
44	3.67	0.17	0.053	(0.110)	0.012	0.041
45	3.75	0.17	0.053	(0.110)	0.012	0.041
46	3.83	0.20	0.064	(0.109)	0.015	0.049
47	3.92	0.20	0.064	(0.109)	0.015	0.049
48	4.00	0.20	0.064	(0.108)	0.015	0.049
49	4.08	0.20	0.064	(0.108)	0.015	0.049
50	4.17	0.20	0.064	(0.107)	0.015	0.049
51	4.25	0.20	0.064	(0.107)	0.015	0.049
52	4.33	0.23	0.075	(0.106)	0.017	0.057
53	4.42	0.23	0.075	(0.106)	0.017	0.057
54	4.50	0.23	0.075	(0.106)	0.017	0.057
55	4.58	0.23	0.075	(0.105)	0.017	0.057
56	4.67	0.23	0.075	(0.105)	0.017	0.057
57	4.75	0.23	0.075	(0.104)	0.017	0.057
58	4.83	0.27	0.085	(0.104)	0.020	0.066
59	4.92	0.27	0.085	(0.103)	0.020	0.066
60	5.00	0.27	0.085	(0.103)	0.020	0.066
61	5.08	0.20	0.064	(0.102)	0.015	0.049
62	5.17	0.20	0.064	(0.102)	0.015	0.049
63	5.25	0.20	0.064	(0.102)	0.015	0.049
64	5.33	0.23	0.075	(0.101)	0.017	0.057
65	5.42	0.23	0.075	(0.101)	0.017	0.057
66	5.50	0.23	0.075	(0.100)	0.017	0.057
67	5.58	0.27	0.085	(0.100)	0.020	0.066
68	5.67	0.27	0.085	(0.099)	0.020	0.066
69	5.75	0.27	0.085	(0.099)	0.020	0.066

70	5.83	0.27	0.085	(0.098)	0.020	0.066
71	5.92	0.27	0.085	(0.098)	0.020	0.066
72	6.00	0.27	0.085	(0.098)	0.020	0.066
73	6.08	0.30	0.096	(0.097)	0.022	0.074
74	6.17	0.30	0.096	(0.097)	0.022	0.074
75	6.25	0.30	0.096	(0.096)	0.022	0.074
76	6.33	0.30	0.096	(0.096)	0.022	0.074
77	6.42	0.30	0.096	(0.095)	0.022	0.074
78	6.50	0.30	0.096	(0.095)	0.022	0.074
79	6.58	0.33	0.107	(0.095)	0.025	0.082
80	6.67	0.33	0.107	(0.094)	0.025	0.082
81	6.75	0.33	0.107	(0.094)	0.025	0.082
82	6.83	0.33	0.107	(0.093)	0.025	0.082
83	6.92	0.33	0.107	(0.093)	0.025	0.082
84	7.00	0.33	0.107	(0.092)	0.025	0.082
85	7.08	0.33	0.107	(0.092)	0.025	0.082
86	7.17	0.33	0.107	(0.092)	0.025	0.082
87	7.25	0.33	0.107	(0.091)	0.025	0.082
88	7.33	0.37	0.117	(0.091)	0.027	0.090
89	7.42	0.37	0.117	(0.090)	0.027	0.090
90	7.50	0.37	0.117	(0.090)	0.027	0.090
91	7.58	0.40	0.128	(0.090)	0.029	0.098
92	7.67	0.40	0.128	(0.089)	0.029	0.098
93	7.75	0.40	0.128	(0.089)	0.029	0.098
94	7.83	0.43	0.139	(0.088)	0.032	0.107
95	7.92	0.43	0.139	(0.088)	0.032	0.107
96	8.00	0.43	0.139	(0.087)	0.032	0.107
97	8.08	0.50	0.160	(0.087)	0.037	0.123
98	8.17	0.50	0.160	(0.087)	0.037	0.123
99	8.25	0.50	0.160	(0.086)	0.037	0.123
100	8.33	0.50	0.160	(0.086)	0.037	0.123
101	8.42	0.50	0.160	(0.085)	0.037	0.123
102	8.50	0.50	0.160	(0.085)	0.037	0.123
103	8.58	0.53	0.170	(0.085)	0.039	0.131
104	8.67	0.53	0.170	(0.084)	0.039	0.131
105	8.75	0.53	0.170	(0.084)	0.039	0.131
106	8.83	0.57	0.181	(0.083)	0.042	0.139
107	8.92	0.57	0.181	(0.083)	0.042	0.139
108	9.00	0.57	0.181	(0.083)	0.042	0.139
109	9.08	0.63	0.202	(0.082)	0.047	0.156
110	9.17	0.63	0.202	(0.082)	0.047	0.156
111	9.25	0.63	0.202	(0.082)	0.047	0.156
112	9.33	0.67	0.213	(0.081)	0.049	0.164
113	9.42	0.67	0.213	(0.081)	0.049	0.164
114	9.50	0.67	0.213	(0.080)	0.049	0.164
115	9.58	0.70	0.224	(0.080)	0.051	0.172
116	9.67	0.70	0.224	(0.080)	0.051	0.172
117	9.75	0.70	0.224	(0.079)	0.051	0.172
118	9.83	0.73	0.234	(0.079)	0.054	0.181
119	9.92	0.73	0.234	(0.078)	0.054	0.181
120	10.00	0.73	0.234	(0.078)	0.054	0.181
121	10.08	0.50	0.160	(0.078)	0.037	0.123
122	10.17	0.50	0.160	(0.077)	0.037	0.123
123	10.25	0.50	0.160	(0.077)	0.037	0.123
124	10.33	0.50	0.160	(0.077)	0.037	0.123
125	10.42	0.50	0.160	(0.076)	0.037	0.123
126	10.50	0.50	0.160	(0.076)	0.037	0.123

127	10.58	0.67	0.213	(0.075)	0.049	0.164
128	10.67	0.67	0.213	(0.075)	0.049	0.164
129	10.75	0.67	0.213	(0.075)	0.049	0.164
130	10.83	0.67	0.213	(0.074)	0.049	0.164
131	10.92	0.67	0.213	(0.074)	0.049	0.164
132	11.00	0.67	0.213	(0.074)	0.049	0.164
133	11.08	0.63	0.202	(0.073)	0.047	0.156
134	11.17	0.63	0.202	(0.073)	0.047	0.156
135	11.25	0.63	0.202	(0.073)	0.047	0.156
136	11.33	0.63	0.202	(0.072)	0.047	0.156
137	11.42	0.63	0.202	(0.072)	0.047	0.156
138	11.50	0.63	0.202	(0.071)	0.047	0.156
139	11.58	0.57	0.181	(0.071)	0.042	0.139
140	11.67	0.57	0.181	(0.071)	0.042	0.139
141	11.75	0.57	0.181	(0.070)	0.042	0.139
142	11.83	0.60	0.192	(0.070)	0.044	0.148
143	11.92	0.60	0.192	(0.070)	0.044	0.148
144	12.00	0.60	0.192	(0.069)	0.044	0.148
145	12.08	0.83	0.266	(0.069)	0.061	0.205
146	12.17	0.83	0.266	(0.069)	0.061	0.205
147	12.25	0.83	0.266	(0.068)	0.061	0.205
148	12.33	0.87	0.277	(0.068)	0.064	0.213
149	12.42	0.87	0.277	(0.068)	0.064	0.213
150	12.50	0.87	0.277	(0.067)	0.064	0.213
151	12.58	0.93	0.298	0.067	(0.069)	0.231
152	12.67	0.93	0.298	0.067	(0.069)	0.232
153	12.75	0.93	0.298	0.066	(0.069)	0.232
154	12.83	0.97	0.309	0.066	(0.071)	0.243
155	12.92	0.97	0.309	0.066	(0.071)	0.243
156	13.00	0.97	0.309	0.065	(0.071)	0.244
157	13.08	1.13	0.362	0.065	(0.083)	0.297
158	13.17	1.13	0.362	0.065	(0.083)	0.298
159	13.25	1.13	0.362	0.064	(0.083)	0.298
160	13.33	1.13	0.362	0.064	(0.083)	0.298
161	13.42	1.13	0.362	0.064	(0.083)	0.299
162	13.50	1.13	0.362	0.063	(0.083)	0.299
163	13.58	0.77	0.245	(0.063)	0.056	0.189
164	13.67	0.77	0.245	(0.063)	0.056	0.189
165	13.75	0.77	0.245	(0.062)	0.056	0.189
166	13.83	0.77	0.245	(0.062)	0.056	0.189
167	13.92	0.77	0.245	(0.062)	0.056	0.189
168	14.00	0.77	0.245	(0.061)	0.056	0.189
169	14.08	0.90	0.288	0.061	(0.066)	0.227
170	14.17	0.90	0.288	0.061	(0.066)	0.227
171	14.25	0.90	0.288	0.060	(0.066)	0.227
172	14.33	0.87	0.277	0.060	(0.064)	0.217
173	14.42	0.87	0.277	0.060	(0.064)	0.217
174	14.50	0.87	0.277	0.060	(0.064)	0.217
175	14.58	0.87	0.277	0.059	(0.064)	0.218
176	14.67	0.87	0.277	0.059	(0.064)	0.218
177	14.75	0.87	0.277	0.059	(0.064)	0.218
178	14.83	0.83	0.266	0.058	(0.061)	0.208
179	14.92	0.83	0.266	0.058	(0.061)	0.208
180	15.00	0.83	0.266	0.058	(0.061)	0.209
181	15.08	0.80	0.256	0.057	(0.059)	0.198
182	15.17	0.80	0.256	0.057	(0.059)	0.199
183	15.25	0.80	0.256	0.057	(0.059)	0.199

184	15.33	0.77	0.245	(0.057)	0.056	0.189
185	15.42	0.77	0.245	0.056	(0.056)	0.189
186	15.50	0.77	0.245	0.056	(0.056)	0.189
187	15.58	0.63	0.202	(0.056)	0.047	0.156
188	15.67	0.63	0.202	(0.055)	0.047	0.156
189	15.75	0.63	0.202	(0.055)	0.047	0.156
190	15.83	0.63	0.202	(0.055)	0.047	0.156
191	15.92	0.63	0.202	(0.055)	0.047	0.156
192	16.00	0.63	0.202	(0.054)	0.047	0.156
193	16.08	0.13	0.043	(0.054)	0.010	0.033
194	16.17	0.13	0.043	(0.054)	0.010	0.033
195	16.25	0.13	0.043	(0.053)	0.010	0.033
196	16.33	0.13	0.043	(0.053)	0.010	0.033
197	16.42	0.13	0.043	(0.053)	0.010	0.033
198	16.50	0.13	0.043	(0.053)	0.010	0.033
199	16.58	0.10	0.032	(0.052)	0.007	0.025
200	16.67	0.10	0.032	(0.052)	0.007	0.025
201	16.75	0.10	0.032	(0.052)	0.007	0.025
202	16.83	0.10	0.032	(0.052)	0.007	0.025
203	16.92	0.10	0.032	(0.051)	0.007	0.025
204	17.00	0.10	0.032	(0.051)	0.007	0.025
205	17.08	0.17	0.053	(0.051)	0.012	0.041
206	17.17	0.17	0.053	(0.051)	0.012	0.041
207	17.25	0.17	0.053	(0.050)	0.012	0.041
208	17.33	0.17	0.053	(0.050)	0.012	0.041
209	17.42	0.17	0.053	(0.050)	0.012	0.041
210	17.50	0.17	0.053	(0.050)	0.012	0.041
211	17.58	0.17	0.053	(0.049)	0.012	0.041
212	17.67	0.17	0.053	(0.049)	0.012	0.041
213	17.75	0.17	0.053	(0.049)	0.012	0.041
214	17.83	0.13	0.043	(0.049)	0.010	0.033
215	17.92	0.13	0.043	(0.048)	0.010	0.033
216	18.00	0.13	0.043	(0.048)	0.010	0.033
217	18.08	0.13	0.043	(0.048)	0.010	0.033
218	18.17	0.13	0.043	(0.048)	0.010	0.033
219	18.25	0.13	0.043	(0.047)	0.010	0.033
220	18.33	0.13	0.043	(0.047)	0.010	0.033
221	18.42	0.13	0.043	(0.047)	0.010	0.033
222	18.50	0.13	0.043	(0.047)	0.010	0.033
223	18.58	0.10	0.032	(0.046)	0.007	0.025
224	18.67	0.10	0.032	(0.046)	0.007	0.025
225	18.75	0.10	0.032	(0.046)	0.007	0.025
226	18.83	0.07	0.021	(0.046)	0.005	0.016
227	18.92	0.07	0.021	(0.046)	0.005	0.016
228	19.00	0.07	0.021	(0.045)	0.005	0.016
229	19.08	0.10	0.032	(0.045)	0.007	0.025
230	19.17	0.10	0.032	(0.045)	0.007	0.025
231	19.25	0.10	0.032	(0.045)	0.007	0.025
232	19.33	0.13	0.043	(0.045)	0.010	0.033
233	19.42	0.13	0.043	(0.044)	0.010	0.033
234	19.50	0.13	0.043	(0.044)	0.010	0.033
235	19.58	0.10	0.032	(0.044)	0.007	0.025
236	19.67	0.10	0.032	(0.044)	0.007	0.025
237	19.75	0.10	0.032	(0.044)	0.007	0.025
238	19.83	0.07	0.021	(0.043)	0.005	0.016
239	19.92	0.07	0.021	(0.043)	0.005	0.016
240	20.00	0.07	0.021	(0.043)	0.005	0.016

241	20.08	0.10	0.032	(0.043)	0.007	0.025
242	20.17	0.10	0.032	(0.043)	0.007	0.025
243	20.25	0.10	0.032	(0.042)	0.007	0.025
244	20.33	0.10	0.032	(0.042)	0.007	0.025
245	20.42	0.10	0.032	(0.042)	0.007	0.025
246	20.50	0.10	0.032	(0.042)	0.007	0.025
247	20.58	0.10	0.032	(0.042)	0.007	0.025
248	20.67	0.10	0.032	(0.041)	0.007	0.025
249	20.75	0.10	0.032	(0.041)	0.007	0.025
250	20.83	0.07	0.021	(0.041)	0.005	0.016
251	20.92	0.07	0.021	(0.041)	0.005	0.016
252	21.00	0.07	0.021	(0.041)	0.005	0.016
253	21.08	0.10	0.032	(0.041)	0.007	0.025
254	21.17	0.10	0.032	(0.040)	0.007	0.025
255	21.25	0.10	0.032	(0.040)	0.007	0.025
256	21.33	0.07	0.021	(0.040)	0.005	0.016
257	21.42	0.07	0.021	(0.040)	0.005	0.016
258	21.50	0.07	0.021	(0.040)	0.005	0.016
259	21.58	0.10	0.032	(0.040)	0.007	0.025
260	21.67	0.10	0.032	(0.040)	0.007	0.025
261	21.75	0.10	0.032	(0.039)	0.007	0.025
262	21.83	0.07	0.021	(0.039)	0.005	0.016
263	21.92	0.07	0.021	(0.039)	0.005	0.016
264	22.00	0.07	0.021	(0.039)	0.005	0.016
265	22.08	0.10	0.032	(0.039)	0.007	0.025
266	22.17	0.10	0.032	(0.039)	0.007	0.025
267	22.25	0.10	0.032	(0.039)	0.007	0.025
268	22.33	0.07	0.021	(0.039)	0.005	0.016
269	22.42	0.07	0.021	(0.038)	0.005	0.016
270	22.50	0.07	0.021	(0.038)	0.005	0.016
271	22.58	0.07	0.021	(0.038)	0.005	0.016
272	22.67	0.07	0.021	(0.038)	0.005	0.016
273	22.75	0.07	0.021	(0.038)	0.005	0.016
274	22.83	0.07	0.021	(0.038)	0.005	0.016
275	22.92	0.07	0.021	(0.038)	0.005	0.016
276	23.00	0.07	0.021	(0.038)	0.005	0.016
277	23.08	0.07	0.021	(0.038)	0.005	0.016
278	23.17	0.07	0.021	(0.038)	0.005	0.016
279	23.25	0.07	0.021	(0.037)	0.005	0.016
280	23.33	0.07	0.021	(0.037)	0.005	0.016
281	23.42	0.07	0.021	(0.037)	0.005	0.016
282	23.50	0.07	0.021	(0.037)	0.005	0.016
283	23.58	0.07	0.021	(0.037)	0.005	0.016
284	23.67	0.07	0.021	(0.037)	0.005	0.016
285	23.75	0.07	0.021	(0.037)	0.005	0.016
286	23.83	0.07	0.021	(0.037)	0.005	0.016
287	23.92	0.07	0.021	(0.037)	0.005	0.016
288	24.00	0.07	0.021	(0.037)	0.005	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.8

Flood volume = Effective rainfall 2.07(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

Total soil loss = 0.60(In)
Total soil loss = 0.055(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 8292.5 Cubic Feet
Total soil loss = 2392.5 Cubic Feet

Peak flow rate of this hydrograph = 0.333(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	0.0001	0.02	Q				
0+10	0.0003	0.02	Q				
0+15	0.0004	0.02	Q				
0+20	0.0006	0.03	Q				
0+25	0.0008	0.03	Q				
0+30	0.0009	0.03	Q				
0+35	0.0011	0.03	Q				
0+40	0.0013	0.03	Q				
0+45	0.0015	0.03	Q				
0+50	0.0018	0.04	Q				
0+55	0.0020	0.04	Q				
1+ 0	0.0023	0.04	Q				
1+ 5	0.0025	0.03	Q				
1+10	0.0026	0.03	Q				
1+15	0.0028	0.03	Q				
1+20	0.0030	0.03	Q				
1+25	0.0032	0.03	Q				
1+30	0.0034	0.03	Q				
1+35	0.0036	0.03	Q				
1+40	0.0038	0.03	Q				
1+45	0.0040	0.03	Q				
1+50	0.0042	0.04	Q				
1+55	0.0045	0.04	Q				
2+ 0	0.0047	0.04	Q				
2+ 5	0.0050	0.04	QV				
2+10	0.0052	0.04	QV				
2+15	0.0055	0.04	QV				
2+20	0.0057	0.04	QV				
2+25	0.0060	0.04	QV				
2+30	0.0062	0.04	QV				
2+35	0.0065	0.05	QV				
2+40	0.0069	0.05	QV				
2+45	0.0072	0.05	QV				
2+50	0.0075	0.05	QV				
2+55	0.0078	0.05	QV				
3+ 0	0.0081	0.05	QV				
3+ 5	0.0084	0.05	QV				
3+10	0.0088	0.05	QV				
3+15	0.0091	0.05	QV				
3+20	0.0094	0.05	QV				
3+25	0.0097	0.05	Q V				
3+30	0.0100	0.05	Q V				
3+35	0.0103	0.05	Q V				
3+40	0.0106	0.05	Q V				
3+45	0.0110	0.05	Q V				

3+50	0.0113	0.05	Q V	|	|	|	|
3+55	0.0117	0.05	Q V	|	|	|	|
4+ 0	0.0121	0.05	Q V	|	|	|	|
4+ 5	0.0125	0.05	Q V	|	|	|	|
4+10	0.0128	0.05	Q V	|	|	|	|
4+15	0.0132	0.05	Q V	|	|	|	|
4+20	0.0137	0.06	Q V	|	|	|	|
4+25	0.0141	0.06	Q V	|	|	|	|
4+30	0.0145	0.06	Q V	|	|	|	|
4+35	0.0150	0.06	Q V	|	|	|	|
4+40	0.0154	0.06	Q V	|	|	|	|
4+45	0.0159	0.06	Q V	|	|	|	|
4+50	0.0164	0.07	Q V	|	|	|	|
4+55	0.0169	0.07	Q V	|	|	|	|
5+ 0	0.0174	0.07	Q V	|	|	|	|
5+ 5	0.0178	0.05	Q V	|	|	|	|
5+10	0.0181	0.05	Q V	|	|	|	|
5+15	0.0185	0.05	Q V	|	|	|	|
5+20	0.0190	0.06	Q V	|	|	|	|
5+25	0.0194	0.06	Q V	|	|	|	|
5+30	0.0198	0.06	Q V	|	|	|	|
5+35	0.0203	0.07	Q V	|	|	|	|
5+40	0.0208	0.07	Q V	|	|	|	|
5+45	0.0213	0.07	Q V	|	|	|	|
5+50	0.0218	0.07	Q V	|	|	|	|
5+55	0.0224	0.07	Q V	|	|	|	|
6+ 0	0.0229	0.07	Q V	|	|	|	|
6+ 5	0.0234	0.08	Q V	|	|	|	|
6+10	0.0240	0.08	Q V	|	|	|	|
6+15	0.0246	0.08	Q V	|	|	|	|
6+20	0.0251	0.08	Q V	|	|	|	|
6+25	0.0257	0.08	Q V	|	|	|	|
6+30	0.0263	0.08	Q V	|	|	|	|
6+35	0.0269	0.09	Q V	|	|	|	|
6+40	0.0275	0.09	Q V	|	|	|	|
6+45	0.0281	0.09	Q V	|	|	|	|
6+50	0.0288	0.09	Q V	|	|	|	|
6+55	0.0294	0.09	Q V	|	|	|	|
7+ 0	0.0300	0.09	Q V	|	|	|	|
7+ 5	0.0307	0.09	Q V	|	|	|	|
7+10	0.0313	0.09	Q V	|	|	|	|
7+15	0.0319	0.09	Q V	|	|	|	|
7+20	0.0326	0.10	Q V	|	|	|	|
7+25	0.0333	0.10	Q V	|	|	|	|
7+30	0.0340	0.10	Q V	|	|	|	|
7+35	0.0348	0.11	Q V	|	|	|	|
7+40	0.0355	0.11	Q V	|	|	|	|
7+45	0.0363	0.11	Q V	|	|	|	|
7+50	0.0371	0.12	Q V	|	|	|	|
7+55	0.0379	0.12	Q V	|	|	|	|
8+ 0	0.0387	0.12	Q V	|	|	|	|
8+ 5	0.0397	0.14	Q V	|	|	|	|
8+10	0.0406	0.14	Q V	|	|	|	|
8+15	0.0416	0.14	Q V	|	|	|	|
8+20	0.0425	0.14	Q V	|	|	|	|
8+25	0.0434	0.14	Q V	|	|	|	|
8+30	0.0444	0.14	Q V	|	|	|	|

8+35	0.0454	0.15	Q	V|				
8+40	0.0464	0.15	Q	V|				
8+45	0.0474	0.15	Q	V|				
8+50	0.0485	0.16	Q	V				
8+55	0.0495	0.16	Q	V				
9+ 0	0.0506	0.16	Q	V				
9+ 5	0.0518	0.17	Q	V				
9+10	0.0530	0.17	Q	|V				
9+15	0.0542	0.17	Q	|V				
9+20	0.0555	0.18	Q	|V				
9+25	0.0567	0.18	Q	|V				
9+30	0.0580	0.18	Q	| V				
9+35	0.0593	0.19	Q	| V				
9+40	0.0606	0.19	Q	| V				
9+45	0.0620	0.19	Q	| V				
9+50	0.0633	0.20	Q	| V				
9+55	0.0647	0.20	Q	| V				
10+ 0	0.0661	0.20	Q	| V				
10+ 5	0.0671	0.14	Q	| V				
10+10	0.0680	0.14	Q	| V				
10+15	0.0689	0.14	Q	| V				
10+20	0.0699	0.14	Q	| V				
10+25	0.0708	0.14	Q	| V				
10+30	0.0718	0.14	Q	| V				
10+35	0.0730	0.18	Q	| V				
10+40	0.0743	0.18	Q	| V				
10+45	0.0756	0.18	Q	| V				
10+50	0.0768	0.18	Q	| V				
10+55	0.0781	0.18	Q	| V				
11+ 0	0.0793	0.18	Q	| V				
11+ 5	0.0805	0.17	Q	| V				
11+10	0.0817	0.17	Q	| V				
11+15	0.0829	0.17	Q	| V				
11+20	0.0841	0.17	Q	| V				
11+25	0.0853	0.17	Q	| V				
11+30	0.0865	0.17	Q	| V				
11+35	0.0876	0.16	Q	| V				
11+40	0.0886	0.16	Q	| V				
11+45	0.0897	0.16	Q	| V				
11+50	0.0908	0.16	Q	| V				
11+55	0.0920	0.16	Q	| V				
12+ 0	0.0931	0.16	Q	| V				
12+ 5	0.0947	0.23	Q	| V				
12+10	0.0963	0.23	Q	| V				
12+15	0.0978	0.23	Q	| V				
12+20	0.0995	0.24	Q	| V				
12+25	0.1011	0.24	Q	| V				
12+30	0.1027	0.24	Q	| V				
12+35	0.1045	0.26	|Q	| V				
12+40	0.1063	0.26	|Q	| V				
12+45	0.1081	0.26	|Q	| V				
12+50	0.1099	0.27	|Q	| V				
12+55	0.1118	0.27	|Q	| V				
13+ 0	0.1137	0.27	|Q	| V				
13+ 5	0.1160	0.33	|Q	| V				
13+10	0.1183	0.33	|Q	| V				
13+15	0.1205	0.33	|Q	| V				

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13+20       0.1228      0.33  |Q        |          |    V    |          |
13+25       0.1251      0.33  |Q        |          |      V   |          |
13+30       0.1274      0.33  |Q        |          |      V   |          |
13+35       0.1289      0.21  Q         |          |       V  |          |
13+40       0.1303      0.21  Q         |          |       V  |          |
13+45       0.1318      0.21  Q         |          |       V  |          |
13+50       0.1332      0.21  Q         |          |       V  |          |
13+55       0.1347      0.21  Q         |          |        V |          |
14+ 0       0.1361      0.21  Q         |          |        V |          |
14+ 5       0.1378      0.25  |Q        |          |        V |          |
14+10       0.1396      0.25  |Q        |          |         V|          |
14+15       0.1413      0.25  |Q        |          |         V|          |
14+20       0.1430      0.24  Q         |          |          V          |
14+25       0.1447      0.24  Q         |          |          V          |
14+30       0.1463      0.24  Q         |          |          V          |
14+35       0.1480      0.24  Q         |          |          |V         |
14+40       0.1497      0.24  Q         |          |          |V         |
14+45       0.1513      0.24  Q         |          |          |V         |
14+50       0.1529      0.23  Q         |          |          | V        |
14+55       0.1545      0.23  Q         |          |          | V        |
15+ 0       0.1561      0.23  Q         |          |          | V        |
15+ 5       0.1577      0.22  Q         |          |          |  V       |
15+10       0.1592      0.22  Q         |          |          |  V       |
15+15       0.1607      0.22  Q         |          |          |  V       |
15+20       0.1622      0.21  Q         |          |          |   V      |
15+25       0.1636      0.21  Q         |          |          |   V      |
15+30       0.1651      0.21  Q         |          |          |   V      |
15+35       0.1663      0.17  Q         |          |          |   V      |
15+40       0.1675      0.17  Q         |          |          |    V     |
15+45       0.1686      0.17  Q         |          |          |    V     |
15+50       0.1698      0.17  Q         |          |          |    V     |
15+55       0.1710      0.17  Q         |          |          |    V     |
16+ 0       0.1722      0.17  Q         |          |          |     V    |
16+ 5       0.1725      0.04  Q         |          |          |     V    |
16+10       0.1727      0.04  Q         |          |          |     V    |
16+15       0.1730      0.04  Q         |          |          |     V    |
16+20       0.1732      0.04  Q         |          |          |     V    |
16+25       0.1735      0.04  Q         |          |          |     V    |
16+30       0.1737      0.04  Q         |          |          |     V    |
16+35       0.1739      0.03  Q         |          |          |     V    |
16+40       0.1741      0.03  Q         |          |          |     V    |
16+45       0.1743      0.03  Q         |          |          |     V    |
16+50       0.1745      0.03  Q         |          |          |     V    |
16+55       0.1747      0.03  Q         |          |          |     V    |
17+ 0       0.1749      0.03  Q         |          |          |     V    |
17+ 5       0.1752      0.05  Q         |          |          |     V    |
17+10       0.1755      0.05  Q         |          |          |     V    |
17+15       0.1758      0.05  Q         |          |          |     V    |
17+20       0.1761      0.05  Q         |          |          |      V   |
17+25       0.1765      0.05  Q         |          |          |      V   |
17+30       0.1768      0.05  Q         |          |          |      V   |
17+35       0.1771      0.05  Q         |          |          |      V   |
17+40       0.1774      0.05  Q         |          |          |      V   |
17+45       0.1777      0.05  Q         |          |          |      V   |
17+50       0.1780      0.04  Q         |          |          |      V   |
17+55       0.1782      0.04  Q         |          |          |      V   |
18+ 0       0.1785      0.04  Q         |          |          |      V   |
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18+ 5	0.1787	0.04	Q	|	|	|	V |
18+10	0.1790	0.04	Q	|	|	|	V |
18+15	0.1792	0.04	Q	|	|	|	V |
18+20	0.1795	0.04	Q	|	|	|	V |
18+25	0.1797	0.04	Q	|	|	|	V |
18+30	0.1800	0.04	Q	|	|	|	V |
18+35	0.1802	0.03	Q	|	|	|	V |
18+40	0.1804	0.03	Q	|	|	|	V |
18+45	0.1805	0.03	Q	|	|	|	V |
18+50	0.1807	0.02	Q	|	|	|	V |
18+55	0.1808	0.02	Q	|	|	|	V |
19+ 0	0.1809	0.02	Q	|	|	|	V |
19+ 5	0.1811	0.03	Q	|	|	|	V |
19+10	0.1813	0.03	Q	|	|	|	V |
19+15	0.1815	0.03	Q	|	|	|	V |
19+20	0.1817	0.04	Q	|	|	|	V |
19+25	0.1820	0.04	Q	|	|	|	V |
19+30	0.1822	0.04	Q	|	|	|	V |
19+35	0.1824	0.03	Q	|	|	|	V |
19+40	0.1826	0.03	Q	|	|	|	V |
19+45	0.1828	0.03	Q	|	|	|	V |
19+50	0.1829	0.02	Q	|	|	|	V |
19+55	0.1831	0.02	Q	|	|	|	V |
20+ 0	0.1832	0.02	Q	|	|	|	V |
20+ 5	0.1834	0.03	Q	|	|	|	V |
20+10	0.1836	0.03	Q	|	|	|	V |
20+15	0.1838	0.03	Q	|	|	|	V |
20+20	0.1839	0.03	Q	|	|	|	V |
20+25	0.1841	0.03	Q	|	|	|	V |
20+30	0.1843	0.03	Q	|	|	|	V |
20+35	0.1845	0.03	Q	|	|	|	V |
20+40	0.1847	0.03	Q	|	|	|	V |
20+45	0.1849	0.03	Q	|	|	|	V |
20+50	0.1850	0.02	Q	|	|	|	V |
20+55	0.1851	0.02	Q	|	|	|	V |
21+ 0	0.1853	0.02	Q	|	|	|	V |
21+ 5	0.1855	0.03	Q	|	|	|	V |
21+10	0.1856	0.03	Q	|	|	|	V|
21+15	0.1858	0.03	Q	|	|	|	V|
21+20	0.1860	0.02	Q	|	|	|	V|
21+25	0.1861	0.02	Q	|	|	|	V|
21+30	0.1862	0.02	Q	|	|	|	V|
21+35	0.1864	0.03	Q	|	|	|	V|
21+40	0.1866	0.03	Q	|	|	|	V|
21+45	0.1868	0.03	Q	|	|	|	V|
21+50	0.1869	0.02	Q	|	|	|	V|
21+55	0.1870	0.02	Q	|	|	|	V|
22+ 0	0.1872	0.02	Q	|	|	|	V|
22+ 5	0.1873	0.03	Q	|	|	|	V|
22+10	0.1875	0.03	Q	|	|	|	V|
22+15	0.1877	0.03	Q	|	|	|	V|
22+20	0.1879	0.02	Q	|	|	|	V|
22+25	0.1880	0.02	Q	|	|	|	V|
22+30	0.1881	0.02	Q	|	|	|	V|
22+35	0.1882	0.02	Q	|	|	|	V|
22+40	0.1884	0.02	Q	|	|	|	V|
22+45	0.1885	0.02	Q	|	|	|	V|

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  22+50       0.1886      0.02  Q          |          |          |         V|
  22+55       0.1887      0.02  Q          |          |          |         V|
  23+ 0       0.1889      0.02  Q          |          |          |         V|
  23+ 5       0.1890      0.02  Q          |          |          |         V|
  23+10       0.1891      0.02  Q          |          |          |         V|
  23+15       0.1892      0.02  Q          |          |          |         V|
  23+20       0.1894      0.02  Q          |          |          |         V|
  23+25       0.1895      0.02  Q          |          |          |         V|
  23+30       0.1896      0.02  Q          |          |          |         V|
  23+35       0.1897      0.02  Q          |          |          |         V|
  23+40       0.1899      0.02  Q          |          |          |         V|
  23+45       0.1900      0.02  Q          |          |          |         V|
  23+50       0.1901      0.02  Q          |          |          |         V|
  23+55       0.1902      0.02  Q          |          |          |         V|
  24+ 0       0.1904      0.02  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 06/03/26 File: 19267p010I2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area I

Drainage Area = 0.90(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.90(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 239.00(Ft.)
Length along longest watercourse measured to centroid = 157.00(Ft.)
Length along longest watercourse = 0.045 Mi.
Length along longest watercourse measured to centroid = 0.030 Mi.
Difference in elevation = 3.00(Ft.)
Slope along watercourse = 66.2762 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.013 Hr.
Lag time = 0.79 Min.
25% of lag time = 0.20 Min.
40% of lag time = 0.32 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]
0.90	1.66	1.49

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.90	4.10	3.69

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.900	75.00	0.830

Total Area Entered = 0.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.830	0.077	1.000	0.077
					Sum (F) =	0.077

Area averaged mean soil loss (F) (In/Hr) = 0.077
Minimum soil loss rate ((In/Hr)) = 0.038
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	633.203	76.439	0.693
2	0.167	1266.406	23.561	0.214
			Sum = 100.000 Sum=	0.907

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.136)	0.005	0.016
2	0.17	0.07	0.021	(0.135)	0.005	0.016
3	0.25	0.07	0.021	(0.135)	0.005	0.016
4	0.33	0.10	0.032	(0.134)	0.008	0.024
5	0.42	0.10	0.032	(0.134)	0.008	0.024
6	0.50	0.10	0.032	(0.133)	0.008	0.024
7	0.58	0.10	0.032	(0.133)	0.008	0.024
8	0.67	0.10	0.032	(0.132)	0.008	0.024
9	0.75	0.10	0.032	(0.132)	0.008	0.024
10	0.83	0.13	0.043	(0.131)	0.010	0.032
11	0.92	0.13	0.043	(0.131)	0.010	0.032

12	1.00	0.13	0.043	(0.130)	0.010	0.032
13	1.08	0.10	0.032	(0.130)	0.008	0.024
14	1.17	0.10	0.032	(0.129)	0.008	0.024
15	1.25	0.10	0.032	(0.129)	0.008	0.024
16	1.33	0.10	0.032	(0.128)	0.008	0.024
17	1.42	0.10	0.032	(0.128)	0.008	0.024
18	1.50	0.10	0.032	(0.127)	0.008	0.024
19	1.58	0.10	0.032	(0.127)	0.008	0.024
20	1.67	0.10	0.032	(0.126)	0.008	0.024
21	1.75	0.10	0.032	(0.126)	0.008	0.024
22	1.83	0.13	0.043	(0.125)	0.010	0.032
23	1.92	0.13	0.043	(0.125)	0.010	0.032
24	2.00	0.13	0.043	(0.124)	0.010	0.032
25	2.08	0.13	0.043	(0.124)	0.010	0.032
26	2.17	0.13	0.043	(0.123)	0.010	0.032
27	2.25	0.13	0.043	(0.123)	0.010	0.032
28	2.33	0.13	0.043	(0.122)	0.010	0.032
29	2.42	0.13	0.043	(0.122)	0.010	0.032
30	2.50	0.13	0.043	(0.121)	0.010	0.032
31	2.58	0.17	0.053	(0.121)	0.013	0.040
32	2.67	0.17	0.053	(0.120)	0.013	0.040
33	2.75	0.17	0.053	(0.120)	0.013	0.040
34	2.83	0.17	0.053	(0.119)	0.013	0.040
35	2.92	0.17	0.053	(0.119)	0.013	0.040
36	3.00	0.17	0.053	(0.118)	0.013	0.040
37	3.08	0.17	0.053	(0.118)	0.013	0.040
38	3.17	0.17	0.053	(0.117)	0.013	0.040
39	3.25	0.17	0.053	(0.117)	0.013	0.040
40	3.33	0.17	0.053	(0.116)	0.013	0.040
41	3.42	0.17	0.053	(0.116)	0.013	0.040
42	3.50	0.17	0.053	(0.115)	0.013	0.040
43	3.58	0.17	0.053	(0.115)	0.013	0.040
44	3.67	0.17	0.053	(0.114)	0.013	0.040
45	3.75	0.17	0.053	(0.114)	0.013	0.040
46	3.83	0.20	0.064	(0.113)	0.015	0.049
47	3.92	0.20	0.064	(0.113)	0.015	0.049
48	4.00	0.20	0.064	(0.112)	0.015	0.049
49	4.08	0.20	0.064	(0.112)	0.015	0.049
50	4.17	0.20	0.064	(0.111)	0.015	0.049
51	4.25	0.20	0.064	(0.111)	0.015	0.049
52	4.33	0.23	0.075	(0.110)	0.018	0.057
53	4.42	0.23	0.075	(0.110)	0.018	0.057
54	4.50	0.23	0.075	(0.109)	0.018	0.057
55	4.58	0.23	0.075	(0.109)	0.018	0.057
56	4.67	0.23	0.075	(0.109)	0.018	0.057
57	4.75	0.23	0.075	(0.108)	0.018	0.057
58	4.83	0.27	0.085	(0.108)	0.020	0.065
59	4.92	0.27	0.085	(0.107)	0.020	0.065
60	5.00	0.27	0.085	(0.107)	0.020	0.065
61	5.08	0.20	0.064	(0.106)	0.015	0.049
62	5.17	0.20	0.064	(0.106)	0.015	0.049
63	5.25	0.20	0.064	(0.105)	0.015	0.049
64	5.33	0.23	0.075	(0.105)	0.018	0.057
65	5.42	0.23	0.075	(0.104)	0.018	0.057
66	5.50	0.23	0.075	(0.104)	0.018	0.057
67	5.58	0.27	0.085	(0.103)	0.020	0.065
68	5.67	0.27	0.085	(0.103)	0.020	0.065

69	5.75	0.27	0.085	(0.103)	0.020	0.065
70	5.83	0.27	0.085	(0.102)	0.020	0.065
71	5.92	0.27	0.085	(0.102)	0.020	0.065
72	6.00	0.27	0.085	(0.101)	0.020	0.065
73	6.08	0.30	0.096	(0.101)	0.023	0.073
74	6.17	0.30	0.096	(0.100)	0.023	0.073
75	6.25	0.30	0.096	(0.100)	0.023	0.073
76	6.33	0.30	0.096	(0.099)	0.023	0.073
77	6.42	0.30	0.096	(0.099)	0.023	0.073
78	6.50	0.30	0.096	(0.099)	0.023	0.073
79	6.58	0.33	0.107	(0.098)	0.026	0.081
80	6.67	0.33	0.107	(0.098)	0.026	0.081
81	6.75	0.33	0.107	(0.097)	0.026	0.081
82	6.83	0.33	0.107	(0.097)	0.026	0.081
83	6.92	0.33	0.107	(0.096)	0.026	0.081
84	7.00	0.33	0.107	(0.096)	0.026	0.081
85	7.08	0.33	0.107	(0.095)	0.026	0.081
86	7.17	0.33	0.107	(0.095)	0.026	0.081
87	7.25	0.33	0.107	(0.095)	0.026	0.081
88	7.33	0.37	0.117	(0.094)	0.028	0.089
89	7.42	0.37	0.117	(0.094)	0.028	0.089
90	7.50	0.37	0.117	(0.093)	0.028	0.089
91	7.58	0.40	0.128	(0.093)	0.031	0.097
92	7.67	0.40	0.128	(0.092)	0.031	0.097
93	7.75	0.40	0.128	(0.092)	0.031	0.097
94	7.83	0.43	0.139	(0.092)	0.033	0.105
95	7.92	0.43	0.139	(0.091)	0.033	0.105
96	8.00	0.43	0.139	(0.091)	0.033	0.105
97	8.08	0.50	0.160	(0.090)	0.038	0.121
98	8.17	0.50	0.160	(0.090)	0.038	0.121
99	8.25	0.50	0.160	(0.089)	0.038	0.121
100	8.33	0.50	0.160	(0.089)	0.038	0.121
101	8.42	0.50	0.160	(0.089)	0.038	0.121
102	8.50	0.50	0.160	(0.088)	0.038	0.121
103	8.58	0.53	0.170	(0.088)	0.041	0.130
104	8.67	0.53	0.170	(0.087)	0.041	0.130
105	8.75	0.53	0.170	(0.087)	0.041	0.130
106	8.83	0.57	0.181	(0.087)	0.043	0.138
107	8.92	0.57	0.181	(0.086)	0.043	0.138
108	9.00	0.57	0.181	(0.086)	0.043	0.138
109	9.08	0.63	0.202	(0.085)	0.049	0.154
110	9.17	0.63	0.202	(0.085)	0.049	0.154
111	9.25	0.63	0.202	(0.085)	0.049	0.154
112	9.33	0.67	0.213	(0.084)	0.051	0.162
113	9.42	0.67	0.213	(0.084)	0.051	0.162
114	9.50	0.67	0.213	(0.083)	0.051	0.162
115	9.58	0.70	0.224	(0.083)	0.054	0.170
116	9.67	0.70	0.224	(0.083)	0.054	0.170
117	9.75	0.70	0.224	(0.082)	0.054	0.170
118	9.83	0.73	0.234	(0.082)	0.056	0.178
119	9.92	0.73	0.234	(0.081)	0.056	0.178
120	10.00	0.73	0.234	(0.081)	0.056	0.178
121	10.08	0.50	0.160	(0.081)	0.038	0.121
122	10.17	0.50	0.160	(0.080)	0.038	0.121
123	10.25	0.50	0.160	(0.080)	0.038	0.121
124	10.33	0.50	0.160	(0.079)	0.038	0.121
125	10.42	0.50	0.160	(0.079)	0.038	0.121

126	10.50	0.50	0.160	(0.079)	0.038	0.121
127	10.58	0.67	0.213	(0.078)	0.051	0.162
128	10.67	0.67	0.213	(0.078)	0.051	0.162
129	10.75	0.67	0.213	(0.077)	0.051	0.162
130	10.83	0.67	0.213	(0.077)	0.051	0.162
131	10.92	0.67	0.213	(0.077)	0.051	0.162
132	11.00	0.67	0.213	(0.076)	0.051	0.162
133	11.08	0.63	0.202	(0.076)	0.049	0.154
134	11.17	0.63	0.202	(0.076)	0.049	0.154
135	11.25	0.63	0.202	(0.075)	0.049	0.154
136	11.33	0.63	0.202	(0.075)	0.049	0.154
137	11.42	0.63	0.202	(0.074)	0.049	0.154
138	11.50	0.63	0.202	(0.074)	0.049	0.154
139	11.58	0.57	0.181	(0.074)	0.043	0.138
140	11.67	0.57	0.181	(0.073)	0.043	0.138
141	11.75	0.57	0.181	(0.073)	0.043	0.138
142	11.83	0.60	0.192	(0.073)	0.046	0.146
143	11.92	0.60	0.192	(0.072)	0.046	0.146
144	12.00	0.60	0.192	(0.072)	0.046	0.146
145	12.08	0.83	0.266	(0.072)	0.064	0.202
146	12.17	0.83	0.266	(0.071)	0.064	0.202
147	12.25	0.83	0.266	(0.071)	0.064	0.202
148	12.33	0.87	0.277	(0.070)	0.066	0.211
149	12.42	0.87	0.277	(0.070)	0.066	0.211
150	12.50	0.87	0.277	(0.070)	0.066	0.211
151	12.58	0.93	0.298	0.069	(0.072)	0.229
152	12.67	0.93	0.298	0.069	(0.072)	0.229
153	12.75	0.93	0.298	0.069	(0.072)	0.230
154	12.83	0.97	0.309	0.068	(0.074)	0.241
155	12.92	0.97	0.309	0.068	(0.074)	0.241
156	13.00	0.97	0.309	0.068	(0.074)	0.241
157	13.08	1.13	0.362	0.067	(0.087)	0.295
158	13.17	1.13	0.362	0.067	(0.087)	0.295
159	13.25	1.13	0.362	0.067	(0.087)	0.296
160	13.33	1.13	0.362	0.066	(0.087)	0.296
161	13.42	1.13	0.362	0.066	(0.087)	0.296
162	13.50	1.13	0.362	0.066	(0.087)	0.297
163	13.58	0.77	0.245	(0.065)	0.059	0.186
164	13.67	0.77	0.245	(0.065)	0.059	0.186
165	13.75	0.77	0.245	(0.065)	0.059	0.186
166	13.83	0.77	0.245	(0.064)	0.059	0.186
167	13.92	0.77	0.245	(0.064)	0.059	0.186
168	14.00	0.77	0.245	(0.064)	0.059	0.186
169	14.08	0.90	0.288	0.063	(0.069)	0.224
170	14.17	0.90	0.288	0.063	(0.069)	0.225
171	14.25	0.90	0.288	0.063	(0.069)	0.225
172	14.33	0.87	0.277	0.062	(0.066)	0.215
173	14.42	0.87	0.277	0.062	(0.066)	0.215
174	14.50	0.87	0.277	0.062	(0.066)	0.215
175	14.58	0.87	0.277	0.061	(0.066)	0.216
176	14.67	0.87	0.277	0.061	(0.066)	0.216
177	14.75	0.87	0.277	0.061	(0.066)	0.216
178	14.83	0.83	0.266	0.060	(0.064)	0.206
179	14.92	0.83	0.266	0.060	(0.064)	0.206
180	15.00	0.83	0.266	0.060	(0.064)	0.207
181	15.08	0.80	0.256	0.060	(0.061)	0.196
182	15.17	0.80	0.256	0.059	(0.061)	0.196

183	15.25	0.80	0.256	0.059	(0.061)	0.197
184	15.33	0.77	0.245	0.059	(0.059)	0.186
185	15.42	0.77	0.245	0.058	(0.059)	0.187
186	15.50	0.77	0.245	0.058	(0.059)	0.187
187	15.58	0.63	0.202	(0.058)	0.049	0.154
188	15.67	0.63	0.202	(0.057)	0.049	0.154
189	15.75	0.63	0.202	(0.057)	0.049	0.154
190	15.83	0.63	0.202	(0.057)	0.049	0.154
191	15.92	0.63	0.202	(0.057)	0.049	0.154
192	16.00	0.63	0.202	(0.056)	0.049	0.154
193	16.08	0.13	0.043	(0.056)	0.010	0.032
194	16.17	0.13	0.043	(0.056)	0.010	0.032
195	16.25	0.13	0.043	(0.055)	0.010	0.032
196	16.33	0.13	0.043	(0.055)	0.010	0.032
197	16.42	0.13	0.043	(0.055)	0.010	0.032
198	16.50	0.13	0.043	(0.055)	0.010	0.032
199	16.58	0.10	0.032	(0.054)	0.008	0.024
200	16.67	0.10	0.032	(0.054)	0.008	0.024
201	16.75	0.10	0.032	(0.054)	0.008	0.024
202	16.83	0.10	0.032	(0.053)	0.008	0.024
203	16.92	0.10	0.032	(0.053)	0.008	0.024
204	17.00	0.10	0.032	(0.053)	0.008	0.024
205	17.08	0.17	0.053	(0.053)	0.013	0.040
206	17.17	0.17	0.053	(0.052)	0.013	0.040
207	17.25	0.17	0.053	(0.052)	0.013	0.040
208	17.33	0.17	0.053	(0.052)	0.013	0.040
209	17.42	0.17	0.053	(0.052)	0.013	0.040
210	17.50	0.17	0.053	(0.051)	0.013	0.040
211	17.58	0.17	0.053	(0.051)	0.013	0.040
212	17.67	0.17	0.053	(0.051)	0.013	0.040
213	17.75	0.17	0.053	(0.051)	0.013	0.040
214	17.83	0.13	0.043	(0.050)	0.010	0.032
215	17.92	0.13	0.043	(0.050)	0.010	0.032
216	18.00	0.13	0.043	(0.050)	0.010	0.032
217	18.08	0.13	0.043	(0.050)	0.010	0.032
218	18.17	0.13	0.043	(0.049)	0.010	0.032
219	18.25	0.13	0.043	(0.049)	0.010	0.032
220	18.33	0.13	0.043	(0.049)	0.010	0.032
221	18.42	0.13	0.043	(0.049)	0.010	0.032
222	18.50	0.13	0.043	(0.048)	0.010	0.032
223	18.58	0.10	0.032	(0.048)	0.008	0.024
224	18.67	0.10	0.032	(0.048)	0.008	0.024
225	18.75	0.10	0.032	(0.048)	0.008	0.024
226	18.83	0.07	0.021	(0.047)	0.005	0.016
227	18.92	0.07	0.021	(0.047)	0.005	0.016
228	19.00	0.07	0.021	(0.047)	0.005	0.016
229	19.08	0.10	0.032	(0.047)	0.008	0.024
230	19.17	0.10	0.032	(0.047)	0.008	0.024
231	19.25	0.10	0.032	(0.046)	0.008	0.024
232	19.33	0.13	0.043	(0.046)	0.010	0.032
233	19.42	0.13	0.043	(0.046)	0.010	0.032
234	19.50	0.13	0.043	(0.046)	0.010	0.032
235	19.58	0.10	0.032	(0.046)	0.008	0.024
236	19.67	0.10	0.032	(0.045)	0.008	0.024
237	19.75	0.10	0.032	(0.045)	0.008	0.024
238	19.83	0.07	0.021	(0.045)	0.005	0.016
239	19.92	0.07	0.021	(0.045)	0.005	0.016

240	20.00	0.07	0.021	(0.045)	0.005	0.016
241	20.08	0.10	0.032	(0.044)	0.008	0.024
242	20.17	0.10	0.032	(0.044)	0.008	0.024
243	20.25	0.10	0.032	(0.044)	0.008	0.024
244	20.33	0.10	0.032	(0.044)	0.008	0.024
245	20.42	0.10	0.032	(0.044)	0.008	0.024
246	20.50	0.10	0.032	(0.043)	0.008	0.024
247	20.58	0.10	0.032	(0.043)	0.008	0.024
248	20.67	0.10	0.032	(0.043)	0.008	0.024
249	20.75	0.10	0.032	(0.043)	0.008	0.024
250	20.83	0.07	0.021	(0.043)	0.005	0.016
251	20.92	0.07	0.021	(0.042)	0.005	0.016
252	21.00	0.07	0.021	(0.042)	0.005	0.016
253	21.08	0.10	0.032	(0.042)	0.008	0.024
254	21.17	0.10	0.032	(0.042)	0.008	0.024
255	21.25	0.10	0.032	(0.042)	0.008	0.024
256	21.33	0.07	0.021	(0.042)	0.005	0.016
257	21.42	0.07	0.021	(0.041)	0.005	0.016
258	21.50	0.07	0.021	(0.041)	0.005	0.016
259	21.58	0.10	0.032	(0.041)	0.008	0.024
260	21.67	0.10	0.032	(0.041)	0.008	0.024
261	21.75	0.10	0.032	(0.041)	0.008	0.024
262	21.83	0.07	0.021	(0.041)	0.005	0.016
263	21.92	0.07	0.021	(0.041)	0.005	0.016
264	22.00	0.07	0.021	(0.040)	0.005	0.016
265	22.08	0.10	0.032	(0.040)	0.008	0.024
266	22.17	0.10	0.032	(0.040)	0.008	0.024
267	22.25	0.10	0.032	(0.040)	0.008	0.024
268	22.33	0.07	0.021	(0.040)	0.005	0.016
269	22.42	0.07	0.021	(0.040)	0.005	0.016
270	22.50	0.07	0.021	(0.040)	0.005	0.016
271	22.58	0.07	0.021	(0.040)	0.005	0.016
272	22.67	0.07	0.021	(0.039)	0.005	0.016
273	22.75	0.07	0.021	(0.039)	0.005	0.016
274	22.83	0.07	0.021	(0.039)	0.005	0.016
275	22.92	0.07	0.021	(0.039)	0.005	0.016
276	23.00	0.07	0.021	(0.039)	0.005	0.016
277	23.08	0.07	0.021	(0.039)	0.005	0.016
278	23.17	0.07	0.021	(0.039)	0.005	0.016
279	23.25	0.07	0.021	(0.039)	0.005	0.016
280	23.33	0.07	0.021	(0.039)	0.005	0.016
281	23.42	0.07	0.021	(0.039)	0.005	0.016
282	23.50	0.07	0.021	(0.039)	0.005	0.016
283	23.58	0.07	0.021	(0.039)	0.005	0.016
284	23.67	0.07	0.021	(0.038)	0.005	0.016
285	23.75	0.07	0.021	(0.038)	0.005	0.016
286	23.83	0.07	0.021	(0.038)	0.005	0.016
287	23.92	0.07	0.021	(0.038)	0.005	0.016
288	24.00	0.07	0.021	(0.038)	0.005	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.5

Flood volume = Effective rainfall 2.04(In)
times area 0.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.62(In)
Total soil loss = 0.047(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 6672.6 Cubic Feet

Total soil loss = 2030.1 Cubic Feet

Peak flow rate of this hydrograph = 0.269(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	0.0001	0.01	Q				
0+10	0.0002	0.01	Q				
0+15	0.0003	0.01	Q				
0+20	0.0004	0.02	Q				
0+25	0.0006	0.02	Q				
0+30	0.0007	0.02	Q				
0+35	0.0009	0.02	Q				
0+40	0.0010	0.02	Q				
0+45	0.0012	0.02	Q				
0+50	0.0014	0.03	Q				
0+55	0.0016	0.03	Q				
1+ 0	0.0018	0.03	Q				
1+ 5	0.0019	0.02	Q				
1+10	0.0021	0.02	Q				
1+15	0.0022	0.02	Q				
1+20	0.0024	0.02	Q				
1+25	0.0025	0.02	Q				
1+30	0.0027	0.02	Q				
1+35	0.0028	0.02	Q				
1+40	0.0030	0.02	Q				
1+45	0.0032	0.02	Q				
1+50	0.0033	0.03	Q				
1+55	0.0035	0.03	Q				
2+ 0	0.0037	0.03	Q				
2+ 5	0.0040	0.03	QV				
2+10	0.0042	0.03	QV				
2+15	0.0044	0.03	QV				
2+20	0.0046	0.03	QV				
2+25	0.0048	0.03	QV				
2+30	0.0050	0.03	QV				
2+35	0.0052	0.04	QV				
2+40	0.0055	0.04	QV				
2+45	0.0057	0.04	QV				
2+50	0.0060	0.04	QV				
2+55	0.0062	0.04	QV				
3+ 0	0.0065	0.04	QV				
3+ 5	0.0067	0.04	QV				
3+10	0.0070	0.04	QV				
3+15	0.0072	0.04	QV				
3+20	0.0075	0.04	QV				
3+25	0.0077	0.04	Q V				
3+30	0.0080	0.04	Q V				
3+35	0.0082	0.04	Q V				
3+40	0.0085	0.04	Q V				

3+45	0.0087	0.04	Q V	|	|	|	|
3+50	0.0090	0.04	Q V	|	|	|	|
3+55	0.0093	0.04	Q V	|	|	|	|
4+ 0	0.0096	0.04	Q V	|	|	|	|
4+ 5	0.0099	0.04	Q V	|	|	|	|
4+10	0.0103	0.04	Q V	|	|	|	|
4+15	0.0106	0.04	Q V	|	|	|	|
4+20	0.0109	0.05	Q V	|	|	|	|
4+25	0.0113	0.05	Q V	|	|	|	|
4+30	0.0116	0.05	Q V	|	|	|	|
4+35	0.0120	0.05	Q V	|	|	|	|
4+40	0.0123	0.05	Q V	|	|	|	|
4+45	0.0127	0.05	Q V	|	|	|	|
4+50	0.0131	0.06	Q V	|	|	|	|
4+55	0.0135	0.06	Q V	|	|	|	|
5+ 0	0.0139	0.06	Q V	|	|	|	|
5+ 5	0.0142	0.05	Q V	|	|	|	|
5+10	0.0145	0.04	Q V	|	|	|	|
5+15	0.0148	0.04	Q V	|	|	|	|
5+20	0.0152	0.05	Q V	|	|	|	|
5+25	0.0155	0.05	Q V	|	|	|	|
5+30	0.0159	0.05	Q V	|	|	|	|
5+35	0.0163	0.06	Q V	|	|	|	|
5+40	0.0167	0.06	Q V	|	|	|	|
5+45	0.0171	0.06	Q V	|	|	|	|
5+50	0.0175	0.06	Q V	|	|	|	|
5+55	0.0179	0.06	Q V	|	|	|	|
6+ 0	0.0183	0.06	Q V	|	|	|	|
6+ 5	0.0187	0.06	Q V	|	|	|	|
6+10	0.0192	0.07	Q V	|	|	|	|
6+15	0.0196	0.07	Q V	|	|	|	|
6+20	0.0201	0.07	Q V	|	|	|	|
6+25	0.0205	0.07	Q V	|	|	|	|
6+30	0.0210	0.07	Q V	|	|	|	|
6+35	0.0215	0.07	Q V	|	|	|	|
6+40	0.0220	0.07	Q V	|	|	|	|
6+45	0.0225	0.07	Q V	|	|	|	|
6+50	0.0230	0.07	Q V	|	|	|	|
6+55	0.0235	0.07	Q V	|	|	|	|
7+ 0	0.0240	0.07	Q V	|	|	|	|
7+ 5	0.0245	0.07	Q V	|	|	|	|
7+10	0.0250	0.07	Q V	|	|	|	|
7+15	0.0255	0.07	Q V	|	|	|	|
7+20	0.0261	0.08	Q V	|	|	|	|
7+25	0.0266	0.08	Q V	|	|	|	|
7+30	0.0272	0.08	Q V	|	|	|	|
7+35	0.0278	0.09	Q V	|	|	|	|
7+40	0.0284	0.09	Q V	|	|	|	|
7+45	0.0290	0.09	Q V	|	|	|	|
7+50	0.0297	0.09	Q V	|	|	|	|
7+55	0.0303	0.10	Q V	|	|	|	|
8+ 0	0.0310	0.10	Q V	|	|	|	|
8+ 5	0.0317	0.11	Q V	|	|	|	|
8+10	0.0325	0.11	Q V	|	|	|	|
8+15	0.0332	0.11	Q V	|	|	|	|
8+20	0.0340	0.11	Q V	|	|	|	|
8+25	0.0347	0.11	Q V	|	|	|	|

8+30	0.0355	0.11	Q	V|	|	|	|
8+35	0.0363	0.12	Q	V|	|	|	|
8+40	0.0371	0.12	Q	V|	|	|	|
8+45	0.0379	0.12	Q	V|	|	|	|
8+50	0.0388	0.12	Q	V	|	|	|
8+55	0.0396	0.12	Q	V	|	|	|
9+ 0	0.0405	0.12	Q	V	|	|	|
9+ 5	0.0414	0.14	Q	V	|	|	|
9+10	0.0424	0.14	Q	|V	|	|	|
9+15	0.0434	0.14	Q	|V	|	|	|
9+20	0.0444	0.15	Q	|V	|	|	|
9+25	0.0454	0.15	Q	|V	|	|	|
9+30	0.0464	0.15	Q	| V	|	|	|
9+35	0.0474	0.15	Q	| V	|	|	|
9+40	0.0485	0.15	Q	| V	|	|	|
9+45	0.0496	0.15	Q	| V	|	|	|
9+50	0.0507	0.16	Q	| V	|	|	|
9+55	0.0518	0.16	Q	| V	|	|	|
10+ 0	0.0529	0.16	Q	| V	|	|	|
10+ 5	0.0537	0.12	Q	| V	|	|	|
10+10	0.0545	0.11	Q	| V	|	|	|
10+15	0.0552	0.11	Q	| V	|	|	|
10+20	0.0560	0.11	Q	| V	|	|	|
10+25	0.0568	0.11	Q	| V	|	|	|
10+30	0.0575	0.11	Q	| V	|	|	|
10+35	0.0585	0.14	Q	| V	|	|	|
10+40	0.0595	0.15	Q	| V	|	|	|
10+45	0.0605	0.15	Q	| V	|	|	|
10+50	0.0615	0.15	Q	| V	|	|	|
10+55	0.0625	0.15	Q	| V	|	|	|
11+ 0	0.0635	0.15	Q	| V	|	|	|
11+ 5	0.0645	0.14	Q	| V	|	|	|
11+10	0.0655	0.14	Q	| V	|	|	|
11+15	0.0664	0.14	Q	| V	|	|	|
11+20	0.0674	0.14	Q	| V	|	|	|
11+25	0.0684	0.14	Q	| V	|	|	|
11+30	0.0693	0.14	Q	| V	|	|	|
11+35	0.0702	0.13	Q	| V	|	|	|
11+40	0.0711	0.12	Q	| V	|	|	|
11+45	0.0719	0.12	Q	| V	|	|	|
11+50	0.0728	0.13	Q	| V	|	|	|
11+55	0.0737	0.13	Q	| V	|	|	|
12+ 0	0.0746	0.13	Q	| V	|	|	|
12+ 5	0.0758	0.17	Q	| V	|	|	|
12+10	0.0771	0.18	Q	| V	|	|	|
12+15	0.0784	0.18	Q	| V	|	|	|
12+20	0.0797	0.19	Q	| V	|	|	|
12+25	0.0810	0.19	Q	| V	|	|	|
12+30	0.0823	0.19	Q	| V	|	|	|
12+35	0.0837	0.20	Q	| V	|	|	|
12+40	0.0851	0.21	Q	| V	|	|	|
12+45	0.0866	0.21	Q	| V	|	|	|
12+50	0.0880	0.22	Q	| V	|	|	|
12+55	0.0896	0.22	Q	| V	|	|	|
13+ 0	0.0911	0.22	Q	| V	|	|	|
13+ 5	0.0928	0.26	|Q	| V	|	|	|
13+10	0.0947	0.27	|Q	| V	|	|	|

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13+15       0.0965      0.27  |Q        |          |    V    |          |
13+20       0.0984      0.27  |Q        |          |    V    |          |
13+25       0.1002      0.27  |Q        |          |      V   |          |
13+30       0.1021      0.27  |Q        |          |      V   |          |
13+35       0.1034      0.19  Q         |          |       V  |          |
13+40       0.1046      0.17  Q         |          |       V  |          |
13+45       0.1057      0.17  Q         |          |       V  |          |
13+50       0.1069      0.17  Q         |          |       V  |          |
13+55       0.1081      0.17  Q         |          |        V |          |
14+ 0       0.1092      0.17  Q         |          |        V |          |
14+ 5       0.1106      0.20  Q         |          |        V |          |
14+10       0.1120      0.20  Q         |          |         V|          |
14+15       0.1134      0.20  Q         |          |         V|          |
14+20       0.1147      0.20  Q         |          |         V|          |
14+25       0.1161      0.20  Q         |          |          V          |
14+30       0.1174      0.20  Q         |          |          V          |
14+35       0.1188      0.20  Q         |          |           |V        |
14+40       0.1201      0.20  Q         |          |           |V        |
14+45       0.1215      0.20  Q         |          |           |V        |
14+50       0.1228      0.19  Q         |          |           | V       |
14+55       0.1241      0.19  Q         |          |           | V       |
15+ 0       0.1253      0.19  Q         |          |           | V       |
15+ 5       0.1266      0.18  Q         |          |           |  V      |
15+10       0.1278      0.18  Q         |          |           |  V      |
15+15       0.1290      0.18  Q         |          |           |  V      |
15+20       0.1302      0.17  Q         |          |           |   V     |
15+25       0.1314      0.17  Q         |          |           |   V     |
15+30       0.1326      0.17  Q         |          |           |   V     |
15+35       0.1336      0.15  Q         |          |           |   V     |
15+40       0.1345      0.14  Q         |          |           |    V    |
15+45       0.1355      0.14  Q         |          |           |    V    |
15+50       0.1365      0.14  Q         |          |           |    V    |
15+55       0.1374      0.14  Q         |          |           |    V    |
16+ 0       0.1384      0.14  Q         |          |           |     V   |
16+ 5       0.1388      0.06  Q         |          |           |     V   |
16+10       0.1390      0.03  Q         |          |           |     V   |
16+15       0.1392      0.03  Q         |          |           |     V   |
16+20       0.1394      0.03  Q         |          |           |     V   |
16+25       0.1396      0.03  Q         |          |           |     V   |
16+30       0.1398      0.03  Q         |          |           |     V   |
16+35       0.1399      0.02  Q         |          |           |     V   |
16+40       0.1401      0.02  Q         |          |           |     V   |
16+45       0.1402      0.02  Q         |          |           |     V   |
16+50       0.1404      0.02  Q         |          |           |     V   |
16+55       0.1405      0.02  Q         |          |           |     V   |
17+ 0       0.1407      0.02  Q         |          |           |     V   |
17+ 5       0.1409      0.03  Q         |          |           |     V   |
17+10       0.1412      0.04  Q         |          |           |     V   |
17+15       0.1414      0.04  Q         |          |           |     V   |
17+20       0.1417      0.04  Q         |          |           |     V   |
17+25       0.1419      0.04  Q         |          |           |      V  |
17+30       0.1422      0.04  Q         |          |           |      V  |
17+35       0.1424      0.04  Q         |          |           |      V  |
17+40       0.1427      0.04  Q         |          |           |      V  |
17+45       0.1429      0.04  Q         |          |           |      V  |
17+50       0.1432      0.03  Q         |          |           |      V  |
17+55       0.1434      0.03  Q         |          |           |      V  |
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18+ 0	0.1436	0.03	Q	|	|	|	V |
18+ 5	0.1438	0.03	Q	|	|	|	V |
18+10	0.1440	0.03	Q	|	|	|	V |
18+15	0.1442	0.03	Q	|	|	|	V |
18+20	0.1444	0.03	Q	|	|	|	V |
18+25	0.1446	0.03	Q	|	|	|	V |
18+30	0.1448	0.03	Q	|	|	|	V |
18+35	0.1449	0.02	Q	|	|	|	V |
18+40	0.1451	0.02	Q	|	|	|	V |
18+45	0.1453	0.02	Q	|	|	|	V |
18+50	0.1454	0.02	Q	|	|	|	V |
18+55	0.1455	0.01	Q	|	|	|	V |
19+ 0	0.1456	0.01	Q	|	|	|	V |
19+ 5	0.1457	0.02	Q	|	|	|	V |
19+10	0.1459	0.02	Q	|	|	|	V |
19+15	0.1460	0.02	Q	|	|	|	V |
19+20	0.1462	0.03	Q	|	|	|	V |
19+25	0.1464	0.03	Q	|	|	|	V |
19+30	0.1466	0.03	Q	|	|	|	V |
19+35	0.1468	0.02	Q	|	|	|	V |
19+40	0.1469	0.02	Q	|	|	|	V |
19+45	0.1471	0.02	Q	|	|	|	V |
19+50	0.1472	0.02	Q	|	|	|	V |
19+55	0.1473	0.01	Q	|	|	|	V |
20+ 0	0.1474	0.01	Q	|	|	|	V |
20+ 5	0.1475	0.02	Q	|	|	|	V |
20+10	0.1477	0.02	Q	|	|	|	V |
20+15	0.1478	0.02	Q	|	|	|	V |
20+20	0.1480	0.02	Q	|	|	|	V |
20+25	0.1481	0.02	Q	|	|	|	V |
20+30	0.1483	0.02	Q	|	|	|	V |
20+35	0.1484	0.02	Q	|	|	|	V |
20+40	0.1486	0.02	Q	|	|	|	V |
20+45	0.1487	0.02	Q	|	|	|	V |
20+50	0.1489	0.02	Q	|	|	|	V |
20+55	0.1490	0.01	Q	|	|	|	V |
21+ 0	0.1491	0.01	Q	|	|	|	V |
21+ 5	0.1492	0.02	Q	|	|	|	V |
21+10	0.1494	0.02	Q	|	|	|	V |
21+15	0.1495	0.02	Q	|	|	|	V|
21+20	0.1496	0.02	Q	|	|	|	V|
21+25	0.1497	0.01	Q	|	|	|	V|
21+30	0.1498	0.01	Q	|	|	|	V|
21+35	0.1500	0.02	Q	|	|	|	V|
21+40	0.1501	0.02	Q	|	|	|	V|
21+45	0.1503	0.02	Q	|	|	|	V|
21+50	0.1504	0.02	Q	|	|	|	V|
21+55	0.1505	0.01	Q	|	|	|	V|
22+ 0	0.1506	0.01	Q	|	|	|	V|
22+ 5	0.1507	0.02	Q	|	|	|	V|
22+10	0.1509	0.02	Q	|	|	|	V|
22+15	0.1510	0.02	Q	|	|	|	V|
22+20	0.1511	0.02	Q	|	|	|	V|
22+25	0.1512	0.01	Q	|	|	|	V|
22+30	0.1513	0.01	Q	|	|	|	V|
22+35	0.1514	0.01	Q	|	|	|	V|
22+40	0.1515	0.01	Q	|	|	|	V|

22+45	0.1516	0.01	Q	|	|	|	V|
22+50	0.1517	0.01	Q	|	|	|	V|
22+55	0.1518	0.01	Q	|	|	|	V|
23+ 0	0.1519	0.01	Q	|	|	|	V|
23+ 5	0.1520	0.01	Q	|	|	|	V|
23+10	0.1521	0.01	Q	|	|	|	V|
23+15	0.1522	0.01	Q	|	|	|	V|
23+20	0.1523	0.01	Q	|	|	|	V|
23+25	0.1524	0.01	Q	|	|	|	V|
23+30	0.1526	0.01	Q	|	|	|	V|
23+35	0.1527	0.01	Q	|	|	|	V|
23+40	0.1528	0.01	Q	|	|	|	V|
23+45	0.1529	0.01	Q	|	|	|	V|
23+50	0.1530	0.01	Q	|	|	|	V|
23+55	0.1531	0.01	Q	|	|	|	V|
24+ 0	0.1532	0.01	Q	|	|	|	V|
24+ 5	0.1532	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 06/03/26 File: 19267p010J2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area J

Drainage Area = 0.34(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.34(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 130.00(Ft.)
Length along longest watercourse measured to centroid = 50.00(Ft.)
Length along longest watercourse = 0.025 Mi.
Length along longest watercourse measured to centroid = 0.009 Mi.
Difference in elevation = 2.20(Ft.)
Slope along watercourse = 89.3538 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.006 Hr.
Lag time = 0.38 Min.
25% of lag time = 0.10 Min.
40% of lag time = 0.15 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]
0.34	1.66	0.56

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.34	4.10	1.39

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.340	75.00	0.860

Total Area Entered = 0.34(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.860	0.068	1.000	0.068
					Sum (F) =	0.068

Area averaged mean soil loss (F) (In/Hr) = 0.068
Minimum soil loss rate ((In/Hr)) = 0.034
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.210

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	1304.735	100.000	0.343
		Sum = 100.000	Sum=	0.343

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.121)	0.004	0.017
2	0.17	0.07	0.021	(0.121)	0.004	0.017
3	0.25	0.07	0.021	(0.120)	0.004	0.017
4	0.33	0.10	0.032	(0.120)	0.007	0.025
5	0.42	0.10	0.032	(0.120)	0.007	0.025
6	0.50	0.10	0.032	(0.119)	0.007	0.025
7	0.58	0.10	0.032	(0.119)	0.007	0.025
8	0.67	0.10	0.032	(0.118)	0.007	0.025
9	0.75	0.10	0.032	(0.118)	0.007	0.025
10	0.83	0.13	0.043	(0.117)	0.009	0.034
11	0.92	0.13	0.043	(0.117)	0.009	0.034
12	1.00	0.13	0.043	(0.116)	0.009	0.034

13	1.08	0.10	0.032	(0.116)	0.007	0.025
14	1.17	0.10	0.032	(0.115)	0.007	0.025
15	1.25	0.10	0.032	(0.115)	0.007	0.025
16	1.33	0.10	0.032	(0.114)	0.007	0.025
17	1.42	0.10	0.032	(0.114)	0.007	0.025
18	1.50	0.10	0.032	(0.114)	0.007	0.025
19	1.58	0.10	0.032	(0.113)	0.007	0.025
20	1.67	0.10	0.032	(0.113)	0.007	0.025
21	1.75	0.10	0.032	(0.112)	0.007	0.025
22	1.83	0.13	0.043	(0.112)	0.009	0.034
23	1.92	0.13	0.043	(0.111)	0.009	0.034
24	2.00	0.13	0.043	(0.111)	0.009	0.034
25	2.08	0.13	0.043	(0.110)	0.009	0.034
26	2.17	0.13	0.043	(0.110)	0.009	0.034
27	2.25	0.13	0.043	(0.109)	0.009	0.034
28	2.33	0.13	0.043	(0.109)	0.009	0.034
29	2.42	0.13	0.043	(0.109)	0.009	0.034
30	2.50	0.13	0.043	(0.108)	0.009	0.034
31	2.58	0.17	0.053	(0.108)	0.011	0.042
32	2.67	0.17	0.053	(0.107)	0.011	0.042
33	2.75	0.17	0.053	(0.107)	0.011	0.042
34	2.83	0.17	0.053	(0.106)	0.011	0.042
35	2.92	0.17	0.053	(0.106)	0.011	0.042
36	3.00	0.17	0.053	(0.106)	0.011	0.042
37	3.08	0.17	0.053	(0.105)	0.011	0.042
38	3.17	0.17	0.053	(0.105)	0.011	0.042
39	3.25	0.17	0.053	(0.104)	0.011	0.042
40	3.33	0.17	0.053	(0.104)	0.011	0.042
41	3.42	0.17	0.053	(0.103)	0.011	0.042
42	3.50	0.17	0.053	(0.103)	0.011	0.042
43	3.58	0.17	0.053	(0.102)	0.011	0.042
44	3.67	0.17	0.053	(0.102)	0.011	0.042
45	3.75	0.17	0.053	(0.102)	0.011	0.042
46	3.83	0.20	0.064	(0.101)	0.013	0.051
47	3.92	0.20	0.064	(0.101)	0.013	0.051
48	4.00	0.20	0.064	(0.100)	0.013	0.051
49	4.08	0.20	0.064	(0.100)	0.013	0.051
50	4.17	0.20	0.064	(0.099)	0.013	0.051
51	4.25	0.20	0.064	(0.099)	0.013	0.051
52	4.33	0.23	0.075	(0.099)	0.016	0.059
53	4.42	0.23	0.075	(0.098)	0.016	0.059
54	4.50	0.23	0.075	(0.098)	0.016	0.059
55	4.58	0.23	0.075	(0.097)	0.016	0.059
56	4.67	0.23	0.075	(0.097)	0.016	0.059
57	4.75	0.23	0.075	(0.097)	0.016	0.059
58	4.83	0.27	0.085	(0.096)	0.018	0.067
59	4.92	0.27	0.085	(0.096)	0.018	0.067
60	5.00	0.27	0.085	(0.095)	0.018	0.067
61	5.08	0.20	0.064	(0.095)	0.013	0.051
62	5.17	0.20	0.064	(0.094)	0.013	0.051
63	5.25	0.20	0.064	(0.094)	0.013	0.051
64	5.33	0.23	0.075	(0.094)	0.016	0.059
65	5.42	0.23	0.075	(0.093)	0.016	0.059
66	5.50	0.23	0.075	(0.093)	0.016	0.059
67	5.58	0.27	0.085	(0.092)	0.018	0.067
68	5.67	0.27	0.085	(0.092)	0.018	0.067
69	5.75	0.27	0.085	(0.092)	0.018	0.067

70	5.83	0.27	0.085	(0.091)	0.018	0.067
71	5.92	0.27	0.085	(0.091)	0.018	0.067
72	6.00	0.27	0.085	(0.090)	0.018	0.067
73	6.08	0.30	0.096	(0.090)	0.020	0.076
74	6.17	0.30	0.096	(0.090)	0.020	0.076
75	6.25	0.30	0.096	(0.089)	0.020	0.076
76	6.33	0.30	0.096	(0.089)	0.020	0.076
77	6.42	0.30	0.096	(0.088)	0.020	0.076
78	6.50	0.30	0.096	(0.088)	0.020	0.076
79	6.58	0.33	0.107	(0.088)	0.022	0.084
80	6.67	0.33	0.107	(0.087)	0.022	0.084
81	6.75	0.33	0.107	(0.087)	0.022	0.084
82	6.83	0.33	0.107	(0.086)	0.022	0.084
83	6.92	0.33	0.107	(0.086)	0.022	0.084
84	7.00	0.33	0.107	(0.086)	0.022	0.084
85	7.08	0.33	0.107	(0.085)	0.022	0.084
86	7.17	0.33	0.107	(0.085)	0.022	0.084
87	7.25	0.33	0.107	(0.084)	0.022	0.084
88	7.33	0.37	0.117	(0.084)	0.025	0.093
89	7.42	0.37	0.117	(0.084)	0.025	0.093
90	7.50	0.37	0.117	(0.083)	0.025	0.093
91	7.58	0.40	0.128	(0.083)	0.027	0.101
92	7.67	0.40	0.128	(0.083)	0.027	0.101
93	7.75	0.40	0.128	(0.082)	0.027	0.101
94	7.83	0.43	0.139	(0.082)	0.029	0.109
95	7.92	0.43	0.139	(0.081)	0.029	0.109
96	8.00	0.43	0.139	(0.081)	0.029	0.109
97	8.08	0.50	0.160	(0.081)	0.034	0.126
98	8.17	0.50	0.160	(0.080)	0.034	0.126
99	8.25	0.50	0.160	(0.080)	0.034	0.126
100	8.33	0.50	0.160	(0.080)	0.034	0.126
101	8.42	0.50	0.160	(0.079)	0.034	0.126
102	8.50	0.50	0.160	(0.079)	0.034	0.126
103	8.58	0.53	0.170	(0.078)	0.036	0.135
104	8.67	0.53	0.170	(0.078)	0.036	0.135
105	8.75	0.53	0.170	(0.078)	0.036	0.135
106	8.83	0.57	0.181	(0.077)	0.038	0.143
107	8.92	0.57	0.181	(0.077)	0.038	0.143
108	9.00	0.57	0.181	(0.077)	0.038	0.143
109	9.08	0.63	0.202	(0.076)	0.043	0.160
110	9.17	0.63	0.202	(0.076)	0.043	0.160
111	9.25	0.63	0.202	(0.076)	0.043	0.160
112	9.33	0.67	0.213	(0.075)	0.045	0.168
113	9.42	0.67	0.213	(0.075)	0.045	0.168
114	9.50	0.67	0.213	(0.074)	0.045	0.168
115	9.58	0.70	0.224	(0.074)	0.047	0.177
116	9.67	0.70	0.224	(0.074)	0.047	0.177
117	9.75	0.70	0.224	(0.073)	0.047	0.177
118	9.83	0.73	0.234	(0.073)	0.049	0.185
119	9.92	0.73	0.234	(0.073)	0.049	0.185
120	10.00	0.73	0.234	(0.072)	0.049	0.185
121	10.08	0.50	0.160	(0.072)	0.034	0.126
122	10.17	0.50	0.160	(0.072)	0.034	0.126
123	10.25	0.50	0.160	(0.071)	0.034	0.126
124	10.33	0.50	0.160	(0.071)	0.034	0.126
125	10.42	0.50	0.160	(0.071)	0.034	0.126
126	10.50	0.50	0.160	(0.070)	0.034	0.126

127	10.58	0.67	0.213	(0.070)	0.045	0.168
128	10.67	0.67	0.213	(0.070)	0.045	0.168
129	10.75	0.67	0.213	(0.069)	0.045	0.168
130	10.83	0.67	0.213	(0.069)	0.045	0.168
131	10.92	0.67	0.213	(0.069)	0.045	0.168
132	11.00	0.67	0.213	(0.068)	0.045	0.168
133	11.08	0.63	0.202	(0.068)	0.043	0.160
134	11.17	0.63	0.202	(0.068)	0.043	0.160
135	11.25	0.63	0.202	(0.067)	0.043	0.160
136	11.33	0.63	0.202	(0.067)	0.043	0.160
137	11.42	0.63	0.202	(0.067)	0.043	0.160
138	11.50	0.63	0.202	(0.066)	0.043	0.160
139	11.58	0.57	0.181	(0.066)	0.038	0.143
140	11.67	0.57	0.181	(0.066)	0.038	0.143
141	11.75	0.57	0.181	(0.065)	0.038	0.143
142	11.83	0.60	0.192	(0.065)	0.040	0.152
143	11.92	0.60	0.192	(0.065)	0.040	0.152
144	12.00	0.60	0.192	(0.064)	0.040	0.152
145	12.08	0.83	0.266	(0.064)	0.056	0.210
146	12.17	0.83	0.266	(0.064)	0.056	0.210
147	12.25	0.83	0.266	(0.063)	0.056	0.210
148	12.33	0.87	0.277	(0.063)	0.058	0.219
149	12.42	0.87	0.277	(0.063)	0.058	0.219
150	12.50	0.87	0.277	(0.062)	0.058	0.219
151	12.58	0.93	0.298	0.062	(0.063)	0.236
152	12.67	0.93	0.298	0.062	(0.063)	0.237
153	12.75	0.93	0.298	0.061	(0.063)	0.237
154	12.83	0.97	0.309	0.061	(0.065)	0.248
155	12.92	0.97	0.309	0.061	(0.065)	0.248
156	13.00	0.97	0.309	0.060	(0.065)	0.249
157	13.08	1.13	0.362	0.060	(0.076)	0.302
158	13.17	1.13	0.362	0.060	(0.076)	0.302
159	13.25	1.13	0.362	0.060	(0.076)	0.303
160	13.33	1.13	0.362	0.059	(0.076)	0.303
161	13.42	1.13	0.362	0.059	(0.076)	0.303
162	13.50	1.13	0.362	0.059	(0.076)	0.304
163	13.58	0.77	0.245	(0.058)	0.051	0.194
164	13.67	0.77	0.245	(0.058)	0.051	0.194
165	13.75	0.77	0.245	(0.058)	0.051	0.194
166	13.83	0.77	0.245	(0.057)	0.051	0.194
167	13.92	0.77	0.245	(0.057)	0.051	0.194
168	14.00	0.77	0.245	(0.057)	0.051	0.194
169	14.08	0.90	0.288	0.057	(0.060)	0.231
170	14.17	0.90	0.288	0.056	(0.060)	0.231
171	14.25	0.90	0.288	0.056	(0.060)	0.232
172	14.33	0.87	0.277	0.056	(0.058)	0.221
173	14.42	0.87	0.277	0.055	(0.058)	0.222
174	14.50	0.87	0.277	0.055	(0.058)	0.222
175	14.58	0.87	0.277	0.055	(0.058)	0.222
176	14.67	0.87	0.277	0.055	(0.058)	0.222
177	14.75	0.87	0.277	0.054	(0.058)	0.223
178	14.83	0.83	0.266	0.054	(0.056)	0.212
179	14.92	0.83	0.266	0.054	(0.056)	0.213
180	15.00	0.83	0.266	0.053	(0.056)	0.213
181	15.08	0.80	0.256	0.053	(0.054)	0.203
182	15.17	0.80	0.256	0.053	(0.054)	0.203
183	15.25	0.80	0.256	0.053	(0.054)	0.203

184	15.33	0.77	0.245	(0.052)	0.051	0.194
185	15.42	0.77	0.245	(0.052)	0.051	0.194
186	15.50	0.77	0.245	(0.052)	0.051	0.194
187	15.58	0.63	0.202	(0.052)	0.043	0.160
188	15.67	0.63	0.202	(0.051)	0.043	0.160
189	15.75	0.63	0.202	(0.051)	0.043	0.160
190	15.83	0.63	0.202	(0.051)	0.043	0.160
191	15.92	0.63	0.202	(0.051)	0.043	0.160
192	16.00	0.63	0.202	(0.050)	0.043	0.160
193	16.08	0.13	0.043	(0.050)	0.009	0.034
194	16.17	0.13	0.043	(0.050)	0.009	0.034
195	16.25	0.13	0.043	(0.050)	0.009	0.034
196	16.33	0.13	0.043	(0.049)	0.009	0.034
197	16.42	0.13	0.043	(0.049)	0.009	0.034
198	16.50	0.13	0.043	(0.049)	0.009	0.034
199	16.58	0.10	0.032	(0.049)	0.007	0.025
200	16.67	0.10	0.032	(0.048)	0.007	0.025
201	16.75	0.10	0.032	(0.048)	0.007	0.025
202	16.83	0.10	0.032	(0.048)	0.007	0.025
203	16.92	0.10	0.032	(0.048)	0.007	0.025
204	17.00	0.10	0.032	(0.047)	0.007	0.025
205	17.08	0.17	0.053	(0.047)	0.011	0.042
206	17.17	0.17	0.053	(0.047)	0.011	0.042
207	17.25	0.17	0.053	(0.047)	0.011	0.042
208	17.33	0.17	0.053	(0.046)	0.011	0.042
209	17.42	0.17	0.053	(0.046)	0.011	0.042
210	17.50	0.17	0.053	(0.046)	0.011	0.042
211	17.58	0.17	0.053	(0.046)	0.011	0.042
212	17.67	0.17	0.053	(0.045)	0.011	0.042
213	17.75	0.17	0.053	(0.045)	0.011	0.042
214	17.83	0.13	0.043	(0.045)	0.009	0.034
215	17.92	0.13	0.043	(0.045)	0.009	0.034
216	18.00	0.13	0.043	(0.045)	0.009	0.034
217	18.08	0.13	0.043	(0.044)	0.009	0.034
218	18.17	0.13	0.043	(0.044)	0.009	0.034
219	18.25	0.13	0.043	(0.044)	0.009	0.034
220	18.33	0.13	0.043	(0.044)	0.009	0.034
221	18.42	0.13	0.043	(0.043)	0.009	0.034
222	18.50	0.13	0.043	(0.043)	0.009	0.034
223	18.58	0.10	0.032	(0.043)	0.007	0.025
224	18.67	0.10	0.032	(0.043)	0.007	0.025
225	18.75	0.10	0.032	(0.043)	0.007	0.025
226	18.83	0.07	0.021	(0.042)	0.004	0.017
227	18.92	0.07	0.021	(0.042)	0.004	0.017
228	19.00	0.07	0.021	(0.042)	0.004	0.017
229	19.08	0.10	0.032	(0.042)	0.007	0.025
230	19.17	0.10	0.032	(0.042)	0.007	0.025
231	19.25	0.10	0.032	(0.041)	0.007	0.025
232	19.33	0.13	0.043	(0.041)	0.009	0.034
233	19.42	0.13	0.043	(0.041)	0.009	0.034
234	19.50	0.13	0.043	(0.041)	0.009	0.034
235	19.58	0.10	0.032	(0.041)	0.007	0.025
236	19.67	0.10	0.032	(0.040)	0.007	0.025
237	19.75	0.10	0.032	(0.040)	0.007	0.025
238	19.83	0.07	0.021	(0.040)	0.004	0.017
239	19.92	0.07	0.021	(0.040)	0.004	0.017
240	20.00	0.07	0.021	(0.040)	0.004	0.017

241	20.08	0.10	0.032	(0.040)	0.007	0.025
242	20.17	0.10	0.032	(0.039)	0.007	0.025
243	20.25	0.10	0.032	(0.039)	0.007	0.025
244	20.33	0.10	0.032	(0.039)	0.007	0.025
245	20.42	0.10	0.032	(0.039)	0.007	0.025
246	20.50	0.10	0.032	(0.039)	0.007	0.025
247	20.58	0.10	0.032	(0.039)	0.007	0.025
248	20.67	0.10	0.032	(0.038)	0.007	0.025
249	20.75	0.10	0.032	(0.038)	0.007	0.025
250	20.83	0.07	0.021	(0.038)	0.004	0.017
251	20.92	0.07	0.021	(0.038)	0.004	0.017
252	21.00	0.07	0.021	(0.038)	0.004	0.017
253	21.08	0.10	0.032	(0.038)	0.007	0.025
254	21.17	0.10	0.032	(0.037)	0.007	0.025
255	21.25	0.10	0.032	(0.037)	0.007	0.025
256	21.33	0.07	0.021	(0.037)	0.004	0.017
257	21.42	0.07	0.021	(0.037)	0.004	0.017
258	21.50	0.07	0.021	(0.037)	0.004	0.017
259	21.58	0.10	0.032	(0.037)	0.007	0.025
260	21.67	0.10	0.032	(0.037)	0.007	0.025
261	21.75	0.10	0.032	(0.037)	0.007	0.025
262	21.83	0.07	0.021	(0.036)	0.004	0.017
263	21.92	0.07	0.021	(0.036)	0.004	0.017
264	22.00	0.07	0.021	(0.036)	0.004	0.017
265	22.08	0.10	0.032	(0.036)	0.007	0.025
266	22.17	0.10	0.032	(0.036)	0.007	0.025
267	22.25	0.10	0.032	(0.036)	0.007	0.025
268	22.33	0.07	0.021	(0.036)	0.004	0.017
269	22.42	0.07	0.021	(0.036)	0.004	0.017
270	22.50	0.07	0.021	(0.035)	0.004	0.017
271	22.58	0.07	0.021	(0.035)	0.004	0.017
272	22.67	0.07	0.021	(0.035)	0.004	0.017
273	22.75	0.07	0.021	(0.035)	0.004	0.017
274	22.83	0.07	0.021	(0.035)	0.004	0.017
275	22.92	0.07	0.021	(0.035)	0.004	0.017
276	23.00	0.07	0.021	(0.035)	0.004	0.017
277	23.08	0.07	0.021	(0.035)	0.004	0.017
278	23.17	0.07	0.021	(0.035)	0.004	0.017
279	23.25	0.07	0.021	(0.035)	0.004	0.017
280	23.33	0.07	0.021	(0.035)	0.004	0.017
281	23.42	0.07	0.021	(0.035)	0.004	0.017
282	23.50	0.07	0.021	(0.034)	0.004	0.017
283	23.58	0.07	0.021	(0.034)	0.004	0.017
284	23.67	0.07	0.021	(0.034)	0.004	0.017
285	23.75	0.07	0.021	(0.034)	0.004	0.017
286	23.83	0.07	0.021	(0.034)	0.004	0.017
287	23.92	0.07	0.021	(0.034)	0.004	0.017
288	24.00	0.07	0.021	(0.034)	0.004	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 25.4

Flood volume = Effective rainfall 2.12(In)
times area 0.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.55(In)
Total soil loss = 0.015(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 2613.3 Cubic Feet
Total soil loss = 674.4 Cubic Feet

Peak flow rate of this hydrograph = 0.104(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0004	0.01	Q				
0+40	0.0004	0.01	Q				
0+45	0.0005	0.01	Q				
0+50	0.0006	0.01	Q				
0+55	0.0006	0.01	Q				
1+ 0	0.0007	0.01	Q				
1+ 5	0.0008	0.01	Q				
1+10	0.0008	0.01	Q				
1+15	0.0009	0.01	Q				
1+20	0.0010	0.01	Q				
1+25	0.0010	0.01	Q				
1+30	0.0011	0.01	Q				
1+35	0.0011	0.01	Q				
1+40	0.0012	0.01	Q				
1+45	0.0013	0.01	Q				
1+50	0.0013	0.01	Q				
1+55	0.0014	0.01	Q				
2+ 0	0.0015	0.01	Q				
2+ 5	0.0016	0.01	QV				
2+10	0.0016	0.01	QV				
2+15	0.0017	0.01	QV				
2+20	0.0018	0.01	QV				
2+25	0.0019	0.01	QV				
2+30	0.0020	0.01	QV				
2+35	0.0021	0.01	QV				
2+40	0.0022	0.01	QV				
2+45	0.0023	0.01	QV				
2+50	0.0024	0.01	QV				
2+55	0.0025	0.01	QV				
3+ 0	0.0026	0.01	QV				
3+ 5	0.0027	0.01	QV				
3+10	0.0028	0.01	QV				
3+15	0.0029	0.01	QV				
3+20	0.0030	0.01	QV				
3+25	0.0031	0.01	Q V				
3+30	0.0032	0.01	Q V				
3+35	0.0033	0.01	Q V				
3+40	0.0034	0.01	Q V				
3+45	0.0035	0.01	Q V				

3+50	0.0036	0.02	Q V	|	|	|	|
3+55	0.0037	0.02	Q V	|	|	|	|
4+ 0	0.0038	0.02	Q V	|	|	|	|
4+ 5	0.0039	0.02	Q V	|	|	|	|
4+10	0.0041	0.02	Q V	|	|	|	|
4+15	0.0042	0.02	Q V	|	|	|	|
4+20	0.0043	0.02	Q V	|	|	|	|
4+25	0.0045	0.02	Q V	|	|	|	|
4+30	0.0046	0.02	Q V	|	|	|	|
4+35	0.0047	0.02	Q V	|	|	|	|
4+40	0.0049	0.02	Q V	|	|	|	|
4+45	0.0050	0.02	Q V	|	|	|	|
4+50	0.0052	0.02	Q V	|	|	|	|
4+55	0.0053	0.02	Q V	|	|	|	|
5+ 0	0.0055	0.02	Q V	|	|	|	|
5+ 5	0.0056	0.02	Q V	|	|	|	|
5+10	0.0057	0.02	Q V	|	|	|	|
5+15	0.0058	0.02	Q V	|	|	|	|
5+20	0.0060	0.02	Q V	|	|	|	|
5+25	0.0061	0.02	Q V	|	|	|	|
5+30	0.0063	0.02	Q V	|	|	|	|
5+35	0.0064	0.02	Q V	|	|	|	|
5+40	0.0066	0.02	Q V	|	|	|	|
5+45	0.0067	0.02	Q V	|	|	|	|
5+50	0.0069	0.02	Q V	|	|	|	|
5+55	0.0071	0.02	Q V	|	|	|	|
6+ 0	0.0072	0.02	Q V	|	|	|	|
6+ 5	0.0074	0.03	Q V	|	|	|	|
6+10	0.0076	0.03	Q V	|	|	|	|
6+15	0.0078	0.03	Q V	|	|	|	|
6+20	0.0079	0.03	Q V	|	|	|	|
6+25	0.0081	0.03	Q V	|	|	|	|
6+30	0.0083	0.03	Q V	|	|	|	|
6+35	0.0085	0.03	Q V	|	|	|	|
6+40	0.0087	0.03	Q V	|	|	|	|
6+45	0.0089	0.03	Q V	|	|	|	|
6+50	0.0091	0.03	Q V	|	|	|	|
6+55	0.0093	0.03	Q V	|	|	|	|
7+ 0	0.0095	0.03	Q V	|	|	|	|
7+ 5	0.0097	0.03	Q V	|	|	|	|
7+10	0.0099	0.03	Q V	|	|	|	|
7+15	0.0101	0.03	Q V	|	|	|	|
7+20	0.0103	0.03	Q V	|	|	|	|
7+25	0.0105	0.03	Q V	|	|	|	|
7+30	0.0107	0.03	Q V	|	|	|	|
7+35	0.0110	0.03	Q V	|	|	|	|
7+40	0.0112	0.03	Q V	|	|	|	|
7+45	0.0114	0.03	Q V	|	|	|	|
7+50	0.0117	0.04	Q V	|	|	|	|
7+55	0.0120	0.04	Q V	|	|	|	|
8+ 0	0.0122	0.04	Q V	|	|	|	|
8+ 5	0.0125	0.04	Q V	|	|	|	|
8+10	0.0128	0.04	Q V	|	|	|	|
8+15	0.0131	0.04	Q V	|	|	|	|
8+20	0.0134	0.04	Q V	|	|	|	|
8+25	0.0137	0.04	Q V	|	|	|	|
8+30	0.0140	0.04	Q V	|	|	|	|

8+35	0.0143	0.05	Q	V|				
8+40	0.0146	0.05	Q	V|				
8+45	0.0150	0.05	Q	V|				
8+50	0.0153	0.05	Q	V				
8+55	0.0156	0.05	Q	V				
9+ 0	0.0160	0.05	Q	V				
9+ 5	0.0164	0.05	Q	V				
9+10	0.0167	0.05	Q	|V				
9+15	0.0171	0.05	Q	|V				
9+20	0.0175	0.06	Q	|V				
9+25	0.0179	0.06	Q	|V				
9+30	0.0183	0.06	Q	| V				
9+35	0.0187	0.06	Q	| V				
9+40	0.0191	0.06	Q	| V				
9+45	0.0196	0.06	Q	| V				
9+50	0.0200	0.06	Q	| V				
9+55	0.0204	0.06	Q	| V				
10+ 0	0.0209	0.06	Q	| V				
10+ 5	0.0212	0.04	Q	| V				
10+10	0.0215	0.04	Q	| V				
10+15	0.0218	0.04	Q	| V				
10+20	0.0221	0.04	Q	| V				
10+25	0.0224	0.04	Q	| V				
10+30	0.0227	0.04	Q	| V |				
10+35	0.0231	0.06	Q	| V |				
10+40	0.0235	0.06	Q	| V |				
10+45	0.0239	0.06	Q	| V |				
10+50	0.0242	0.06	Q	| V |				
10+55	0.0246	0.06	Q	| V |				
11+ 0	0.0250	0.06	Q	| V |				
11+ 5	0.0254	0.05	Q	| V |				
11+10	0.0258	0.05	Q	| V |				
11+15	0.0262	0.05	Q	| V |				
11+20	0.0266	0.05	Q	| V |				
11+25	0.0269	0.05	Q	| V |				
11+30	0.0273	0.05	Q	| V |				
11+35	0.0276	0.05	Q	| V |				
11+40	0.0280	0.05	Q	| V |				
11+45	0.0283	0.05	Q	| V |				
11+50	0.0287	0.05	Q	| V|				
11+55	0.0290	0.05	Q	| V|				
12+ 0	0.0294	0.05	Q	| V|				
12+ 5	0.0299	0.07	Q	| V|				
12+10	0.0304	0.07	Q	| V				
12+15	0.0309	0.07	Q	| V				
12+20	0.0314	0.08	Q	| V				
12+25	0.0319	0.08	Q	| |V				
12+30	0.0324	0.08	Q	| |V				
12+35	0.0330	0.08	Q	| |V				
12+40	0.0336	0.08	Q	| | V				
12+45	0.0341	0.08	Q	| | V				
12+50	0.0347	0.08	Q	| | V				
12+55	0.0353	0.09	Q	| | V				
13+ 0	0.0359	0.09	Q	| | V				
13+ 5	0.0366	0.10	Q	| | V				
13+10	0.0373	0.10	Q	| | V				
13+15	0.0380	0.10	Q	| | V |				

13+20	0.0387	0.10	Q	|	|	V |	|	|
13+25	0.0394	0.10	Q	|	|	V |	|	|
13+30	0.0402	0.10	Q	|	|	V |	|	|
13+35	0.0406	0.07	Q	|	|	V |	|	|
13+40	0.0411	0.07	Q	|	|	V |	|	|
13+45	0.0415	0.07	Q	|	|	V |	|	|
13+50	0.0420	0.07	Q	|	|	V |	|	|
13+55	0.0424	0.07	Q	|	|	V |	|	|
14+ 0	0.0429	0.07	Q	|	|	V |	|	|
14+ 5	0.0434	0.08	Q	|	|	V |	|	|
14+10	0.0440	0.08	Q	|	|	V|	|	|
14+15	0.0445	0.08	Q	|	|	V|	|	|
14+20	0.0451	0.08	Q	|	|	V |	|	|
14+25	0.0456	0.08	Q	|	|	V |	|	|
14+30	0.0461	0.08	Q	|	|	V |	|	|
14+35	0.0466	0.08	Q	|	|	|V |	|	|
14+40	0.0472	0.08	Q	|	|	|V |	|	|
14+45	0.0477	0.08	Q	|	|	|V |	|	|
14+50	0.0482	0.07	Q	|	|	| V |	|	|
14+55	0.0487	0.07	Q	|	|	| V |	|	|
15+ 0	0.0492	0.07	Q	|	|	| V |	|	|
15+ 5	0.0497	0.07	Q	|	|	| V |	|	|
15+10	0.0502	0.07	Q	|	|	| V |	|	|
15+15	0.0506	0.07	Q	|	|	| V |	|	|
15+20	0.0511	0.07	Q	|	|	| V |	|	|
15+25	0.0515	0.07	Q	|	|	| V |	|	|
15+30	0.0520	0.07	Q	|	|	| V |	|	|
15+35	0.0524	0.05	Q	|	|	| V |	|	|
15+40	0.0528	0.05	Q	|	|	| V |	|	|
15+45	0.0531	0.05	Q	|	|	| V |	|	|
15+50	0.0535	0.05	Q	|	|	| V |	|	|
15+55	0.0539	0.05	Q	|	|	| V |	|	|
16+ 0	0.0543	0.05	Q	|	|	| V |	|	|
16+ 5	0.0543	0.01	Q	|	|	| V |	|	|
16+10	0.0544	0.01	Q	|	|	| V |	|	|
16+15	0.0545	0.01	Q	|	|	| V |	|	|
16+20	0.0546	0.01	Q	|	|	| V |	|	|
16+25	0.0547	0.01	Q	|	|	| V |	|	|
16+30	0.0547	0.01	Q	|	|	| V |	|	|
16+35	0.0548	0.01	Q	|	|	| V |	|	|
16+40	0.0549	0.01	Q	|	|	| V |	|	|
16+45	0.0549	0.01	Q	|	|	| V |	|	|
16+50	0.0550	0.01	Q	|	|	| V |	|	|
16+55	0.0550	0.01	Q	|	|	| V |	|	|
17+ 0	0.0551	0.01	Q	|	|	| V |	|	|
17+ 5	0.0552	0.01	Q	|	|	| V |	|	|
17+10	0.0553	0.01	Q	|	|	| V |	|	|
17+15	0.0554	0.01	Q	|	|	| V |	|	|
17+20	0.0555	0.01	Q	|	|	| V |	|	|
17+25	0.0556	0.01	Q	|	|	| V |	|	|
17+30	0.0557	0.01	Q	|	|	| V |	|	|
17+35	0.0558	0.01	Q	|	|	| V |	|	|
17+40	0.0559	0.01	Q	|	|	| V |	|	|
17+45	0.0560	0.01	Q	|	|	| V |	|	|
17+50	0.0561	0.01	Q	|	|	| V |	|	|
17+55	0.0562	0.01	Q	|	|	| V |	|	|
18+ 0	0.0562	0.01	Q	|	|	| V |	|	|

18+ 5	0.0563	0.01	Q	|	|	|	V |
18+10	0.0564	0.01	Q	|	|	|	V |
18+15	0.0565	0.01	Q	|	|	|	V |
18+20	0.0566	0.01	Q	|	|	|	V |
18+25	0.0566	0.01	Q	|	|	|	V |
18+30	0.0567	0.01	Q	|	|	|	V |
18+35	0.0568	0.01	Q	|	|	|	V |
18+40	0.0568	0.01	Q	|	|	|	V |
18+45	0.0569	0.01	Q	|	|	|	V |
18+50	0.0569	0.01	Q	|	|	|	V |
18+55	0.0570	0.01	Q	|	|	|	V |
19+ 0	0.0570	0.01	Q	|	|	|	V |
19+ 5	0.0571	0.01	Q	|	|	|	V |
19+10	0.0571	0.01	Q	|	|	|	V |
19+15	0.0572	0.01	Q	|	|	|	V |
19+20	0.0573	0.01	Q	|	|	|	V |
19+25	0.0573	0.01	Q	|	|	|	V |
19+30	0.0574	0.01	Q	|	|	|	V |
19+35	0.0575	0.01	Q	|	|	|	V |
19+40	0.0575	0.01	Q	|	|	|	V |
19+45	0.0576	0.01	Q	|	|	|	V |
19+50	0.0576	0.01	Q	|	|	|	V |
19+55	0.0577	0.01	Q	|	|	|	V |
20+ 0	0.0577	0.01	Q	|	|	|	V |
20+ 5	0.0578	0.01	Q	|	|	|	V |
20+10	0.0578	0.01	Q	|	|	|	V |
20+15	0.0579	0.01	Q	|	|	|	V |
20+20	0.0580	0.01	Q	|	|	|	V |
20+25	0.0580	0.01	Q	|	|	|	V |
20+30	0.0581	0.01	Q	|	|	|	V |
20+35	0.0581	0.01	Q	|	|	|	V |
20+40	0.0582	0.01	Q	|	|	|	V |
20+45	0.0583	0.01	Q	|	|	|	V |
20+50	0.0583	0.01	Q	|	|	|	V |
20+55	0.0583	0.01	Q	|	|	|	V |
21+ 0	0.0584	0.01	Q	|	|	|	V |
21+ 5	0.0584	0.01	Q	|	|	|	V |
21+10	0.0585	0.01	Q	|	|	|	V|
21+15	0.0586	0.01	Q	|	|	|	V|
21+20	0.0586	0.01	Q	|	|	|	V|
21+25	0.0586	0.01	Q	|	|	|	V|
21+30	0.0587	0.01	Q	|	|	|	V|
21+35	0.0587	0.01	Q	|	|	|	V|
21+40	0.0588	0.01	Q	|	|	|	V|
21+45	0.0589	0.01	Q	|	|	|	V|
21+50	0.0589	0.01	Q	|	|	|	V|
21+55	0.0589	0.01	Q	|	|	|	V|
22+ 0	0.0590	0.01	Q	|	|	|	V|
22+ 5	0.0590	0.01	Q	|	|	|	V|
22+10	0.0591	0.01	Q	|	|	|	V|
22+15	0.0592	0.01	Q	|	|	|	V|
22+20	0.0592	0.01	Q	|	|	|	V|
22+25	0.0592	0.01	Q	|	|	|	V|
22+30	0.0593	0.01	Q	|	|	|	V|
22+35	0.0593	0.01	Q	|	|	|	V|
22+40	0.0594	0.01	Q	|	|	|	V|
22+45	0.0594	0.01	Q	|	|	|	V|

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  22+50       0.0594      0.01  Q          |          |          |         V|
  22+55       0.0595      0.01  Q          |          |          |         V|
  23+ 0       0.0595      0.01  Q          |          |          |         V|
  23+ 5       0.0596      0.01  Q          |          |          |         V|
  23+10       0.0596      0.01  Q          |          |          |         V|
  23+15       0.0596      0.01  Q          |          |          |         V|
  23+20       0.0597      0.01  Q          |          |          |         V|
  23+25       0.0597      0.01  Q          |          |          |         V|
  23+30       0.0598      0.01  Q          |          |          |         V|
  23+35       0.0598      0.01  Q          |          |          |         V|
  23+40       0.0598      0.01  Q          |          |          |         V|
  23+45       0.0599      0.01  Q          |          |          |         V|
  23+50       0.0599      0.01  Q          |          |          |         V|
  23+55       0.0600      0.01  Q          |          |          |         V|
  24+ 0       0.0600      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 06/03/26 File: 19267p010S2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Area S

Drainage Area = 0.69(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.69(Ac.) = 0.001 Sq. Mi.
Length along longest watercourse = 755.00(Ft.)
Length along longest watercourse measured to centroid = 399.00(Ft.)
Length along longest watercourse = 0.143 Mi.
Length along longest watercourse measured to centroid = 0.076 Mi.
Difference in elevation = 4.34(Ft.)
Slope along watercourse = 30.3513 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.02 Min.
25% of lag time = 0.51 Min.
40% of lag time = 0.81 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]
0.69	1.66	1.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.69	4.10	2.81

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.685	75.00	0.810

Total Area Entered = 0.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.810	0.082	1.000	0.082
					Sum (F) =	0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082
Minimum soil loss rate ((In/Hr)) = 0.041
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	247.367	50.550	0.349
2	0.167	494.734	40.217	0.278
3	0.250	742.102	7.107	0.049
4	0.333	989.469	2.125	0.015
			Sum = 100.000 Sum=	0.690

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

Unit Time	(Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.146)		0.005	0.016
2	0.17	0.07	0.021	(0.145)		0.005	0.016
3	0.25	0.07	0.021	(0.144)		0.005	0.016
4	0.33	0.10	0.032	(0.144)		0.008	0.024
5	0.42	0.10	0.032	(0.143)		0.008	0.024
6	0.50	0.10	0.032	(0.143)		0.008	0.024
7	0.58	0.10	0.032	(0.142)		0.008	0.024
8	0.67	0.10	0.032	(0.142)		0.008	0.024
9	0.75	0.10	0.032	(0.141)		0.008	0.024

10	0.83	0.13	0.043	(0.141)	0.011	0.032
11	0.92	0.13	0.043	(0.140)	0.011	0.032
12	1.00	0.13	0.043	(0.139)	0.011	0.032
13	1.08	0.10	0.032	(0.139)	0.008	0.024
14	1.17	0.10	0.032	(0.138)	0.008	0.024
15	1.25	0.10	0.032	(0.138)	0.008	0.024
16	1.33	0.10	0.032	(0.137)	0.008	0.024
17	1.42	0.10	0.032	(0.137)	0.008	0.024
18	1.50	0.10	0.032	(0.136)	0.008	0.024
19	1.58	0.10	0.032	(0.136)	0.008	0.024
20	1.67	0.10	0.032	(0.135)	0.008	0.024
21	1.75	0.10	0.032	(0.135)	0.008	0.024
22	1.83	0.13	0.043	(0.134)	0.011	0.032
23	1.92	0.13	0.043	(0.133)	0.011	0.032
24	2.00	0.13	0.043	(0.133)	0.011	0.032
25	2.08	0.13	0.043	(0.132)	0.011	0.032
26	2.17	0.13	0.043	(0.132)	0.011	0.032
27	2.25	0.13	0.043	(0.131)	0.011	0.032
28	2.33	0.13	0.043	(0.131)	0.011	0.032
29	2.42	0.13	0.043	(0.130)	0.011	0.032
30	2.50	0.13	0.043	(0.130)	0.011	0.032
31	2.58	0.17	0.053	(0.129)	0.013	0.040
32	2.67	0.17	0.053	(0.129)	0.013	0.040
33	2.75	0.17	0.053	(0.128)	0.013	0.040
34	2.83	0.17	0.053	(0.128)	0.013	0.040
35	2.92	0.17	0.053	(0.127)	0.013	0.040
36	3.00	0.17	0.053	(0.127)	0.013	0.040
37	3.08	0.17	0.053	(0.126)	0.013	0.040
38	3.17	0.17	0.053	(0.125)	0.013	0.040
39	3.25	0.17	0.053	(0.125)	0.013	0.040
40	3.33	0.17	0.053	(0.124)	0.013	0.040
41	3.42	0.17	0.053	(0.124)	0.013	0.040
42	3.50	0.17	0.053	(0.123)	0.013	0.040
43	3.58	0.17	0.053	(0.123)	0.013	0.040
44	3.67	0.17	0.053	(0.122)	0.013	0.040
45	3.75	0.17	0.053	(0.122)	0.013	0.040
46	3.83	0.20	0.064	(0.121)	0.016	0.048
47	3.92	0.20	0.064	(0.121)	0.016	0.048
48	4.00	0.20	0.064	(0.120)	0.016	0.048
49	4.08	0.20	0.064	(0.120)	0.016	0.048
50	4.17	0.20	0.064	(0.119)	0.016	0.048
51	4.25	0.20	0.064	(0.119)	0.016	0.048
52	4.33	0.23	0.075	(0.118)	0.019	0.056
53	4.42	0.23	0.075	(0.118)	0.019	0.056
54	4.50	0.23	0.075	(0.117)	0.019	0.056
55	4.58	0.23	0.075	(0.117)	0.019	0.056
56	4.67	0.23	0.075	(0.116)	0.019	0.056
57	4.75	0.23	0.075	(0.116)	0.019	0.056
58	4.83	0.27	0.085	(0.115)	0.021	0.064
59	4.92	0.27	0.085	(0.115)	0.021	0.064
60	5.00	0.27	0.085	(0.114)	0.021	0.064
61	5.08	0.20	0.064	(0.114)	0.016	0.048
62	5.17	0.20	0.064	(0.113)	0.016	0.048
63	5.25	0.20	0.064	(0.113)	0.016	0.048
64	5.33	0.23	0.075	(0.112)	0.019	0.056
65	5.42	0.23	0.075	(0.112)	0.019	0.056
66	5.50	0.23	0.075	(0.111)	0.019	0.056

67	5.58	0.27	0.085	(0.111)	0.021	0.064
68	5.67	0.27	0.085	(0.110)	0.021	0.064
69	5.75	0.27	0.085	(0.110)	0.021	0.064
70	5.83	0.27	0.085	(0.109)	0.021	0.064
71	5.92	0.27	0.085	(0.109)	0.021	0.064
72	6.00	0.27	0.085	(0.108)	0.021	0.064
73	6.08	0.30	0.096	(0.108)	0.024	0.072
74	6.17	0.30	0.096	(0.107)	0.024	0.072
75	6.25	0.30	0.096	(0.107)	0.024	0.072
76	6.33	0.30	0.096	(0.106)	0.024	0.072
77	6.42	0.30	0.096	(0.106)	0.024	0.072
78	6.50	0.30	0.096	(0.106)	0.024	0.072
79	6.58	0.33	0.107	(0.105)	0.027	0.080
80	6.67	0.33	0.107	(0.105)	0.027	0.080
81	6.75	0.33	0.107	(0.104)	0.027	0.080
82	6.83	0.33	0.107	(0.104)	0.027	0.080
83	6.92	0.33	0.107	(0.103)	0.027	0.080
84	7.00	0.33	0.107	(0.103)	0.027	0.080
85	7.08	0.33	0.107	(0.102)	0.027	0.080
86	7.17	0.33	0.107	(0.102)	0.027	0.080
87	7.25	0.33	0.107	(0.101)	0.027	0.080
88	7.33	0.37	0.117	(0.101)	0.029	0.088
89	7.42	0.37	0.117	(0.100)	0.029	0.088
90	7.50	0.37	0.117	(0.100)	0.029	0.088
91	7.58	0.40	0.128	(0.099)	0.032	0.096
92	7.67	0.40	0.128	(0.099)	0.032	0.096
93	7.75	0.40	0.128	(0.099)	0.032	0.096
94	7.83	0.43	0.139	(0.098)	0.035	0.104
95	7.92	0.43	0.139	(0.098)	0.035	0.104
96	8.00	0.43	0.139	(0.097)	0.035	0.104
97	8.08	0.50	0.160	(0.097)	0.040	0.120
98	8.17	0.50	0.160	(0.096)	0.040	0.120
99	8.25	0.50	0.160	(0.096)	0.040	0.120
100	8.33	0.50	0.160	(0.095)	0.040	0.120
101	8.42	0.50	0.160	(0.095)	0.040	0.120
102	8.50	0.50	0.160	(0.094)	0.040	0.120
103	8.58	0.53	0.170	(0.094)	0.043	0.128
104	8.67	0.53	0.170	(0.094)	0.043	0.128
105	8.75	0.53	0.170	(0.093)	0.043	0.128
106	8.83	0.57	0.181	(0.093)	0.045	0.136
107	8.92	0.57	0.181	(0.092)	0.045	0.136
108	9.00	0.57	0.181	(0.092)	0.045	0.136
109	9.08	0.63	0.202	(0.091)	0.051	0.152
110	9.17	0.63	0.202	(0.091)	0.051	0.152
111	9.25	0.63	0.202	(0.091)	0.051	0.152
112	9.33	0.67	0.213	(0.090)	0.053	0.160
113	9.42	0.67	0.213	(0.090)	0.053	0.160
114	9.50	0.67	0.213	(0.089)	0.053	0.160
115	9.58	0.70	0.224	(0.089)	0.056	0.168
116	9.67	0.70	0.224	(0.088)	0.056	0.168
117	9.75	0.70	0.224	(0.088)	0.056	0.168
118	9.83	0.73	0.234	(0.088)	0.059	0.176
119	9.92	0.73	0.234	(0.087)	0.059	0.176
120	10.00	0.73	0.234	(0.087)	0.059	0.176
121	10.08	0.50	0.160	(0.086)	0.040	0.120
122	10.17	0.50	0.160	(0.086)	0.040	0.120
123	10.25	0.50	0.160	(0.085)	0.040	0.120

124	10.33	0.50	0.160	(0.085)	0.040	0.120
125	10.42	0.50	0.160	(0.085)	0.040	0.120
126	10.50	0.50	0.160	(0.084)	0.040	0.120
127	10.58	0.67	0.213	(0.084)	0.053	0.160
128	10.67	0.67	0.213	(0.083)	0.053	0.160
129	10.75	0.67	0.213	(0.083)	0.053	0.160
130	10.83	0.67	0.213	(0.083)	0.053	0.160
131	10.92	0.67	0.213	(0.082)	0.053	0.160
132	11.00	0.67	0.213	(0.082)	0.053	0.160
133	11.08	0.63	0.202	(0.081)	0.051	0.152
134	11.17	0.63	0.202	(0.081)	0.051	0.152
135	11.25	0.63	0.202	(0.081)	0.051	0.152
136	11.33	0.63	0.202	(0.080)	0.051	0.152
137	11.42	0.63	0.202	(0.080)	0.051	0.152
138	11.50	0.63	0.202	(0.079)	0.051	0.152
139	11.58	0.57	0.181	(0.079)	0.045	0.136
140	11.67	0.57	0.181	(0.079)	0.045	0.136
141	11.75	0.57	0.181	(0.078)	0.045	0.136
142	11.83	0.60	0.192	(0.078)	0.048	0.144
143	11.92	0.60	0.192	(0.077)	0.048	0.144
144	12.00	0.60	0.192	(0.077)	0.048	0.144
145	12.08	0.83	0.266	(0.077)	0.067	0.200
146	12.17	0.83	0.266	(0.076)	0.067	0.200
147	12.25	0.83	0.266	(0.076)	0.067	0.200
148	12.33	0.87	0.277	(0.076)	0.069	0.208
149	12.42	0.87	0.277	(0.075)	0.069	0.208
150	12.50	0.87	0.277	(0.075)	0.069	0.208
151	12.58	0.93	0.298	0.074	(0.075)	0.224
152	12.67	0.93	0.298	0.074	(0.075)	0.224
153	12.75	0.93	0.298	0.074	(0.075)	0.225
154	12.83	0.97	0.309	0.073	(0.077)	0.236
155	12.92	0.97	0.309	0.073	(0.077)	0.236
156	13.00	0.97	0.309	0.073	(0.077)	0.236
157	13.08	1.13	0.362	0.072	(0.091)	0.290
158	13.17	1.13	0.362	0.072	(0.091)	0.291
159	13.25	1.13	0.362	0.071	(0.091)	0.291
160	13.33	1.13	0.362	0.071	(0.091)	0.291
161	13.42	1.13	0.362	0.071	(0.091)	0.292
162	13.50	1.13	0.362	0.070	(0.091)	0.292
163	13.58	0.77	0.245	(0.070)	0.061	0.184
164	13.67	0.77	0.245	(0.070)	0.061	0.184
165	13.75	0.77	0.245	(0.069)	0.061	0.184
166	13.83	0.77	0.245	(0.069)	0.061	0.184
167	13.92	0.77	0.245	(0.069)	0.061	0.184
168	14.00	0.77	0.245	(0.068)	0.061	0.184
169	14.08	0.90	0.288	0.068	(0.072)	0.220
170	14.17	0.90	0.288	0.068	(0.072)	0.220
171	14.25	0.90	0.288	0.067	(0.072)	0.221
172	14.33	0.87	0.277	0.067	(0.069)	0.210
173	14.42	0.87	0.277	0.066	(0.069)	0.211
174	14.50	0.87	0.277	0.066	(0.069)	0.211
175	14.58	0.87	0.277	0.066	(0.069)	0.211
176	14.67	0.87	0.277	0.065	(0.069)	0.212
177	14.75	0.87	0.277	0.065	(0.069)	0.212
178	14.83	0.83	0.266	0.065	(0.067)	0.202
179	14.92	0.83	0.266	0.064	(0.067)	0.202
180	15.00	0.83	0.266	0.064	(0.067)	0.202

181	15.08	0.80	0.256	0.064	(0.064)	0.192
182	15.17	0.80	0.256	0.063	(0.064)	0.192
183	15.25	0.80	0.256	0.063	(0.064)	0.193
184	15.33	0.77	0.245	(0.063)	0.061	0.184
185	15.42	0.77	0.245	(0.063)	0.061	0.184
186	15.50	0.77	0.245	(0.062)	0.061	0.184
187	15.58	0.63	0.202	(0.062)	0.051	0.152
188	15.67	0.63	0.202	(0.062)	0.051	0.152
189	15.75	0.63	0.202	(0.061)	0.051	0.152
190	15.83	0.63	0.202	(0.061)	0.051	0.152
191	15.92	0.63	0.202	(0.061)	0.051	0.152
192	16.00	0.63	0.202	(0.060)	0.051	0.152
193	16.08	0.13	0.043	(0.060)	0.011	0.032
194	16.17	0.13	0.043	(0.060)	0.011	0.032
195	16.25	0.13	0.043	(0.059)	0.011	0.032
196	16.33	0.13	0.043	(0.059)	0.011	0.032
197	16.42	0.13	0.043	(0.059)	0.011	0.032
198	16.50	0.13	0.043	(0.058)	0.011	0.032
199	16.58	0.10	0.032	(0.058)	0.008	0.024
200	16.67	0.10	0.032	(0.058)	0.008	0.024
201	16.75	0.10	0.032	(0.058)	0.008	0.024
202	16.83	0.10	0.032	(0.057)	0.008	0.024
203	16.92	0.10	0.032	(0.057)	0.008	0.024
204	17.00	0.10	0.032	(0.057)	0.008	0.024
205	17.08	0.17	0.053	(0.056)	0.013	0.040
206	17.17	0.17	0.053	(0.056)	0.013	0.040
207	17.25	0.17	0.053	(0.056)	0.013	0.040
208	17.33	0.17	0.053	(0.056)	0.013	0.040
209	17.42	0.17	0.053	(0.055)	0.013	0.040
210	17.50	0.17	0.053	(0.055)	0.013	0.040
211	17.58	0.17	0.053	(0.055)	0.013	0.040
212	17.67	0.17	0.053	(0.054)	0.013	0.040
213	17.75	0.17	0.053	(0.054)	0.013	0.040
214	17.83	0.13	0.043	(0.054)	0.011	0.032
215	17.92	0.13	0.043	(0.054)	0.011	0.032
216	18.00	0.13	0.043	(0.053)	0.011	0.032
217	18.08	0.13	0.043	(0.053)	0.011	0.032
218	18.17	0.13	0.043	(0.053)	0.011	0.032
219	18.25	0.13	0.043	(0.053)	0.011	0.032
220	18.33	0.13	0.043	(0.052)	0.011	0.032
221	18.42	0.13	0.043	(0.052)	0.011	0.032
222	18.50	0.13	0.043	(0.052)	0.011	0.032
223	18.58	0.10	0.032	(0.052)	0.008	0.024
224	18.67	0.10	0.032	(0.051)	0.008	0.024
225	18.75	0.10	0.032	(0.051)	0.008	0.024
226	18.83	0.07	0.021	(0.051)	0.005	0.016
227	18.92	0.07	0.021	(0.051)	0.005	0.016
228	19.00	0.07	0.021	(0.050)	0.005	0.016
229	19.08	0.10	0.032	(0.050)	0.008	0.024
230	19.17	0.10	0.032	(0.050)	0.008	0.024
231	19.25	0.10	0.032	(0.050)	0.008	0.024
232	19.33	0.13	0.043	(0.049)	0.011	0.032
233	19.42	0.13	0.043	(0.049)	0.011	0.032
234	19.50	0.13	0.043	(0.049)	0.011	0.032
235	19.58	0.10	0.032	(0.049)	0.008	0.024
236	19.67	0.10	0.032	(0.049)	0.008	0.024
237	19.75	0.10	0.032	(0.048)	0.008	0.024

238	19.83	0.07	0.021	(0.048)	0.005	0.016
239	19.92	0.07	0.021	(0.048)	0.005	0.016
240	20.00	0.07	0.021	(0.048)	0.005	0.016
241	20.08	0.10	0.032	(0.047)	0.008	0.024
242	20.17	0.10	0.032	(0.047)	0.008	0.024
243	20.25	0.10	0.032	(0.047)	0.008	0.024
244	20.33	0.10	0.032	(0.047)	0.008	0.024
245	20.42	0.10	0.032	(0.047)	0.008	0.024
246	20.50	0.10	0.032	(0.046)	0.008	0.024
247	20.58	0.10	0.032	(0.046)	0.008	0.024
248	20.67	0.10	0.032	(0.046)	0.008	0.024
249	20.75	0.10	0.032	(0.046)	0.008	0.024
250	20.83	0.07	0.021	(0.046)	0.005	0.016
251	20.92	0.07	0.021	(0.046)	0.005	0.016
252	21.00	0.07	0.021	(0.045)	0.005	0.016
253	21.08	0.10	0.032	(0.045)	0.008	0.024
254	21.17	0.10	0.032	(0.045)	0.008	0.024
255	21.25	0.10	0.032	(0.045)	0.008	0.024
256	21.33	0.07	0.021	(0.045)	0.005	0.016
257	21.42	0.07	0.021	(0.044)	0.005	0.016
258	21.50	0.07	0.021	(0.044)	0.005	0.016
259	21.58	0.10	0.032	(0.044)	0.008	0.024
260	21.67	0.10	0.032	(0.044)	0.008	0.024
261	21.75	0.10	0.032	(0.044)	0.008	0.024
262	21.83	0.07	0.021	(0.044)	0.005	0.016
263	21.92	0.07	0.021	(0.044)	0.005	0.016
264	22.00	0.07	0.021	(0.043)	0.005	0.016
265	22.08	0.10	0.032	(0.043)	0.008	0.024
266	22.17	0.10	0.032	(0.043)	0.008	0.024
267	22.25	0.10	0.032	(0.043)	0.008	0.024
268	22.33	0.07	0.021	(0.043)	0.005	0.016
269	22.42	0.07	0.021	(0.043)	0.005	0.016
270	22.50	0.07	0.021	(0.043)	0.005	0.016
271	22.58	0.07	0.021	(0.042)	0.005	0.016
272	22.67	0.07	0.021	(0.042)	0.005	0.016
273	22.75	0.07	0.021	(0.042)	0.005	0.016
274	22.83	0.07	0.021	(0.042)	0.005	0.016
275	22.92	0.07	0.021	(0.042)	0.005	0.016
276	23.00	0.07	0.021	(0.042)	0.005	0.016
277	23.08	0.07	0.021	(0.042)	0.005	0.016
278	23.17	0.07	0.021	(0.042)	0.005	0.016
279	23.25	0.07	0.021	(0.042)	0.005	0.016
280	23.33	0.07	0.021	(0.042)	0.005	0.016
281	23.42	0.07	0.021	(0.041)	0.005	0.016
282	23.50	0.07	0.021	(0.041)	0.005	0.016
283	23.58	0.07	0.021	(0.041)	0.005	0.016
284	23.67	0.07	0.021	(0.041)	0.005	0.016
285	23.75	0.07	0.021	(0.041)	0.005	0.016
286	23.83	0.07	0.021	(0.041)	0.005	0.016
287	23.92	0.07	0.021	(0.041)	0.005	0.016
288	24.00	0.07	0.021	(0.041)	0.005	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.1

Flood volume = Effective rainfall 2.01(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.65(In)
Total soil loss = 0.037(Ac.Ft)

Total rainfall = 2.66(In)
Flood volume = 5003.4 Cubic Feet
Total soil loss = 1620.4 Cubic Feet

Peak flow rate of this hydrograph = 0.202(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0003	0.01	Q				
0+25	0.0004	0.02	Q				
0+30	0.0005	0.02	Q				
0+35	0.0006	0.02	Q				
0+40	0.0007	0.02	Q				
0+45	0.0008	0.02	Q				
0+50	0.0010	0.02	Q				
0+55	0.0011	0.02	Q				
1+ 0	0.0013	0.02	Q				
1+ 5	0.0014	0.02	Q				
1+10	0.0015	0.02	Q				
1+15	0.0016	0.02	Q				
1+20	0.0018	0.02	Q				
1+25	0.0019	0.02	Q				
1+30	0.0020	0.02	Q				
1+35	0.0021	0.02	Q				
1+40	0.0022	0.02	Q				
1+45	0.0023	0.02	Q				
1+50	0.0025	0.02	Q				
1+55	0.0026	0.02	Q				
2+ 0	0.0028	0.02	Q				
2+ 5	0.0029	0.02	QV				
2+10	0.0031	0.02	QV				
2+15	0.0032	0.02	QV				
2+20	0.0034	0.02	QV				
2+25	0.0035	0.02	QV				
2+30	0.0037	0.02	QV				
2+35	0.0038	0.02	QV				
2+40	0.0040	0.03	QV				
2+45	0.0042	0.03	QV				
2+50	0.0044	0.03	QV				
2+55	0.0046	0.03	QV				
3+ 0	0.0048	0.03	QV				
3+ 5	0.0050	0.03	QV				
3+10	0.0052	0.03	QV				
3+15	0.0054	0.03	QV				
3+20	0.0055	0.03	QV				
3+25	0.0057	0.03	QV				
3+30	0.0059	0.03	Q V				

3+35	0.0061	0.03	Q V	|	|	|	|
3+40	0.0063	0.03	Q V	|	|	|	|
3+45	0.0065	0.03	Q V	|	|	|	|
3+50	0.0067	0.03	Q V	|	|	|	|
3+55	0.0069	0.03	Q V	|	|	|	|
4+ 0	0.0072	0.03	Q V	|	|	|	|
4+ 5	0.0074	0.03	Q V	|	|	|	|
4+10	0.0076	0.03	Q V	|	|	|	|
4+15	0.0078	0.03	Q V	|	|	|	|
4+20	0.0081	0.04	Q V	|	|	|	|
4+25	0.0084	0.04	Q V	|	|	|	|
4+30	0.0086	0.04	Q V	|	|	|	|
4+35	0.0089	0.04	Q V	|	|	|	|
4+40	0.0092	0.04	Q V	|	|	|	|
4+45	0.0094	0.04	Q V	|	|	|	|
4+50	0.0097	0.04	Q V	|	|	|	|
4+55	0.0100	0.04	Q V	|	|	|	|
5+ 0	0.0103	0.04	Q V	|	|	|	|
5+ 5	0.0106	0.04	Q V	|	|	|	|
5+10	0.0108	0.03	Q V	|	|	|	|
5+15	0.0110	0.03	Q V	|	|	|	|
5+20	0.0113	0.04	Q V	|	|	|	|
5+25	0.0115	0.04	Q V	|	|	|	|
5+30	0.0118	0.04	Q V	|	|	|	|
5+35	0.0121	0.04	Q V	|	|	|	|
5+40	0.0124	0.04	Q V	|	|	|	|
5+45	0.0127	0.04	Q V	|	|	|	|
5+50	0.0130	0.04	Q V	|	|	|	|
5+55	0.0133	0.04	Q V	|	|	|	|
6+ 0	0.0136	0.04	Q V	|	|	|	|
6+ 5	0.0139	0.05	Q V	|	|	|	|
6+10	0.0143	0.05	Q V	|	|	|	|
6+15	0.0146	0.05	Q V	|	|	|	|
6+20	0.0150	0.05	Q V	|	|	|	|
6+25	0.0153	0.05	Q V	|	|	|	|
6+30	0.0156	0.05	Q V	|	|	|	|
6+35	0.0160	0.05	Q V	|	|	|	|
6+40	0.0164	0.05	Q V	|	|	|	|
6+45	0.0168	0.06	Q V	|	|	|	|
6+50	0.0171	0.06	Q V	|	|	|	|
6+55	0.0175	0.06	Q V	|	|	|	|
7+ 0	0.0179	0.06	Q V	|	|	|	|
7+ 5	0.0183	0.06	Q V	|	|	|	|
7+10	0.0187	0.06	Q V	|	|	|	|
7+15	0.0190	0.06	Q V	|	|	|	|
7+20	0.0194	0.06	Q V	|	|	|	|
7+25	0.0199	0.06	Q V	|	|	|	|
7+30	0.0203	0.06	Q V	|	|	|	|
7+35	0.0207	0.06	Q V	|	|	|	|
7+40	0.0212	0.07	Q V	|	|	|	|
7+45	0.0216	0.07	Q V	|	|	|	|
7+50	0.0221	0.07	Q V	|	|	|	|
7+55	0.0226	0.07	Q V	|	|	|	|
8+ 0	0.0231	0.07	Q V	|	|	|	|
8+ 5	0.0236	0.08	Q V	|	|	|	|
8+10	0.0242	0.08	Q V	|	|	|	|
8+15	0.0247	0.08	Q V	|	|	|	|

8+20	0.0253	0.08	Q	V	|	|	|	|
8+25	0.0259	0.08	Q	V	|	|	|	|
8+30	0.0265	0.08	Q	V	|	|	|	|
8+35	0.0270	0.09	Q	V	|	|	|	|
8+40	0.0276	0.09	Q	V	|	|	|	|
8+45	0.0283	0.09	Q	V	|	|	|	|
8+50	0.0289	0.09	Q	V		|	|	|
8+55	0.0295	0.09	Q	V		|	|	|
9+ 0	0.0302	0.09	Q	V		|	|	|
9+ 5	0.0309	0.10	Q	V		|	|	|
9+10	0.0316	0.10	Q	V		|	|	|
9+15	0.0323	0.10	Q	|	V	|	|	|
9+20	0.0330	0.11	Q	|	V	|	|	|
9+25	0.0338	0.11	Q	|	V	|	|	|
9+30	0.0345	0.11	Q	|	V	|	|	|
9+35	0.0353	0.11	Q	|	V	|	|	|
9+40	0.0361	0.12	Q	|	V	|	|	|
9+45	0.0369	0.12	Q	|	V	|	|	|
9+50	0.0377	0.12	Q	|	V	|	|	|
9+55	0.0386	0.12	Q	|	V	|	|	|
10+ 0	0.0394	0.12	Q	|	V	|	|	|
10+ 5	0.0401	0.10	Q	|	V	|	|	|
10+10	0.0407	0.09	Q	|	V	|	|	|
10+15	0.0413	0.08	Q	|	V	|	|	|
10+20	0.0419	0.08	Q	|	V	|	|	|
10+25	0.0424	0.08	Q	|	V	|	|	|
10+30	0.0430	0.08	Q	|	V	|	|	|
10+35	0.0437	0.10	Q	|	V	|	|	|
10+40	0.0444	0.11	Q	|	V	|	|	|
10+45	0.0452	0.11	Q	|	V	|	|	|
10+50	0.0459	0.11	Q	|	V	|	|	|
10+55	0.0467	0.11	Q	|	V	|	|	|
11+ 0	0.0474	0.11	Q	|	V	|	|	|
11+ 5	0.0482	0.11	Q	|	V	|	|	|
11+10	0.0489	0.11	Q	|	V	|	|	|
11+15	0.0496	0.10	Q	|	V	|	|	|
11+20	0.0503	0.10	Q	|	V	|	|	|
11+25	0.0511	0.10	Q	|	V	|	|	|
11+30	0.0518	0.10	Q	|	V	|	|	|
11+35	0.0525	0.10	Q	|	V	|	|	|
11+40	0.0531	0.09	Q	|	V	|	|	|
11+45	0.0538	0.09	Q	|	V	|	|	|
11+50	0.0544	0.10	Q	|	V	|	|	|
11+55	0.0551	0.10	Q	|	V	|	|	|
12+ 0	0.0558	0.10	Q	|	V	|	|	|
12+ 5	0.0566	0.12	Q	|	V	|	|	|
12+10	0.0576	0.13	Q	|	V	|	|	|
12+15	0.0585	0.14	Q	|	V	|	|	|
12+20	0.0595	0.14	Q	|	V	|	|	|
12+25	0.0605	0.14	Q	|	V	|	|	|
12+30	0.0614	0.14	Q	|	V	|	|	|
12+35	0.0625	0.15	Q	|	V	|	|	|
12+40	0.0635	0.15	Q	|	V	|	|	|
12+45	0.0646	0.15	Q	|	V	|	|	|
12+50	0.0657	0.16	Q	|	V	|	|	|
12+55	0.0668	0.16	Q	|	V	|	|	|
13+ 0	0.0679	0.16	Q	|	V	|	|	|

13+ 5	0.0692	0.18	Q	|	|	V |	|	|
13+10	0.0705	0.20	Q	|	|	V |	|	|
13+15	0.0719	0.20	Q	|	|	V |	|	|
13+20	0.0733	0.20	Q	|	|	V |	|	|
13+25	0.0747	0.20	Q	|	|	V |	|	|
13+30	0.0761	0.20	Q	|	|	V |	|	|
13+35	0.0772	0.16	Q	|	|	V |	|	|
13+40	0.0781	0.13	Q	|	|	V |	|	|
13+45	0.0790	0.13	Q	|	|	V |	|	|
13+50	0.0799	0.13	Q	|	|	V |	|	|
13+55	0.0808	0.13	Q	|	|	V |	|	|
14+ 0	0.0816	0.13	Q	|	|	V |	|	|
14+ 5	0.0826	0.14	Q	|	|	V |	|	|
14+10	0.0836	0.15	Q	|	|	V|	|	|
14+15	0.0847	0.15	Q	|	|	V|	|	|
14+20	0.0857	0.15	Q	|	|	V|	|	|
14+25	0.0867	0.15	Q	|	|	V |	|	|
14+30	0.0877	0.15	Q	|	|	V |	|	|
14+35	0.0887	0.15	Q	|	|	V |	|	|
14+40	0.0897	0.15	Q	|	|	|V |	|	|
14+45	0.0907	0.15	Q	|	|	|V |	|	|
14+50	0.0917	0.14	Q	|	|	|V |	|	|
14+55	0.0927	0.14	Q	|	|	| V |	|	|
15+ 0	0.0936	0.14	Q	|	|	| V |	|	|
15+ 5	0.0946	0.14	Q	|	|	| V |	|	|
15+10	0.0955	0.13	Q	|	|	| V |	|	|
15+15	0.0964	0.13	Q	|	|	| V |	|	|
15+20	0.0973	0.13	Q	|	|	| V |	|	|
15+25	0.0982	0.13	Q	|	|	| V |	|	|
15+30	0.0990	0.13	Q	|	|	| V |	|	|
15+35	0.0998	0.12	Q	|	|	| V |	|	|
15+40	0.1006	0.11	Q	|	|	| V |	|	|
15+45	0.1013	0.11	Q	|	|	| V |	|	|
15+50	0.1020	0.10	Q	|	|	| V |	|	|
15+55	0.1028	0.10	Q	|	|	| V |	|	|
16+ 0	0.1035	0.10	Q	|	|	| V |	|	|
16+ 5	0.1039	0.06	Q	|	|	| V |	|	|
16+10	0.1041	0.03	Q	|	|	| V |	|	|
16+15	0.1043	0.02	Q	|	|	| V |	|	|
16+20	0.1044	0.02	Q	|	|	| V |	|	|
16+25	0.1046	0.02	Q	|	|	| V |	|	|
16+30	0.1047	0.02	Q	|	|	| V |	|	|
16+35	0.1049	0.02	Q	|	|	| V |	|	|
16+40	0.1050	0.02	Q	|	|	| V |	|	|
16+45	0.1051	0.02	Q	|	|	| V |	|	|
16+50	0.1052	0.02	Q	|	|	| V |	|	|
16+55	0.1053	0.02	Q	|	|	| V |	|	|
17+ 0	0.1054	0.02	Q	|	|	| V |	|	|
17+ 5	0.1056	0.02	Q	|	|	| V |	|	|
17+10	0.1058	0.03	Q	|	|	| V |	|	|
17+15	0.1060	0.03	Q	|	|	| V |	|	|
17+20	0.1062	0.03	Q	|	|	| V |	|	|
17+25	0.1063	0.03	Q	|	|	| V |	|	|
17+30	0.1065	0.03	Q	|	|	| V |	|	|
17+35	0.1067	0.03	Q	|	|	| V |	|	|
17+40	0.1069	0.03	Q	|	|	| V |	|	|
17+45	0.1071	0.03	Q	|	|	| V |	|	|

17+50	0.1073	0.02	Q	|	|	|	V |
17+55	0.1074	0.02	Q	|	|	|	V |
18+ 0	0.1076	0.02	Q	|	|	|	V |
18+ 5	0.1077	0.02	Q	|	|	|	V |
18+10	0.1079	0.02	Q	|	|	|	V |
18+15	0.1080	0.02	Q	|	|	|	V |
18+20	0.1082	0.02	Q	|	|	|	V |
18+25	0.1083	0.02	Q	|	|	|	V |
18+30	0.1085	0.02	Q	|	|	|	V |
18+35	0.1086	0.02	Q	|	|	|	V |
18+40	0.1087	0.02	Q	|	|	|	V |
18+45	0.1089	0.02	Q	|	|	|	V |
18+50	0.1090	0.01	Q	|	|	|	V |
18+55	0.1090	0.01	Q	|	|	|	V |
19+ 0	0.1091	0.01	Q	|	|	|	V |
19+ 5	0.1092	0.01	Q	|	|	|	V |
19+10	0.1093	0.02	Q	|	|	|	V |
19+15	0.1094	0.02	Q	|	|	|	V |
19+20	0.1096	0.02	Q	|	|	|	V |
19+25	0.1097	0.02	Q	|	|	|	V |
19+30	0.1099	0.02	Q	|	|	|	V |
19+35	0.1100	0.02	Q	|	|	|	V |
19+40	0.1101	0.02	Q	|	|	|	V |
19+45	0.1102	0.02	Q	|	|	|	V |
19+50	0.1103	0.01	Q	|	|	|	V |
19+55	0.1104	0.01	Q	|	|	|	V |
20+ 0	0.1105	0.01	Q	|	|	|	V |
20+ 5	0.1106	0.01	Q	|	|	|	V |
20+10	0.1107	0.02	Q	|	|	|	V |
20+15	0.1108	0.02	Q	|	|	|	V |
20+20	0.1109	0.02	Q	|	|	|	V |
20+25	0.1110	0.02	Q	|	|	|	V |
20+30	0.1111	0.02	Q	|	|	|	V |
20+35	0.1113	0.02	Q	|	|	|	V |
20+40	0.1114	0.02	Q	|	|	|	V |
20+45	0.1115	0.02	Q	|	|	|	V |
20+50	0.1116	0.01	Q	|	|	|	V |
20+55	0.1117	0.01	Q	|	|	|	V |
21+ 0	0.1117	0.01	Q	|	|	|	V |
21+ 5	0.1118	0.01	Q	|	|	|	V |
21+10	0.1119	0.02	Q	|	|	|	V |
21+15	0.1121	0.02	Q	|	|	|	V|
21+20	0.1121	0.01	Q	|	|	|	V|
21+25	0.1122	0.01	Q	|	|	|	V|
21+30	0.1123	0.01	Q	|	|	|	V|
21+35	0.1124	0.01	Q	|	|	|	V|
21+40	0.1125	0.02	Q	|	|	|	V|
21+45	0.1126	0.02	Q	|	|	|	V|
21+50	0.1127	0.01	Q	|	|	|	V|
21+55	0.1128	0.01	Q	|	|	|	V|
22+ 0	0.1129	0.01	Q	|	|	|	V|
22+ 5	0.1130	0.01	Q	|	|	|	V|
22+10	0.1131	0.02	Q	|	|	|	V|
22+15	0.1132	0.02	Q	|	|	|	V|
22+20	0.1133	0.01	Q	|	|	|	V|
22+25	0.1134	0.01	Q	|	|	|	V|
22+30	0.1134	0.01	Q	|	|	|	V|

22+35	0.1135	0.01	Q	|	|	|	V|
22+40	0.1136	0.01	Q	|	|	|	V|
22+45	0.1137	0.01	Q	|	|	|	V|
22+50	0.1138	0.01	Q	|	|	|	V|
22+55	0.1138	0.01	Q	|	|	|	V|
23+ 0	0.1139	0.01	Q	|	|	|	V|
23+ 5	0.1140	0.01	Q	|	|	|	V|
23+10	0.1141	0.01	Q	|	|	|	V|
23+15	0.1141	0.01	Q	|	|	|	V|
23+20	0.1142	0.01	Q	|	|	|	V|
23+25	0.1143	0.01	Q	|	|	|	V|
23+30	0.1144	0.01	Q	|	|	|	V|
23+35	0.1144	0.01	Q	|	|	|	V|
23+40	0.1145	0.01	Q	|	|	|	V|
23+45	0.1146	0.01	Q	|	|	|	V|
23+50	0.1147	0.01	Q	|	|	|	V|
23+55	0.1147	0.01	Q	|	|	|	V|
24+ 0	0.1148	0.01	Q	|	|	|	V|
24+ 5	0.1149	0.01	Q	|	|	|	V|
24+10	0.1149	0.00	Q	|	|	|	V|
24+15	0.1149	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 06/03/26 File: 19267p010site2410.out

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

Program License Serial Number 6310

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

English Units used in output format

19-267 Van Buren
Proposed Condition
10-year
Full Site

Drainage Area = 9.69(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.69(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 242.00(Ft.)
Length along longest watercourse measured to centroid = 63.00(Ft.)
Length along longest watercourse = 0.046 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 4.60(Ft.)
Slope along watercourse = 100.3636 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.009 Hr.
Lag time = 0.52 Min.
25% of lag time = 0.13 Min.
40% of lag time = 0.21 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]
9.69	1.66	16.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.69	4.10	39.72

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.660(In)
Area Averaged 100-Year Rainfall = 4.100(In)

Point rain (area averaged) = 2.664(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.664(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.688	75.00	0.840

Total Area Entered = 9.69(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.840	0.074	1.000	0.074
					Sum (F) =	0.074

Area averaged mean soil loss (F) (In/Hr) = 0.074
Minimum soil loss rate ((In/Hr)) = 0.037
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.230

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	964.758	100.000	9.764
		Sum = 100.000	Sum= 9.764

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.131)	0.005	0.016
2	0.17	0.07	0.021	(0.131)	0.005	0.016
3	0.25	0.07	0.021	(0.130)	0.005	0.016
4	0.33	0.10	0.032	(0.130)	0.007	0.025
5	0.42	0.10	0.032	(0.129)	0.007	0.025
6	0.50	0.10	0.032	(0.129)	0.007	0.025
7	0.58	0.10	0.032	(0.128)	0.007	0.025
8	0.67	0.10	0.032	(0.128)	0.007	0.025
9	0.75	0.10	0.032	(0.127)	0.007	0.025
10	0.83	0.13	0.043	(0.127)	0.010	0.033
11	0.92	0.13	0.043	(0.126)	0.010	0.033
12	1.00	0.13	0.043	(0.126)	0.010	0.033

13	1.08	0.10	0.032	(0.125)	0.007	0.025
14	1.17	0.10	0.032	(0.125)	0.007	0.025
15	1.25	0.10	0.032	(0.124)	0.007	0.025
16	1.33	0.10	0.032	(0.124)	0.007	0.025
17	1.42	0.10	0.032	(0.123)	0.007	0.025
18	1.50	0.10	0.032	(0.123)	0.007	0.025
19	1.58	0.10	0.032	(0.122)	0.007	0.025
20	1.67	0.10	0.032	(0.122)	0.007	0.025
21	1.75	0.10	0.032	(0.121)	0.007	0.025
22	1.83	0.13	0.043	(0.121)	0.010	0.033
23	1.92	0.13	0.043	(0.120)	0.010	0.033
24	2.00	0.13	0.043	(0.120)	0.010	0.033
25	2.08	0.13	0.043	(0.119)	0.010	0.033
26	2.17	0.13	0.043	(0.119)	0.010	0.033
27	2.25	0.13	0.043	(0.118)	0.010	0.033
28	2.33	0.13	0.043	(0.118)	0.010	0.033
29	2.42	0.13	0.043	(0.117)	0.010	0.033
30	2.50	0.13	0.043	(0.117)	0.010	0.033
31	2.58	0.17	0.053	(0.116)	0.012	0.041
32	2.67	0.17	0.053	(0.116)	0.012	0.041
33	2.75	0.17	0.053	(0.115)	0.012	0.041
34	2.83	0.17	0.053	(0.115)	0.012	0.041
35	2.92	0.17	0.053	(0.114)	0.012	0.041
36	3.00	0.17	0.053	(0.114)	0.012	0.041
37	3.08	0.17	0.053	(0.113)	0.012	0.041
38	3.17	0.17	0.053	(0.113)	0.012	0.041
39	3.25	0.17	0.053	(0.112)	0.012	0.041
40	3.33	0.17	0.053	(0.112)	0.012	0.041
41	3.42	0.17	0.053	(0.112)	0.012	0.041
42	3.50	0.17	0.053	(0.111)	0.012	0.041
43	3.58	0.17	0.053	(0.111)	0.012	0.041
44	3.67	0.17	0.053	(0.110)	0.012	0.041
45	3.75	0.17	0.053	(0.110)	0.012	0.041
46	3.83	0.20	0.064	(0.109)	0.015	0.049
47	3.92	0.20	0.064	(0.109)	0.015	0.049
48	4.00	0.20	0.064	(0.108)	0.015	0.049
49	4.08	0.20	0.064	(0.108)	0.015	0.049
50	4.17	0.20	0.064	(0.107)	0.015	0.049
51	4.25	0.20	0.064	(0.107)	0.015	0.049
52	4.33	0.23	0.075	(0.106)	0.017	0.057
53	4.42	0.23	0.075	(0.106)	0.017	0.057
54	4.50	0.23	0.075	(0.106)	0.017	0.057
55	4.58	0.23	0.075	(0.105)	0.017	0.057
56	4.67	0.23	0.075	(0.105)	0.017	0.057
57	4.75	0.23	0.075	(0.104)	0.017	0.057
58	4.83	0.27	0.085	(0.104)	0.020	0.066
59	4.92	0.27	0.085	(0.103)	0.020	0.066
60	5.00	0.27	0.085	(0.103)	0.020	0.066
61	5.08	0.20	0.064	(0.102)	0.015	0.049
62	5.17	0.20	0.064	(0.102)	0.015	0.049
63	5.25	0.20	0.064	(0.102)	0.015	0.049
64	5.33	0.23	0.075	(0.101)	0.017	0.057
65	5.42	0.23	0.075	(0.101)	0.017	0.057
66	5.50	0.23	0.075	(0.100)	0.017	0.057
67	5.58	0.27	0.085	(0.100)	0.020	0.066
68	5.67	0.27	0.085	(0.099)	0.020	0.066
69	5.75	0.27	0.085	(0.099)	0.020	0.066

70	5.83	0.27	0.085	(0.098)	0.020	0.066
71	5.92	0.27	0.085	(0.098)	0.020	0.066
72	6.00	0.27	0.085	(0.098)	0.020	0.066
73	6.08	0.30	0.096	(0.097)	0.022	0.074
74	6.17	0.30	0.096	(0.097)	0.022	0.074
75	6.25	0.30	0.096	(0.096)	0.022	0.074
76	6.33	0.30	0.096	(0.096)	0.022	0.074
77	6.42	0.30	0.096	(0.095)	0.022	0.074
78	6.50	0.30	0.096	(0.095)	0.022	0.074
79	6.58	0.33	0.107	(0.095)	0.025	0.082
80	6.67	0.33	0.107	(0.094)	0.025	0.082
81	6.75	0.33	0.107	(0.094)	0.025	0.082
82	6.83	0.33	0.107	(0.093)	0.025	0.082
83	6.92	0.33	0.107	(0.093)	0.025	0.082
84	7.00	0.33	0.107	(0.092)	0.025	0.082
85	7.08	0.33	0.107	(0.092)	0.025	0.082
86	7.17	0.33	0.107	(0.092)	0.025	0.082
87	7.25	0.33	0.107	(0.091)	0.025	0.082
88	7.33	0.37	0.117	(0.091)	0.027	0.090
89	7.42	0.37	0.117	(0.090)	0.027	0.090
90	7.50	0.37	0.117	(0.090)	0.027	0.090
91	7.58	0.40	0.128	(0.090)	0.029	0.098
92	7.67	0.40	0.128	(0.089)	0.029	0.098
93	7.75	0.40	0.128	(0.089)	0.029	0.098
94	7.83	0.43	0.139	(0.088)	0.032	0.107
95	7.92	0.43	0.139	(0.088)	0.032	0.107
96	8.00	0.43	0.139	(0.087)	0.032	0.107
97	8.08	0.50	0.160	(0.087)	0.037	0.123
98	8.17	0.50	0.160	(0.087)	0.037	0.123
99	8.25	0.50	0.160	(0.086)	0.037	0.123
100	8.33	0.50	0.160	(0.086)	0.037	0.123
101	8.42	0.50	0.160	(0.085)	0.037	0.123
102	8.50	0.50	0.160	(0.085)	0.037	0.123
103	8.58	0.53	0.170	(0.085)	0.039	0.131
104	8.67	0.53	0.170	(0.084)	0.039	0.131
105	8.75	0.53	0.170	(0.084)	0.039	0.131
106	8.83	0.57	0.181	(0.083)	0.042	0.139
107	8.92	0.57	0.181	(0.083)	0.042	0.139
108	9.00	0.57	0.181	(0.083)	0.042	0.139
109	9.08	0.63	0.202	(0.082)	0.047	0.156
110	9.17	0.63	0.202	(0.082)	0.047	0.156
111	9.25	0.63	0.202	(0.082)	0.047	0.156
112	9.33	0.67	0.213	(0.081)	0.049	0.164
113	9.42	0.67	0.213	(0.081)	0.049	0.164
114	9.50	0.67	0.213	(0.080)	0.049	0.164
115	9.58	0.70	0.224	(0.080)	0.051	0.172
116	9.67	0.70	0.224	(0.080)	0.051	0.172
117	9.75	0.70	0.224	(0.079)	0.051	0.172
118	9.83	0.73	0.234	(0.079)	0.054	0.180
119	9.92	0.73	0.234	(0.078)	0.054	0.180
120	10.00	0.73	0.234	(0.078)	0.054	0.180
121	10.08	0.50	0.160	(0.078)	0.037	0.123
122	10.17	0.50	0.160	(0.077)	0.037	0.123
123	10.25	0.50	0.160	(0.077)	0.037	0.123
124	10.33	0.50	0.160	(0.077)	0.037	0.123
125	10.42	0.50	0.160	(0.076)	0.037	0.123
126	10.50	0.50	0.160	(0.076)	0.037	0.123

127	10.58	0.67	0.213	(0.075)	0.049	0.164
128	10.67	0.67	0.213	(0.075)	0.049	0.164
129	10.75	0.67	0.213	(0.075)	0.049	0.164
130	10.83	0.67	0.213	(0.074)	0.049	0.164
131	10.92	0.67	0.213	(0.074)	0.049	0.164
132	11.00	0.67	0.213	(0.074)	0.049	0.164
133	11.08	0.63	0.202	(0.073)	0.047	0.156
134	11.17	0.63	0.202	(0.073)	0.047	0.156
135	11.25	0.63	0.202	(0.073)	0.047	0.156
136	11.33	0.63	0.202	(0.072)	0.047	0.156
137	11.42	0.63	0.202	(0.072)	0.047	0.156
138	11.50	0.63	0.202	(0.071)	0.047	0.156
139	11.58	0.57	0.181	(0.071)	0.042	0.139
140	11.67	0.57	0.181	(0.071)	0.042	0.139
141	11.75	0.57	0.181	(0.070)	0.042	0.139
142	11.83	0.60	0.192	(0.070)	0.044	0.148
143	11.92	0.60	0.192	(0.070)	0.044	0.148
144	12.00	0.60	0.192	(0.069)	0.044	0.148
145	12.08	0.83	0.266	(0.069)	0.061	0.205
146	12.17	0.83	0.266	(0.069)	0.061	0.205
147	12.25	0.83	0.266	(0.068)	0.061	0.205
148	12.33	0.87	0.277	(0.068)	0.064	0.213
149	12.42	0.87	0.277	(0.068)	0.064	0.213
150	12.50	0.87	0.277	(0.067)	0.064	0.213
151	12.58	0.93	0.298	0.067	(0.069)	0.231
152	12.67	0.93	0.298	0.067	(0.069)	0.232
153	12.75	0.93	0.298	0.066	(0.069)	0.232
154	12.83	0.97	0.309	0.066	(0.071)	0.243
155	12.92	0.97	0.309	0.066	(0.071)	0.243
156	13.00	0.97	0.309	0.065	(0.071)	0.244
157	13.08	1.13	0.362	0.065	(0.083)	0.297
158	13.17	1.13	0.362	0.065	(0.083)	0.298
159	13.25	1.13	0.362	0.064	(0.083)	0.298
160	13.33	1.13	0.362	0.064	(0.083)	0.298
161	13.42	1.13	0.362	0.064	(0.083)	0.299
162	13.50	1.13	0.362	0.063	(0.083)	0.299
163	13.58	0.77	0.245	(0.063)	0.056	0.189
164	13.67	0.77	0.245	(0.063)	0.056	0.189
165	13.75	0.77	0.245	(0.062)	0.056	0.189
166	13.83	0.77	0.245	(0.062)	0.056	0.189
167	13.92	0.77	0.245	(0.062)	0.056	0.189
168	14.00	0.77	0.245	(0.061)	0.056	0.189
169	14.08	0.90	0.288	0.061	(0.066)	0.227
170	14.17	0.90	0.288	0.061	(0.066)	0.227
171	14.25	0.90	0.288	0.060	(0.066)	0.227
172	14.33	0.87	0.277	0.060	(0.064)	0.217
173	14.42	0.87	0.277	0.060	(0.064)	0.217
174	14.50	0.87	0.277	0.060	(0.064)	0.217
175	14.58	0.87	0.277	0.059	(0.064)	0.218
176	14.67	0.87	0.277	0.059	(0.064)	0.218
177	14.75	0.87	0.277	0.059	(0.064)	0.218
178	14.83	0.83	0.266	0.058	(0.061)	0.208
179	14.92	0.83	0.266	0.058	(0.061)	0.208
180	15.00	0.83	0.266	0.058	(0.061)	0.209
181	15.08	0.80	0.256	0.057	(0.059)	0.198
182	15.17	0.80	0.256	0.057	(0.059)	0.199
183	15.25	0.80	0.256	0.057	(0.059)	0.199

184	15.33	0.77	0.245	(0.057)	0.056	0.189
185	15.42	0.77	0.245	0.056	(0.056)	0.189
186	15.50	0.77	0.245	0.056	(0.056)	0.189
187	15.58	0.63	0.202	(0.056)	0.047	0.156
188	15.67	0.63	0.202	(0.055)	0.047	0.156
189	15.75	0.63	0.202	(0.055)	0.047	0.156
190	15.83	0.63	0.202	(0.055)	0.047	0.156
191	15.92	0.63	0.202	(0.055)	0.047	0.156
192	16.00	0.63	0.202	(0.054)	0.047	0.156
193	16.08	0.13	0.043	(0.054)	0.010	0.033
194	16.17	0.13	0.043	(0.054)	0.010	0.033
195	16.25	0.13	0.043	(0.053)	0.010	0.033
196	16.33	0.13	0.043	(0.053)	0.010	0.033
197	16.42	0.13	0.043	(0.053)	0.010	0.033
198	16.50	0.13	0.043	(0.053)	0.010	0.033
199	16.58	0.10	0.032	(0.052)	0.007	0.025
200	16.67	0.10	0.032	(0.052)	0.007	0.025
201	16.75	0.10	0.032	(0.052)	0.007	0.025
202	16.83	0.10	0.032	(0.052)	0.007	0.025
203	16.92	0.10	0.032	(0.051)	0.007	0.025
204	17.00	0.10	0.032	(0.051)	0.007	0.025
205	17.08	0.17	0.053	(0.051)	0.012	0.041
206	17.17	0.17	0.053	(0.051)	0.012	0.041
207	17.25	0.17	0.053	(0.050)	0.012	0.041
208	17.33	0.17	0.053	(0.050)	0.012	0.041
209	17.42	0.17	0.053	(0.050)	0.012	0.041
210	17.50	0.17	0.053	(0.050)	0.012	0.041
211	17.58	0.17	0.053	(0.049)	0.012	0.041
212	17.67	0.17	0.053	(0.049)	0.012	0.041
213	17.75	0.17	0.053	(0.049)	0.012	0.041
214	17.83	0.13	0.043	(0.049)	0.010	0.033
215	17.92	0.13	0.043	(0.048)	0.010	0.033
216	18.00	0.13	0.043	(0.048)	0.010	0.033
217	18.08	0.13	0.043	(0.048)	0.010	0.033
218	18.17	0.13	0.043	(0.048)	0.010	0.033
219	18.25	0.13	0.043	(0.047)	0.010	0.033
220	18.33	0.13	0.043	(0.047)	0.010	0.033
221	18.42	0.13	0.043	(0.047)	0.010	0.033
222	18.50	0.13	0.043	(0.047)	0.010	0.033
223	18.58	0.10	0.032	(0.046)	0.007	0.025
224	18.67	0.10	0.032	(0.046)	0.007	0.025
225	18.75	0.10	0.032	(0.046)	0.007	0.025
226	18.83	0.07	0.021	(0.046)	0.005	0.016
227	18.92	0.07	0.021	(0.046)	0.005	0.016
228	19.00	0.07	0.021	(0.045)	0.005	0.016
229	19.08	0.10	0.032	(0.045)	0.007	0.025
230	19.17	0.10	0.032	(0.045)	0.007	0.025
231	19.25	0.10	0.032	(0.045)	0.007	0.025
232	19.33	0.13	0.043	(0.045)	0.010	0.033
233	19.42	0.13	0.043	(0.044)	0.010	0.033
234	19.50	0.13	0.043	(0.044)	0.010	0.033
235	19.58	0.10	0.032	(0.044)	0.007	0.025
236	19.67	0.10	0.032	(0.044)	0.007	0.025
237	19.75	0.10	0.032	(0.044)	0.007	0.025
238	19.83	0.07	0.021	(0.043)	0.005	0.016
239	19.92	0.07	0.021	(0.043)	0.005	0.016
240	20.00	0.07	0.021	(0.043)	0.005	0.016

241	20.08	0.10	0.032	(0.043)	0.007	0.025
242	20.17	0.10	0.032	(0.043)	0.007	0.025
243	20.25	0.10	0.032	(0.042)	0.007	0.025
244	20.33	0.10	0.032	(0.042)	0.007	0.025
245	20.42	0.10	0.032	(0.042)	0.007	0.025
246	20.50	0.10	0.032	(0.042)	0.007	0.025
247	20.58	0.10	0.032	(0.042)	0.007	0.025
248	20.67	0.10	0.032	(0.041)	0.007	0.025
249	20.75	0.10	0.032	(0.041)	0.007	0.025
250	20.83	0.07	0.021	(0.041)	0.005	0.016
251	20.92	0.07	0.021	(0.041)	0.005	0.016
252	21.00	0.07	0.021	(0.041)	0.005	0.016
253	21.08	0.10	0.032	(0.041)	0.007	0.025
254	21.17	0.10	0.032	(0.040)	0.007	0.025
255	21.25	0.10	0.032	(0.040)	0.007	0.025
256	21.33	0.07	0.021	(0.040)	0.005	0.016
257	21.42	0.07	0.021	(0.040)	0.005	0.016
258	21.50	0.07	0.021	(0.040)	0.005	0.016
259	21.58	0.10	0.032	(0.040)	0.007	0.025
260	21.67	0.10	0.032	(0.040)	0.007	0.025
261	21.75	0.10	0.032	(0.039)	0.007	0.025
262	21.83	0.07	0.021	(0.039)	0.005	0.016
263	21.92	0.07	0.021	(0.039)	0.005	0.016
264	22.00	0.07	0.021	(0.039)	0.005	0.016
265	22.08	0.10	0.032	(0.039)	0.007	0.025
266	22.17	0.10	0.032	(0.039)	0.007	0.025
267	22.25	0.10	0.032	(0.039)	0.007	0.025
268	22.33	0.07	0.021	(0.039)	0.005	0.016
269	22.42	0.07	0.021	(0.038)	0.005	0.016
270	22.50	0.07	0.021	(0.038)	0.005	0.016
271	22.58	0.07	0.021	(0.038)	0.005	0.016
272	22.67	0.07	0.021	(0.038)	0.005	0.016
273	22.75	0.07	0.021	(0.038)	0.005	0.016
274	22.83	0.07	0.021	(0.038)	0.005	0.016
275	22.92	0.07	0.021	(0.038)	0.005	0.016
276	23.00	0.07	0.021	(0.038)	0.005	0.016
277	23.08	0.07	0.021	(0.038)	0.005	0.016
278	23.17	0.07	0.021	(0.038)	0.005	0.016
279	23.25	0.07	0.021	(0.037)	0.005	0.016
280	23.33	0.07	0.021	(0.037)	0.005	0.016
281	23.42	0.07	0.021	(0.037)	0.005	0.016
282	23.50	0.07	0.021	(0.037)	0.005	0.016
283	23.58	0.07	0.021	(0.037)	0.005	0.016
284	23.67	0.07	0.021	(0.037)	0.005	0.016
285	23.75	0.07	0.021	(0.037)	0.005	0.016
286	23.83	0.07	0.021	(0.037)	0.005	0.016
287	23.92	0.07	0.021	(0.037)	0.005	0.016
288	24.00	0.07	0.021	(0.037)	0.005	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.8

Flood volume = Effective rainfall 2.07(In)
times area 9.7(Ac.)/[(In)/(Ft.)] = 1.7(Ac.Ft)
Total soil loss = 0.60(In)
Total soil loss = 0.482(Ac.Ft)
Total rainfall = 2.66(In)
Flood volume = 72702.8 Cubic Feet
Total soil loss = 20975.7 Cubic Feet

Peak flow rate of this hydrograph = 2.920(CFS)

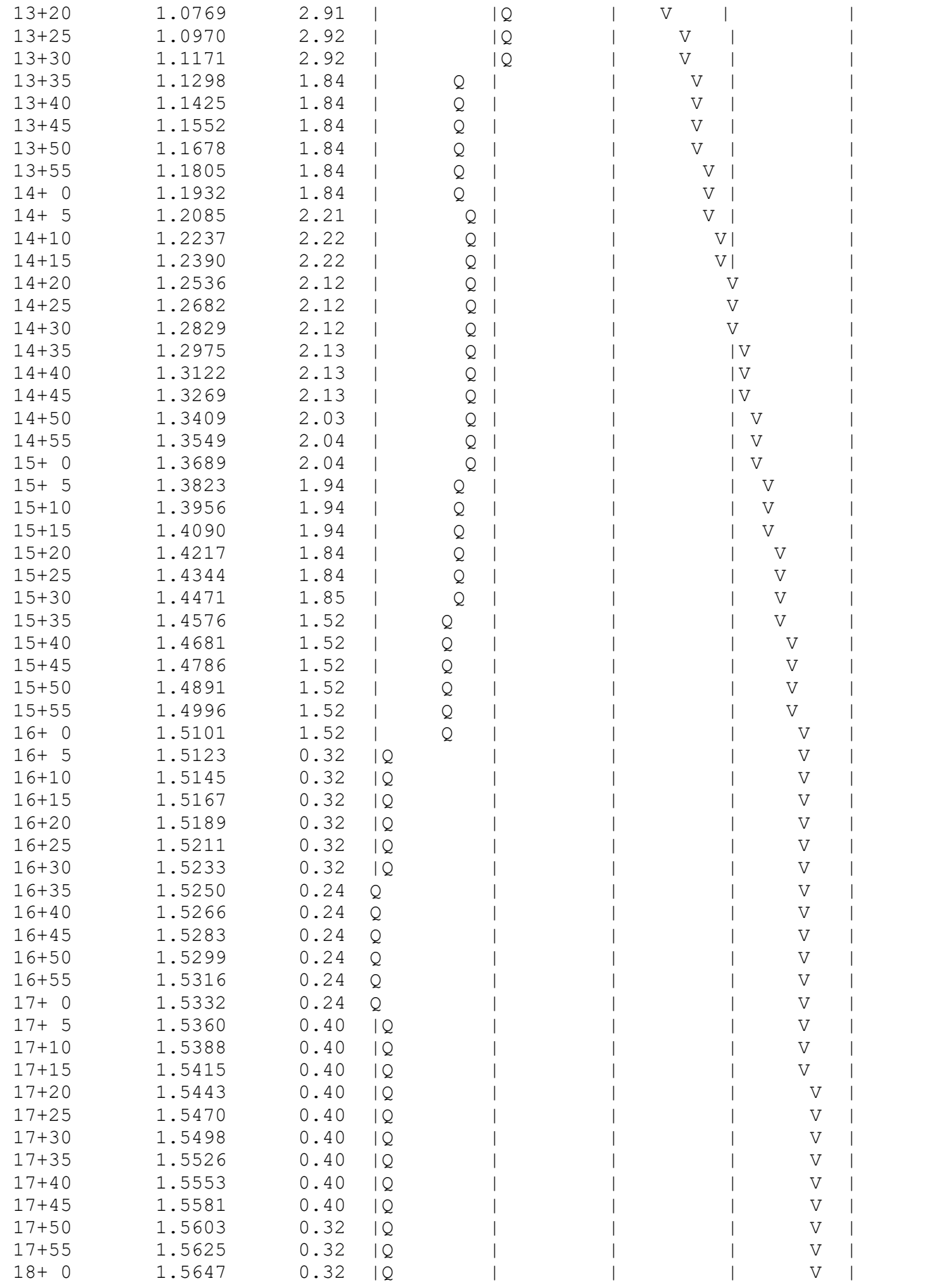
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0011	0.16	Q				
0+10	0.0022	0.16	Q				
0+15	0.0033	0.16	Q				
0+20	0.0050	0.24	Q				
0+25	0.0066	0.24	Q				
0+30	0.0083	0.24	Q				
0+35	0.0099	0.24	Q				
0+40	0.0116	0.24	Q				
0+45	0.0132	0.24	Q				
0+50	0.0155	0.32	VQ				
0+55	0.0177	0.32	VQ				
1+ 0	0.0199	0.32	VQ				
1+ 5	0.0215	0.24	Q				
1+10	0.0232	0.24	Q				
1+15	0.0248	0.24	Q				
1+20	0.0265	0.24	Q				
1+25	0.0282	0.24	Q				
1+30	0.0298	0.24	Q				
1+35	0.0315	0.24	Q				
1+40	0.0331	0.24	Q				
1+45	0.0348	0.24	Q				
1+50	0.0370	0.32	VQ				
1+55	0.0392	0.32	VQ				
2+ 0	0.0414	0.32	VQ				
2+ 5	0.0436	0.32	|Q				
2+10	0.0458	0.32	|Q				
2+15	0.0480	0.32	|Q				
2+20	0.0502	0.32	|Q				
2+25	0.0524	0.32	|Q				
2+30	0.0546	0.32	|Q				
2+35	0.0574	0.40	|Q				
2+40	0.0602	0.40	|Q				
2+45	0.0629	0.40	|Q				
2+50	0.0657	0.40	|Q				
2+55	0.0684	0.40	|Q				
3+ 0	0.0712	0.40	|Q				
3+ 5	0.0740	0.40	|Q				
3+10	0.0767	0.40	|Q				
3+15	0.0795	0.40	|Q				
3+20	0.0822	0.40	|Q				
3+25	0.0850	0.40	|QV				
3+30	0.0878	0.40	|QV				
3+35	0.0905	0.40	|QV				
3+40	0.0933	0.40	|QV				
3+45	0.0960	0.40	|QV				

3+50	0.0994	0.48	|QV	|	|	|	|
3+55	0.1027	0.48	|QV	|	|	|	|
4+ 0	0.1060	0.48	|QV	|	|	|	|
4+ 5	0.1093	0.48	|QV	|	|	|	|
4+10	0.1126	0.48	|QV	|	|	|	|
4+15	0.1159	0.48	|QV	|	|	|	|
4+20	0.1198	0.56	| Q	|	|	|	|
4+25	0.1236	0.56	| Q	|	|	|	|
4+30	0.1275	0.56	| QV	|	|	|	|
4+35	0.1314	0.56	| QV	|	|	|	|
4+40	0.1352	0.56	| QV	|	|	|	|
4+45	0.1391	0.56	| QV	|	|	|	|
4+50	0.1435	0.64	| QV	|	|	|	|
4+55	0.1479	0.64	| QV	|	|	|	|
5+ 0	0.1523	0.64	| QV	|	|	|	|
5+ 5	0.1557	0.48	|Q V	|	|	|	|
5+10	0.1590	0.48	|Q V	|	|	|	|
5+15	0.1623	0.48	|Q V	|	|	|	|
5+20	0.1661	0.56	| QV	|	|	|	|
5+25	0.1700	0.56	| Q V	|	|	|	|
5+30	0.1739	0.56	| Q V	|	|	|	|
5+35	0.1783	0.64	| Q V	|	|	|	|
5+40	0.1827	0.64	| Q V	|	|	|	|
5+45	0.1871	0.64	| Q V	|	|	|	|
5+50	0.1915	0.64	| Q V	|	|	|	|
5+55	0.1960	0.64	| Q V	|	|	|	|
6+ 0	0.2004	0.64	| Q V	|	|	|	|
6+ 5	0.2053	0.72	| Q V	|	|	|	|
6+10	0.2103	0.72	| Q V	|	|	|	|
6+15	0.2153	0.72	| Q V	|	|	|	|
6+20	0.2202	0.72	| Q V	|	|	|	|
6+25	0.2252	0.72	| Q V	|	|	|	|
6+30	0.2302	0.72	| Q V	|	|	|	|
6+35	0.2357	0.80	| Q V	|	|	|	|
6+40	0.2412	0.80	| Q V	|	|	|	|
6+45	0.2467	0.80	| Q V	|	|	|	|
6+50	0.2523	0.80	| Q V	|	|	|	|
6+55	0.2578	0.80	| Q V	|	|	|	|
7+ 0	0.2633	0.80	| Q V	|	|	|	|
7+ 5	0.2688	0.80	| Q V	|	|	|	|
7+10	0.2743	0.80	| Q V	|	|	|	|
7+15	0.2799	0.80	| Q V	|	|	|	|
7+20	0.2859	0.88	| Q V	|	|	|	|
7+25	0.2920	0.88	| Q V	|	|	|	|
7+30	0.2981	0.88	| Q V	|	|	|	|
7+35	0.3047	0.96	| Q V	|	|	|	|
7+40	0.3113	0.96	| Q V	|	|	|	|
7+45	0.3179	0.96	| Q V	|	|	|	|
7+50	0.3251	1.04	| Q V	|	|	|	|
7+55	0.3323	1.04	| Q V	|	|	|	|
8+ 0	0.3395	1.04	| Q V	|	|	|	|
8+ 5	0.3477	1.20	| Q V	|	|	|	|
8+10	0.3560	1.20	| Q V	|	|	|	|
8+15	0.3643	1.20	| Q V	|	|	|	|
8+20	0.3726	1.20	| Q V	|	|	|	|
8+25	0.3809	1.20	| Q V|	|	|	|	|
8+30	0.3891	1.20	| Q V|	|	|	|	|

8+35	0.3980	1.28	| Q V|	|	|	|
8+40	0.4068	1.28	| Q V|	|	|	|
8+45	0.4156	1.28	| Q V|	|	|	|
8+50	0.4250	1.36	| Q V	|	|	|
8+55	0.4344	1.36	| Q V	|	|	|
9+ 0	0.4438	1.36	| Q V	|	|	|
9+ 5	0.4543	1.52	| Q V	|	|	|
9+10	0.4648	1.52	| Q |V	|	|	|
9+15	0.4753	1.52	| Q |V	|	|	|
9+20	0.4863	1.60	| Q |V	|	|	|
9+25	0.4973	1.60	| Q |V	|	|	|
9+30	0.5084	1.60	| Q | V	|	|	|
9+35	0.5200	1.68	| Q | V	|	|	|
9+40	0.5316	1.68	| Q | V	|	|	|
9+45	0.5431	1.68	| Q | V	|	|	|
9+50	0.5553	1.76	| Q | V	|	|	|
9+55	0.5674	1.76	| Q | V	|	|	|
10+ 0	0.5796	1.76	| Q | V	|	|	|
10+ 5	0.5879	1.20	| Q | V	|	|	|
10+10	0.5961	1.20	| Q | V	|	|	|
10+15	0.6044	1.20	| Q | V	|	|	|
10+20	0.6127	1.20	| Q | V	|	|	|
10+25	0.6210	1.20	| Q | V	|	|	|
10+30	0.6293	1.20	| Q | V |	|	|	|
10+35	0.6403	1.60	| Q | V |	|	|	|
10+40	0.6513	1.60	| Q | V |	|	|	|
10+45	0.6624	1.60	| Q | V |	|	|	|
10+50	0.6734	1.60	| Q | V |	|	|	|
10+55	0.6845	1.60	| Q | V |	|	|	|
11+ 0	0.6955	1.60	| Q | V |	|	|	|
11+ 5	0.7060	1.52	| Q | V |	|	|	|
11+10	0.7165	1.52	| Q | V |	|	|	|
11+15	0.7270	1.52	| Q | V |	|	|	|
11+20	0.7374	1.52	| Q | V |	|	|	|
11+25	0.7479	1.52	| Q | V |	|	|	|
11+30	0.7584	1.52	| Q | V |	|	|	|
11+35	0.7678	1.36	| Q | V |	|	|	|
11+40	0.7772	1.36	| Q | V |	|	|	|
11+45	0.7866	1.36	| Q | V |	|	|	|
11+50	0.7965	1.44	| Q | V|	|	|	|
11+55	0.8064	1.44	| Q | V|	|	|	|
12+ 0	0.8164	1.44	| Q | V|	|	|	|
12+ 5	0.8302	2.00	| Q | V|	|	|	|
12+10	0.8440	2.00	| Q | V	|	|	|
12+15	0.8578	2.00	| Q | V	|	|	|
12+20	0.8721	2.08	| Q | V	|	|	|
12+25	0.8865	2.08	| Q | |V	|	|	|
12+30	0.9008	2.08	| Q | |V	|	|	|
12+35	0.9164	2.26	| Q| |V	|	|	|
12+40	0.9320	2.26	| Q| | V	|	|	|
12+45	0.9476	2.27	| Q| | V	|	|	|
12+50	0.9639	2.37	| Q| | V	|	|	|
12+55	0.9803	2.38	| Q| | V	|	|	|
13+ 0	0.9967	2.38	| Q| | V	|	|	|
13+ 5	1.0167	2.90	| |Q | V	|	|	|
13+10	1.0367	2.91	| |Q | V	|	|	|
13+15	1.0568	2.91	| |Q | V	|	|	|


13+20 1.0769 2.91
13+25 1.0970 2.92
13+30 1.1171 2.92
13+35 1.1298 1.84
13+40 1.1425 1.84
13+45 1.1552 1.84
13+50 1.1678 1.84
13+55 1.1805 1.84
14+ 0 1.1932 1.84
14+ 5 1.2085 2.21
14+10 1.2237 2.22
14+15 1.2390 2.22
14+20 1.2536 2.12
14+25 1.2682 2.12
14+30 1.2829 2.12
14+35 1.2975 2.13
14+40 1.3122 2.13
14+45 1.3269 2.13
14+50 1.3409 2.03
14+55 1.3549 2.04
15+ 0 1.3689 2.04
15+ 5 1.3823 1.94
15+10 1.3956 1.94
15+15 1.4090 1.94
15+20 1.4217 1.84
15+25 1.4344 1.84
15+30 1.4471 1.85
15+35 1.4576 1.52
15+40 1.4681 1.52
15+45 1.4786 1.52
15+50 1.4891 1.52
15+55 1.4996 1.52
16+ 0 1.5101 1.52
16+ 5 1.5123 0.32
16+10 1.5145 0.32
16+15 1.5167 0.32
16+20 1.5189 0.32
16+25 1.5211 0.32
16+30 1.5233 0.32
16+35 1.5250 0.24
16+40 1.5266 0.24
16+45 1.5283 0.24
16+50 1.5299 0.24
16+55 1.5316 0.24
17+ 0 1.5332 0.24
17+ 5 1.5360 0.40
17+10 1.5388 0.40
17+15 1.5415 0.40
17+20 1.5443 0.40
17+25 1.5470 0.40
17+30 1.5498 0.40
17+35 1.5526 0.40
17+40 1.5553 0.40
17+45 1.5581 0.40
17+50 1.5603 0.32
17+55 1.5625 0.32
18+ 0 1.5647 0.32

18+ 5	1.5669	0.32	|Q	|	|	|	V |
18+10	1.5691	0.32	|Q	|	|	|	V |
18+15	1.5713	0.32	|Q	|	|	|	V |
18+20	1.5735	0.32	|Q	|	|	|	V |
18+25	1.5757	0.32	|Q	|	|	|	V |
18+30	1.5780	0.32	|Q	|	|	|	V |
18+35	1.5796	0.24	Q	|	|	|	V |
18+40	1.5813	0.24	Q	|	|	|	V |
18+45	1.5829	0.24	Q	|	|	|	V |
18+50	1.5840	0.16	Q	|	|	|	V |
18+55	1.5851	0.16	Q	|	|	|	V |
19+ 0	1.5862	0.16	Q	|	|	|	V |
19+ 5	1.5879	0.24	Q	|	|	|	V |
19+10	1.5895	0.24	Q	|	|	|	V |
19+15	1.5912	0.24	Q	|	|	|	V |
19+20	1.5934	0.32	|Q	|	|	|	V |
19+25	1.5956	0.32	|Q	|	|	|	V |
19+30	1.5978	0.32	|Q	|	|	|	V |
19+35	1.5995	0.24	Q	|	|	|	V |
19+40	1.6011	0.24	Q	|	|	|	V |
19+45	1.6028	0.24	Q	|	|	|	V |
19+50	1.6039	0.16	Q	|	|	|	V |
19+55	1.6050	0.16	Q	|	|	|	V |
20+ 0	1.6061	0.16	Q	|	|	|	V |
20+ 5	1.6078	0.24	Q	|	|	|	V |
20+10	1.6094	0.24	Q	|	|	|	V |
20+15	1.6111	0.24	Q	|	|	|	V |
20+20	1.6127	0.24	Q	|	|	|	V |
20+25	1.6144	0.24	Q	|	|	|	V |
20+30	1.6160	0.24	Q	|	|	|	V |
20+35	1.6177	0.24	Q	|	|	|	V |
20+40	1.6193	0.24	Q	|	|	|	V |
20+45	1.6210	0.24	Q	|	|	|	V |
20+50	1.6221	0.16	Q	|	|	|	V |
20+55	1.6232	0.16	Q	|	|	|	V |
21+ 0	1.6243	0.16	Q	|	|	|	V |
21+ 5	1.6260	0.24	Q	|	|	|	V |
21+10	1.6276	0.24	Q	|	|	|	V|
21+15	1.6293	0.24	Q	|	|	|	V|
21+20	1.6304	0.16	Q	|	|	|	V|
21+25	1.6315	0.16	Q	|	|	|	V|
21+30	1.6326	0.16	Q	|	|	|	V|
21+35	1.6343	0.24	Q	|	|	|	V|
21+40	1.6359	0.24	Q	|	|	|	V|
21+45	1.6376	0.24	Q	|	|	|	V|
21+50	1.6387	0.16	Q	|	|	|	V|
21+55	1.6398	0.16	Q	|	|	|	V|
22+ 0	1.6409	0.16	Q	|	|	|	V|
22+ 5	1.6425	0.24	Q	|	|	|	V|
22+10	1.6442	0.24	Q	|	|	|	V|
22+15	1.6458	0.24	Q	|	|	|	V|
22+20	1.6469	0.16	Q	|	|	|	V|
22+25	1.6481	0.16	Q	|	|	|	V|
22+30	1.6492	0.16	Q	|	|	|	V|
22+35	1.6503	0.16	Q	|	|	|	V|
22+40	1.6514	0.16	Q	|	|	|	V|
22+45	1.6525	0.16	Q	|	|	|	V|

22+50	1.6536	0.16	Q	|	|	|	V|
22+55	1.6547	0.16	Q	|	|	|	V|
23+ 0	1.6558	0.16	Q	|	|	|	V|
23+ 5	1.6569	0.16	Q	|	|	|	V|
23+10	1.6580	0.16	Q	|	|	|	V|
23+15	1.6591	0.16	Q	|	|	|	V|
23+20	1.6602	0.16	Q	|	|	|	V|
23+25	1.6613	0.16	Q	|	|	|	V|
23+30	1.6624	0.16	Q	|	|	|	V|
23+35	1.6635	0.16	Q	|	|	|	V|
23+40	1.6646	0.16	Q	|	|	|	V|
23+45	1.6657	0.16	Q	|	|	|	V|
23+50	1.6668	0.16	Q	|	|	|	V|
23+55	1.6679	0.16	Q	|	|	|	V|
24+ 0	1.6690	0.16	Q	|	|	|	V|

APPENDIX D - UNIT HYDROGRAPH CALCULATIONS

2-year return

5-year return

10-year return

2-Year Summary

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Manual	9.200	5	50	7,896	------	------	------	Ex Site 2-year, 1-hour
2	Manual	13.35	5	50	11,790	------	------	------	Pr Site 2-year, 1-hour
3	Reservoir	0.076	5	65	11,667	2	101.32	11,654	DET 2-year, 1-hour
5	Manual	4.180	5	155	9,438	------	------	------	Ex Site 2-year, 3-hour
6	Manual	5.240	5	155	19,176	------	------	------	Pr Site 2-year, 3-hour
7	Reservoir	0.212	5	180	19,053	6	101.87	18,413	DET 2-year, 3-hour
9	Manual	3.510	5	330	11,112	------	------	------	Ex Site 2-year, 6-hour
10	Manual	4.820	5	330	25,830	------	------	------	Pr Site 2-year, 6-hour
11	Reservoir	0.278	5	355	25,707	10	102.30	23,983	DET 2-year, 6-hour
13	Manual	0.600	5	795	15,792	------	------	------	Ex Site 2-year, 24-hour
14	Manual	1.700	5	785	45,000	------	------	------	Pr Site 2-year, 24-hour
15	Reservoir	0.588	5	960	44,877	14	103.01	32,407	DET 2-year, 24-hour
18	Manual	0.000	5	n/a	0	------	------	------	Ex Site 5-year, 1-hour
19	Manual	0.000	5	n/a	0	------	------	------	Pr Site 5-year, 1-hour
20	Reservoir	0.000	5	n/a	0	19	100.00	0.000	DET 5-year, 1-hour
22	Manual	0.000	5	n/a	0	------	------	------	Ex Site 5-year, 3-hour
23	Manual	0.000	5	n/a	0	------	------	------	Pr Site 5-year, 3-hour
24	Reservoir	0.000	5	n/a	0	23	100.00	0.000	DET 5-year, 3-hour
26	Manual	0.000	5	n/a	0	------	------	------	Ex Site 5-year, 6-hour
27	Manual	0.000	5	n/a	0	------	------	------	Pr Site 5-year, 6-hour
28	Reservoir	0.000	5	n/a	0	27	100.00	0.000	DET 5-year, 6-hour
30	Manual	0.000	5	n/a	0	------	------	------	Ex Site 5-year, 24-hour
31	Manual	0.000	5	n/a	0	------	------	------	Pr Site 5-year, 24-hour
32	Reservoir	0.000	5	n/a	0	31	100.00	0.000	DET 5-year, 24-hour
35	Manual	0.000	5	n/a	0	------	------	------	Ex Site 10-year, 1-hour
36	Manual	0.000	5	n/a	0	------	------	------	Pr Site 10-year, 1-hour
37	Reservoir	0.000	5	n/a	0	36	100.00	0.000	DET 10-year, 1-hour
39	Manual	0.000	5	n/a	0	------	------	------	Ex Site 10-year, 3-hour
40	Manual	0.000	5	n/a	0	------	------	------	Pr Site 10-year, 3-hour

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

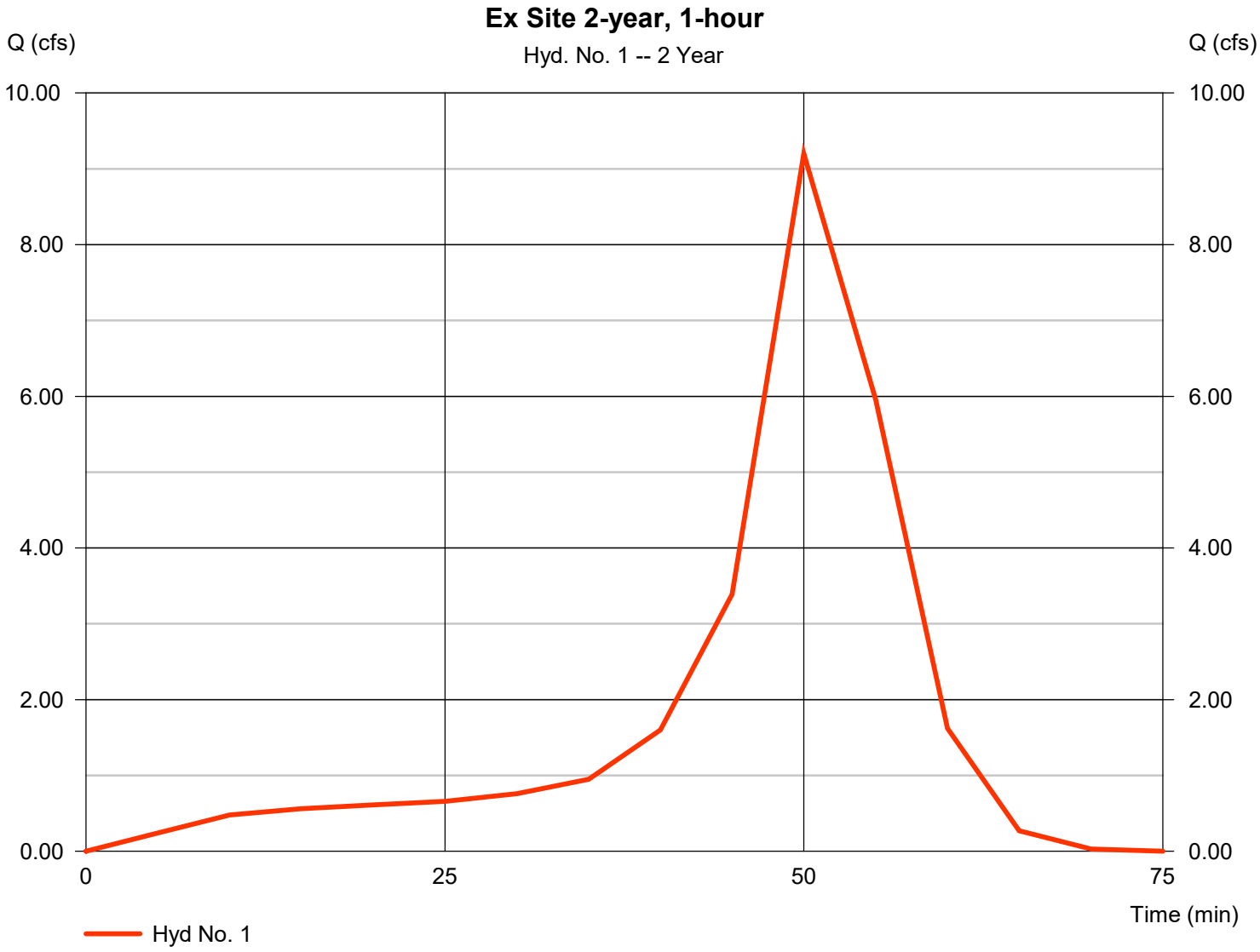
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
41	Reservoir	0.000	5	n/a	0	40	100.00	0.000	DET 10-year, 3-hour
43	Manual	0.000	5	n/a	0	------	------	------	Ex Site 10-year, 6-hour
44	Manual	0.000	5	n/a	0	------	------	------	Pr Site 10-year, 6-hour
45	Reservoir	0.000	5	n/a	0	44	100.00	0.000	DET 10-year, 6-hour
47	Manual	0.000	5	n/a	0	------	------	------	Ex Site 10-year, 24-hour
48	Manual	0.000	5	n/a	0	------	------	------	Pr Site 10-year, 24-hour
49	Reservoir	0.000	5	n/a	0	48	100.00	0.000	DET 10-year, 24-hour

Hydrograph Report

Hyd. No. 1

Ex Site 2-year, 1-hour

Hydrograph type	= Manual	Peak discharge	= 9.200 cfs
Storm frequency	= 2 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 7,896 cuft

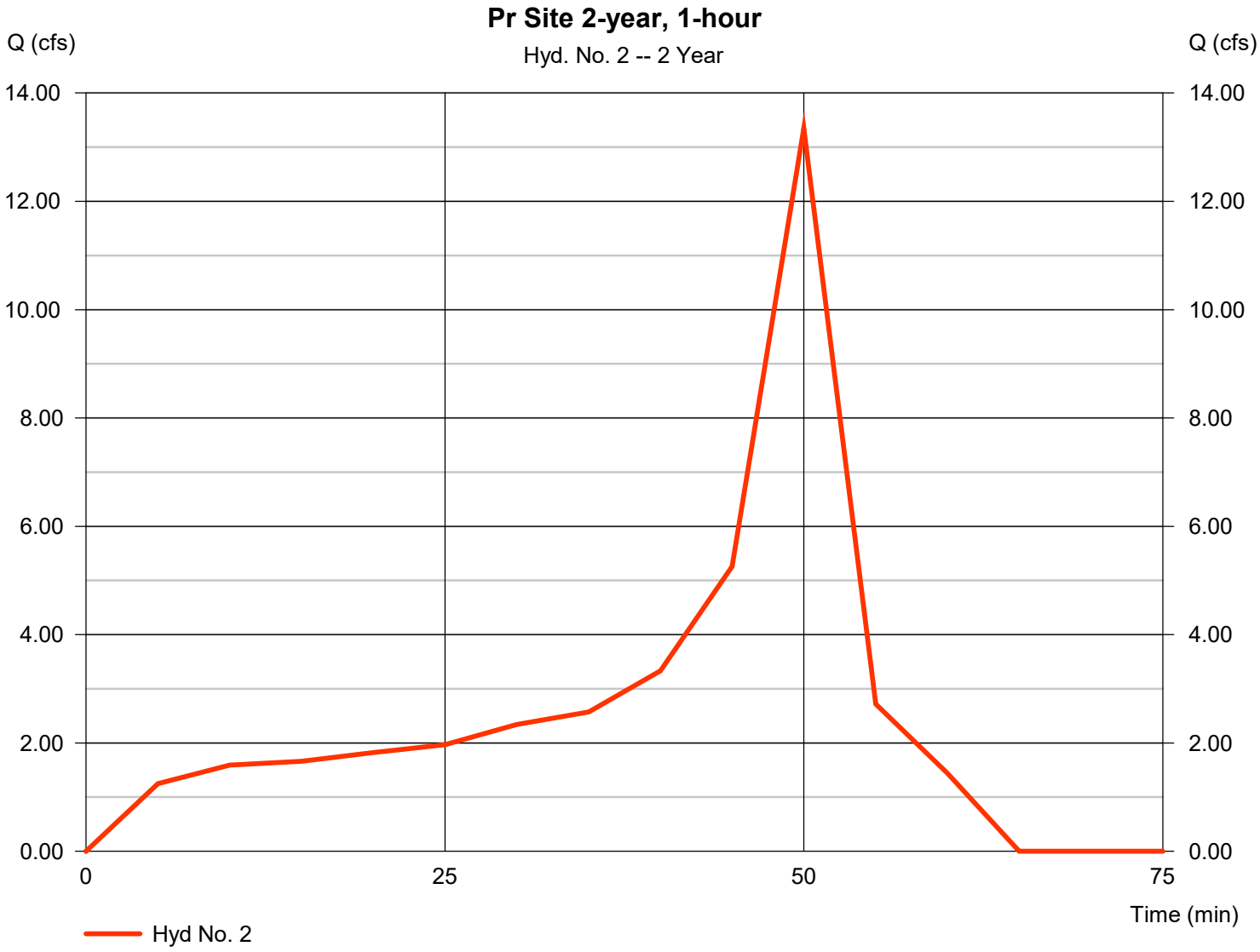


Hydrograph Report

Hyd. No. 2

Pr Site 2-year, 1-hour

Hydrograph type	= Manual	Peak discharge	= 13.35 cfs
Storm frequency	= 2 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 11,790 cuft



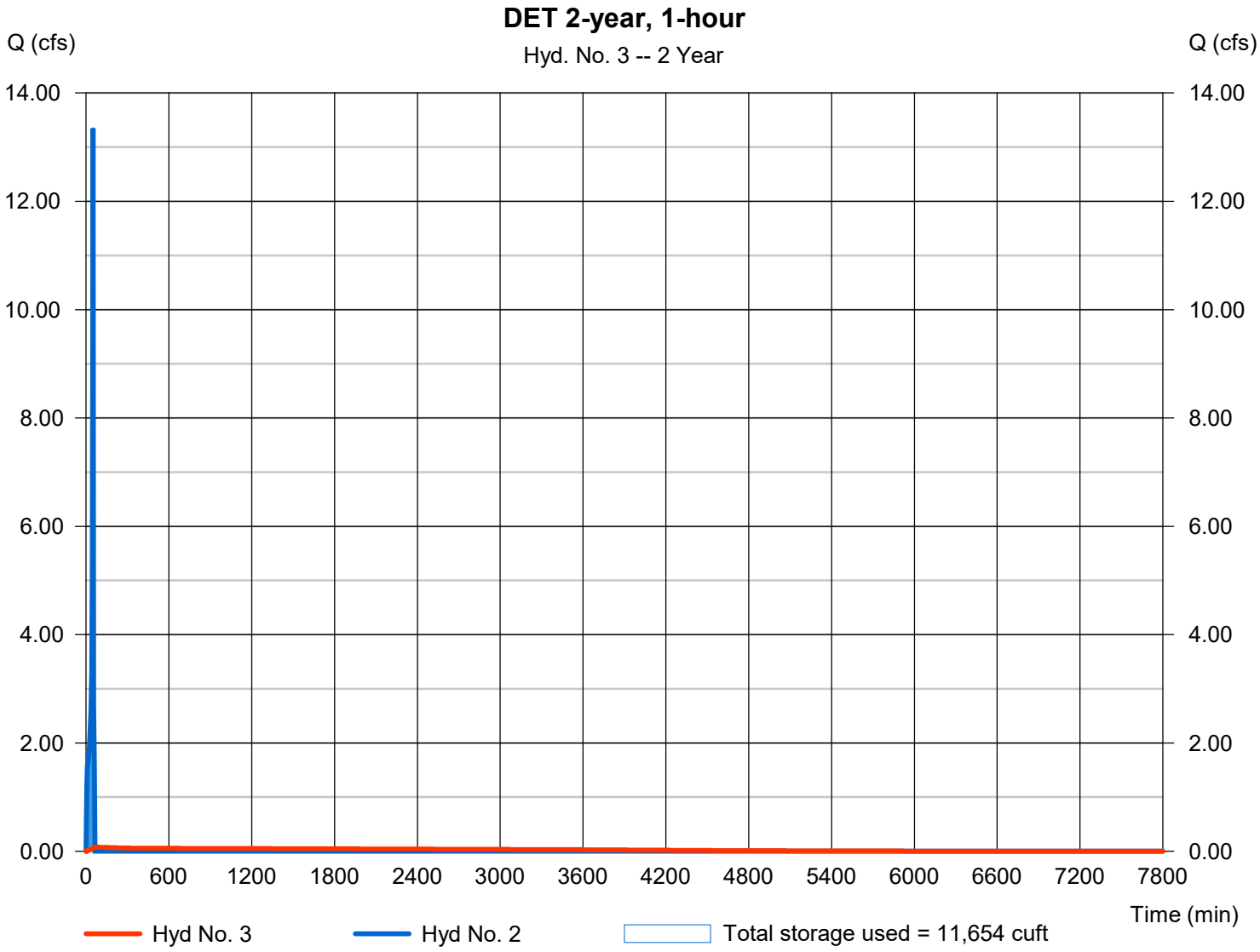
Hydrograph Report

Hyd. No. 3

DET 2-year, 1-hour

Hydrograph type	=	Reservoir	Peak discharge	=	0.076 cfs
Storm frequency	=	2 yrs	Time to peak	=	65 min
Time interval	=	5 min	Hyd. volume	=	11,667 cuft
Inflow hyd. No.	=	2 - Pr Site 2-year, 1-hour	Max. Elevation	=	101.32 ft
Reservoir name	=	DET-Site	Max. Storage	=	11,654 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - DET-Site

Pond Data

UG Chambers -Invert elev. = 100.00 ft, Rise x Span = 4.00 x 4.00 ft, Barrel Len = 100.00 ft, No. Barrels = 32, Slope = 0.00%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	n/a	0	0
0.40	100.40	n/a	2,098	2,098
0.80	100.80	n/a	3,632	5,730
1.20	101.20	n/a	4,423	10,153
1.60	101.60	n/a	4,872	15,025
2.00	102.00	n/a	5,090	20,115
2.40	102.40	n/a	5,090	25,204
2.80	102.80	n/a	4,871	30,075
3.20	103.20	n/a	4,421	34,496
3.60	103.60	n/a	3,634	38,130
4.00	104.00	n/a	2,090	40,220

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.70	3.00	4.00	0.00
Span (in)	= 1.70	3.00	4.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 100.00	101.20	102.40	0.00
Length (ft)	= 10.00	10.00	10.00	0.00
Slope (%)	= 0.30	0.30	0.30	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

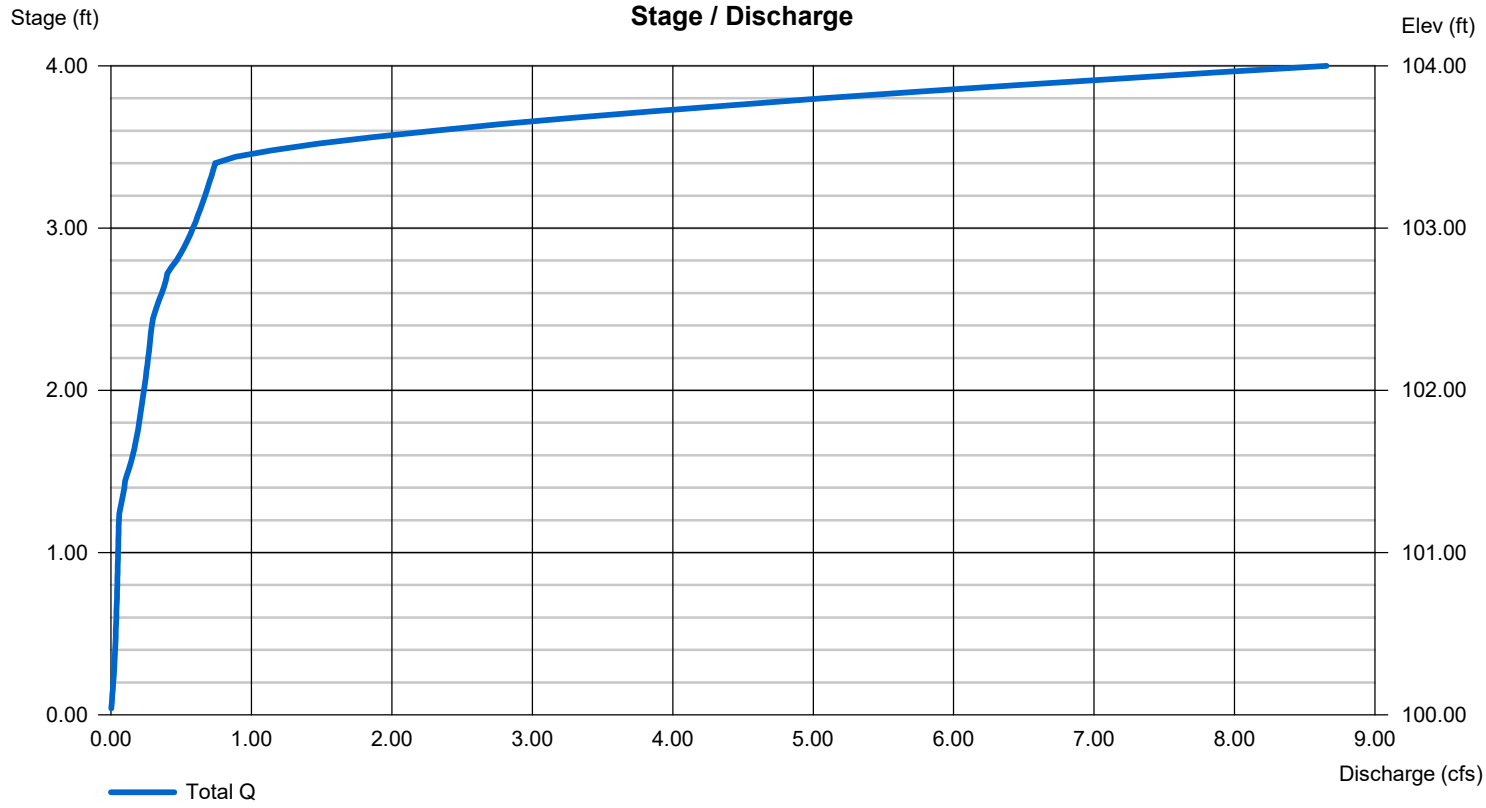
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 103.40	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

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

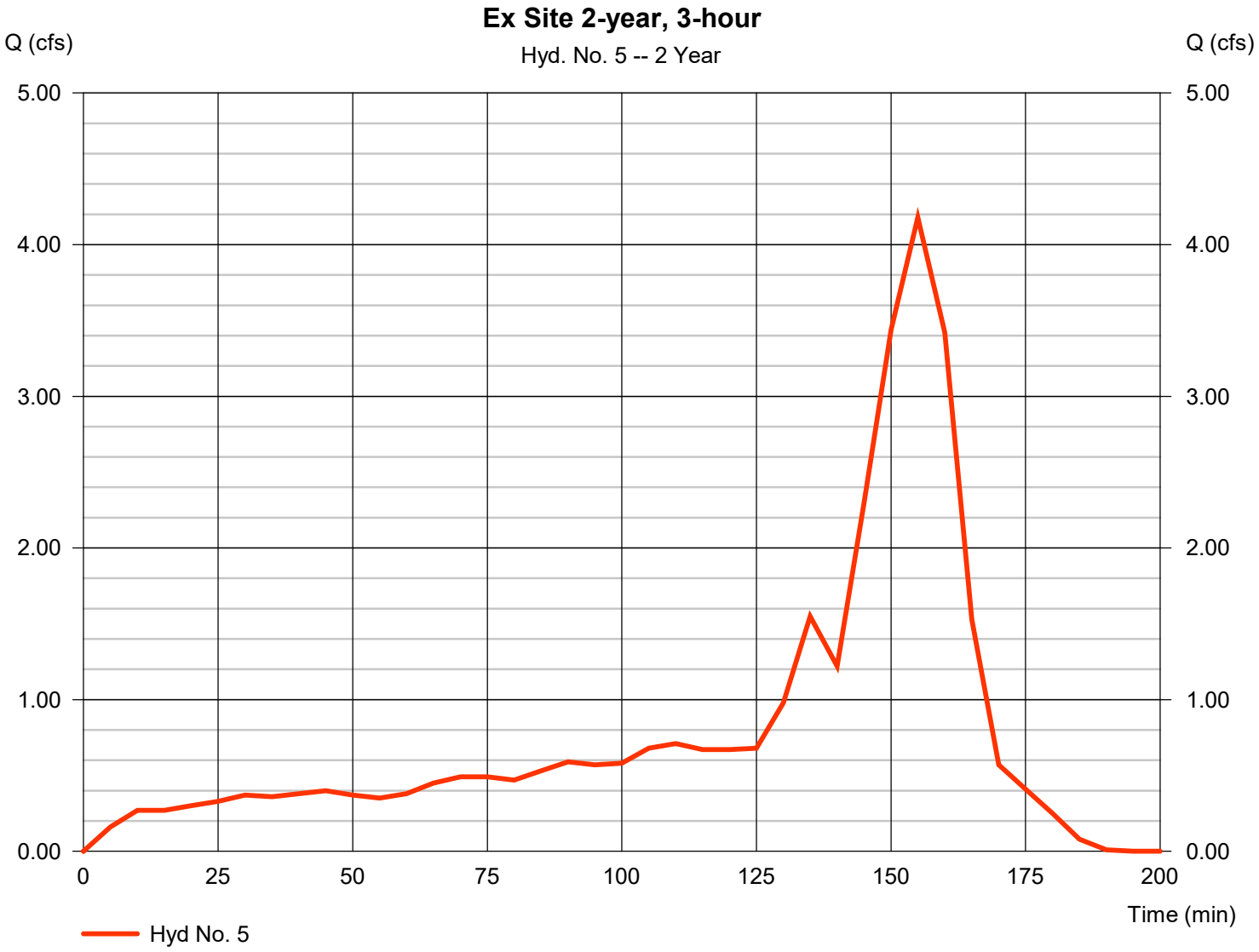


Hydrograph Report

Hyd. No. 5

Ex Site 2-year, 3-hour

Hydrograph type	= Manual	Peak discharge	= 4.180 cfs
Storm frequency	= 2 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 9,438 cuft

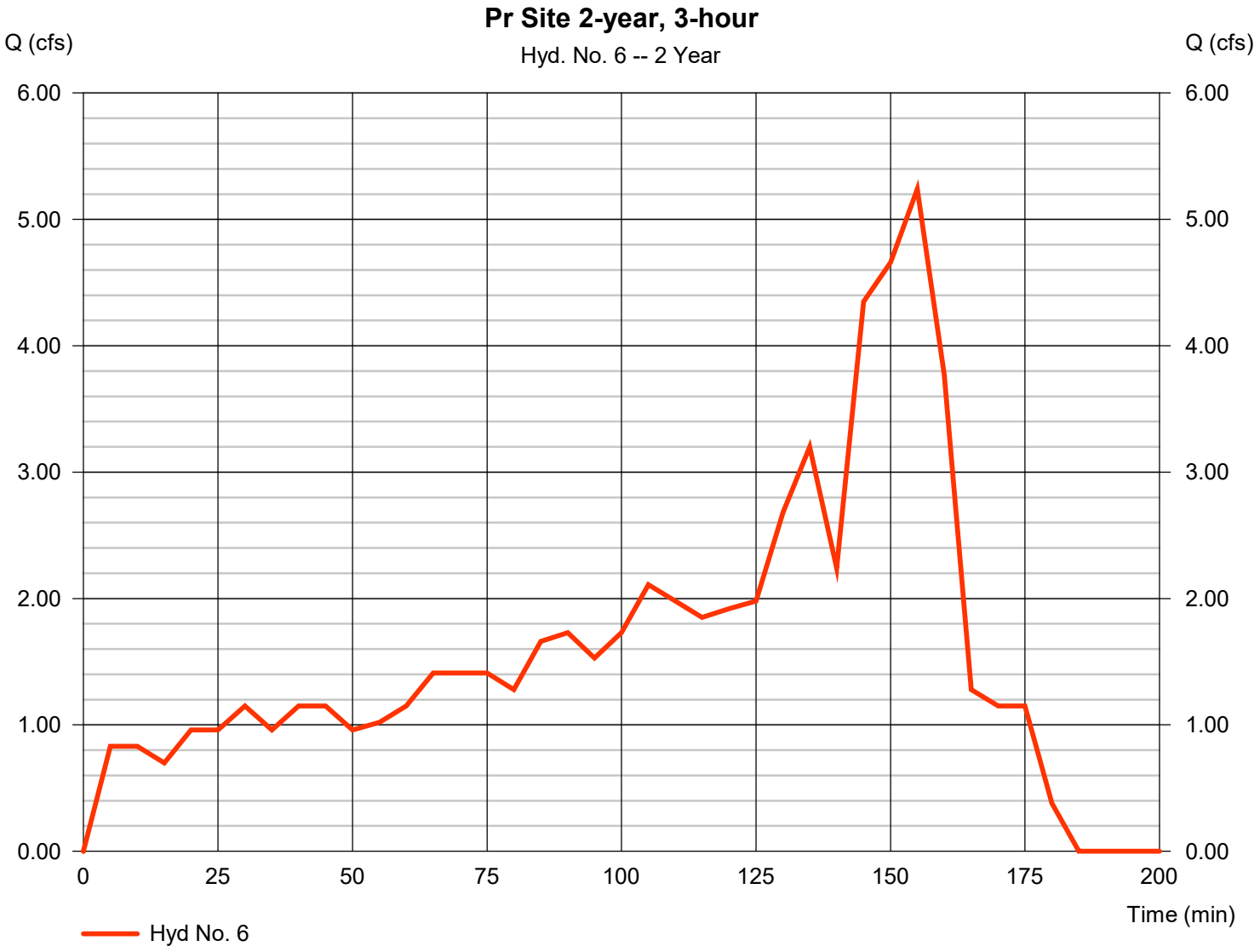


Hydrograph Report

Hyd. No. 6

Pr Site 2-year, 3-hour

Hydrograph type	= Manual	Peak discharge	= 5.240 cfs
Storm frequency	= 2 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 19,176 cuft



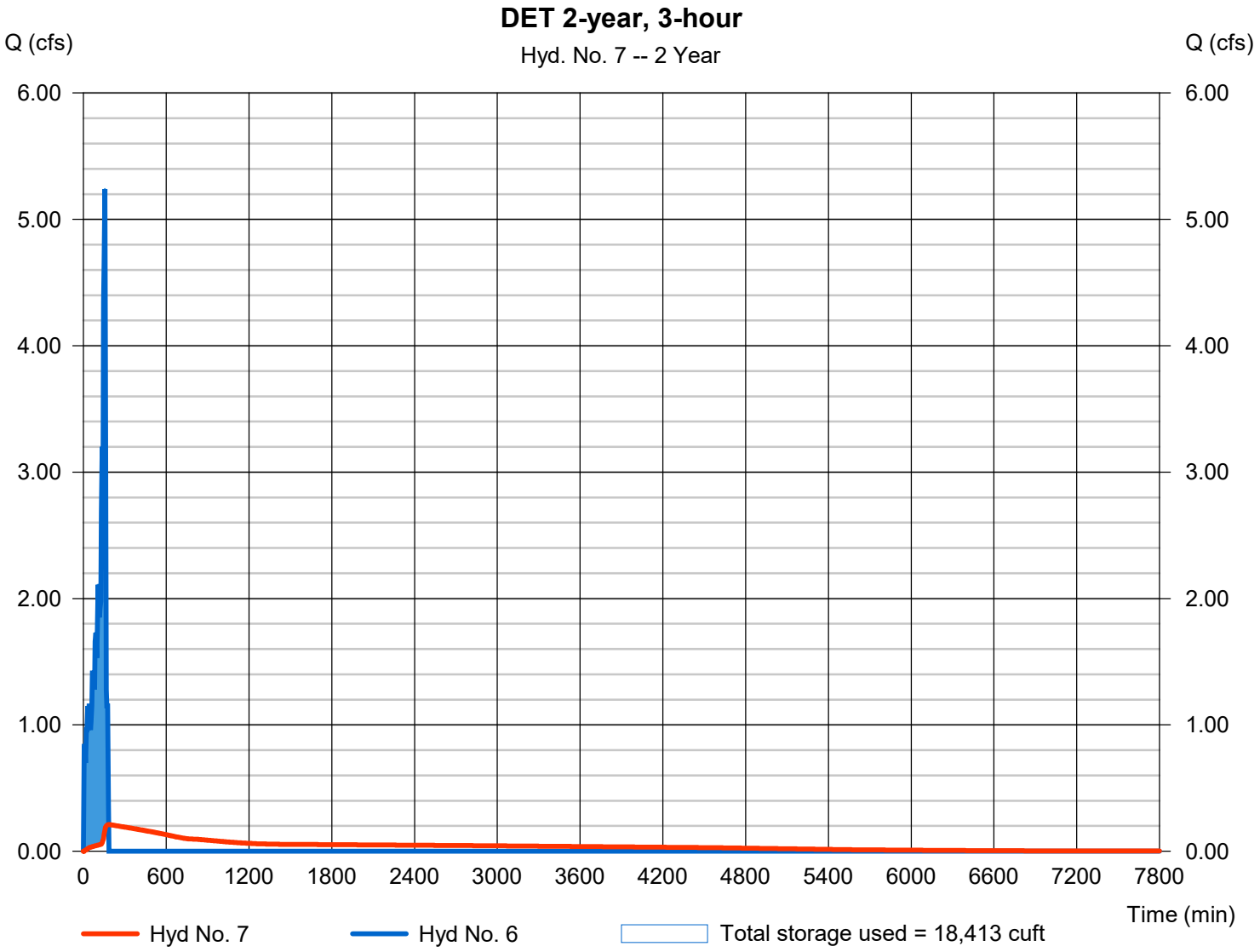
Hydrograph Report

Hyd. No. 7

DET 2-year, 3-hour

Hydrograph type	=	Reservoir	Peak discharge	=	0.212 cfs
Storm frequency	=	2 yrs	Time to peak	=	180 min
Time interval	=	5 min	Hyd. volume	=	19,053 cuft
Inflow hyd. No.	=	6 - Pr Site 2-year, 3-hour	Max. Elevation	=	101.87 ft
Reservoir name	=	DET-Site	Max. Storage	=	18,413 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - DET-Site

Pond Data

UG Chambers -Invert elev. = 100.00 ft, Rise x Span = 4.00 x 4.00 ft, Barrel Len = 100.00 ft, No. Barrels = 32, Slope = 0.00%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	n/a	0	0
0.40	100.40	n/a	2,098	2,098
0.80	100.80	n/a	3,632	5,730
1.20	101.20	n/a	4,423	10,153
1.60	101.60	n/a	4,872	15,025
2.00	102.00	n/a	5,090	20,115
2.40	102.40	n/a	5,090	25,204
2.80	102.80	n/a	4,871	30,075
3.20	103.20	n/a	4,421	34,496
3.60	103.60	n/a	3,634	38,130
4.00	104.00	n/a	2,090	40,220

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.70	3.00	4.00	0.00
Span (in)	= 1.70	3.00	4.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 100.00	101.20	102.40	0.00
Length (ft)	= 10.00	10.00	10.00	0.00
Slope (%)	= 0.30	0.30	0.30	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

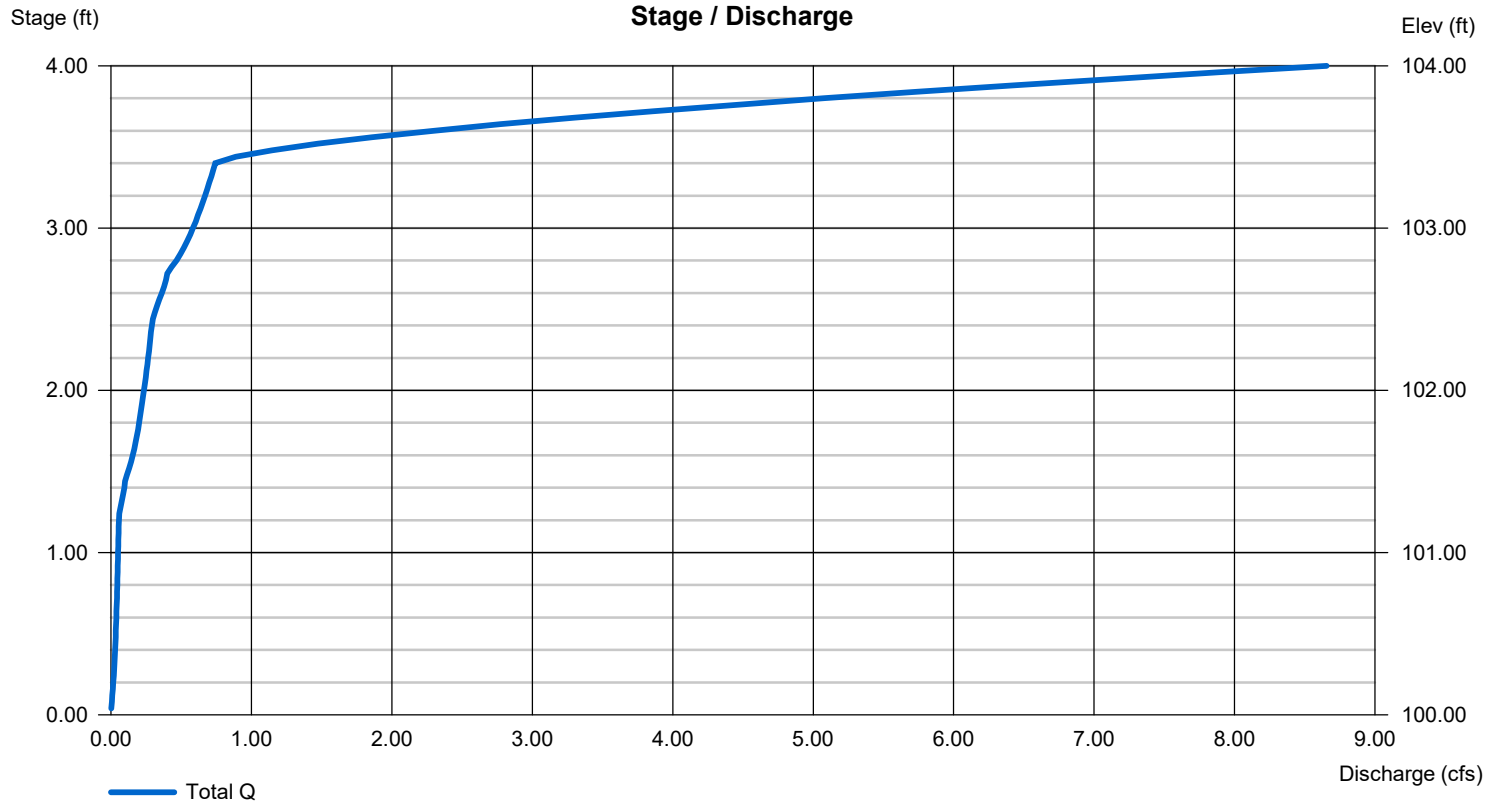
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 103.40	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

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

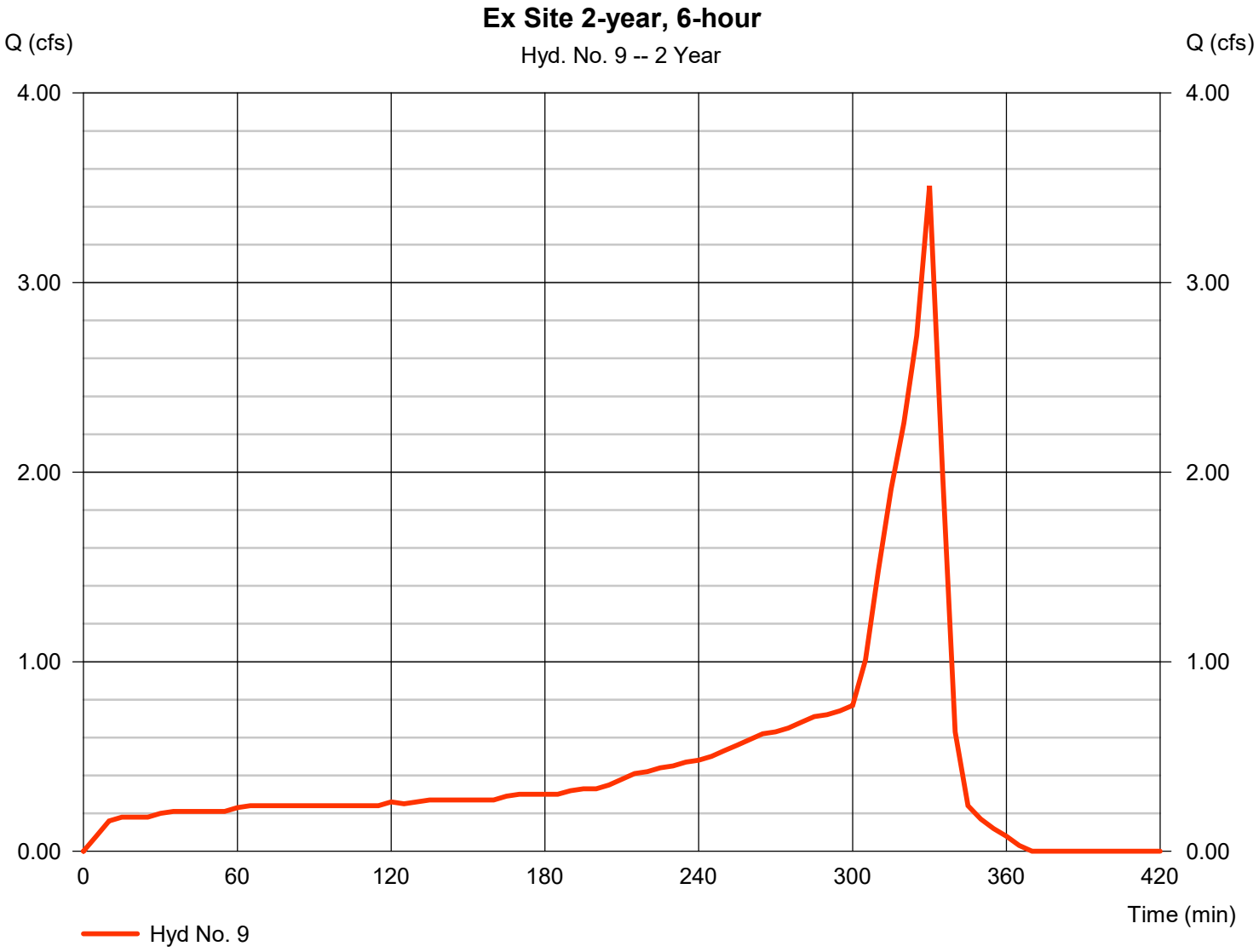


Hydrograph Report

Hyd. No. 9

Ex Site 2-year, 6-hour

Hydrograph type	= Manual	Peak discharge	= 3.510 cfs
Storm frequency	= 2 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 11,112 cuft

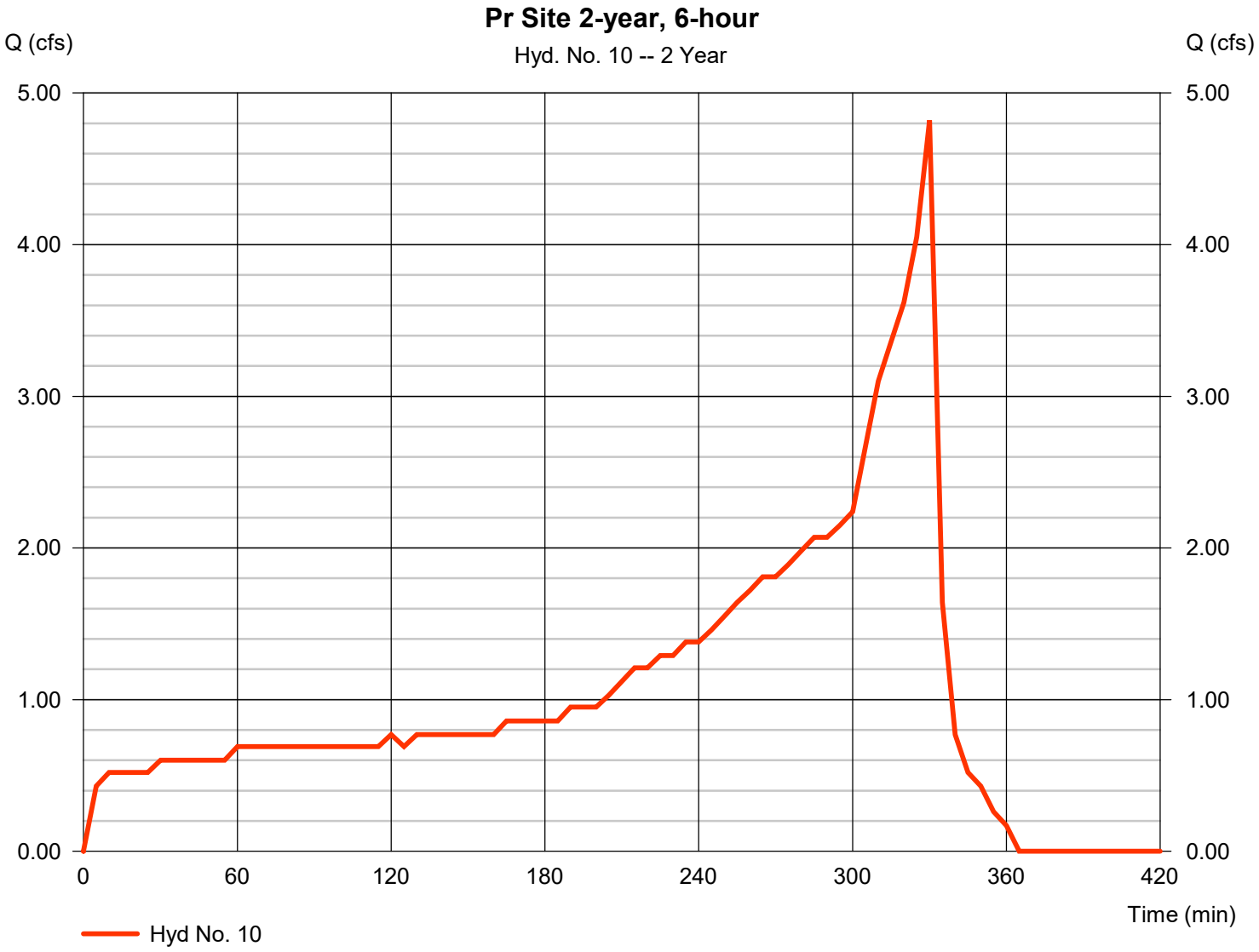


Hydrograph Report

Hyd. No. 10

Pr Site 2-year, 6-hour

Hydrograph type	= Manual	Peak discharge	= 4.820 cfs
Storm frequency	= 2 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 25,830 cuft



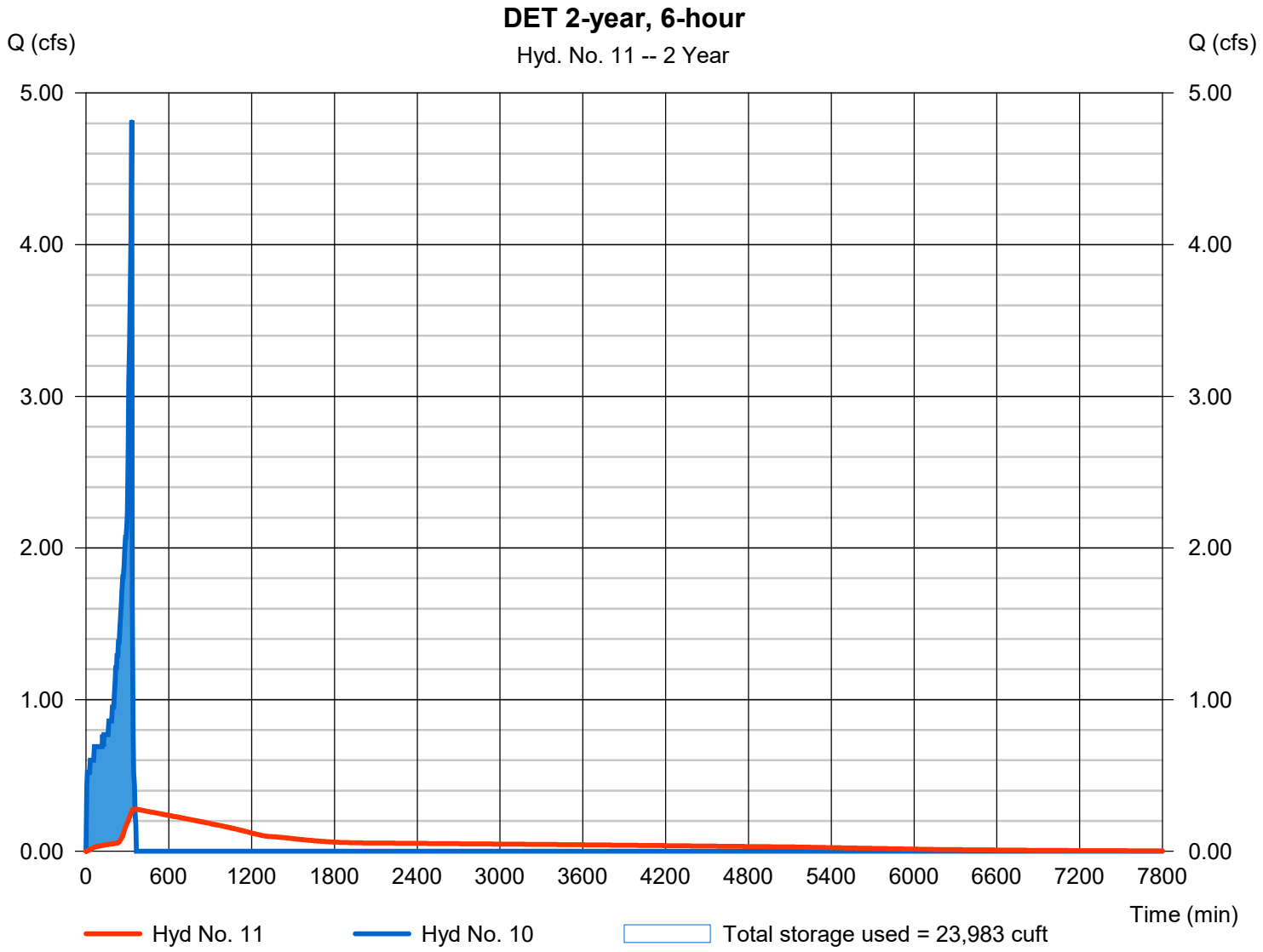
Hydrograph Report

Hyd. No. 11

DET 2-year, 6-hour

Hydrograph type	=	Reservoir	Peak discharge	=	0.278 cfs
Storm frequency	=	2 yrs	Time to peak	=	355 min
Time interval	=	5 min	Hyd. volume	=	25,707 cuft
Inflow hyd. No.	=	10 - Pr Site 2-year, 6-hour	Max. Elevation	=	102.30 ft
Reservoir name	=	DET-Site	Max. Storage	=	23,983 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - DET-Site

Pond Data

UG Chambers -Invert elev. = 100.00 ft, Rise x Span = 4.00 x 4.00 ft, Barrel Len = 100.00 ft, No. Barrels = 32, Slope = 0.00%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	n/a	0	0
0.40	100.40	n/a	2,098	2,098
0.80	100.80	n/a	3,632	5,730
1.20	101.20	n/a	4,423	10,153
1.60	101.60	n/a	4,872	15,025
2.00	102.00	n/a	5,090	20,115
2.40	102.40	n/a	5,090	25,204
2.80	102.80	n/a	4,871	30,075
3.20	103.20	n/a	4,421	34,496
3.60	103.60	n/a	3,634	38,130
4.00	104.00	n/a	2,090	40,220

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.70	3.00	4.00	0.00
Span (in)	= 1.70	3.00	4.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 100.00	101.20	102.40	0.00
Length (ft)	= 10.00	10.00	10.00	0.00
Slope (%)	= 0.30	0.30	0.30	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

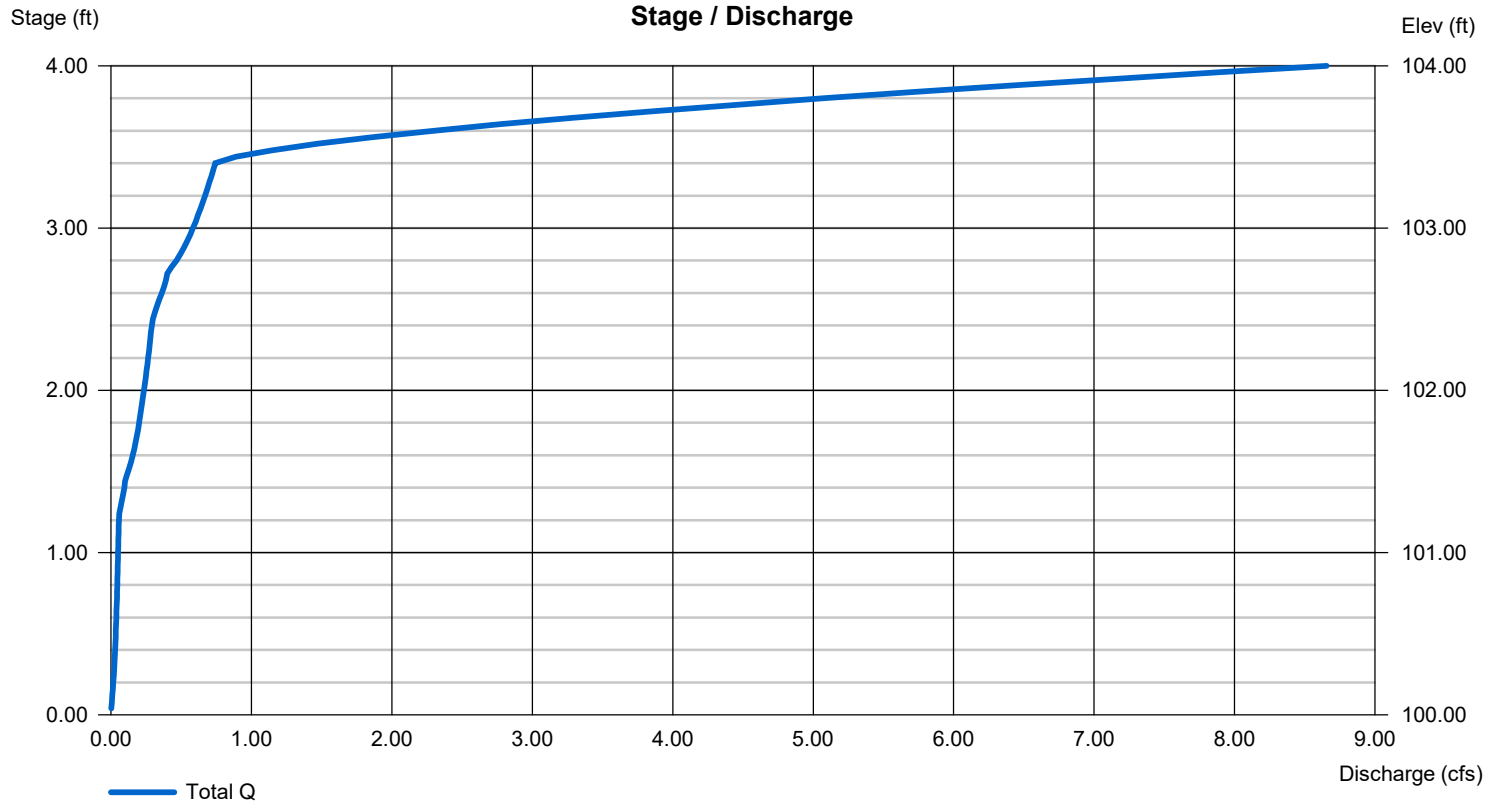
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 103.40	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

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

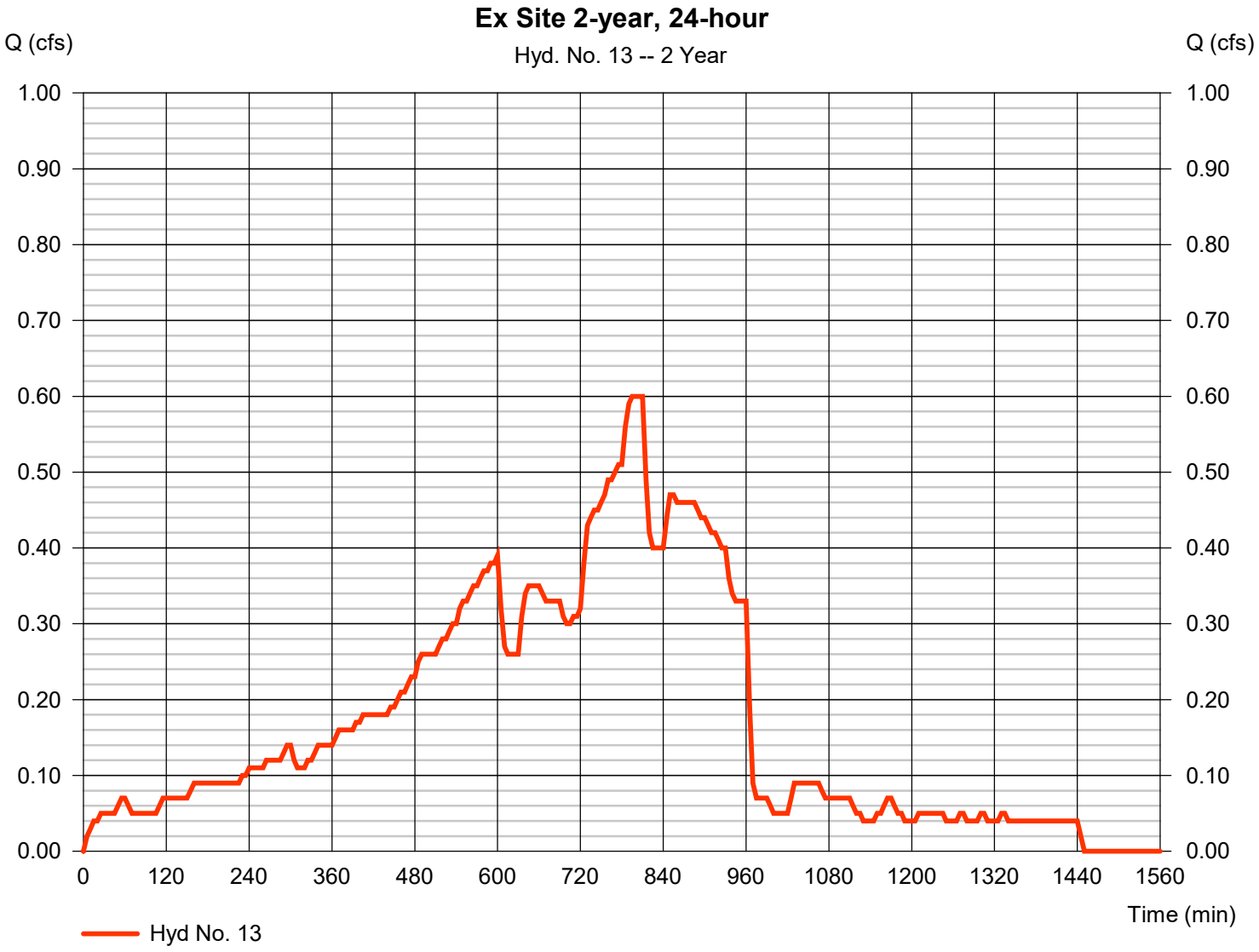


Hydrograph Report

Hyd. No. 13

Ex Site 2-year, 24-hour

Hydrograph type	= Manual	Peak discharge	= 0.600 cfs
Storm frequency	= 2 yrs	Time to peak	= 795 min
Time interval	= 5 min	Hyd. volume	= 15,792 cuft

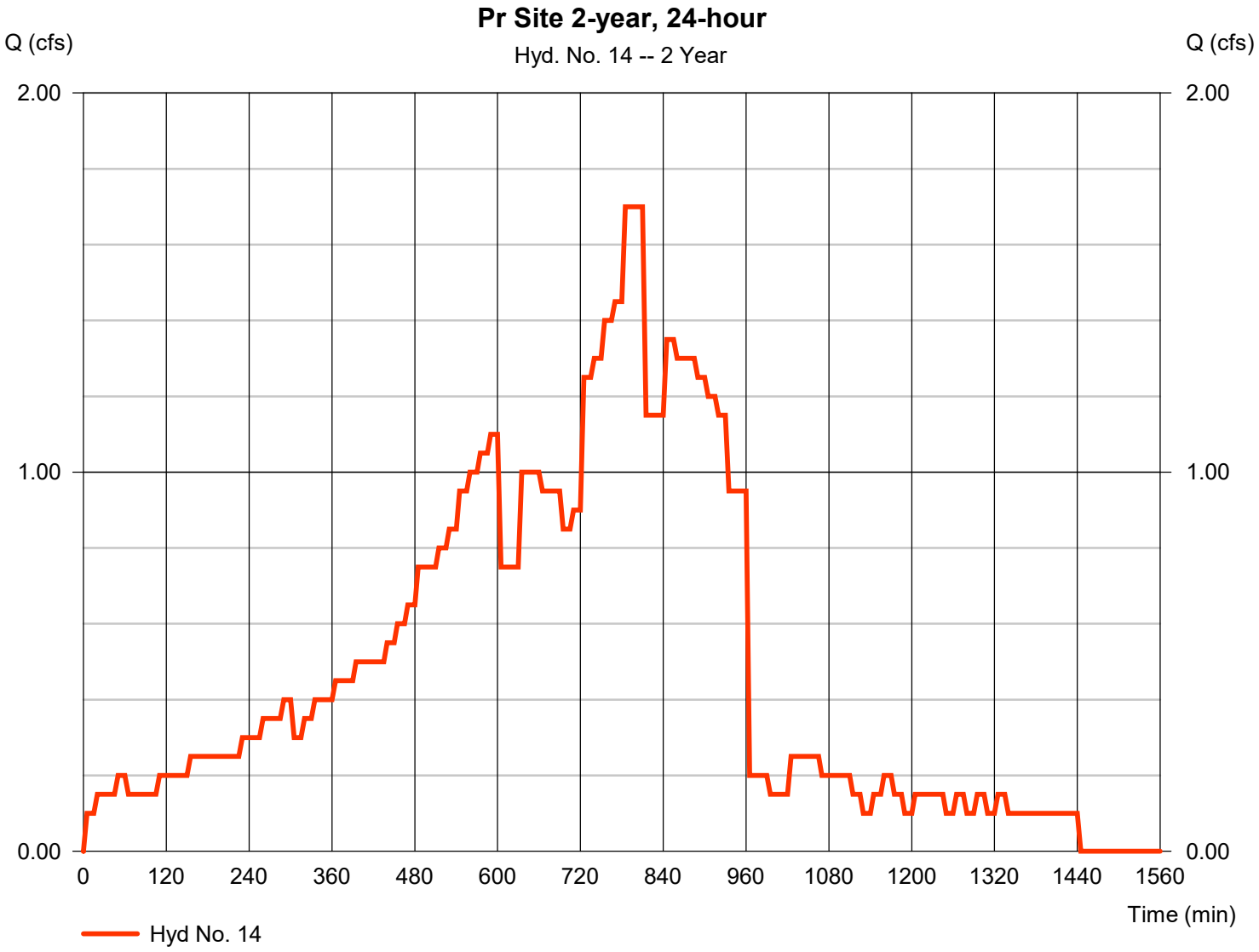


Hydrograph Report

Hyd. No. 14

Pr Site 2-year, 24-hour

Hydrograph type	= Manual	Peak discharge	= 1.700 cfs
Storm frequency	= 2 yrs	Time to peak	= 785 min
Time interval	= 5 min	Hyd. volume	= 45,000 cuft



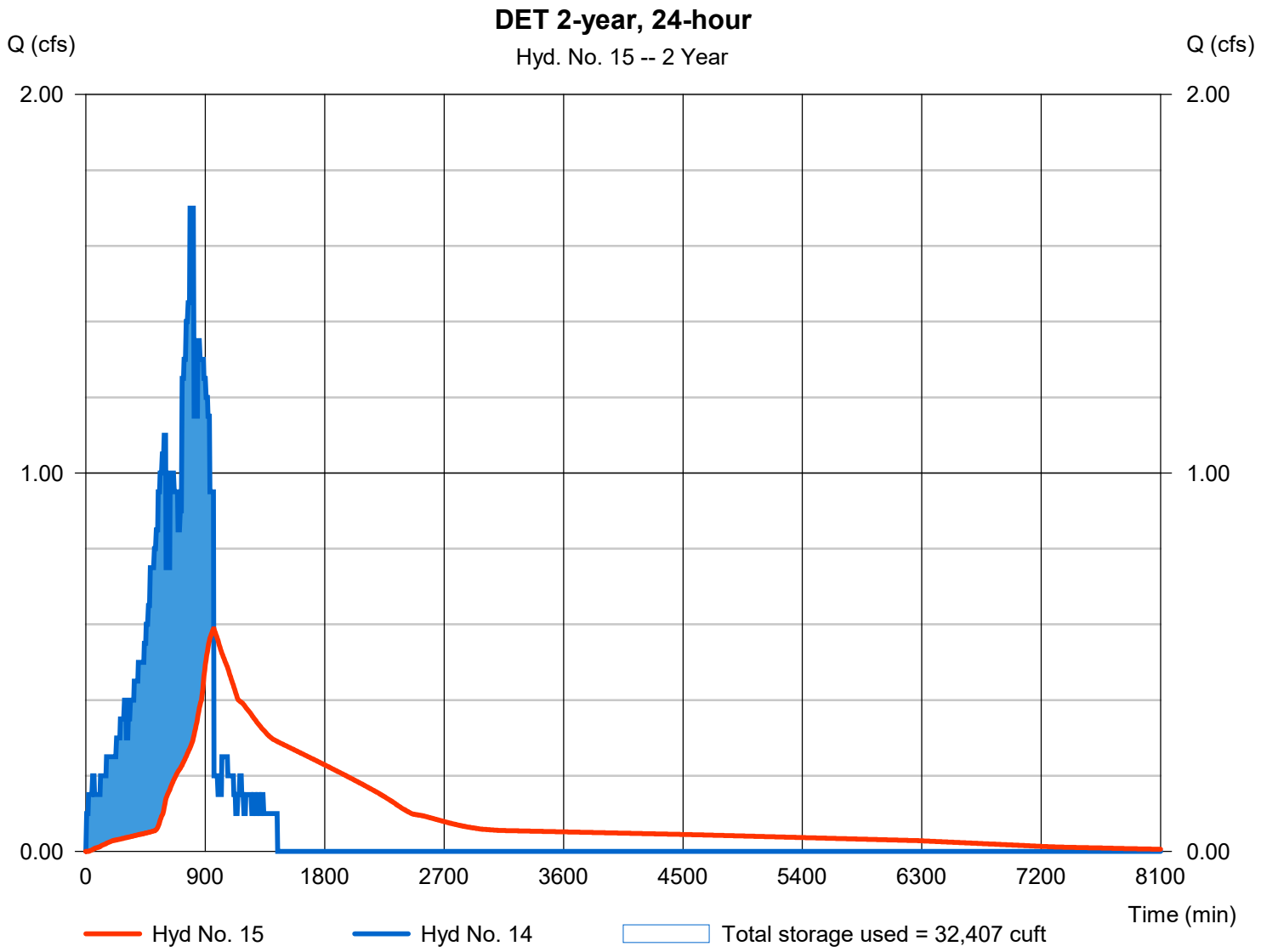
Hydrograph Report

Hyd. No. 15

DET 2-year, 24-hour

Hydrograph type	=	Reservoir	Peak discharge	=	0.588 cfs
Storm frequency	=	2 yrs	Time to peak	=	960 min
Time interval	=	5 min	Hyd. volume	=	44,877 cuft
Inflow hyd. No.	=	14 - Pr Site 2-year, 24-hour	Max. Elevation	=	103.01 ft
Reservoir name	=	DET-Site	Max. Storage	=	32,407 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - DET-Site

Pond Data

UG Chambers -Invert elev. = 100.00 ft, Rise x Span = 4.00 x 4.00 ft, Barrel Len = 100.00 ft, No. Barrels = 32, Slope = 0.00%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	n/a	0	0
0.40	100.40	n/a	2,098	2,098
0.80	100.80	n/a	3,632	5,730
1.20	101.20	n/a	4,423	10,153
1.60	101.60	n/a	4,872	15,025
2.00	102.00	n/a	5,090	20,115
2.40	102.40	n/a	5,090	25,204
2.80	102.80	n/a	4,871	30,075
3.20	103.20	n/a	4,421	34,496
3.60	103.60	n/a	3,634	38,130
4.00	104.00	n/a	2,090	40,220

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.70	3.00	4.00	0.00
Span (in)	= 1.70	3.00	4.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 100.00	101.20	102.40	0.00
Length (ft)	= 10.00	10.00	10.00	0.00
Slope (%)	= 0.30	0.30	0.30	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

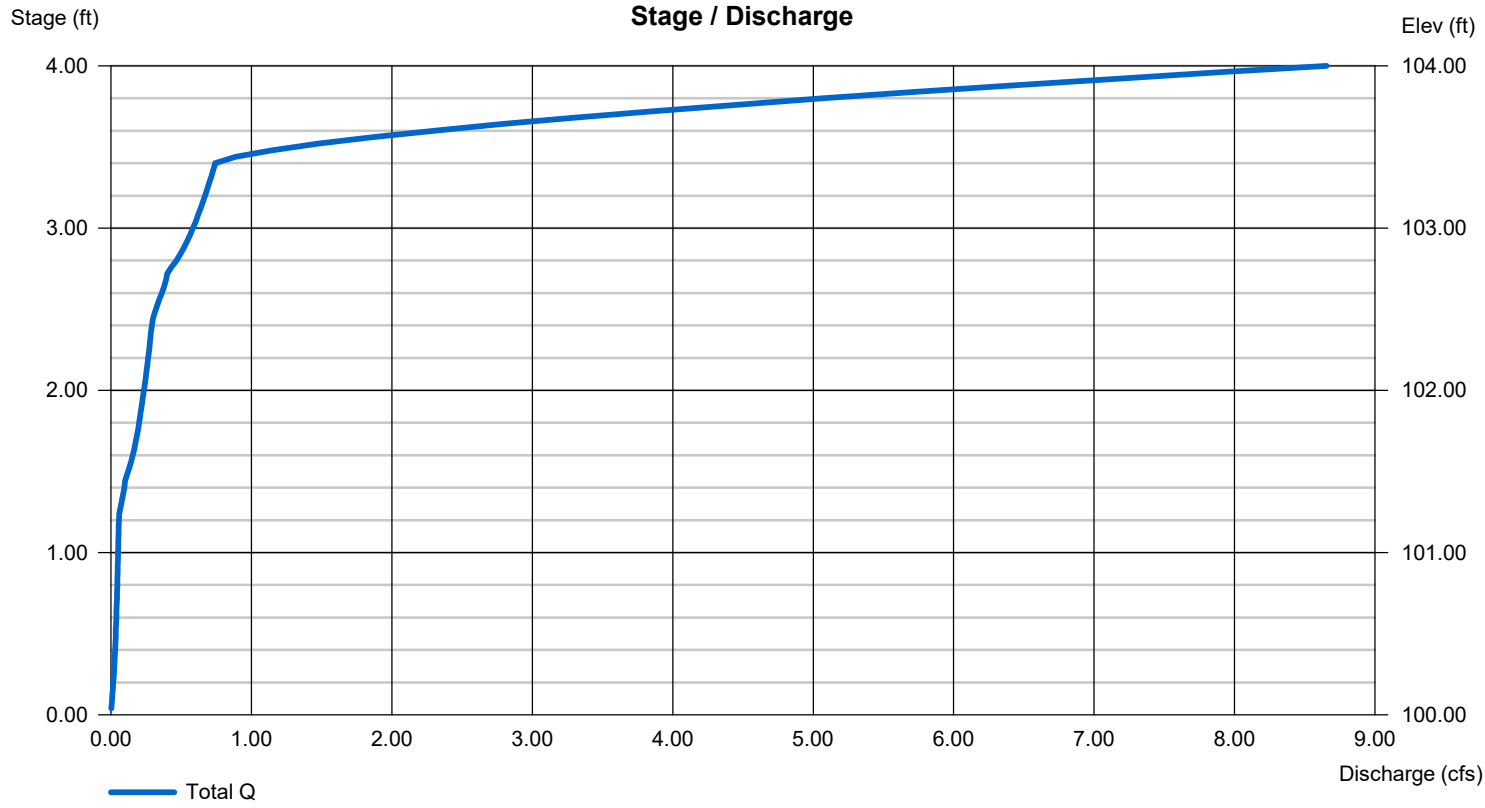
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 103.40	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

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



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Manual	0.000	5	n/a	0	------	------	------	Ex Site 2-year, 1-hour
2	Manual	0.000	5	n/a	0	------	------	------	Pr Site 2-year, 1-hour
3	Reservoir	0.000	5	n/a	0	2	100.00	0.000	DET 2-year, 1-hour
5	Manual	0.000	5	n/a	0	------	------	------	Ex Site 2-year, 3-hour
6	Manual	0.000	5	n/a	0	------	------	------	Pr Site 2-year, 3-hour
7	Reservoir	0.000	5	n/a	0	6	100.00	0.000	DET 2-year, 3-hour
9	Manual	0.000	5	n/a	0	------	------	------	Ex Site 2-year, 6-hour
10	Manual	0.000	5	n/a	0	------	------	------	Pr Site 2-year, 6-hour
11	Reservoir	0.000	5	n/a	0	10	100.00	0.000	DET 2-year, 6-hour
13	Manual	0.000	5	n/a	0	------	------	------	Ex Site 2-year, 24-hour
14	Manual	0.000	5	n/a	0	------	------	------	Pr Site 2-year, 24-hour
15	Reservoir	0.000	5	n/a	0	14	100.00	0.000	DET 2-year, 24-hour
18	Manual	15.48	5	50	17,298	------	------	------	Ex Site 5-year, 1-hour
19	Manual	21.13	5	50	18,003	------	------	------	Pr Site 5-year, 1-hour
20	Reservoir	0.202	5	65	17,880	19	101.81	17,745	DET 5-year, 1-hour
22	Manual	7.550	5	155	21,675	------	------	------	Ex Site 5-year, 3-hour
23	Manual	7.960	5	155	26,556	------	------	------	Pr Site 5-year, 3-hour
24	Reservoir	0.294	5	180	26,433	23	102.42	25,443	DET 5-year, 3-hour
26	Manual	6.520	5	330	23,820	------	------	------	Ex Site 5-year, 6-hour
27	Manual	7.080	5	330	34,572	------	------	------	Pr Site 5-year, 6-hour
28	Reservoir	0.557	5	350	34,449	27	102.95	31,719	DET 5-year, 6-hour
30	Manual	2.000	5	805	32,235	------	------	------	Ex Site 5-year, 24-hour
31	Manual	2.280	5	785	60,408	------	------	------	Pr Site 5-year, 24-hour
32	Reservoir	1.628	5	905	60,285	31	103.54	37,549	DET 5-year, 24-hour
35	Manual	0.000	5	n/a	0	------	------	------	Ex Site 10-year, 1-hour
36	Manual	0.000	5	n/a	0	------	------	------	Pr Site 10-year, 1-hour
37	Reservoir	0.000	5	n/a	0	36	100.00	0.000	DET 10-year, 1-hour
39	Manual	0.000	5	n/a	0	------	------	------	Ex Site 10-year, 3-hour
40	Manual	0.000	5	n/a	0	------	------	------	Pr Site 10-year, 3-hour

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

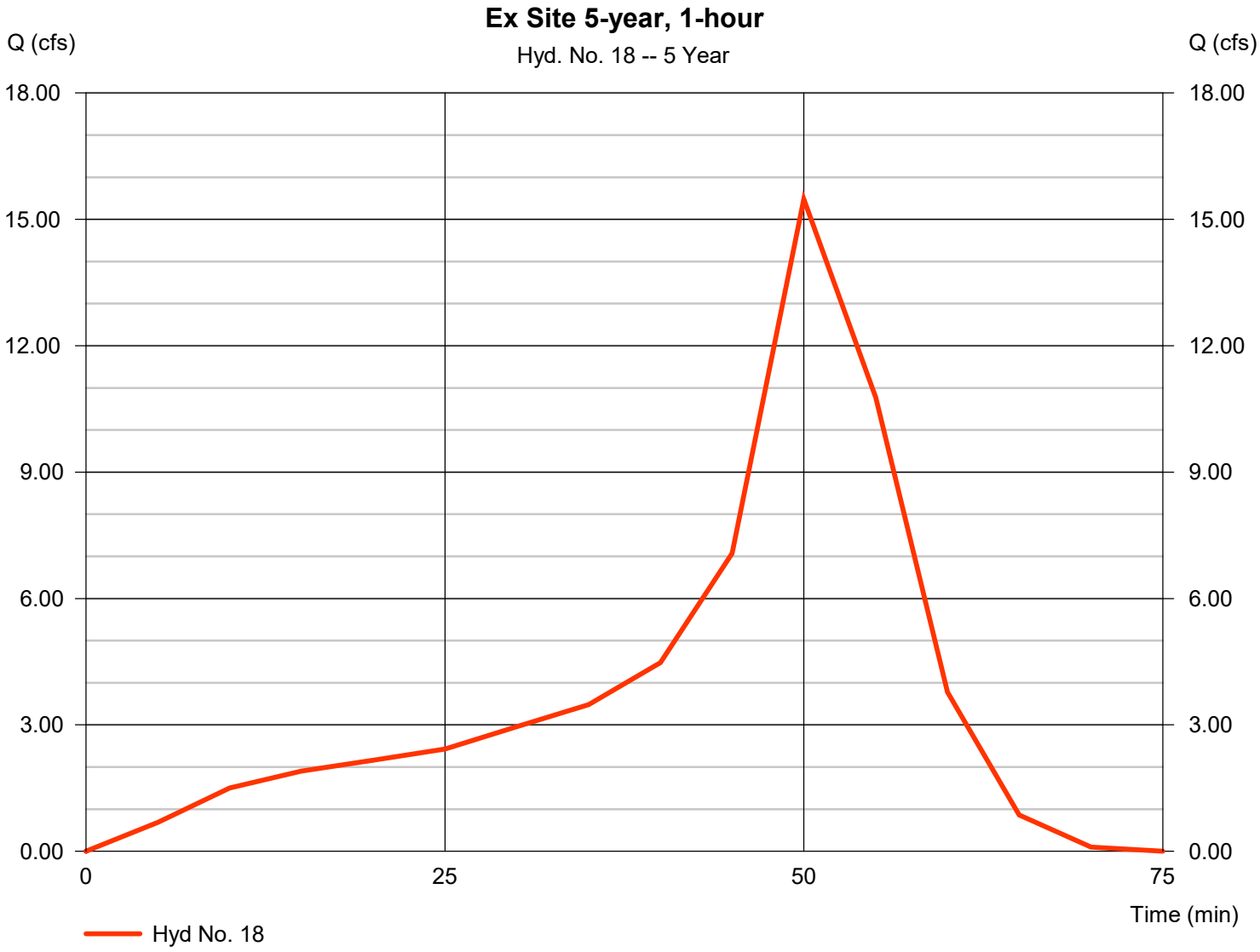
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
41	Reservoir	0.000	5	n/a	0	40	100.00	0.000	DET 10-year, 3-hour
43	Manual	0.000	5	n/a	0	------	------	------	Ex Site 10-year, 6-hour
44	Manual	0.000	5	n/a	0	------	------	------	Pr Site 10-year, 6-hour
45	Reservoir	0.000	5	n/a	0	44	100.00	0.000	DET 10-year, 6-hour
47	Manual	0.000	5	n/a	0	------	------	------	Ex Site 10-year, 24-hour
48	Manual	0.000	5	n/a	0	------	------	------	Pr Site 10-year, 24-hour
49	Reservoir	0.000	5	n/a	0	48	100.00	0.000	DET 10-year, 24-hour

Hydrograph Report

Hyd. No. 18

Ex Site 5-year, 1-hour

Hydrograph type	= Manual	Peak discharge	= 15.48 cfs
Storm frequency	= 5 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 17,298 cuft

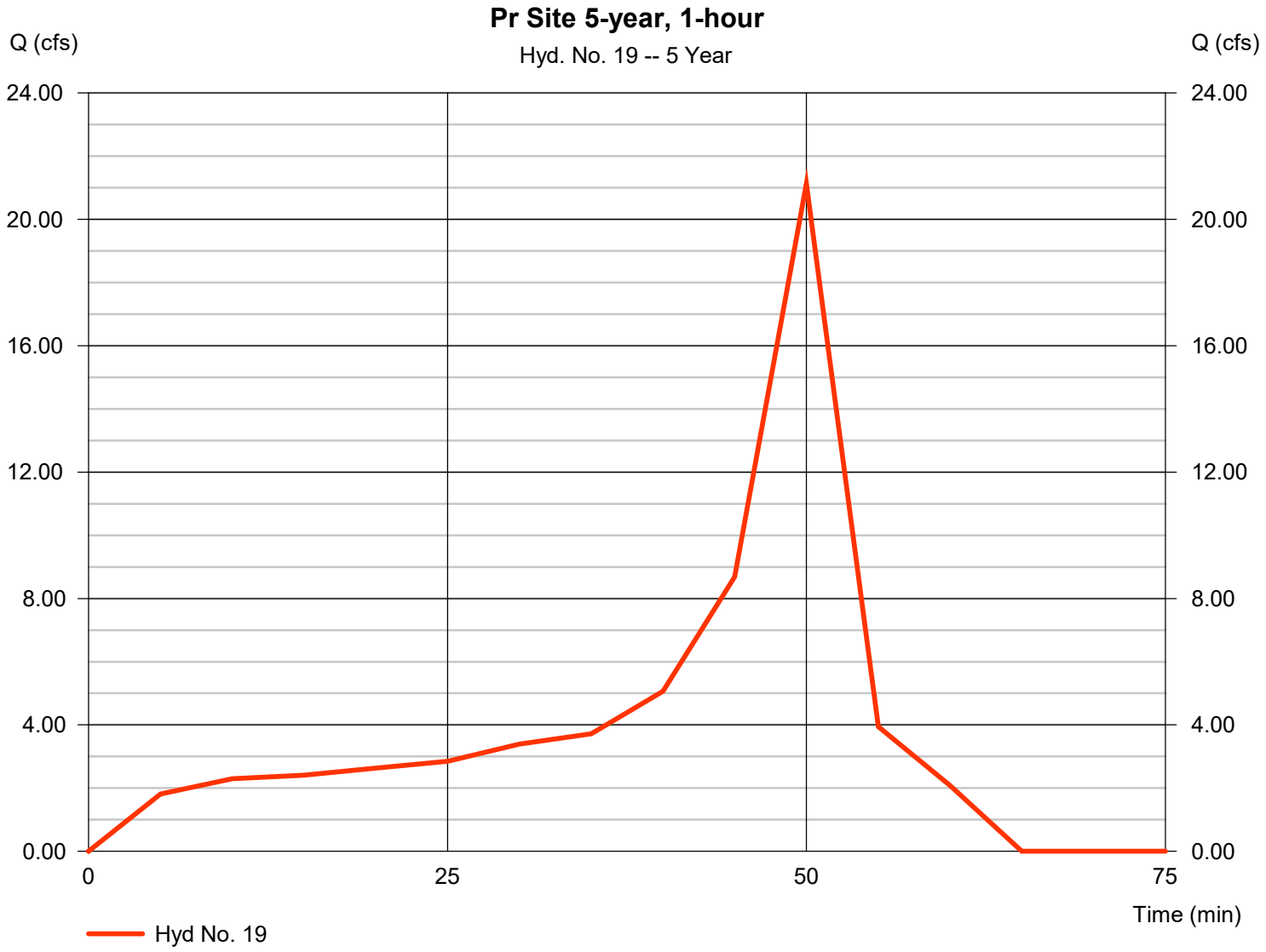


Hydrograph Report

Hyd. No. 19

Pr Site 5-year, 1-hour

Hydrograph type	= Manual	Peak discharge	= 21.13 cfs
Storm frequency	= 5 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 18,003 cuft



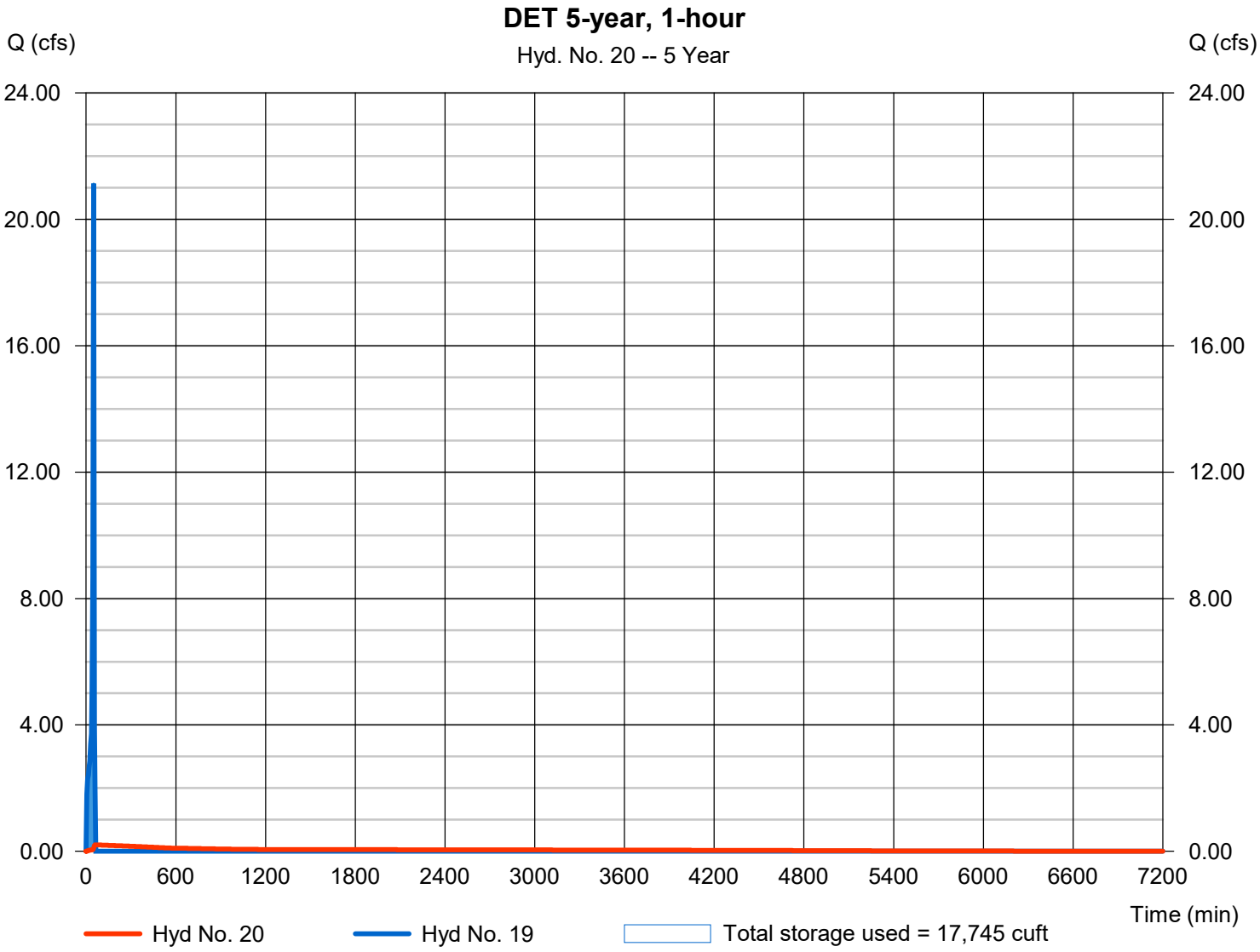
Hydrograph Report

Hyd. No. 20

DET 5-year, 1-hour

Hydrograph type	=	Reservoir	Peak discharge	=	0.202 cfs
Storm frequency	=	5 yrs	Time to peak	=	65 min
Time interval	=	5 min	Hyd. volume	=	17,880 cuft
Inflow hyd. No.	=	19 - Pr Site 5-year, 1-hour	Max. Elevation	=	101.81 ft
Reservoir name	=	DET-Site	Max. Storage	=	17,745 cuft

Storage Indication method used.

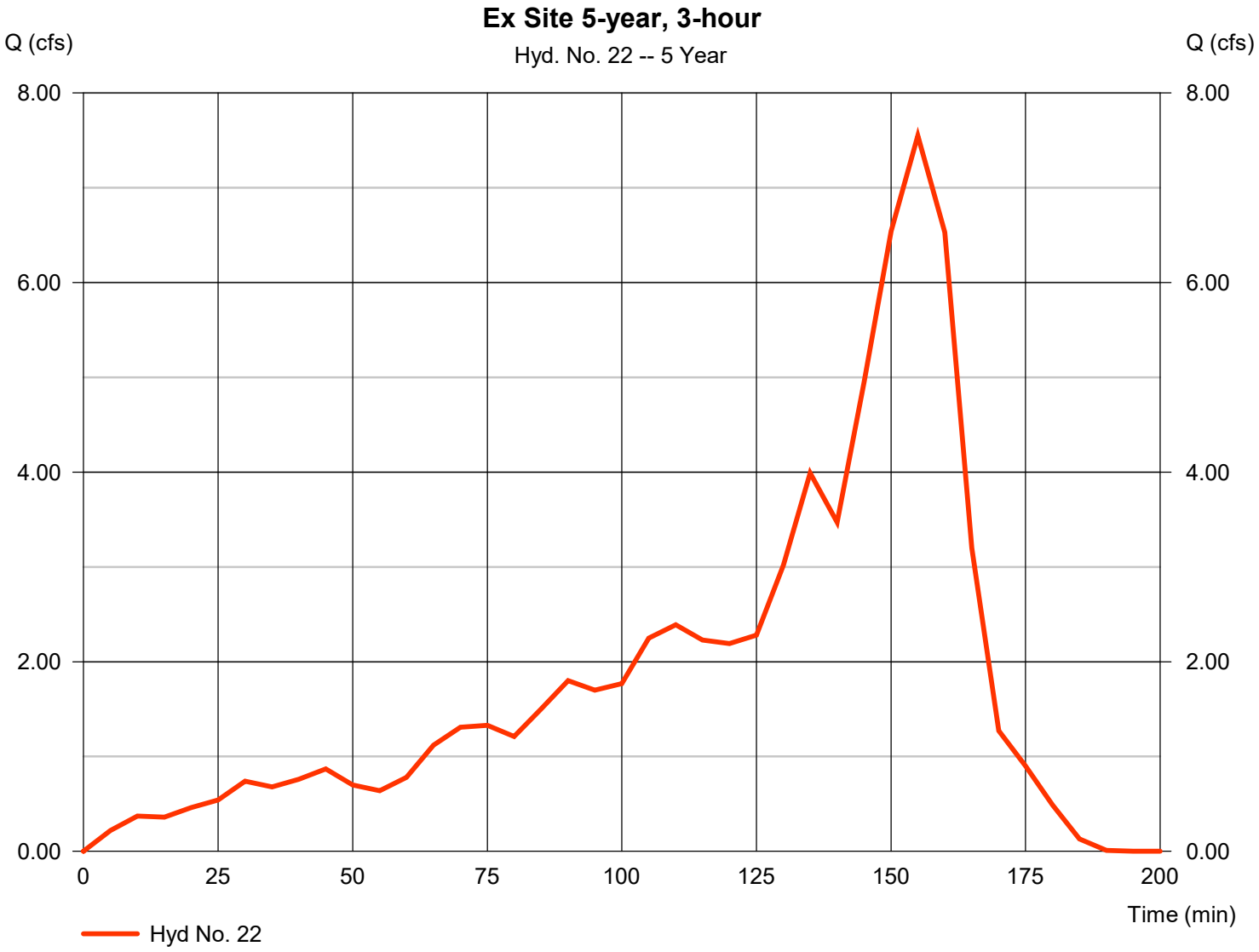


Hydrograph Report

Hyd. No. 22

Ex Site 5-year, 3-hour

Hydrograph type	= Manual	Peak discharge	= 7.550 cfs
Storm frequency	= 5 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 21,675 cuft

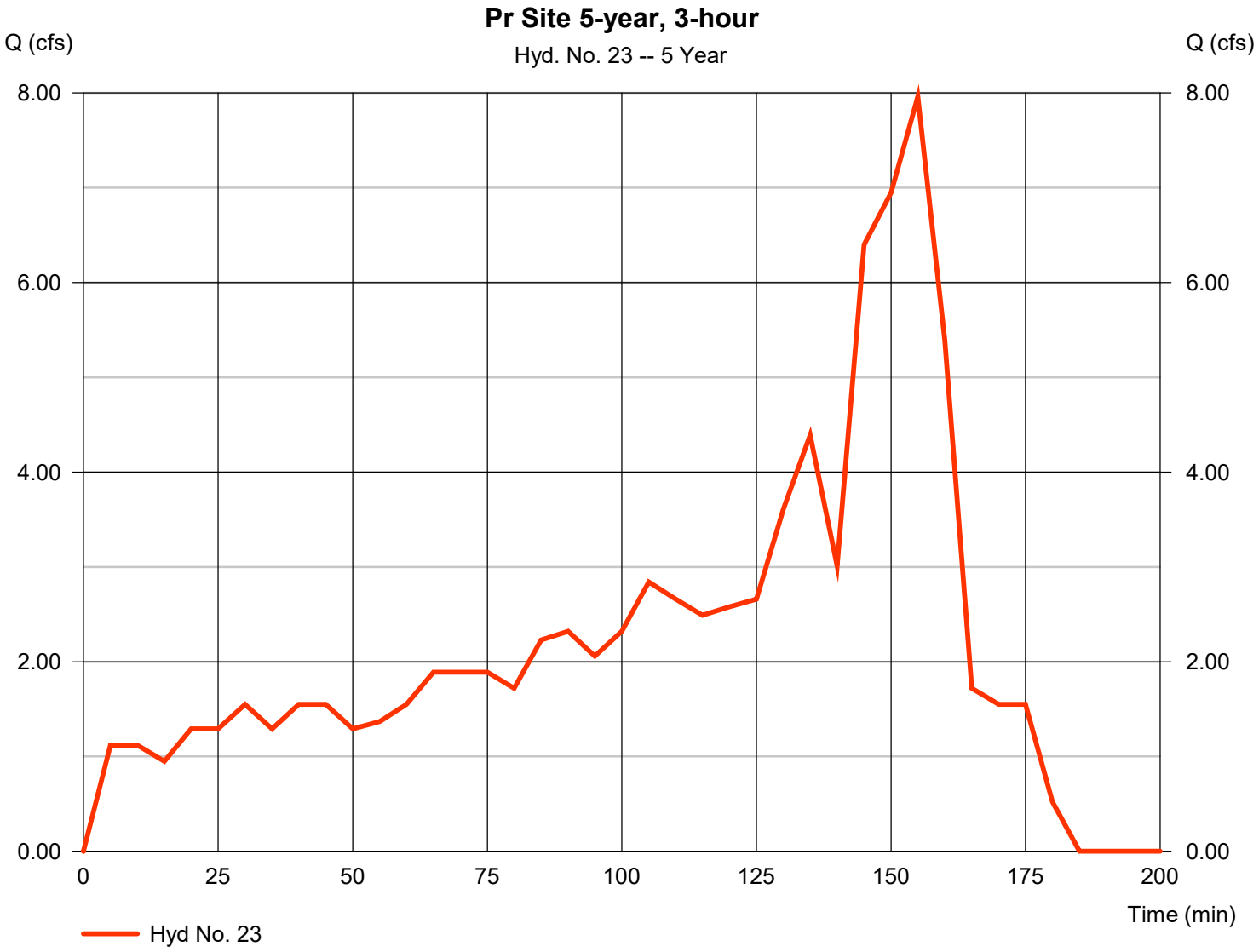


Hydrograph Report

Hyd. No. 23

Pr Site 5-year, 3-hour

Hydrograph type	= Manual	Peak discharge	= 7.960 cfs
Storm frequency	= 5 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 26,556 cuft



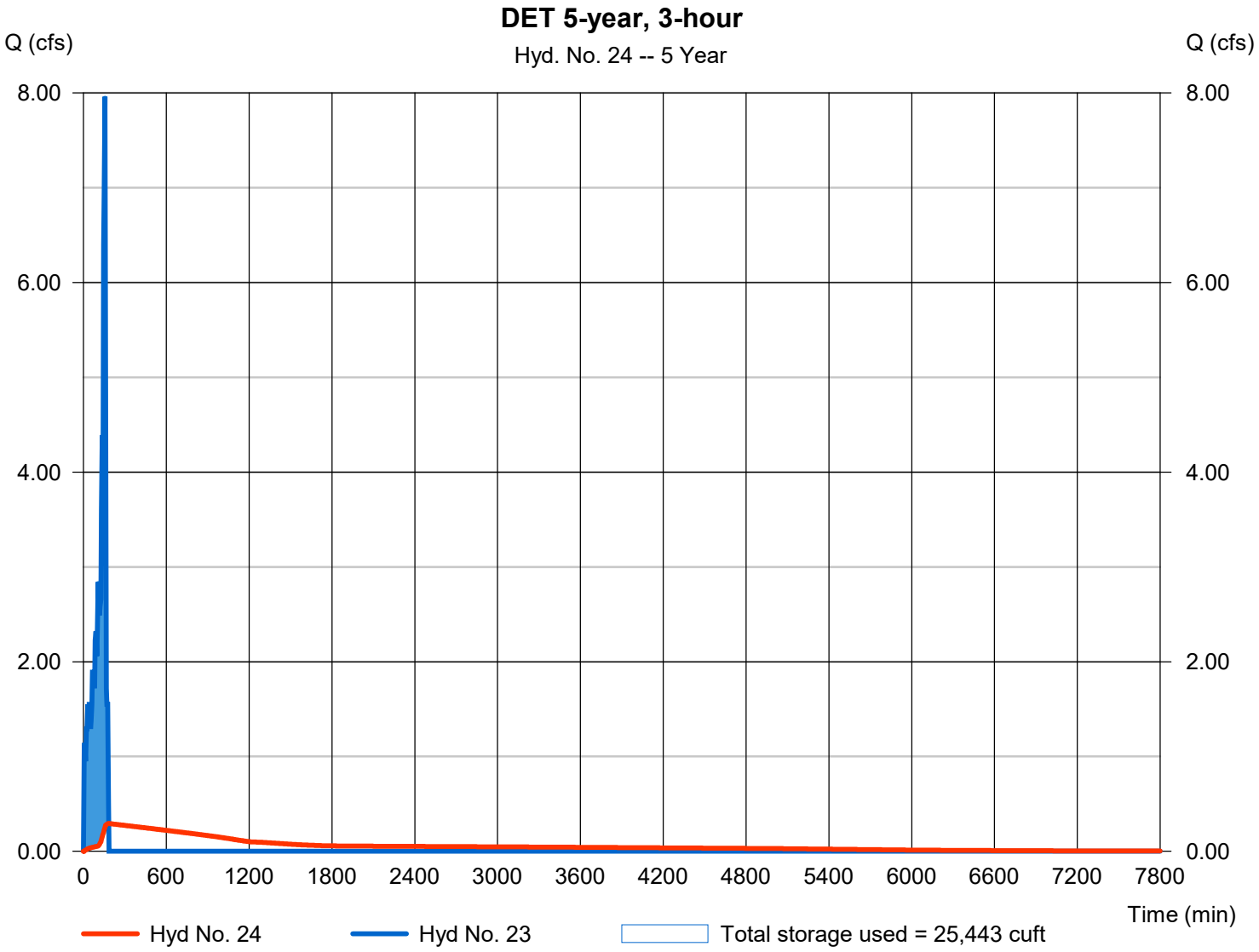
Hydrograph Report

Hyd. No. 24

DET 5-year, 3-hour

Hydrograph type	=	Reservoir	Peak discharge	=	0.294 cfs
Storm frequency	=	5 yrs	Time to peak	=	180 min
Time interval	=	5 min	Hyd. volume	=	26,433 cuft
Inflow hyd. No.	=	23 - Pr Site 5-year, 3-hour	Max. Elevation	=	102.42 ft
Reservoir name	=	DET-Site	Max. Storage	=	25,443 cuft

Storage Indication method used.

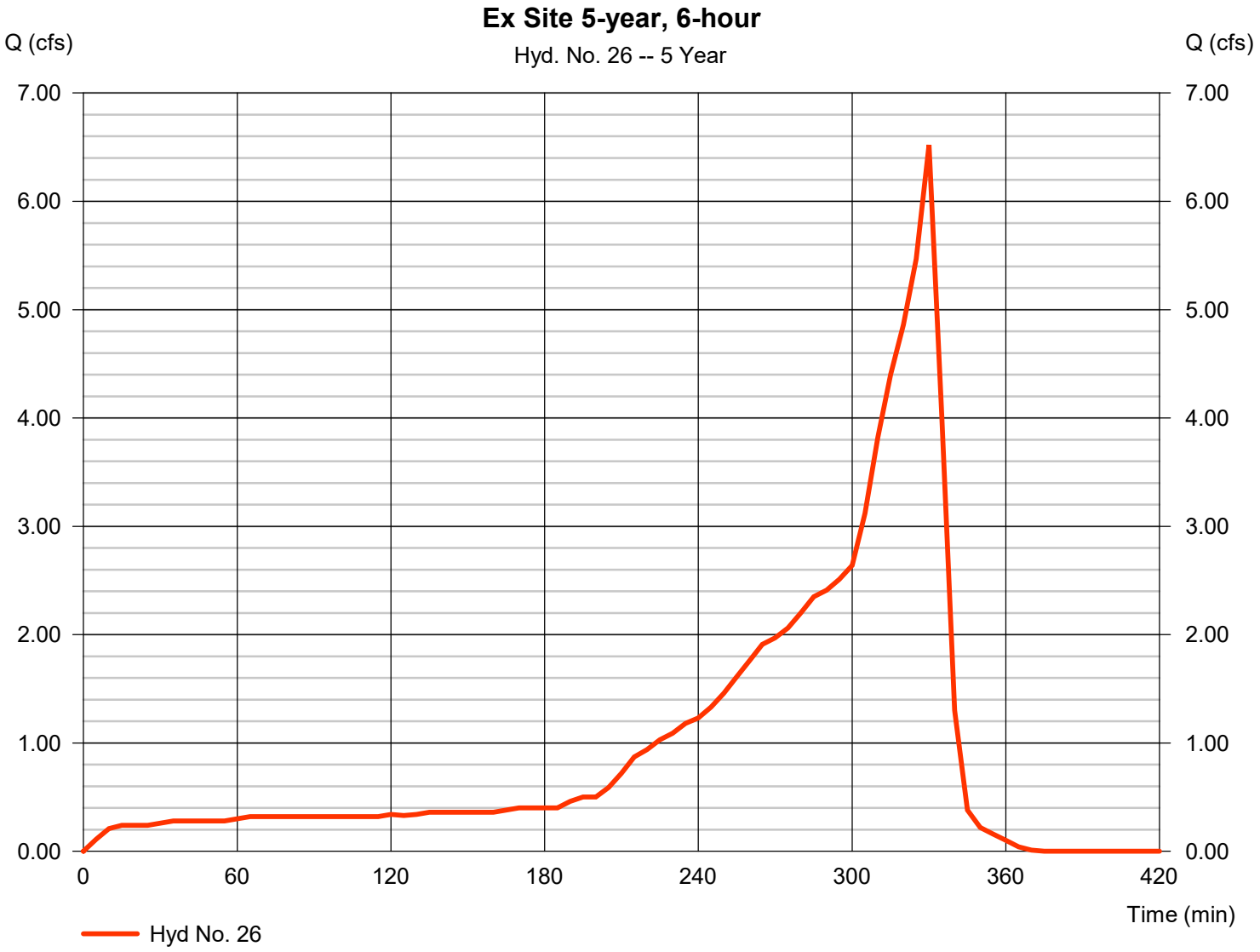


Hydrograph Report

Hyd. No. 26

Ex Site 5-year, 6-hour

Hydrograph type	= Manual	Peak discharge	= 6.520 cfs
Storm frequency	= 5 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 23,820 cuft

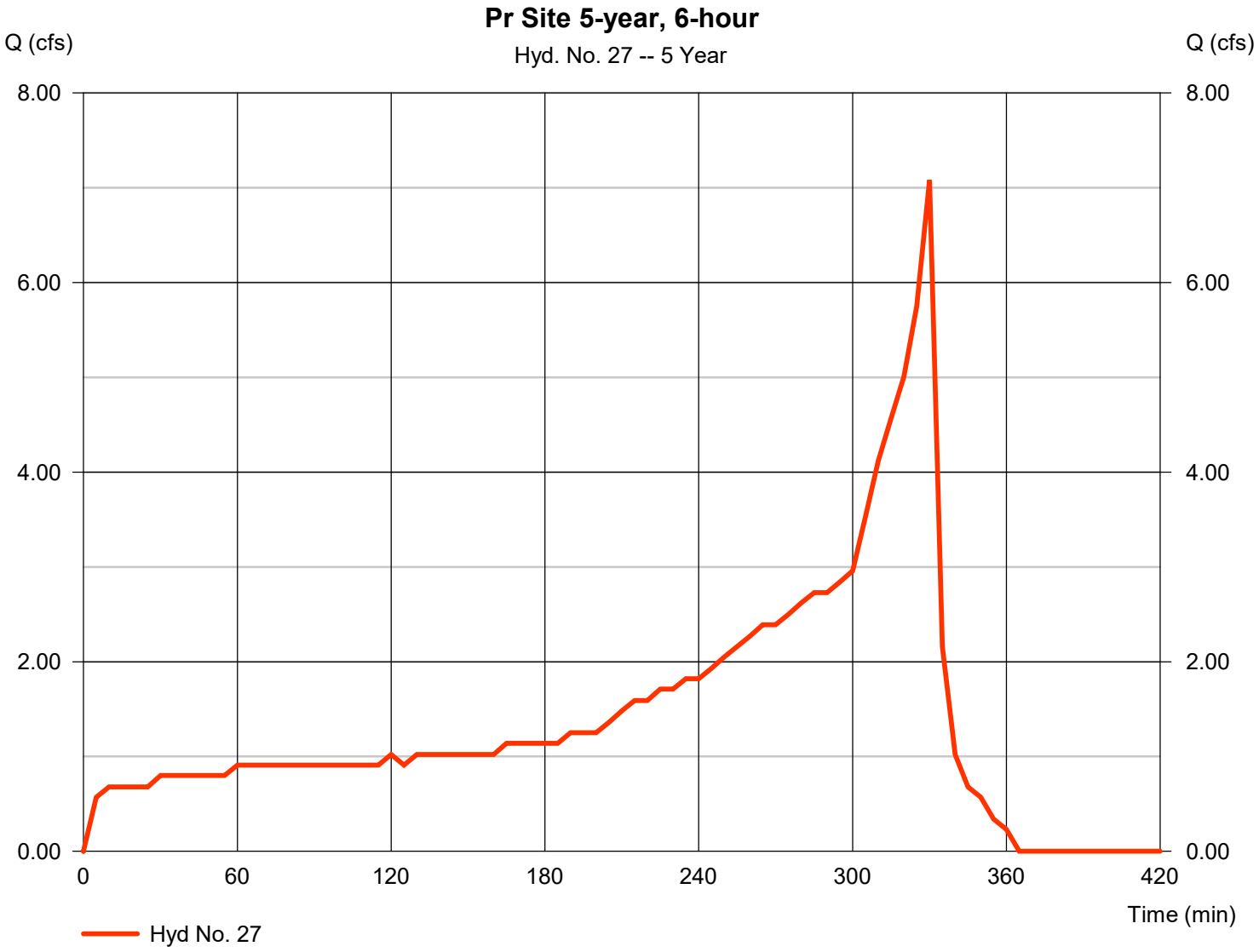


Hydrograph Report

Hyd. No. 27

Pr Site 5-year, 6-hour

Hydrograph type	= Manual	Peak discharge	= 7.080 cfs
Storm frequency	= 5 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 34,572 cuft



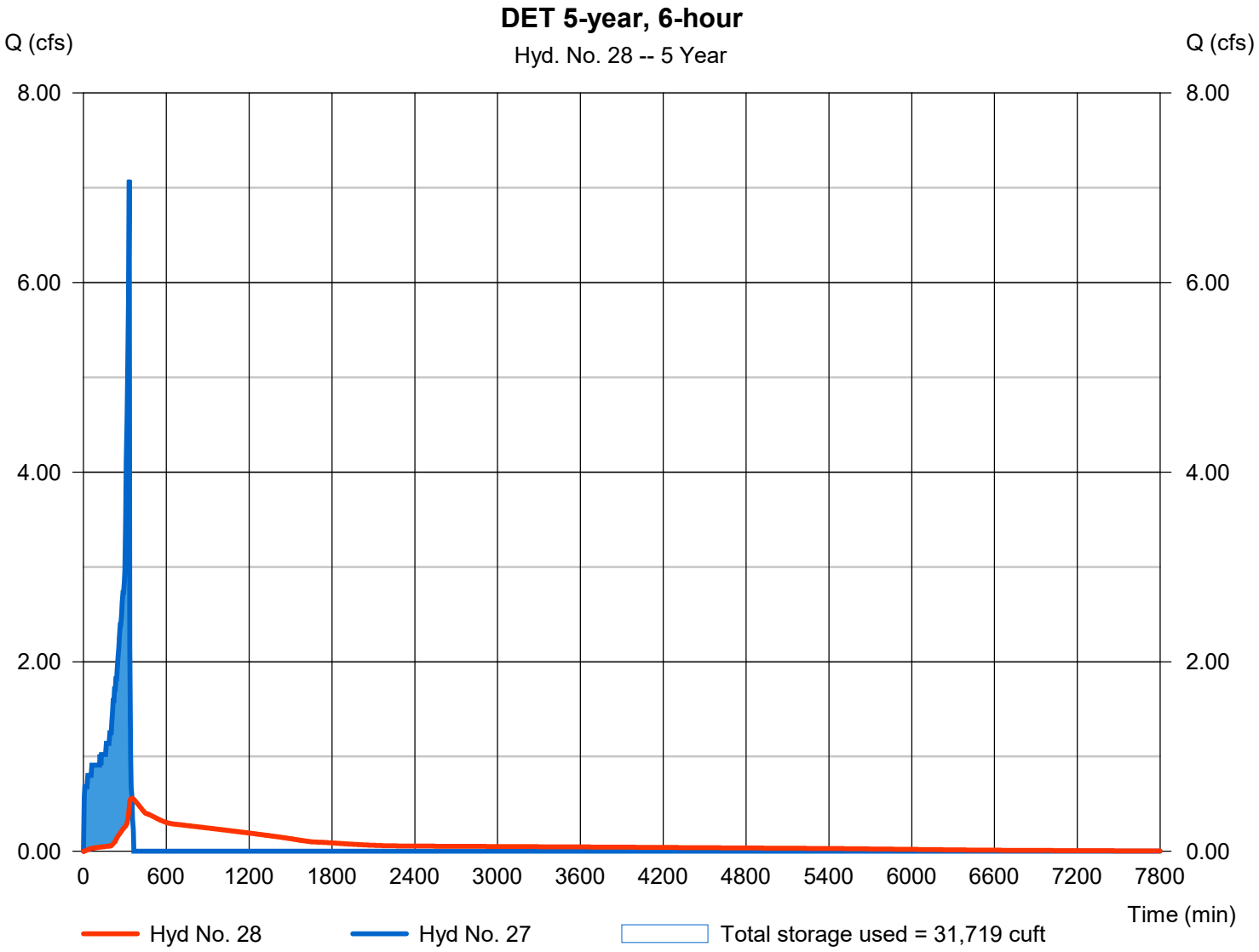
Hydrograph Report

Hyd. No. 28

DET 5-year, 6-hour

Hydrograph type	=	Reservoir	Peak discharge	=	0.557 cfs
Storm frequency	=	5 yrs	Time to peak	=	350 min
Time interval	=	5 min	Hyd. volume	=	34,449 cuft
Inflow hyd. No.	=	27 - Pr Site 5-year, 6-hour	Max. Elevation	=	102.95 ft
Reservoir name	=	DET-Site	Max. Storage	=	31,719 cuft

Storage Indication method used.

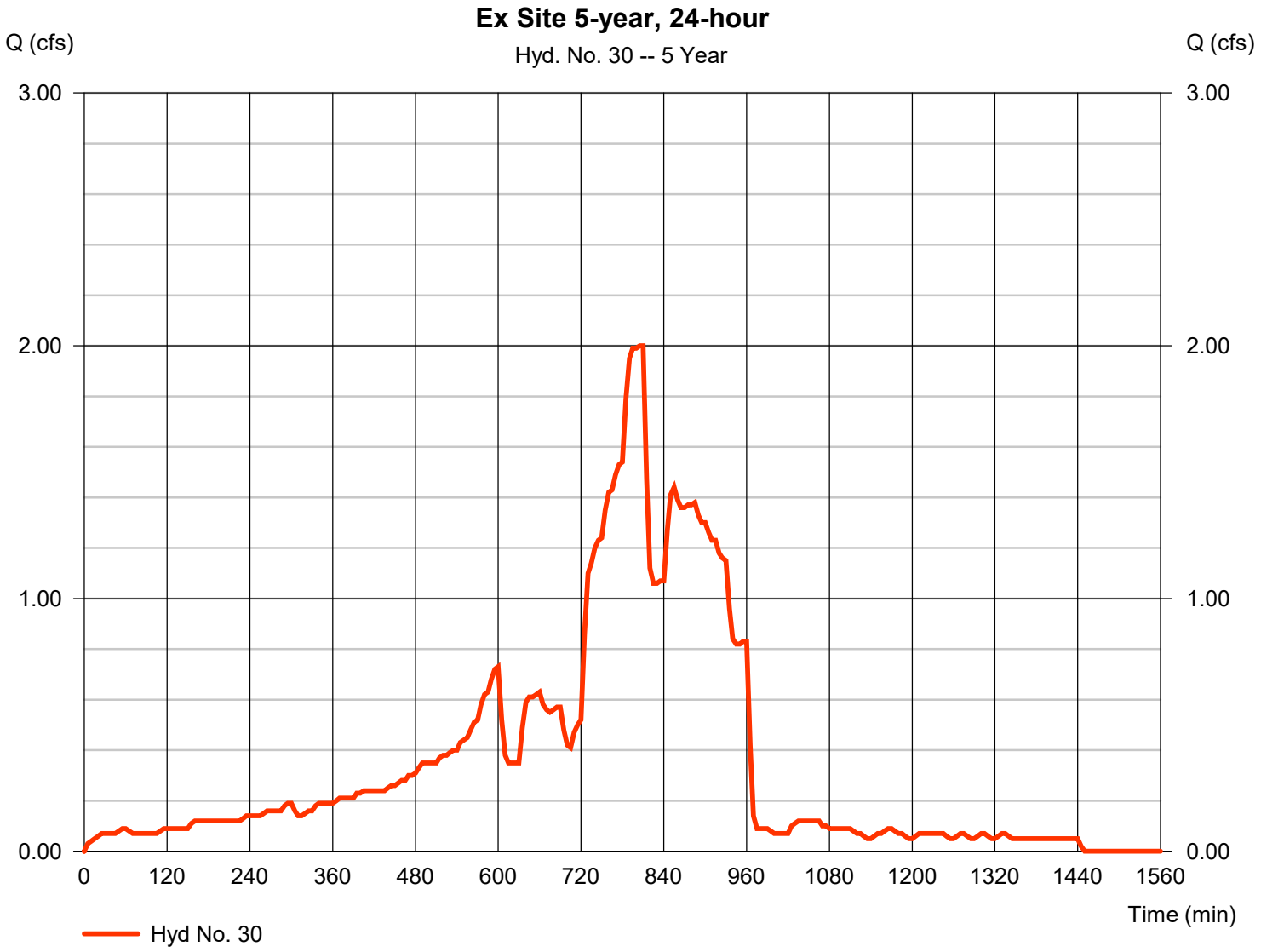


Hydrograph Report

Hyd. No. 30

Ex Site 5-year, 24-hour

Hydrograph type	= Manual	Peak discharge	= 2.000 cfs
Storm frequency	= 5 yrs	Time to peak	= 805 min
Time interval	= 5 min	Hyd. volume	= 32,235 cuft

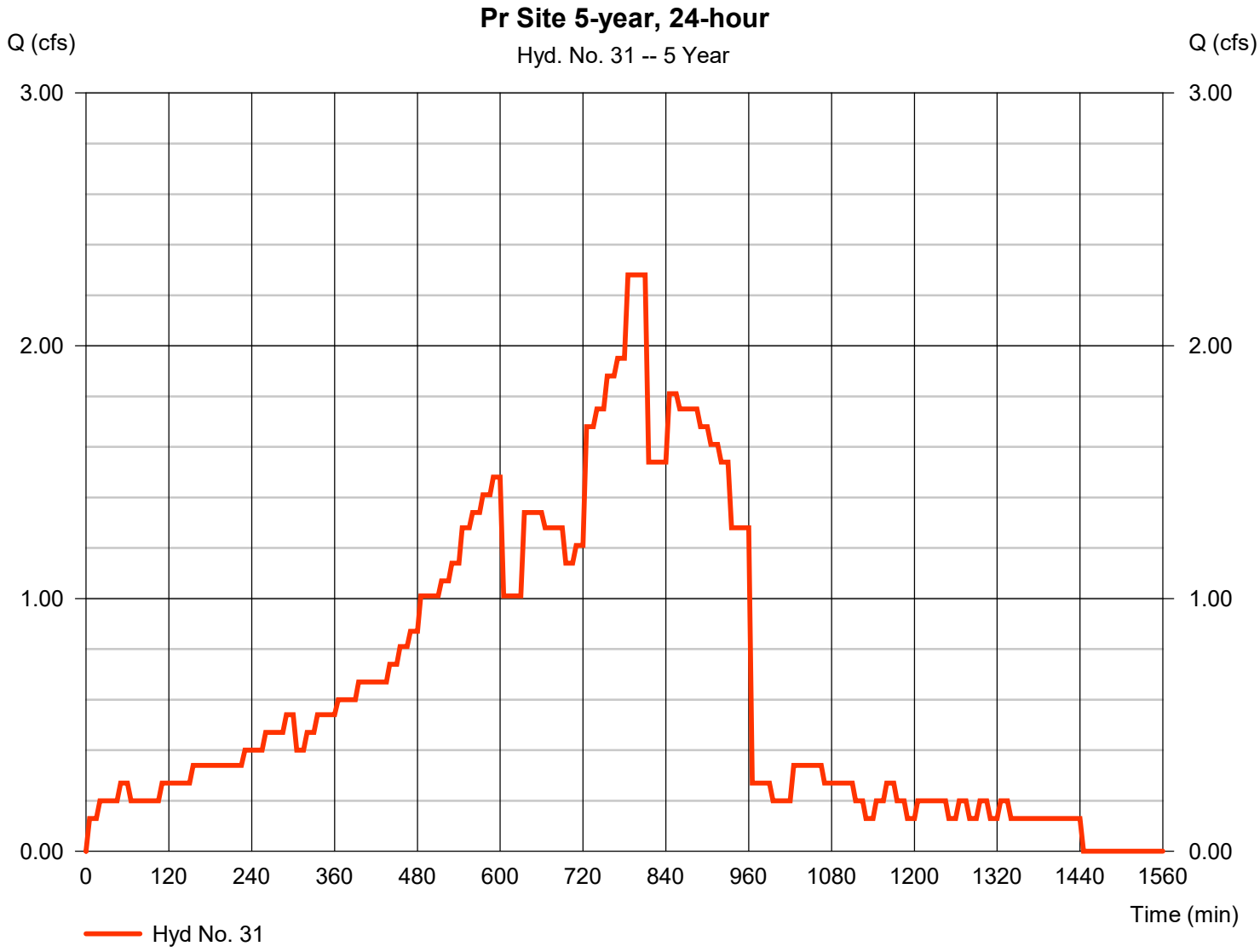


Hydrograph Report

Hyd. No. 31

Pr Site 5-year, 24-hour

Hydrograph type	= Manual	Peak discharge	= 2.280 cfs
Storm frequency	= 5 yrs	Time to peak	= 785 min
Time interval	= 5 min	Hyd. volume	= 60,408 cuft



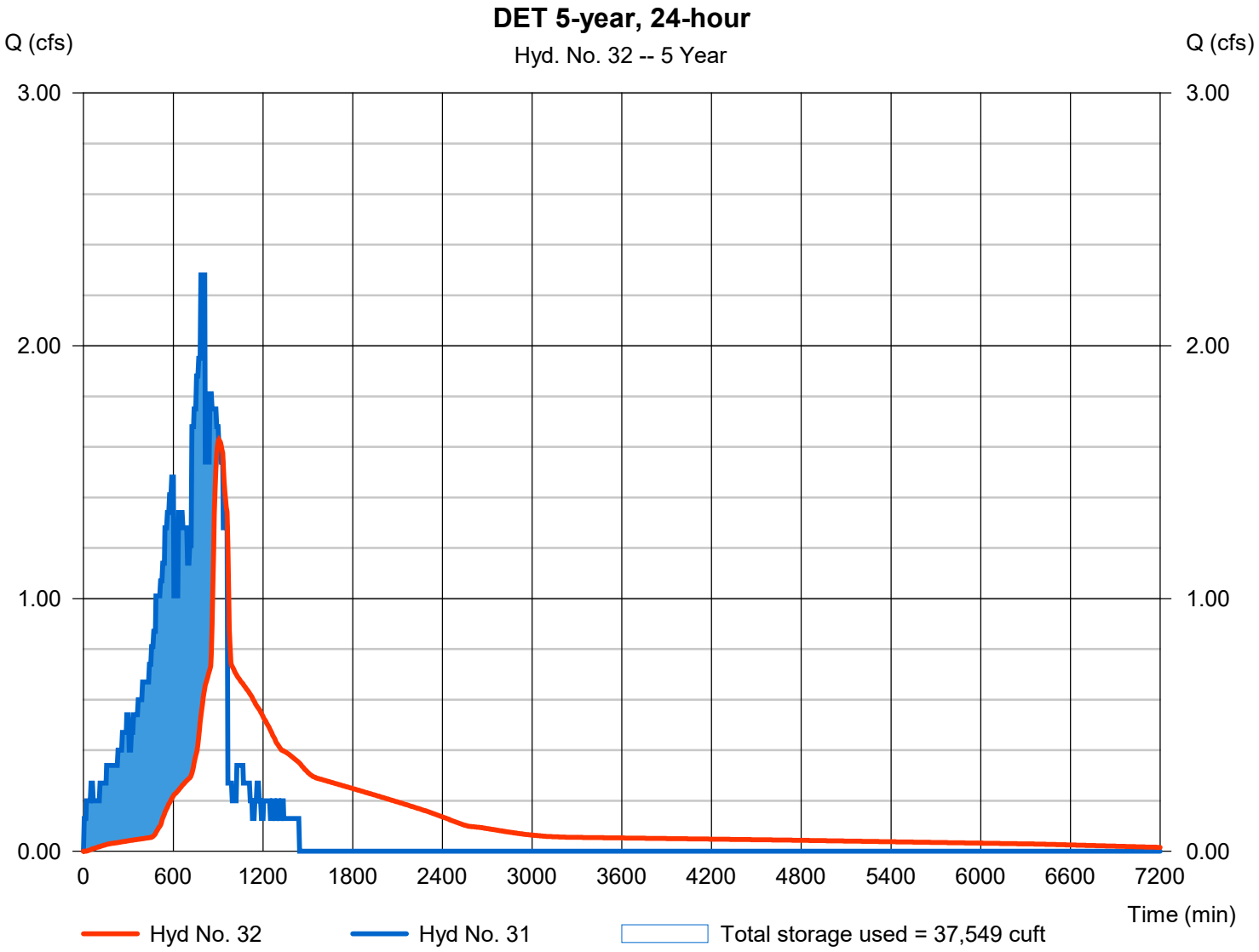
Hydrograph Report

Hyd. No. 32

DET 5-year, 24-hour

Hydrograph type	=	Reservoir	Peak discharge	=	1.628 cfs
Storm frequency	=	5 yrs	Time to peak	=	905 min
Time interval	=	5 min	Hyd. volume	=	60,285 cuft
Inflow hyd. No.	=	31 - Pr Site 5-year, 24-hour	Max. Elevation	=	103.54 ft
Reservoir name	=	DET-Site	Max. Storage	=	37,549 cuft

Storage Indication method used.



10-Year Summary

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Manual	0.000	5	n/a	0	------	------	------	Ex Site 2-year, 1-hour
2	Manual	0.000	5	n/a	0	------	------	------	Pr Site 2-year, 1-hour
3	Reservoir	0.000	5	n/a	0	2	100.00	0.000	DET 2-year, 1-hour
5	Manual	0.000	5	n/a	0	------	------	------	Ex Site 2-year, 3-hour
6	Manual	0.000	5	n/a	0	------	------	------	Pr Site 2-year, 3-hour
7	Reservoir	0.000	5	n/a	0	6	100.00	0.000	DET 2-year, 3-hour
9	Manual	0.000	5	n/a	0	------	------	------	Ex Site 2-year, 6-hour
10	Manual	0.000	5	n/a	0	------	------	------	Pr Site 2-year, 6-hour
11	Reservoir	0.000	5	n/a	0	10	100.00	0.000	DET 2-year, 6-hour
13	Manual	0.000	5	n/a	0	------	------	------	Ex Site 2-year, 24-hour
14	Manual	0.000	5	n/a	0	------	------	------	Pr Site 2-year, 24-hour
15	Reservoir	0.000	5	n/a	0	14	100.00	0.000	DET 2-year, 24-hour
18	Manual	0.000	5	n/a	0	------	------	------	Ex Site 5-year, 1-hour
19	Manual	0.000	5	n/a	0	------	------	------	Pr Site 5-year, 1-hour
20	Reservoir	0.000	5	n/a	0	19	100.00	0.000	DET 5-year, 1-hour
22	Manual	0.000	5	n/a	0	------	------	------	Ex Site 5-year, 3-hour
23	Manual	0.000	5	n/a	0	------	------	------	Pr Site 5-year, 3-hour
24	Reservoir	0.000	5	n/a	0	23	100.00	0.000	DET 5-year, 3-hour
26	Manual	0.000	5	n/a	0	------	------	------	Ex Site 5-year, 6-hour
27	Manual	0.000	5	n/a	0	------	------	------	Pr Site 5-year, 6-hour
28	Reservoir	0.000	5	n/a	0	27	100.00	0.000	DET 5-year, 6-hour
30	Manual	0.000	5	n/a	0	------	------	------	Ex Site 5-year, 24-hour
31	Manual	0.000	5	n/a	0	------	------	------	Pr Site 5-year, 24-hour
32	Reservoir	0.000	5	n/a	0	31	100.00	0.000	DET 5-year, 24-hour
35	Manual	19.36	5	50	22,287	------	------	------	Ex Site 10-year, 1-hour
36	Manual	26.83	5	50	23,739	------	------	------	Pr Site 10-year, 1-hour
37	Reservoir	0.272	5	65	23,616	36	102.26	23,383	DET 10-year, 1-hour
39	Manual	9.230	5	155	28,056	------	------	------	Ex Site 10-year, 3-hour
40	Manual	10.20	5	155	33,453	------	------	------	Pr Site 10-year, 3-hour

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

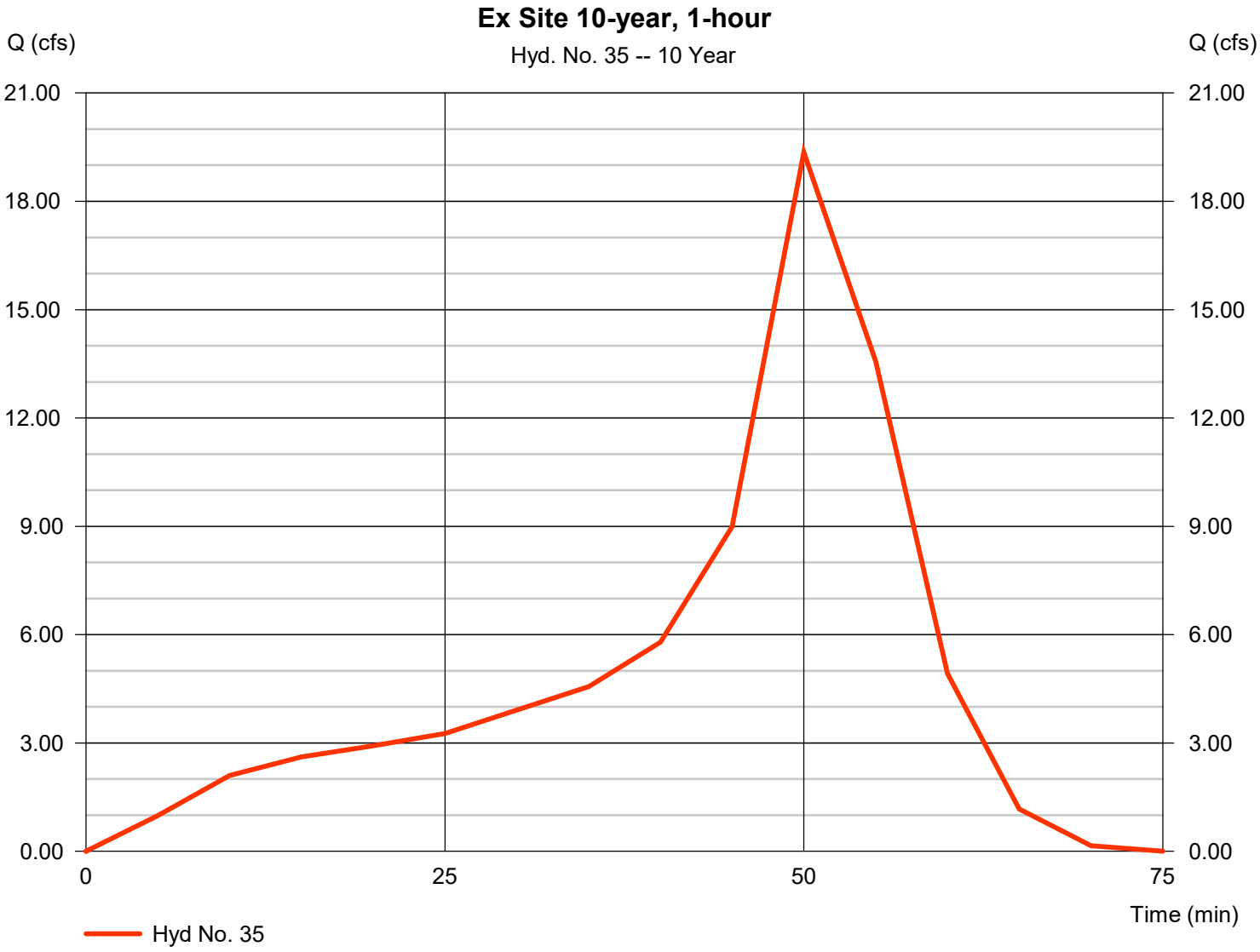
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
41	Reservoir	0.561	5	180	33,330	40	102.96	31,805	DET 10-year, 3-hour
43	Manual	7.920	5	330	30,351	------	------	------	Ex Site 10-year, 6-hour
44	Manual	9.070	5	330	42,675	------	------	------	Pr Site 10-year, 6-hour
45	Reservoir	2.252	5	335	42,552	44	103.60	38,095	DET 10-year, 6-hour
47	Manual	2.580	5	810	43,035	------	------	------	Ex Site 10-year, 24-hour
48	Manual	2.920	5	805	72,603	------	------	------	Pr Site 10-year, 24-hour
49	Reservoir	2.542	5	810	72,480	48	103.62	38,238	DET 10-year, 24-hour

Hydrograph Report

Hyd. No. 35

Ex Site 10-year, 1-hour

Hydrograph type	= Manual	Peak discharge	= 19.36 cfs
Storm frequency	= 10 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 22,287 cuft

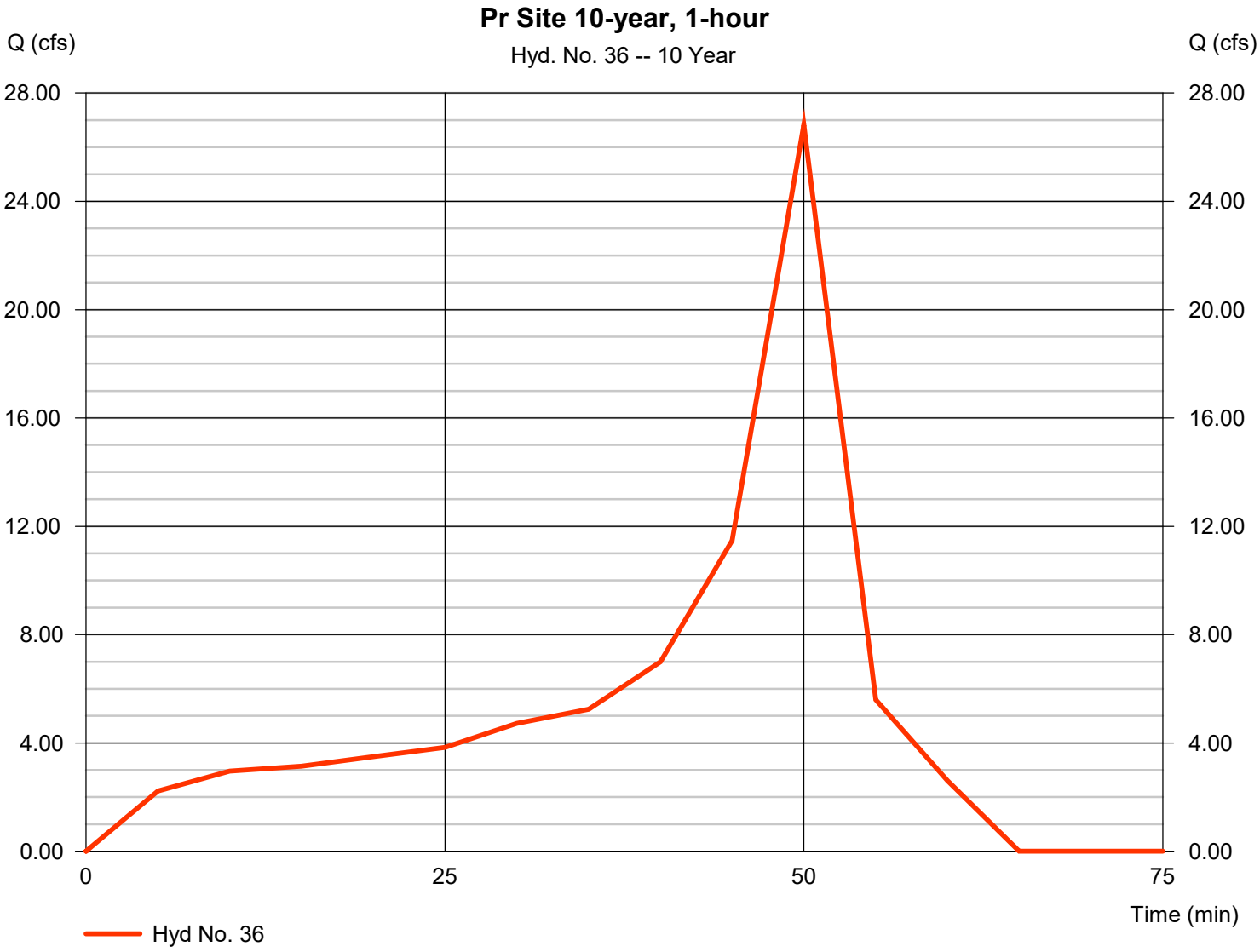


Hydrograph Report

Hyd. No. 36

Pr Site 10-year, 1-hour

Hydrograph type	= Manual	Peak discharge	= 26.83 cfs
Storm frequency	= 10 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 23,739 cuft



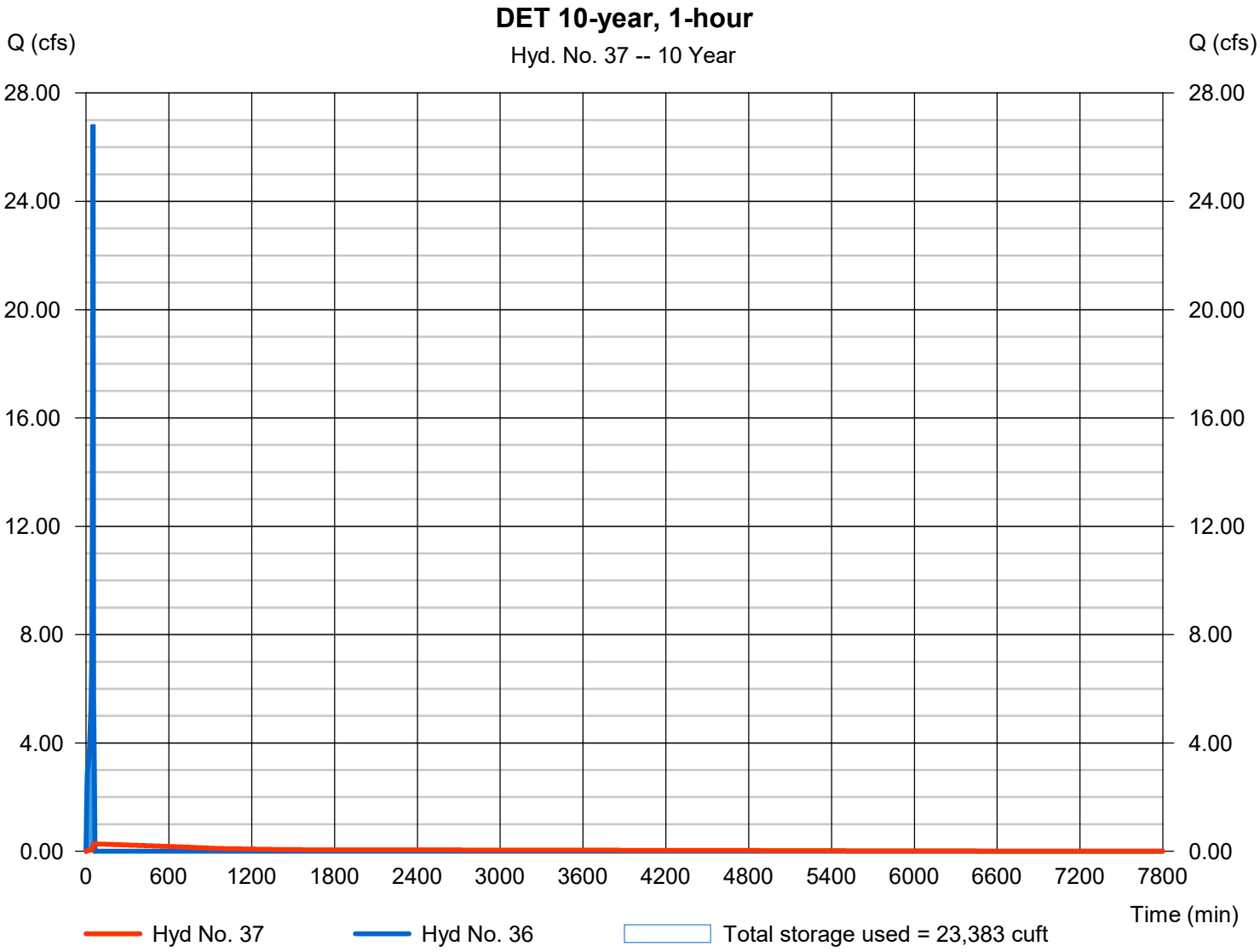
Hydrograph Report

Hyd. No. 37

DET 10-year, 1-hour

Hydrograph type	=	Reservoir	Peak discharge	=	0.272 cfs
Storm frequency	=	10 yrs	Time to peak	=	65 min
Time interval	=	5 min	Hyd. volume	=	23,616 cuft
Inflow hyd. No.	=	36 - Pr Site 10-year, 1-hour	Max. Elevation	=	102.26 ft
Reservoir name	=	DET-Site	Max. Storage	=	23,383 cuft

Storage Indication method used.

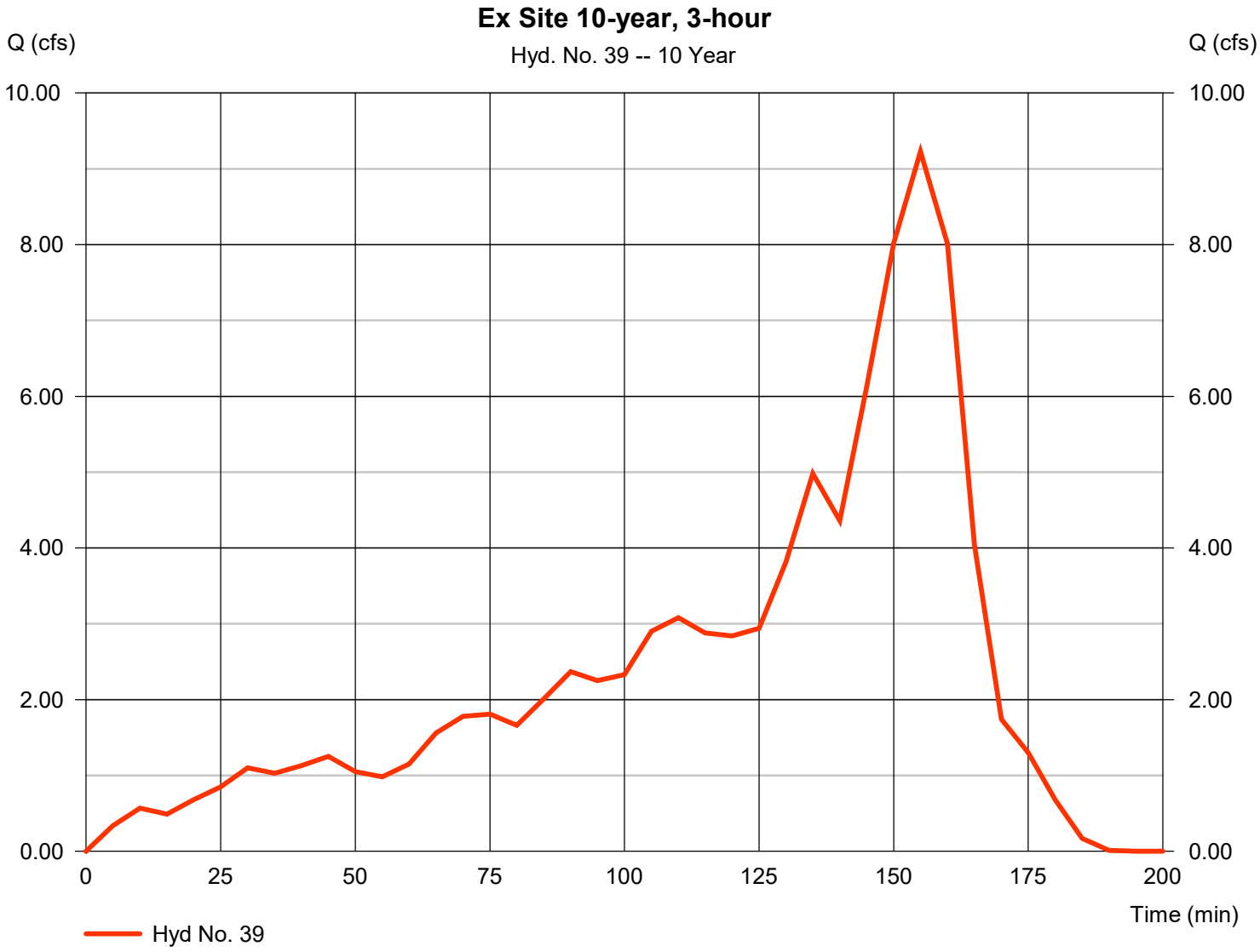


Hydrograph Report

Hyd. No. 39

Ex Site 10-year, 3-hour

Hydrograph type	= Manual	Peak discharge	= 9.230 cfs
Storm frequency	= 10 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 28,056 cuft

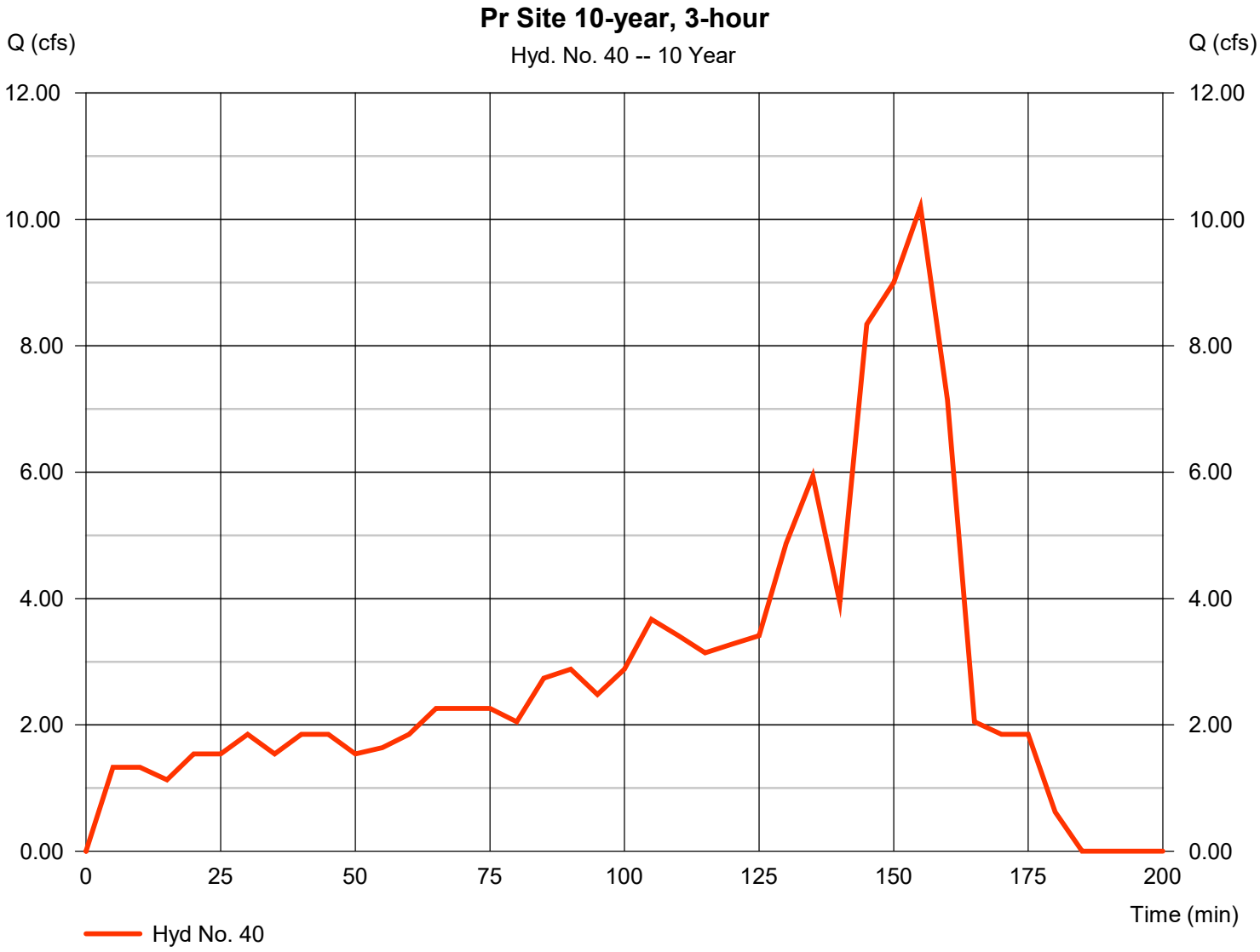


Hydrograph Report

Hyd. No. 40

Pr Site 10-year, 3-hour

Hydrograph type	= Manual	Peak discharge	= 10.20 cfs
Storm frequency	= 10 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 33,453 cuft



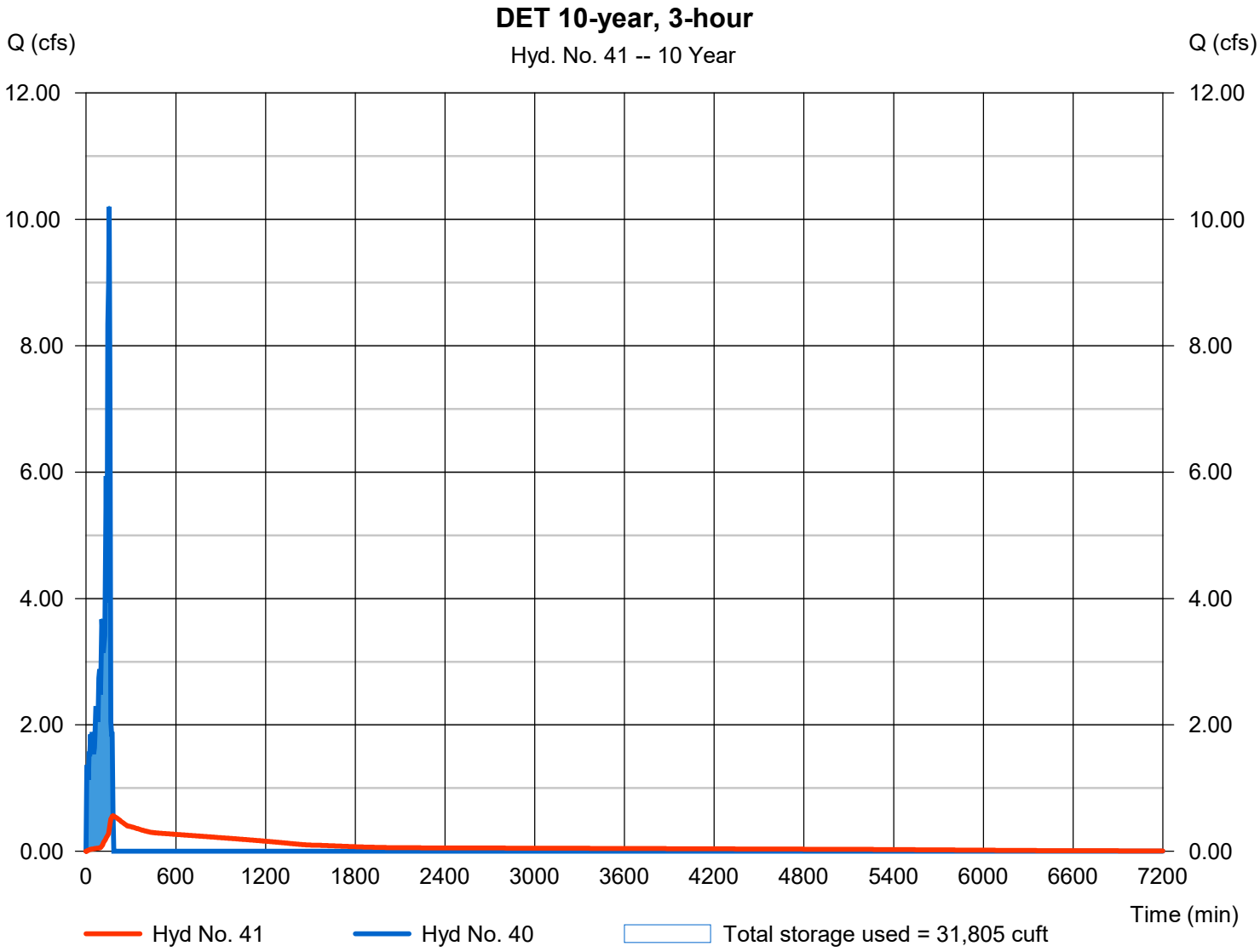
Hydrograph Report

Hyd. No. 41

DET 10-year, 3-hour

Hydrograph type	=	Reservoir	Peak discharge	=	0.561 cfs
Storm frequency	=	10 yrs	Time to peak	=	180 min
Time interval	=	5 min	Hyd. volume	=	33,330 cuft
Inflow hyd. No.	=	40 - Pr Site 10-year, 3-hour	Max. Elevation	=	102.96 ft
Reservoir name	=	DET-Site	Max. Storage	=	31,805 cuft

Storage Indication method used.

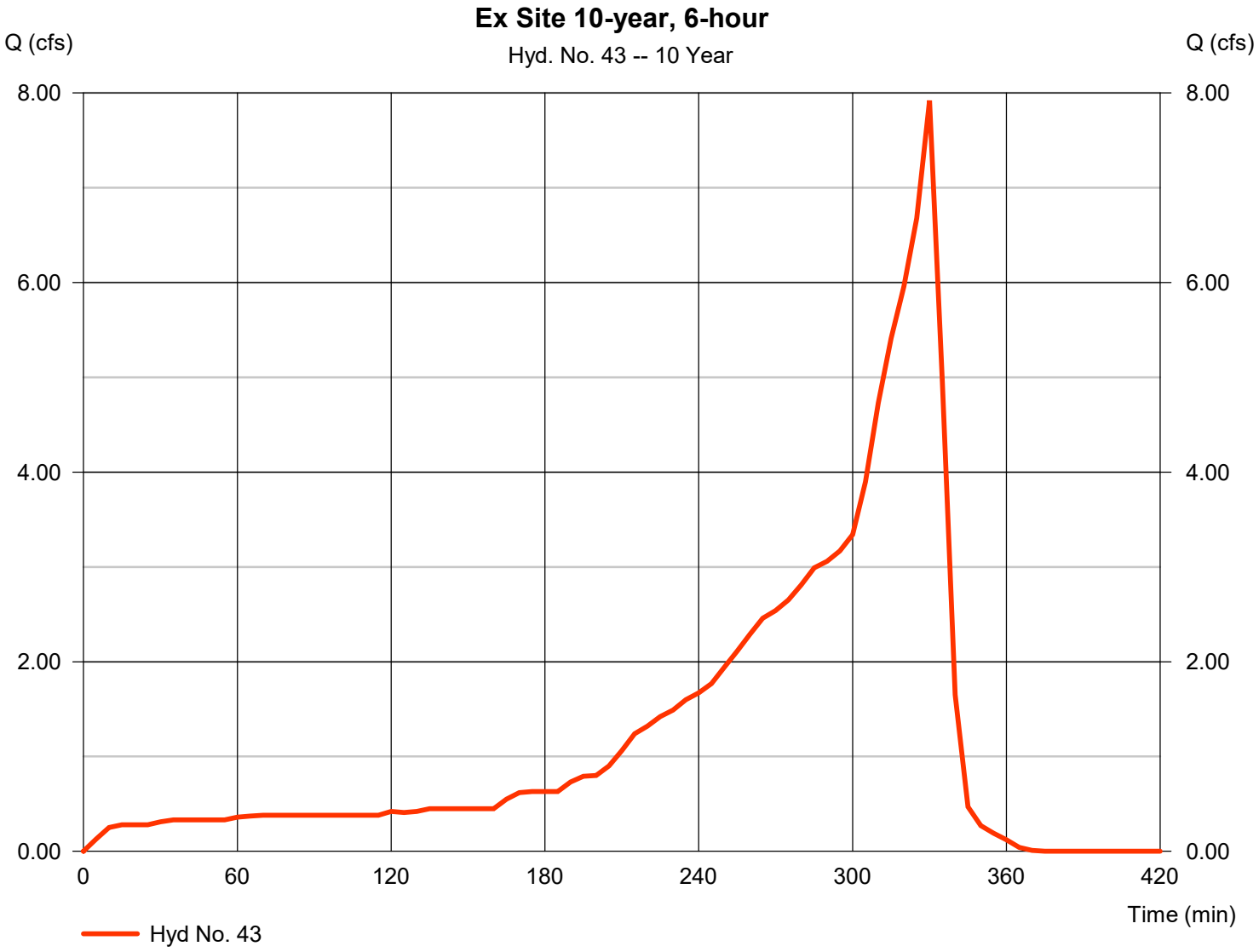


Hydrograph Report

Hyd. No. 43

Ex Site 10-year, 6-hour

Hydrograph type	= Manual	Peak discharge	= 7.920 cfs
Storm frequency	= 10 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 30,351 cuft

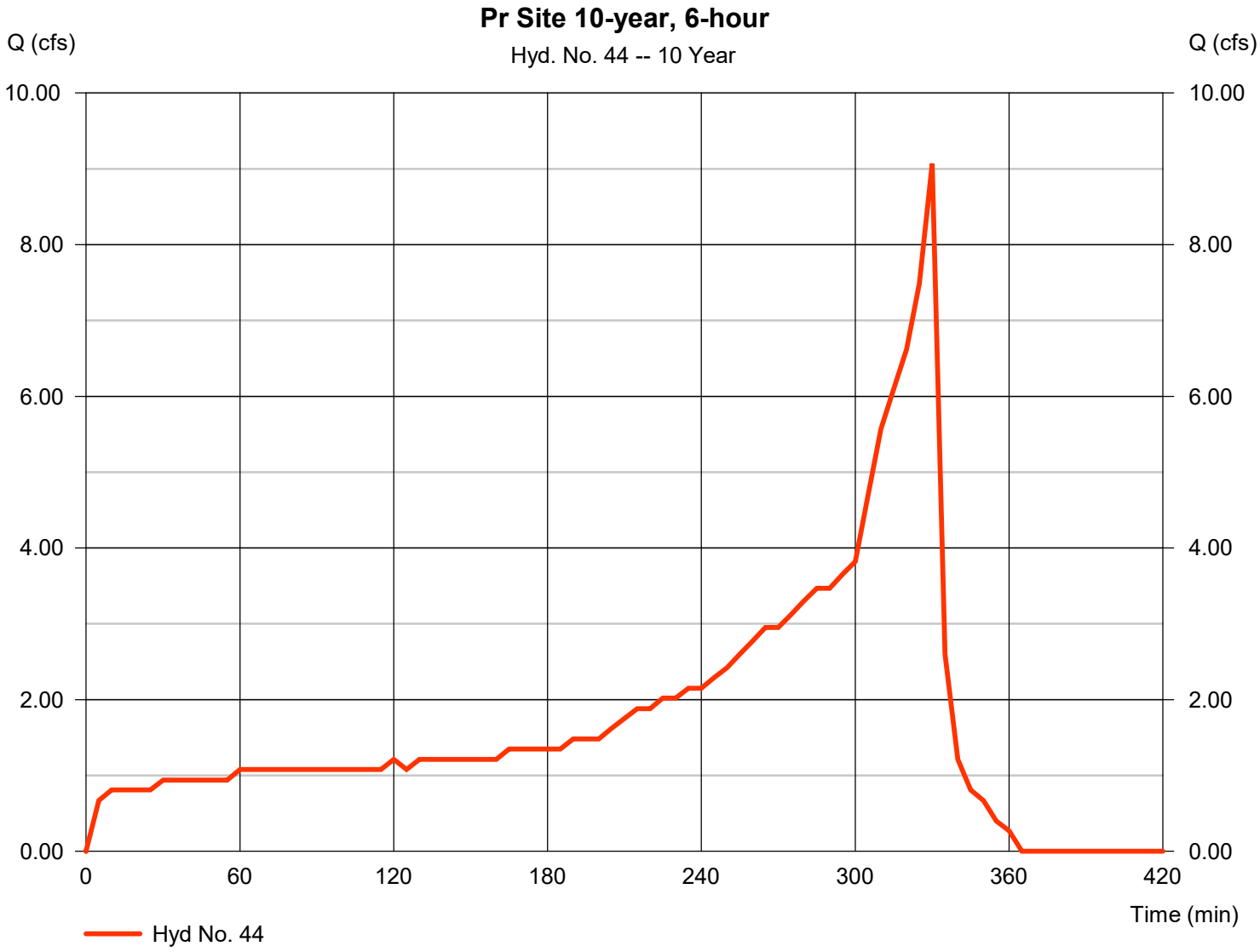


Hydrograph Report

Hyd. No. 44

Pr Site 10-year, 6-hour

Hydrograph type	= Manual	Peak discharge	= 9.070 cfs
Storm frequency	= 10 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 42,675 cuft



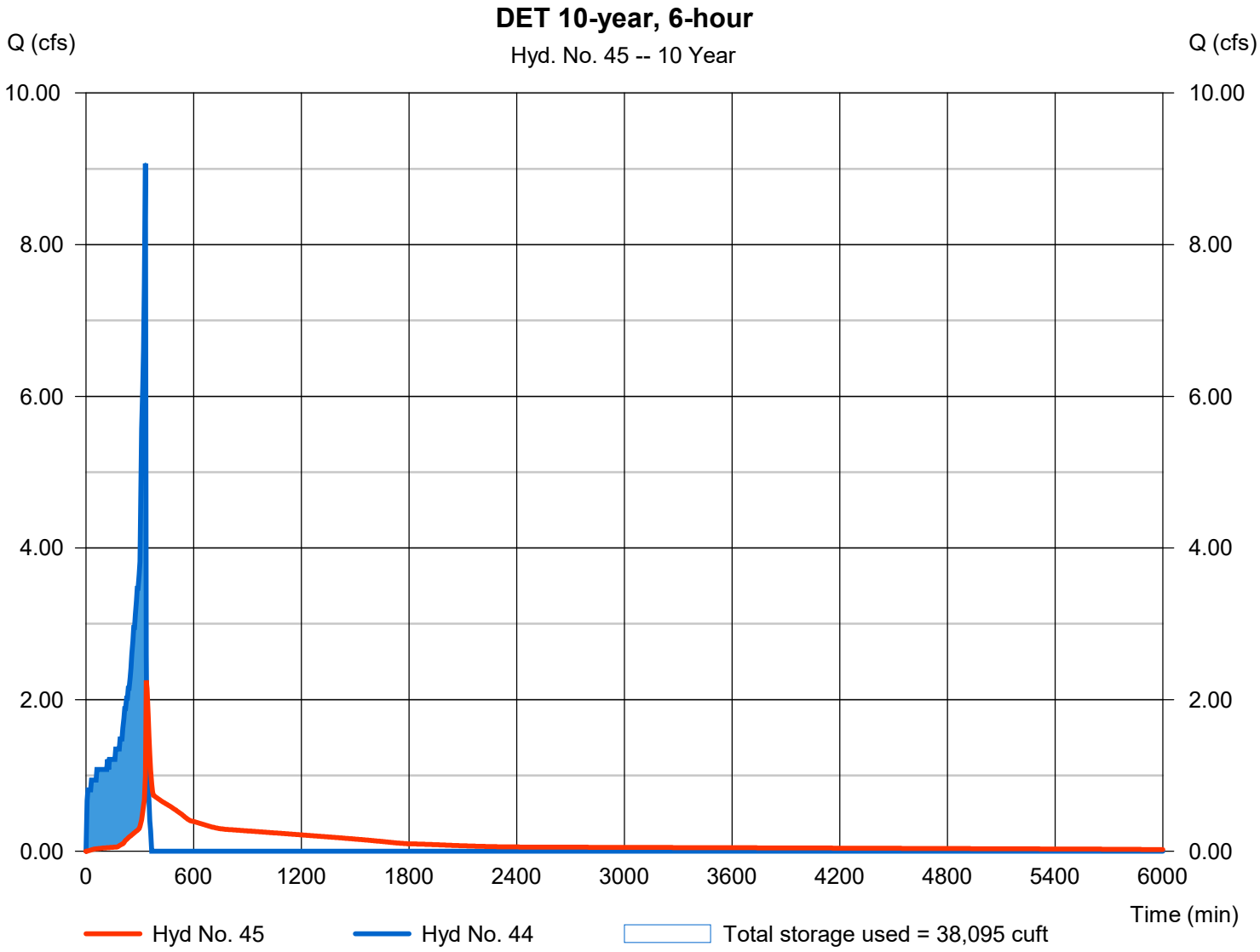
Hydrograph Report

Hyd. No. 45

DET 10-year, 6-hour

Hydrograph type	=	Reservoir	Peak discharge	=	2.252 cfs
Storm frequency	=	10 yrs	Time to peak	=	335 min
Time interval	=	5 min	Hyd. volume	=	42,552 cuft
Inflow hyd. No.	=	44 - Pr Site 10-year, 6-hour	Max. Elevation	=	103.60 ft
Reservoir name	=	DET-Site	Max. Storage	=	38,095 cuft

Storage Indication method used.

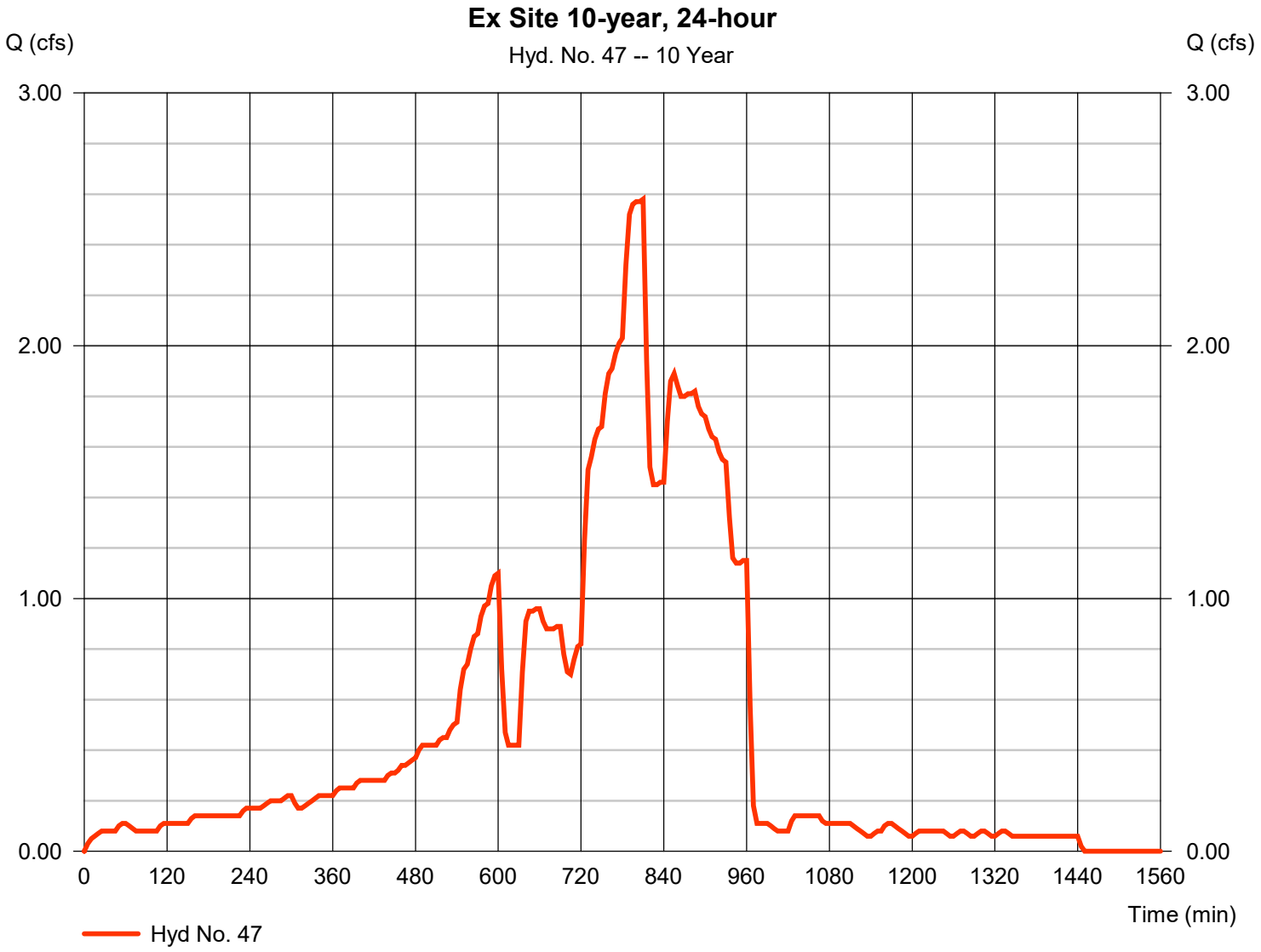


Hydrograph Report

Hyd. No. 47

Ex Site 10-year, 24-hour

Hydrograph type	= Manual	Peak discharge	= 2.580 cfs
Storm frequency	= 10 yrs	Time to peak	= 810 min
Time interval	= 5 min	Hyd. volume	= 43,035 cuft

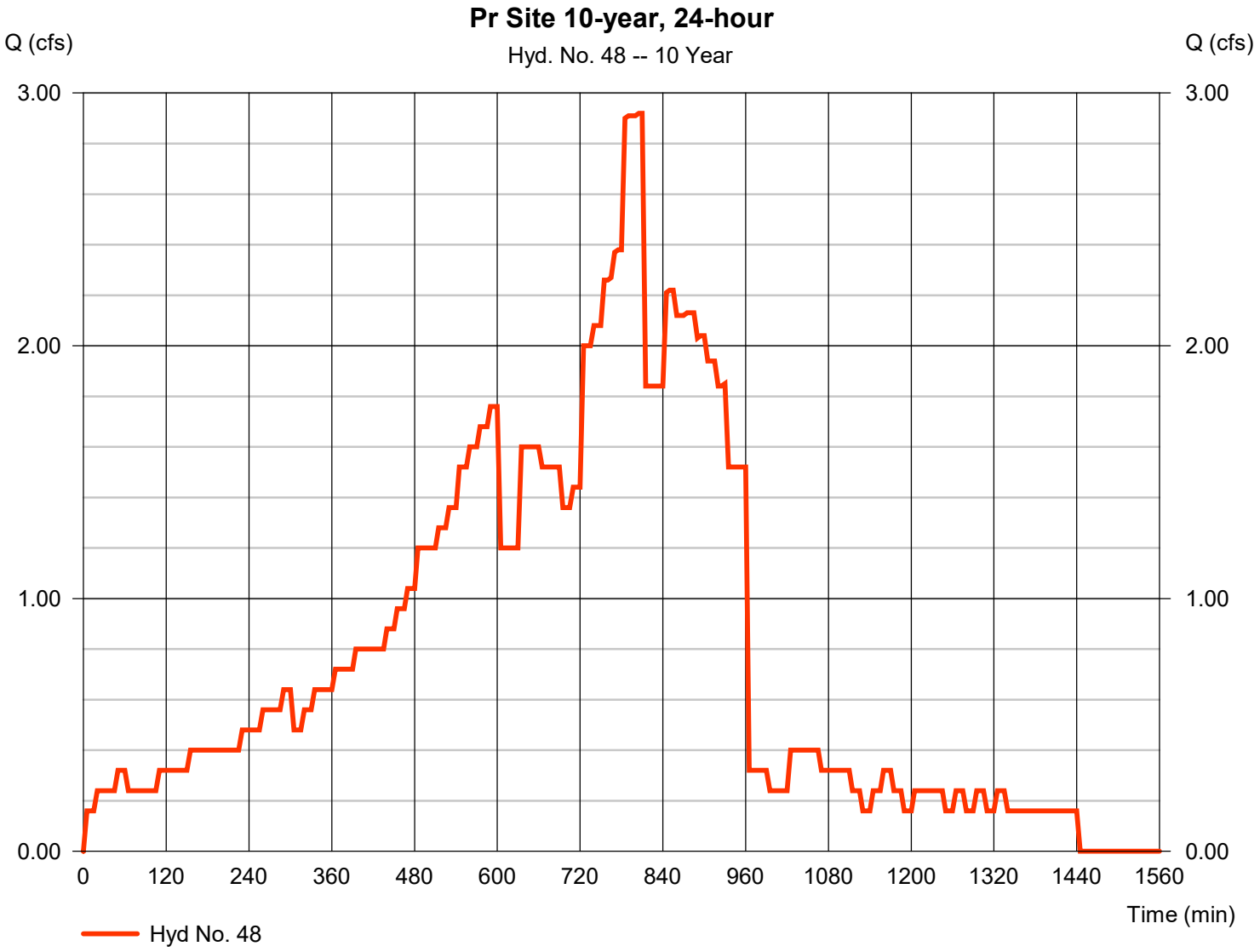


Hydrograph Report

Hyd. No. 48

Pr Site 10-year, 24-hour

Hydrograph type	= Manual	Peak discharge	= 2.920 cfs
Storm frequency	= 10 yrs	Time to peak	= 805 min
Time interval	= 5 min	Hyd. volume	= 72,603 cuft



Hydrograph Report

Hyd. No. 49

DET 10-year, 24-hour

Hydrograph type	=	Reservoir	Peak discharge	=	2.542 cfs
Storm frequency	=	10 yrs	Time to peak	=	810 min
Time interval	=	5 min	Hyd. volume	=	72,480 cuft
Inflow hyd. No.	=	48 - Pr Site 10-year, 24-hour	Max. Elevation	=	103.62 ft
Reservoir name	=	DET-Site	Max. Storage	=	38,238 cuft

Storage Indication method used.

